

Pneumatrol Limited is a specialist manufacturer accredited to ISO 9001. Operating from its headquarter in Lancashire, United Kingdom, Pneumatrol provides engineered pneumatic solutions for use within hazardous and non-hazardous environments.

Over the years, we have developed our core product range of hazardous area solenoids (ExnA, Exm, Exme, Exd and Exia) which are available with various international approvals – ATEX Category 1, 2 and 3; IECEx; FM (Canada); FM (USA), GOST CU TR and NEPSI.

We are a member of the British Valve and Actuator Association (BVAA).



# Engineered Pneumatic Solutions

For over 50 years Pneumatrol has developed the technical and manufacturing expertise together with the market knowledge necessary to meet the demands of the **Process, Rail, Energy** and **Industrial** market sectors.

We design and manufacture a wide range of pneumatic and electro-pneumatic products – standard or bespoke – to meet our customers needs and requirements.

## ENGINEERING & DESIGN



We have a highly competent and experienced team of design engineers who are able to design both standard and bespoke cost effective solutions, adding value for the benefit of our customers. Over the years the company has developed a depth of experience within different market sectors allowing solutions to be designed to meet the needs of our customers and conform to the industry specifications. Using the very latest design and analysis modelling software allows us to produce innovative designs prior to commencement of any manufacturing.

## MANUFACTURING

Our manufacturing plant includes a wide range of CNC and conventional machine tools, paint shop, assembly and testing facilities to enable us to produce our full range of products, from the smallest component, up to cylinders of over 1000 mm diameter. Our planning control system manages all customer orders and schedules material and purchasing requirements.



## CUSTOMER SERVICE

We work closely with our customers to ensure we provide them with the level of service they require. We are flexible and open minded in our approach and we aim to build long term relationships and partnerships with our customers.

## QUALITY MANAGEMENT

Continuous improvement forms a corner stone of our quality philosophy to ensure our customers, suppliers and other key stakeholders benefit from effective and efficient business processes. Pneumatrol Limited is accredited to ISO9001. Full material traceability, Test Certificates and other documentation is available on request.

# Product Ranges

## Valves & Solenoid Valves



Our core product ranges of hazardous and safe area valves are available with a complete range of approved pilot solenoid operators.

The innovative designs include valves for high flow applications and valves for operation across a wide temperature range.

### Valve types:

- Namur mounted valves
- Remote mounted valves
- Manifold and Sub-based mounted valves
- Direct acting valves
  - » Body ported
  - » Banjo fitting
  - » CNOMO interface

## Hazardous Area CNOMO Solenoid Valves



Our core product range of hazardous and safe area 3 port 2 position direct acting spring return normally closed solenoid valves conform to CNOMO standards.

### Features:

- Direct mounting to all valves meeting CNOMO fixing dimensions
- Interchangeable coils, including various hazardous area options
- Pilot exhaust dust caps fitted as standard
- Hazardous area approved pilot operators (ExnA, Exm, Exme, Exd and Exia) are available variously with ATEX, IECEx, FM, GOST CU TR and NEPSI approvals

## Cylinders

We offer a wide range of single acting and double acting pneumatic cylinders from  $\phi 8$  to  $>\phi 1000$  mm. We design and manufacture standard and bespoke cylinders to meet customer requirements including positioner cylinders. Available in aluminium, steel and stainless steel construction.



## Linear Valve Actuators

Linear Actuation requirements are generally specific to each valve / application, as even similar types / classes have individual thrust and stroke requirements, compounded by differing supply pressures. To provide the 'Best Cost Effective Solution' we establish the operating criteria for the valve to be actuated, in terms of stroke, close force, opening force etc, and propose a customised package to suit.



## Control Systems

With the growing complexity of modern pneumatic systems and the need to attain high reliability and integrity, we have developed the concept of integrating the components of systems into modular form to reduce the number of interconnections. Conventional systems can also be produced with components being piped together using flexible or metal pipe and housed in a cabinet or mounted on a back plate.



## Pneumatic Control Modules

Pneumatrol pneumatic control modules provide the end-user with pre-determined control functionality for linear actuators. Options available include 'One-Shot Auto', 'Multi-Shot Auto' and Air-Fail functions.

- 'One-Shot Auto' provides air-fail default position. Locks out remote control functions
- 'Multi-Shot Auto' with initial air-fail mode. Can be overridden by remote control signals
- 'Multi-Shot Auto' initial air-fail and final air-fail mode. Can initially be overridden by remote control signals, but final fail-mode takes priority



# Ordering and General Information

## How to Order

By phone: +44 (0)1254 872277

By fax: +44 (0)1254 390133

By email: sales@pneumatrol.com

## Opening Hours

Monday to Thursday 08:30 ~ 17:00 GMT

Friday 08:30 ~ 13:00 GMT

## Worldwide Agents

Pneumatrol is represented in over 20 countries through our worldwide agents. We can provide product advice and technical support on a worldwide basis.

Please visit our website [www.pneumatrol.com](http://www.pneumatrol.com) for the full list of our agents.

## Quality Policy

Pneumatrol has implemented a Quality Management System, which complies with the requirements of ISO 9001, ATEX Directive 94/9/EC, ISO/IEC 80079-34 and Functional Safety Standard IEC61508. This enables us to meet our customer requirements and expectations reliably, consistently and cost effectively.

## Warranty

A comprehensive one-year warranty applies to all Pneumatrol products, subject to our standard conditions of sale (available on request).

## Terms and Conditions

We have made every effort to ensure that product descriptions and technical specifications contained within this catalogue are accurate at time of print. However, the company reserves the right to modify any information without notification.

Full terms and conditions are available on request.

# Contents

Introductions	Section 1-2 ~ 1-7
Namur Mounted Valves	Section 2-1 ~ 2-12
Remote Mounted Valves	Section 3-1 ~ 3-36
CNOMO Interface Valves	Section 4-1 ~ 4-2
Banjo Mounted Valves	Section 5-1 ~ 5-8
Manifold Mounted Valves	Section 6-1 ~ 6-6
Sub-Base Mounted Valves	Section 7-1 ~ 7-4
Solenoids	Section 8-1 ~ 8-26
Further Options	Section 9-1
Technical Reference -	Section 10-1 ~ 10-6
Hazardous Area Zone Classifications	
Solenoids Valves in Hazardous Areas	
Intrinsic Safety Information	
Intrinsically Safe Solenoid Coil Specification	
Solenoid Specifications	
Product Marking	
Approvals & Certificates	Section 11-1

## Type C15, 'P' Series Solenoid Valve

**CALL:** +44 (0)1254 872277

**E-MAIL:** sales@pneumatrol.com



### DESCRIPTION

Solenoid valve designed for direct mounting onto 1/4 turn pneumatically operated valve actuators meeting 'NAMUR' standard fixing dimensions.

Valve is illustrated with an Exia coil.

Body material available in

- Aluminium (standard)
- Stainless Steel
- Brass

Seal kit available – VSKC15P

### FEATURES

- Interchangeable CNOMO interface coil units, including various hazardous area options
- Integrated Exhaust to Spring (ETS) feature in 3/2 position
- Top face air connection
- 1/4"BSP mains air connection and 1/8"BSP exhaust ports, also available in NPT ports
- Single coil spring return function or double coil stay put function
- Pilot exhaust dust caps fitted as standard
- Built in 3/2 to 5/2 function conversion facility for spring return and double acting actuators respectively
- SIL2 on energising, SIL3 on de-energising when used in 3/2 mode

**PRODUCT CODE: C 1 5**



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that are not required enter '0' in relevant box.

#### Operator

1 8	Spring return, internal pilot air feed
8 0	Spring return, external pilot air connection
1 9	Double solenoid, internal pilot air feed
9 0	Double solenoid, external pilot air connection

#### Coil

A	Exia (BASEEFA)
B	Terminal Box
U	Exia (FM)
D	Exd
K	MC30 Plug & Socket
N	ExnA
P	Plug & Socket
S	Exia (BASEEFA) Stainless Steel Housing
O	No Coil Unit
9	Exm

#### Options 1

C	Lever manual override
D	Push button manual override
S	Screw driver override (standard)
O	No option required

#### Standard Voltage

B	24v DC
H	24v DC Low Power <sup>(1)</sup>
R	24v AC (50/60 Hz)
T	110v AC (50/60 Hz)
N	220v AC (50/60 Hz)
U	240v AC (50/60 Hz)

\* A comprehensive range of non-standard voltages available on request

#### Note:

- (1) "H" option not available with Exia solenoids
- (2) IECEx only available with Exia and Exd Solenoids
- (3) GOST CU TR only available with Exd solenoids
- (4) NEPSI only available with Exia and Exd solenoids

#### Designator

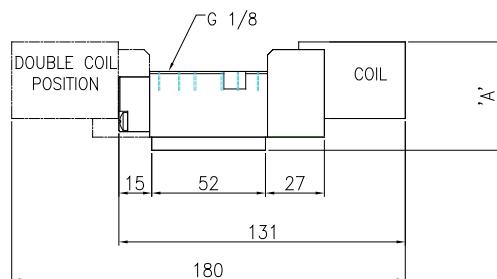
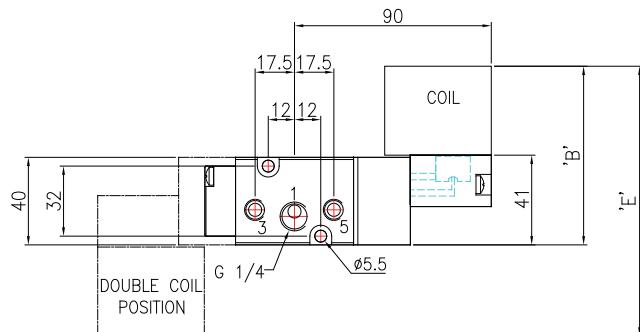
A	ATEX
C	IECEx <sup>(2)</sup>
E	Exme 0.5W
G	ATEX Exd IIB
H	Exm
J	Exme 2.4W
R	GOST CU TR <sup>(3)</sup>
X	NEPSI <sup>(4)</sup>

#### Options 2

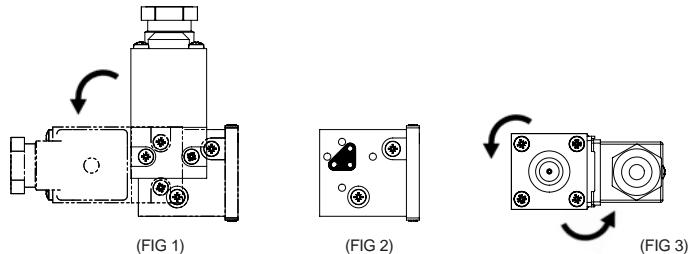
B	Valve body brass
C	Valve body brass and NPT ports
D	Valve body brass, NPT ports and 1/2" NPT electrical connection
E	1/2" NPT electrical connection
L	Low temperature duty -40°C
M	NPT ports and 1/2" NPT electrical connection
N	NPT ports
P	Valve body stainless steel, NPT ports and 1/2" NPT electrical connection
R	Valve body stainless steel and NPT ports
S	Valve body stainless steel
X	Valve suitable for use with Oxygen

## COIL ORIENTATION

The solenoid pilot can be mounted in two possible positions by rotating the solenoid base through 90° (FIG 1). This is achieved by releasing the two M4 pozidrive screws which secure the solenoid pilot to the valve body. When changing the solenoid pilot position care should be taken to ensure the triangular gasket seal is in place. (FIG 2)



The coil itself can be rotated in 90° steps by releasing the four securing screws. (FIG 3) When rotating the coil care should be taken to ensure the core assembly (core, spring, seal and washer) remains intact and aligned correctly. This is easily achieved by only lifting the coil the small amount required to clear the screws enabling the coil to be rotated.



## DIMENSIONS (mm)

COIL TYPE	A	B	E
Moulded Plug & Socket	50	85	130
Heavy Duty Mazak Plug & Socket	50	85	130
Standard Terminal Box	50	93	146
SS Terminal Box	58	110	180
ExnA Terminal Box	50	93	146
Exd SS Terminal Box	58	110	180
Exm Flying Lead	50	81	122
Exme Terminal Box	50	93	146
Piezo Operator	48	94	148
Exia SS Terminal Box	58	117	194
Exia Std. Terminal Box	50	100	160
Exia Plug & Socket	50	88	136

## MATERIAL SPECIFICATIONS

### STANDARD

Body and End Caps	Black Anodised Aluminium (Dural)
Spool	Hard Anodised Aluminium PTFE Impregnated
Jet	Brass
Spacers	Glass Filled Acetal
Seals	Nitrile (Alternative Seals Available)
Spring	Music Wire
Mounting Screws	Stainless Steel
Change Over Plate	Nylon 66 30% Glass Filled
Gasket	Nitrile

## VALVE SPECIFICATIONS

### STANDARD

Inlet Port Connection Size	1/4" BSP
Exhaust Port Connection Size	1/8" BSP
Working Pressure	3 to 10 bar
Cv Factor	0.7
Flow Rate (at 6 bar with 1 bar pressure drop)	675 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

## COIL DETAILS

Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST



## Reflex Solenoid Valve

CALL: +44 (0)1254 872277

E-MAIL: sales@pneumatrol.com



### DESCRIPTION

Solenoid valve designed for direct mounting onto 1/4 turn pneumatically operated valve actuators meeting 'NAMUR' standard fixing dimensions. Valve engineered for safe area applications.

Valve is illustrated with a safe area plug & socket coil.

Body material - Aluminium

### FEATURES

- Top face air connection
- 1/4" BSP mains air connection and exhaust ports
- Screwdriver override as standard
- Integrated Exhaust to Spring (ETS) feature in 3/2 position
- Cv = 1.0
- Built in 3/2 to 5/2 function conversion facility for spring return and double acting actuators respectively

PRODUCT CODE: **R 2 5 1 8 P K S 0**



VOLTAGE

SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that are not required enter '0' in relevant box.

#### Standard Voltage

<b>B</b>	24v DC
<b>R</b>	24v AC (50/60 Hz)
<b>T</b>	110v AC (50/60 Hz)
<b>U</b>	240v AC (50/60 Hz)

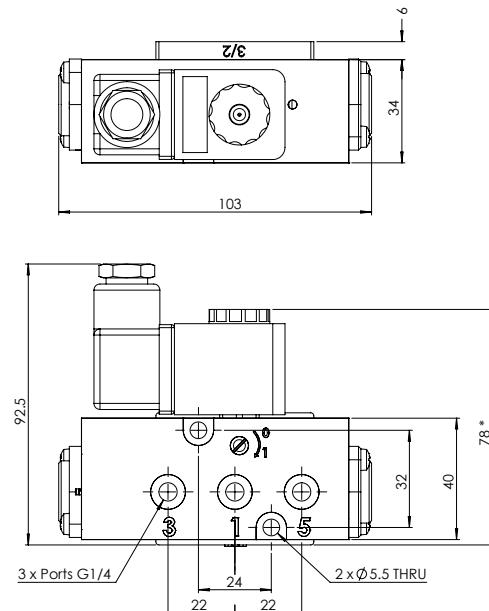
\* A comprehensive range of non-standard voltages available on request

## CONVERSION FACILITY

The valve is fitted with a change-over plate that allows the valve to be converted from 3/2 to 5/2 function quickly and easily.

In 3/2 function a proportion of clean air exhausting from the actuator is fed back into the spring chamber.

## DIMENSIONS (MM)



\* Minimum height with plug connector rotated through 90 degrees.

## MATERIAL SPECIFICATIONS

STANDARD	
Body	Black Anodised Aluminium (Dural)
Spool	Hard Anodised Aluminium PTFE Impregnated
Spacers	Glass Filled Acetal
Seals	Nitrile
Spring	Music Wire
Mounting Screws	Stainless Steel
Change Over Plate and End Caps	Nylon 66 30% Glass Filled
Gasket	Nitrile

## VALVE SPECIFICATIONS

STANDARD	
Port Connection Size	1/4" BSP
Working Pressure	3 to 10 bar
Cv Factor	1.0
Flow Rate (at 6 bar with 1 bar pressure drop)	1000 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

## COIL SPECIFICATIONS

Coil Type	MC 30 Plug & Socket
Area Class	Safe
Area Category	N/A
Ingress Protection	IP65
Cable Entry	PG.9
Ambient Temperature	-20 to +80 °C
Magnetic Wire Class	H
Power Consumption (Nominal)	2.0 Watts (DC) Pull in - 9VA, Holding - 5VA (AC)

## Type J15, 'P' Series Pilot Valve

**CALL:** +44 (0)1254 872277

**E-MAIL:** sales@pneumatrol.com



### DESCRIPTION

Pilot valve designed for direct mounting onto 1/4 turn pneumatically operated valve actuators meeting 'NAMUR' standard fixing dimensions.

Body material available in

- Aluminium (standard)
- Stainless Steel
- Brass

Seal kit available – VSKC15P

### FEATURES

- Top face air connection
- 1/4"BSP mains air connection and 1/8"BSP exhaust ports, also available in NPT ports
- Integrated Exhaust to Spring (ETS) feature in 3/2 position
- Single pilot spring return function or double pilot stay put function
- Built in 3/2 to 5/2 function conversion facility for spring return and double acting actuators respectively

**PRODUCT CODE: J 1 5**  **P 0 0 0 0** 

OPERATOR

OPTIONS

SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that  
are not required enter '0' in  
relevant box.

#### Operator

8	0	Spring return, external pilot air connection
9	0	Double solenoid, external pilot air connection

#### Options

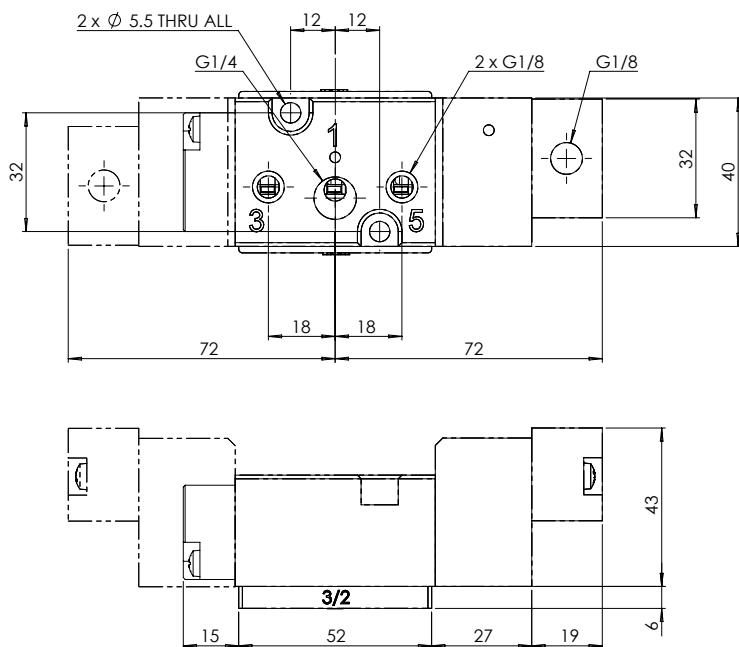
B	Valve body brass
C	Valve body brass and NPT ports
N	NPT ports
R	Valve body stainless steel and NPT ports
S	Valve body stainless steel
X	Valve suitable for use with Oxygen

## CONVERSION FACILITY

The valve is fitted with a change-over plate that allows the valve to be converted from 3/2 to 5/2 function quickly and easily.

In 3/2 function a proportion of clean air exhausting from the actuator is fed back into the spring chamber.

## DIMENSIONS (mm)



## MATERIAL SPECIFICATIONS

STANDARD	
Body and End Caps	Black Anodised Aluminium (Dural)
Spool	Hard Anodised Aluminium PTFE Impregnated
Spacers	Glass Filled Acetal
Seals	Nitrile
Spring	Music Wire
Mounting Screws	Stainless Steel
Change Over Plate	Nylon 66 30% Glass Filled
Gasket	Nitrile

## VALVE SPECIFICATIONS

STANDARD	
Port Connection Size	1/4" BSP
Pilot Port Connection Size	1/8" BSP
Working Pressure	3 to 10 bar
Pilot Signal Pressure	3 to 10 bar
Cv Factor	0.7
Flow Rate (at 6 bar with 1 bar pressure drop)	675 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

# Type T23, 1/4" Ported, 3/2 Solenoid Valve with Integral Speed Control & ETS



**CALL:** +44 (0)1254 872277

**E-MAIL:** sales@pneumatrol.com

## DESCRIPTION

Pilot valve designed for direct mounting onto 1/4 turn pneumatically operated valve actuators meeting 'NAMUR' standard fixing dimensions.

Adjustable speed control (exhaust only).

Valve is illustrated with an Exia coil.

Body material available in

- Aluminium (standard)
- Stainless Steel
- Brass

Seal kit available – VSKT25P

## FEATURES

- Unique feature of Integrated Exhaust to Spring (ETS) in 3/2 position with combined Integral exhaust Speed Control (screw adjusted on top face)
- Top face air connection
- 1/4" BSP mains air connection, also available in NPT ports
- Single pilot spring return function

**PRODUCT CODE: T 2 3**

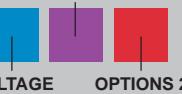


OPTIONS 1

0

DESIGNATOR

VOLTAGE



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that are not required enter '0' in relevant box.

### Operator

1 8 Spring return, internal pilot air feed  
8 0 Spring return, external pilot air connection

### Coil

A Exia (BASEEFA)  
B Terminal Box  
U Exia (FM)  
D Exd  
K MC30 Plug & Socket  
N ExnA  
P Plug & Socket  
S Exia (BASEEFA) Stainless Steel Housing  
0 No Coil Unit  
9 Exm

### Options 1

C Lever manual override  
D Push button manual override  
S Screw driver override (standard)  
0 No option required

### Standard Voltage

B 24v DC  
H 24v DC Low Power <sup>(1)</sup>  
R 24v AC (50/60 Hz)  
T 110v AC (50/60 Hz)  
N 220v AC (50/60 Hz)  
U 240v AC (50/60 Hz)

\* A comprehensive range of non-standard voltages available on request

### Designator

A ATEX  
C IECEx <sup>(2)</sup>  
E Exme 0.5W  
G ATEX Exd IIB  
H Exm  
J Exme 2.4W  
R GOST CU TR <sup>(3)</sup>  
X NEPSI <sup>(4)</sup>

### Options 2

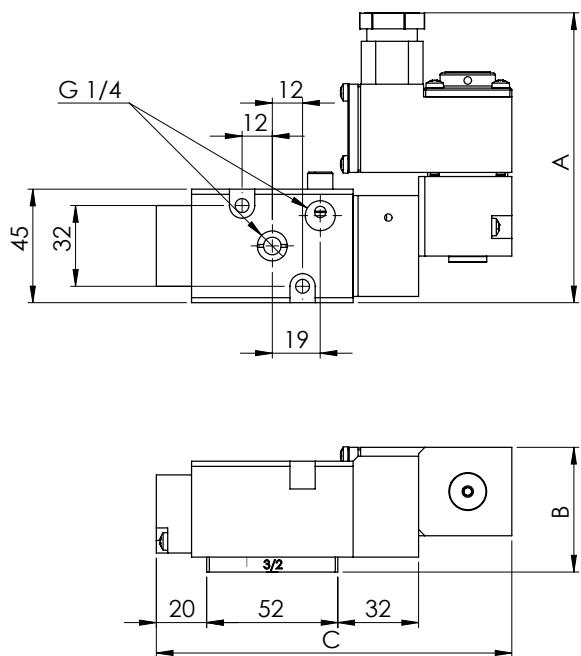
B Valve body brass  
C Valve body brass and NPT ports  
D Valve body brass, NPT ports and 1/2" NPT electrical connection  
E 1/2" NPT electrical connection  
L Low temperature duty -40°C  
M NPT ports and 1/2" NPT electrical connection  
N NPT ports  
P Valve body stainless steel, NPT ports and 1/2" NPT electrical connection  
R Valve body stainless steel and NPT ports  
S Valve body stainless steel  
X Valve suitable for use with Oxygen

### Note:

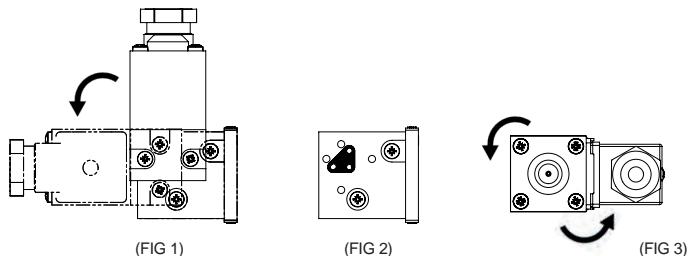
(1) "H" option not available with Exia solenoids  
(2) IECEx only available with Exia and Exd Solenoids  
(3) GOST CU TR only available with Exd solenoids  
(4) NEPSI only available with Exia and Exd solenoids

## COIL ORIENTATION

The solenoid pilot can be mounted in two possible positions by rotating the solenoid base through 90° (FIG 1). This is achieved by releasing the two M4 pozidrive screws which secure the solenoid pilot to the valve body. When changing the solenoid pilot position care should be taken to ensure the triangular gasket seal is in place. (FIG 2)



The coil itself can be rotated in 90° steps by releasing the four securing screws. (FIG 3) When rotating the coil care should be taken to ensure the core assembly (core, spring, seal and washer) remains intact and aligned correctly. This is easily achieved by only lifting the coil the small amount required to clear the screws enabling the coil to be rotated.



## DIMENSIONS (mm)

COIL TYPE	A	B	C
Plug & Socket	100	50	141
MC30 Coil	95	48	136
Terminal Box	109	50	141
ExnA	109	50	141
Exd	121	58	190
Exia	115	50	141
Exm	86	50	141

## MATERIAL SPECIFICATIONS

### STANDARD

Body and End Caps	Black Anodised Aluminium (Dural)
Spool	Hard Anodised Aluminium PTFE Impregnated
Spacers	Glass Filled Acetal
Seals	Nitrile
Spring	Music Wire
Mounting Screws	Stainless Steel
Change Over Plate	Nylon 66 30% Glass Filled
Gasket	Nitrile

## VALVE SPECIFICATIONS

### STANDARD

Port Connection Size	1/4" BSP
Working Pressure	3 to 10 bar
Pilot Signal Pressure	3 to 10 bar
Cv Factor	1.2
Flow Rate (at 6 bar with 1 bar pressure drop)	1246 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

## COIL DETAILS

Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## Type T25 Series, 1/4" Ported, 3/2 or 5/2 Pilot Operated Solenoid Valve

**CALL:** +44 (0)1254 872277

**E-MAIL:** sales@pneumatrol.com



### DESCRIPTION

Solenoid valve designed for direct mounting onto 1/4 turn pneumatically operated valve actuators meeting 'NAMUR' standard fixing dimensions.

Valve is illustrated with dual safe area terminal box coils.

Body material available in

- Aluminium (standard)
- Stainless Steel
- Brass

Seal kit available – VSkt25P

### FEATURES

- Interchangeable CNOMO interface operators including various hazardous area options
- Integrated Exhaust to Spring (ETS) feature in 3/2 position
- Top face air connection
- 1/4" mains air and exhaust ports
- Solenoid/spring or solenoid/solenoid functions
- Built in 3/2 to 5/2 function conversion facility for spring return and double acting actuators respectively
- SIL2 on energising, SIL3 on de-energising when used in 3/2 mode

**PRODUCT CODE: T 2 5**



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that  
are not required enter '0' in  
relevant box.

#### Operator

1	8	Spring return, internal pilot air feed
8	0	Spring return, external pilot air connection
1	9	Double solenoid, internal pilot air feed
9	0	Double solenoid, external pilot air connection

#### Coil

A	Exia (BASEEFA)
B	Terminal Box
U	Exia (FM)
D	Exd
K	MC30 Plug & Socket
N	ExnA
P	Plug & Socket
S	Exia (BASEEFA) Stainless Steel Housing
0	No Coil Unit
9	Exm

#### Options 1

C	Lever manual override
D	Push button manual override
S	Screw driver override (standard)
0	No option required

#### Standard Voltage

B	24v DC
H	24v DC Low Power <sup>(1)</sup>
R	24v AC (50/60 Hz)
T	110v AC (50/60 Hz)
N	220v AC (50/60 Hz)
U	240v AC (50/60 Hz)

\* A comprehensive range of non-standard voltages available on request

#### Designator

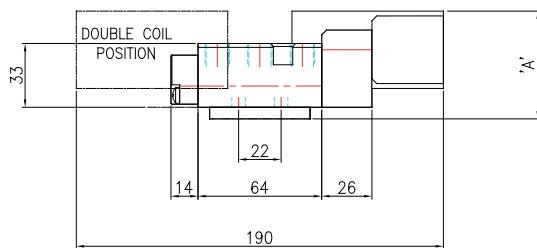
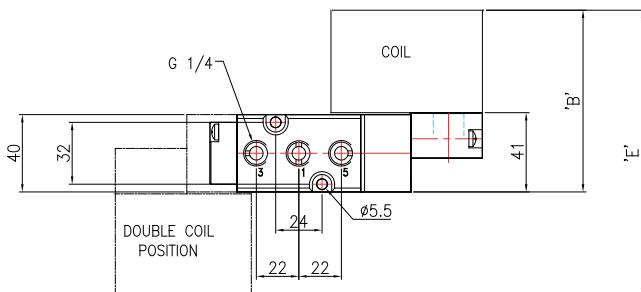
A	ATEX
C	IECEx <sup>(2)</sup>
E	Exme 0.5W
G	ATEX Exd IIB
H	Exm
J	Exme 2.4W
R	GOST CU TR <sup>(3)</sup>
X	NEPSI <sup>(4)</sup>

#### Options 2

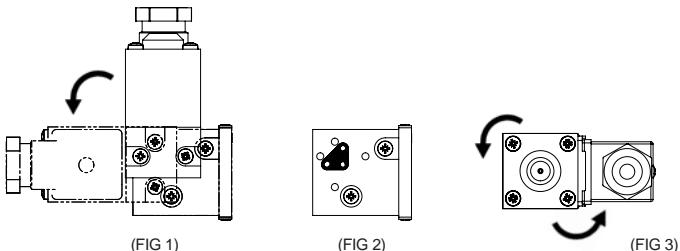
B	Valve body brass
C	Valve body brass and NPT ports
D	Valve body brass, NPT ports and 1/2" NPT electrical connection
E	1/2" NPT electrical connection
L	Low temperature duty -40°C
M	NPT ports and 1/2" NPT electrical connection
N	NPT ports
P	Valve body stainless steel, NPT ports and 1/2" NPT electrical connection
R	Valve body stainless steel and NPT ports
S	Valve body stainless steel
X	Valve suitable for use with Oxygen

## COIL ORIENTATION

The solenoid pilot can be mounted in two possible positions by rotating the solenoid base through 90° (FIG 1). This is achieved by releasing the two M4 pozidrive screws which secure the solenoid pilot to the valve body. When changing the solenoid pilot position care should be taken to ensure the triangular gasket seal is in place. (FIG 2)



The coil itself can be rotated in 90° steps by releasing the four securing screws. (FIG 3) When rotating the coil care should be taken to ensure the core assembly (core, spring, seal and washer) remains intact and aligned correctly. This is easily achieved by only lifting the coil the small amount required to clear the screws enabling the coil to be rotated.



## DIMENSIONS (mm)

COIL TYPE	A	B	E
MC30 Plug & Socket	54	85	130
Heavy Duty Mazak Plug & Socket	54	85	130
Standard Terminal Box	54	93	146
SS Terminal Box	62	110	180
ExnA Terminal Box	54	93	146
Exd SS Terminal Box	62	110	180
Exm Flying Lead	54	81	122
Exme Terminal Box	54	93	146
Piezo Operator	52	94	148
Exia SS Terminal Box	62	117	194
Exia Std. Terminal Box	54	100	160
Exia Plug & Socket	54	88	136

## MATERIAL SPECIFICATIONS

STANDARD	
Body and End Caps	Black Anodised Aluminium (Dural)
Spool	Hard Anodised Aluminium PTFE Impregnated
Spacers	Glass Filled Acetal
Seals	Nitrile
Spring	Music Wire
Mounting Screws	Stainless Steel
NAMUR Interfaced Plates	Nylon 66 30% Glass Filled

## VALVE SPECIFICATIONS

STANDARD	
Port Connection Size	1/4" BSP
Working Pressure Internal Pilot Version	3 to 10 bar
Working Pressure External Pilot Version	3 to 10 bar
Minimum External Pilot Pressure	3 bar
Cv Factor	1.1
Flow Rate (6 bar inlet pressure, 1 bar pressure drop)	1050 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

## COIL DETAILS

Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## Type T25 Series, 1/4" Ported, 5/3 Pilot Operated Solenoid Valve

**CALL:** +44 (0)1254 872277

**E-MAIL:** sales@pneumatrol.com



### DESCRIPTION

Solenoid valve designed for direct mounting onto 1/4 turn pneumatically operated valve actuators meeting 'NAMUR' standard fixing dimensions.

Valve is illustrated with dual safe area plug & socket coils.

Body material available in

- Aluminium (standard)
- Stainless Steel
- Brass

Seal kit available – VSCT25P

### FEATURES

- Interchangeable CNOMO interface operators including various hazardous area options
- Integrated Exhaust to Spring (ETS) feature in 3/2 position
- Top face air connection
- 1/4" mains air and exhaust ports
- Solenoid/spring or solenoid/solenoid functions
- Built in 3/2 to 5/2 function conversion facility for spring return and double acting actuators respectively
- SIL2 on energising, SIL3 on de-energising when used in 3/2 mode

**PRODUCT CODE: T 2 5**



**SEE BELOW FOR  
PRODUCT CODE  
DETAILS**

Any of the below options that are not required enter '0' in relevant box.

Operator	Coil	Options 1	Standard Voltage	Designator	Options 2	
1 4	All ports sealed mid position, internal pilot air feed	A Exia (BASEEFA) B Terminal Box U Exia (FM) D Exd K MC30 Plug & Socket N ExnA P Plug & Socket S Exia (BASEEFA) Stainless Steel Housing O No Coil Unit 9 Exm	C Lever manual override D Push button manual override S Screw driver override (standard) 0 No option required	B 24v DC H 24v DC Low Power <sup>(1)</sup> R 24v AC (50/60 Hz) T 110v AC (50/60 Hz) N 220v AC (50/60 Hz) U 240v AC (50/60 Hz)	A ATEX C IECEx <sup>(2)</sup> E Exme 0.5W G ATEX Exd IIB H Exm J Exme 2.4W R GOST CU TR <sup>(3)</sup> X NEPSI <sup>(4)</sup>	B Valve body brass C Valve body brass and NPT ports D Valve body brass, NPT ports and 1/2" NPT electrical connection E 1/2" NPT electrical connection L Low temperature duty -40°C M NPT ports and 1/2" NPT electrical connection N NPT ports P Valve body stainless steel, NPT ports and 1/2" NPT electrical connection R Valve body stainless steel and NPT ports S Valve body stainless steel X Valve suitable for use with Oxygen
4 0	All ports sealed mid position, external pilot air connection					
1 5	Inlet sealed open exhaust mid position, internal pilot air feed					
5 0	Inlet sealed open exhaust mid position, external pilot air connection					

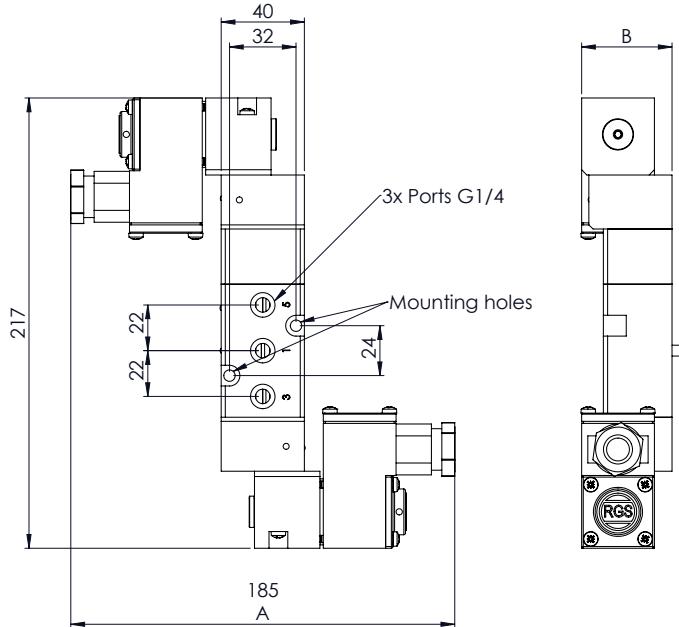
**Standard Voltage**  
\* A comprehensive range of non-standard voltages available on request

**Note:**

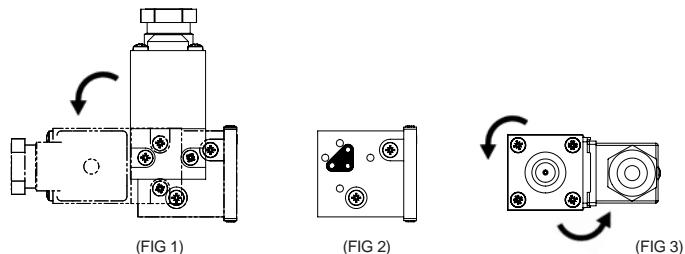
- (1) "H" option not available with Exia solenoids
- (2) IECEx only available with Exia and Exd Solenoids
- (3) GOST CU TR only available with Exd solenoids
- (4) NEPSI only available with Exia and Exd solenoids

## COIL ORIENTATION

The solenoid pilot can be mounted in two possible positions by rotating the solenoid base through 90° (FIG 1). This is achieved by releasing the two M4 pozidrive screws which secure the solenoid pilot to the valve body. When changing the solenoid pilot position care should be taken to ensure the triangular gasket seal is in place. (FIG 2)



The coil itself can be rotated in 90° steps by releasing the four securing screws. (FIG 3) When rotating the coil care should be taken to ensure the core assembly (core, spring, seal and washer) remains intact and aligned correctly. This is easily achieved by only lifting the coil the small amount required to clear the screws enabling the coil to be rotated.



## DIMENSIONS (mm)

COIL TYPE	A	B
Plug & Socket	153	44
MC30 Coil	143	44
Terminal Box	171	44
ExnA	171	44
Exd	195	52
Exia	183	44
Exm	135	44

## MATERIAL SPECIFICATIONS

STANDARD	
Body and End Caps	Black Anodised Aluminium (Dural)
Spool	Hard Anodised Aluminium PTFE Impregnated
Spacers	Glass Filled Acetal
Seals	Nitrile
Spring	Music Wire
Mounting Screws	Stainless Steel
NAMUR Interfaced Plates	Nylon 66 30% Glass Filled

## VALVE SPECIFICATIONS

STANDARD	
Port Connection Size	1/4" BSP
Working Pressure Internal Pilot Version	3 to 10 bar
Working Pressure External Pilot Version	3 to 10 bar
Minimum External Pilot Pressure	3 bar
Cv Factor	1.1
Flow Rate (6 bar inlet pressure, 1 bar pressure drop)	1050 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

## COIL DETAILS

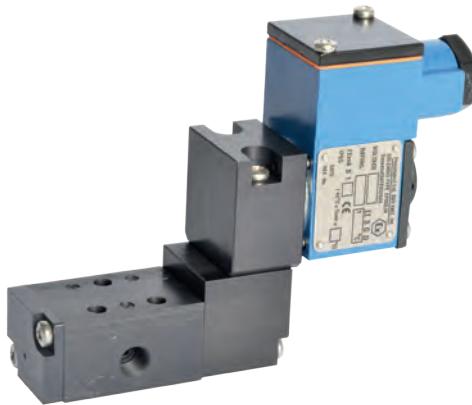
Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## E13--C Series, 1/8", 3/2 Function Solenoid Valve

**CALL:** +44 (0)1254 872277

**E-MAIL:** sales@pneumatrol.com



### DESCRIPTION

3 port 2 position, pilot operated solenoid valve.

Valve is illustrated with an ExnA coil.

Body material available in

- Aluminium (standard)
- Stainless Steel
- Brass

Seal kit available – VSK100

### FEATURES

- External or internal pilot air connection
- Single coil spring return function or double coil stay put function
- Convenient fixing holes to enable bracket mounting
- Pilot exhaust dust caps fitted as standard
- Interchangeable CNOMO interface coil units, including hazardous area options

**PRODUCT CODE: E 1 3**



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that  
are not required enter '0' in  
relevant box.

#### Operator

1 8	Spring return, internal pilot air feed
8 0	Spring return, external pilot air connection
1 9	Double solenoid, internal pilot air feed
9 0	Double solenoid, external pilot air connection

#### Coil

A	Exia (BASEEFA)
B	Terminal Box
U	Exia (FM)
D	Exd
K	MC30 Plug & Socket
N	ExnA
P	Plug & Socket
S	Exia (BASEEFA) Stainless Steel Housing
O	No Coil Unit
9	Exm

#### Options 1

C	Lever manual override
D	Push button manual override
S	Screw driver override (standard)
0	No option required

#### Standard Voltage

B	24v DC
H	24v DC Low Power <sup>(1)</sup>
R	24v AC (50/60 Hz)
T	110v AC (50/60 Hz)
N	220v AC (50/60 Hz)
U	240v AC (50/60 Hz)

\* A comprehensive range of non-standard voltages available on request

#### Designator

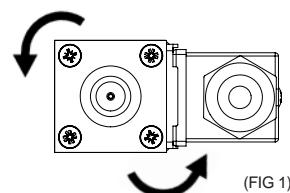
A	ATEX
C	IECEx <sup>(2)</sup>
E	Exme 0.5W
G	ATEX Exd IIB
H	Exm
J	Exme 2.4W
R	GOST CU TR <sup>(3)</sup>
X	NEPSI <sup>(4)</sup>

#### Options 2

B	Valve body brass
C	Valve body brass and NPT ports
D	Valve body brass, NPT ports and 1/2" NPT electrical connection
E	1/2" NPT electrical connection
L	Low temperature duty -40°C
M	NPT ports and 1/2" NPT electrical connection
N	NPT ports
P	Valve body stainless steel, NPT ports and 1/2" NPT electrical connection
R	Valve body stainless steel and NPT ports
S	Valve body stainless steel
X	Valve suitable for use with Oxygen

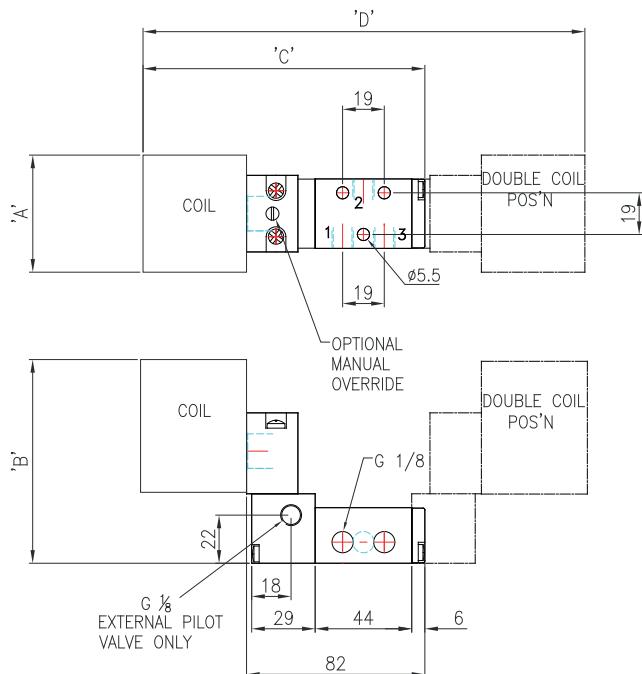
## COIL ORIENTATION

The coil itself can be rotated in 90° steps by releasing the four securing screws. (FIG 1) When rotating the coil care should be taken to ensure the core assembly (core, spring, seal and washer) remains intact and aligned correctly. This is easily achieved by only lifting the coil the small amount required to clear the screws enabling the coil to be rotated.



(FIG 1)

## DIMENSIONS (mm)



COIL TYPE	A	B	C	D
MC30 Plug & Socket	36	101	126	195
Heavy Duty Mazak Plug & Socket	36	112	126	195
Standard Terminal Box	36	99	134	211
SS Terminal Box	52	119	151	245
ExnA Terminal Box	36	99	134	211
Exd SS Terminal Box	52	119	151	245
Exm Flying Lead	36	106	122	187
Exme Terminal Box	36	99	134	211
Piezo Operator	32	72	135	213
Exia SS Terminal Box	52	119	158	259
Exia Std. Terminal Box	36	99	141	225
Exia Plug & Socket	36	125	129	201

## MATERIAL SPECIFICATIONS

STANDARD	
Body and End Caps	Black Anodised Aluminium (Dural)
Spool	Hard Anodised Aluminium PTFE Impregnated
Jet	Brass
Spacers	Glass Filled Acetal
Seals	Nitrile
Spring	Music Wire

## VALVE SPECIFICATIONS

STANDARD	
Port Connection Size	1/8" BSP
Working Pressure Internal Pilot Version	3 to 10 bar
Working Pressure External Pilot Version	3 to 10 bar
Minimum External Pilot Pressure	3 bar
Cv Factor	0.4
Flow Rate (at 6 bar with 1 bar pressure drop)	382 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

## COIL DETAILS

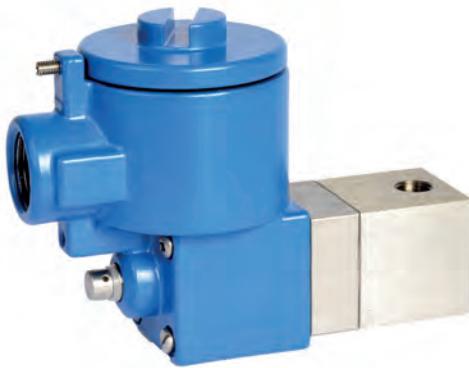
Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## E13A-0 Series, Direct Acting, 1/8", 3/2 Function Solenoid Valve

**CALL:** +44 (0)1254 872277

**E-MAIL:** sales@pneumatrol.com



### DESCRIPTION

3 port 2 position direct acting, spring return solenoid valve, available in normally closed or normally open configuration.

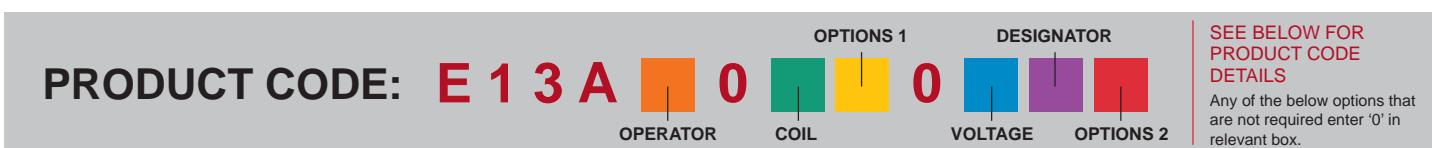
Stainless steel valve is illustrated with an Exia coil in stainless steel housing.

Body material available in

- Aluminium (standard)
- Stainless Steel
- Brass

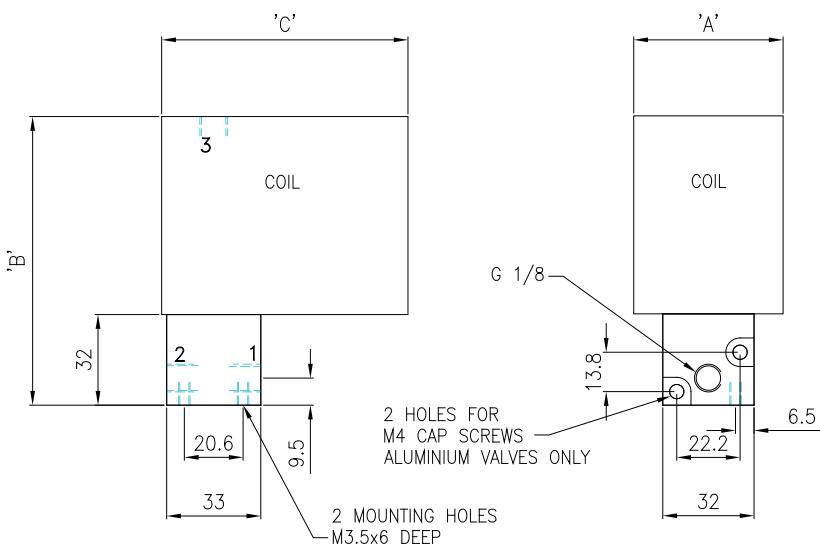
### FEATURES

- Individual or direct relay mounting
- Interchangeable coils, including various hazardous area options
- Pilot exhaust dust caps fitted as standard
- Also available with 1/4" ports
- SIL2 on energising, SIL3 on de-energising when used in 3/2 mode



Operator	Coil	Options 1	Standard Voltage	Designator	Options 2
X Spring return, normally closed	A Exia (BASEEFA)	C Lever Manual Override	B 24v DC	A ATEX	B Valve body brass
Y Spring return, normally open	B Terminal Box	D Push Button Manual Override	H 24v DC Low Power <sup>(1)</sup>	C IECEx <sup>(2)</sup>	C Valve body brass and NPT ports
	U Exia (FM)	I Tamperproof Manual Override	R 24v AC (50/60 Hz)	E Exme 0.5W	D Valve body brass, NPT ports and 1/2" NPT electrical connection
	D Exd	0 No option required	T 110v AC (50/60 Hz)	G ATEX Exd IIB	E 1/2" NPT electrical connection
	K MC30 Plug & Socket		N 220v AC (50/60 Hz)	H Exm	L Low temperature duty -40°C
	N ExnA		U 240v AC (50/60 Hz)	J Exme 2.4W	M NPT ports and 1/2" NPT electrical connection
	P Plug & Socket		* A comprehensive range of non-standard voltages available on request	R GOST CU TR <sup>(3)</sup>	N NPT ports
	S Exia (BASEEFA) Stainless Steel Housing		* A comprehensive range of non-standard voltages available on request	X NEPSI <sup>(4)</sup>	P Valve body stainless steel, NPT ports and 1/2" NPT electrical connection
	0 No Coil Unit		* A comprehensive range of non-standard voltages available on request		R Valve body stainless steel and NPT ports
	9 Exm		* A comprehensive range of non-standard voltages available on request		S Valve body stainless steel
			* A comprehensive range of non-standard voltages available on request		X Valve suitable for use with Oxygen

## DIMENSIONS (mm)



COIL TYPE	A	B	C
Heavy Duty Mazak Plug & Socket	36	76	78
Standard Terminal Box	36	84	65
SS Terminal Box	52	101	85
ExnA Terminal Box	36	84	65
Exd SS Terminal Box	52	101	85
Exm Flying Lead	36	92	72
Exme Terminal Box	36	84	65
Exia SS Terminal Box	52	112	85
Exia Std. Terminal Box	36	95	65
Exia Plug & Socket	36	84	91

## MATERIAL SPECIFICATIONS

STANDARD	
Body	Black Anodised Aluminium (Dural)
Jet	Brass
Seals	Nitrile (Alternative Seals Available)

## VALVE SPECIFICATIONS

STANDARD	
Port Connection Size (Standard)	1/8" BSP
Working Pressure	0 to 10 bar
Cv Factor	0.06 (0.04 Intrinsically safe coil)
Flow Rate (at 6 bar with 1 bar pressure drop)	62 l/min 42 l/min for Intrinsically safe coil
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

## COIL DETAILS

Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## E13A-G Series, Gang Mounted, Direct Acting, 1/8", 3/2 Function Solenoid Valve



### DESCRIPTION

Gang mounted, 3 port 2 position direct acting solenoid valves, available in normally closed or normally open configuration, for the operation of single acting pneumatic devices.

Valve is illustrated with safe area plug & socket coils.

Body material available in

- Aluminium (standard)
- Stainless Steel
- Brass

### FEATURES

- Single air inlet connection port
- Interchangeable coils, including various hazardous area options
- Pilot exhaust dust caps fitted as standard

PRODUCT CODE: **E 1 3 A**



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

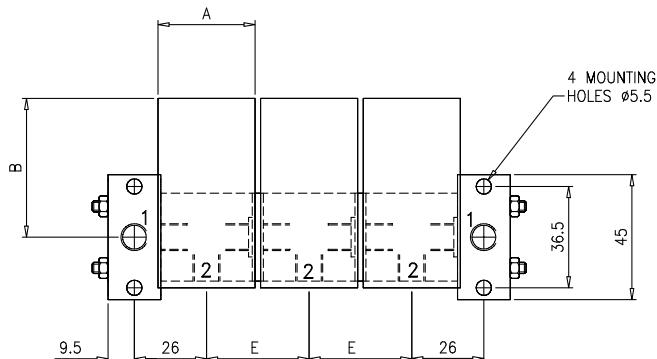
Any of the below options that are not required enter '0' in relevant box.

Operator	Coil	Options 1	Bank No.	Standard Voltage	Designator	Options 2
X Spring return, normally closed	A Exia (BASEEFA)	C Lever manual override	2 Bank of two (2)	B 24v DC	A ATEX	B Valve body brass
Y Spring return, normally open	B Terminal Box	D Push button manual override	3 Bank of three (3)	H 24v DC Low Power <sup>(1)</sup>	C IECEx <sup>(2)</sup>	C Valve body brass and NPT ports
	U Exia (FM)	1 Tamperproof manual override	4 Bank of four (4)	R 24v AC (50/60 Hz)	E Exm 0.5W	D Valve body brass, NPT ports and 1/2" NPT electrical connection
	D Exd	0 No option required	5 Bank of five (5)	T 110v AC (50/60 Hz)	G ATEX Exd IIB	E 1/2" NPT electrical connection
	K MC30 Plug & Socket		6 Bank of six (6)	N 220v AC (50/60 Hz)	H Exm	L Low temperature duty -40°C
	N ExnA		7 Bank of seven (7)	U 240v AC (50/60 Hz)	J Exm 2.4W	M NPT ports and 1/2" NPT electrical connection
	P Plug & Socket		8 Bank of eight (8)		R GOST CU TR <sup>(3)</sup>	N NPT ports
	S Exia (BASEEFA) Stainless Steel Housing		9 Bank of nine (9)		X NEPSI <sup>(4)</sup>	P Valve body stainless steel, NPT ports and 1/2" NPT electrical connection
	O No Coil Unit		A Bank of ten (10)			R Valve body stainless steel and NPT ports
	9 Exm					S Valve body stainless steel
						X Valve suitable for use with Oxygen

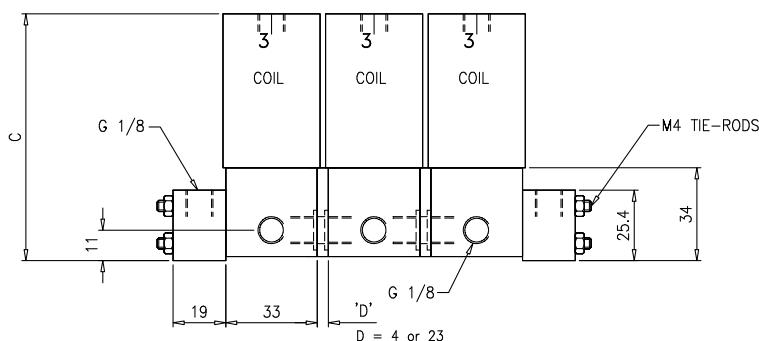
Note:

- (1) "H" option not available with Exia solenoids
- (2) IECEx only available with Exia and Exd Solenoids
- (3) GOST CU TR only available with Exd solenoids
- (4) NEPSI only available with Exia and Exd solenoids

## DIMENSIONS (mm)



COIL TYPE	A	B	C	D	E
Plug & Socket	35	58	89	4	36
Terminal Box	35	48	89	4	36
ExnA	35	48	89	4	36
Exd	52	68	109	23	55
Exia	35	48	109	4	36
Exm	35	55	89	4	36



## MATERIAL SPECIFICATIONS

STANDARD	
Body	Black Anodised Aluminium (Dural)
Jet	Brass
End Blocks	Black Anodised Aluminium (Dural)
Tie Rods & Nuts	Stainless Steel

## VALVE SPECIFICATIONS

STANDARD	
Port Connection Size	1/8" BSP
Working Pressure	0 to 10 bar
Cv Factor	0.06 (0.04 Intrinsically safe coil)
Flow Rate (at 6 bar with 1 bar pressure drop)	62 l/min 42 l/min for Intrinsically safe coil
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

## COIL DETAILS

Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## E138L0 Series, Low Pressure, 1/8", 3/2 Function Solenoid Valve

CALL: +44 (0)1254 872277

E-MAIL: sales@pneumatrol.com



### DESCRIPTION

3 port 2 position, low pressure pilot operated solenoid valve, spring returned.

Valve is illustrated with a safe area plug & socket coil.

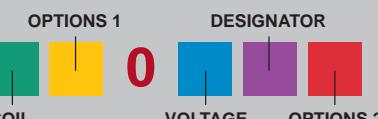
Body material available in

- Aluminium (standard)
- Stainless Steel
- Brass

### FEATURES

- External pilot air connection
- Interchangeable coils, including various hazardous area options
- Single coil spring return function
- Convenient fixing holes to enable bracket mounting
- Pilot exhaust dust caps fitted as standard

PRODUCT CODE: **E 1 3 8 L 0**



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that  
are not required enter '0' in  
relevant box.

#### Coil

<b>A</b>	Exia (BASEEFA)
<b>B</b>	Terminal Box
<b>U</b>	Exia (FM)
<b>D</b>	Exd
<b>K</b>	MC30 Plug & Socket
<b>N</b>	ExnA
<b>P</b>	Plug & Socket
<b>S</b>	Exia (BASEEFA) Stainless Steel Housing
<b>O</b>	No Coil Unit
<b>9</b>	Exm

#### Options 1

<b>C</b>	Lever manual override
<b>D</b>	Push button manual override
<b>1</b>	Tamperproof manual override
<b>0</b>	No option required

#### Standard Voltage

<b>B</b>	24v DC
<b>H</b>	24v DC Low Power <sup>(1)</sup>
<b>R</b>	24v AC (50/60 Hz)
<b>T</b>	110v AC (50/60 Hz)
<b>N</b>	220v AC (50/60 Hz)
<b>U</b>	240v AC (50/60 Hz)

\* A comprehensive range of non-standard voltages available on request

#### Designator

<b>A</b>	ATEX
<b>C</b>	IECEx <sup>(2)</sup>
<b>E</b>	Exme 0.5W
<b>G</b>	ATEX Exd IIB
<b>H</b>	Exm
<b>J</b>	Exme 2.4W
<b>R</b>	GOST CU TR <sup>(3)</sup>
<b>X</b>	NEPSI <sup>(4)</sup>

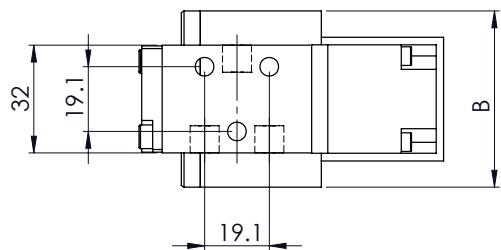
#### Options 2

<b>B</b>	Valve body brass
<b>C</b>	Valve body brass and NPT ports
<b>D</b>	Valve body brass, NPT ports and 1/2" NPT electrical connection
<b>E</b>	1/2" NPT electrical connection
<b>L</b>	Low temperature duty -40°C
<b>M</b>	NPT ports and 1/2" NPT electrical connection
<b>N</b>	NPT ports
<b>P</b>	Valve body stainless steel, NPT ports and 1/2" NPT electrical connection
<b>R</b>	Valve body stainless steel and NPT ports
<b>S</b>	Valve body stainless steel
<b>X</b>	Valve suitable for use with Oxygen

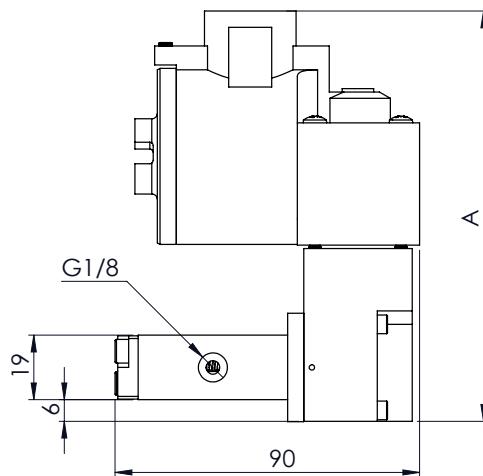
#### Note:

- (1) "H" option not available with Exia solenoids
- (2) IECEx only available with Exia and Exd Solenoids
- (3) GOST CU TR only available with Exd solenoids
- (4) NEPSI only available with Exia and Exd solenoids

## DIMENSIONS (mm)



COIL TYPE	A	B
Plug & Socket	107	35
Terminal Box	116	35
ExnA	116	35
Exd	121	52
Exia	116	35
Exm	94	35



## MATERIAL SPECIFICATIONS

## STANDARD

Body And End Caps	Black Anodised Aluminium (Dural)
Low Pressure Pilot End Caps	Natural Anodised Aluminium (Dural)
Spool	Hard Anodised Aluminium PTFE Impregnated
Jet	Brass
Spacers	Glass Filled Acetal
Seals	Nitrile
Spring	Music Wire

## VALVE SPECIFICATIONS

## STANDARD

Port Connection Size	1/8" BSP
Working Pressure	1.5 to 10 bar
Minimum External Pilot Pressure	1.5 bar
Cv Factor	0.3
Flow Rate (at 6 bar with 1 bar pressure drop)	382 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

## COIL DETAILS

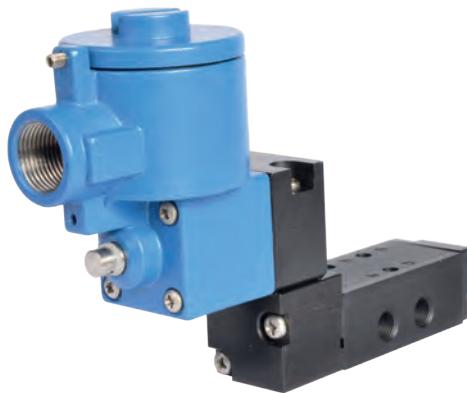
Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	ExN II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## E15--C Series, 1/8", 5/2 Function Solenoid Valve

CALL: +44 (0)1254 872277

E-MAIL: sales@pneumatrol.com



### DESCRIPTION

5 port 2 position, pilot operated solenoid valve.

Valve is illustrated with a stainless steel housed terminal box.

Body material available in

- Aluminium (standard)
- Stainless Steel
- Brass

Seal kit available – VSK100

### FEATURES

- Internal or external pilot air connection
- Single coil spring return function or double coil stay put function
- Convenient fixing holes to enable bracket mounting
- Pilot exhaust dust caps fitted as standard
- Interchangeable CNOMO interface coil units, including hazardous area options

PRODUCT CODE: **E 1 5**



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that  
are not required enter '0' in  
relevant box.

#### Operator

1 8	Spring return, internal pilot air feed
8 0	Spring return, external pilot air connection
1 9	Double solenoid, internal pilot air feed
9 0	Double solenoid, external pilot air connection

#### Coil

A	Exia (BASEEFA)
B	Terminal Box
U	Exia (FM)
D	Exd
K	MC30 Plug & Socket
N	ExnA
P	Plug & Socket
S	Exia (BASEEFA) Stainless Steel Housing
0	No Coil Unit
9	Exm

#### Options 1

C	Lever manual override
D	Push button manual override
S	Screw driver override (standard)
0	No option required

#### Standard Voltage

B	24v DC
H	24v DC Low Power <sup>(1)</sup>
R	24v AC (50/60 Hz)
T	110v AC (50/60 Hz)
N	220v AC (50/60 Hz)
U	240v AC (50/60 Hz)

\* A comprehensive range of non-standard voltages available on request

#### Designator

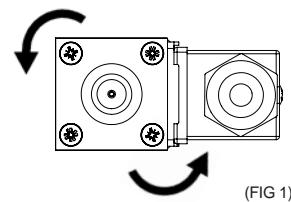
A	ATEX
C	IECEx <sup>(2)</sup>
E	Exme 0.5W
G	ATEX Exd IIB
H	Exm
J	Exme 2.4W
R	GOST CU TR <sup>(3)</sup>
X	NEPSI <sup>(4)</sup>

#### Options 2

B	Valve body brass
C	Valve body brass and NPT ports
D	Valve body brass, NPT ports and 1/2" NPT electrical connection
E	1/2" NPT electrical connection
L	Low temperature duty -40°C
M	NPT ports and 1/2" NPT electrical connection
N	NPT ports
P	Valve body stainless steel, NPT ports and 1/2" NPT electrical connection
R	Valve body stainless steel and NPT ports
S	Valve body stainless steel
X	Valve suitable for use with Oxygen

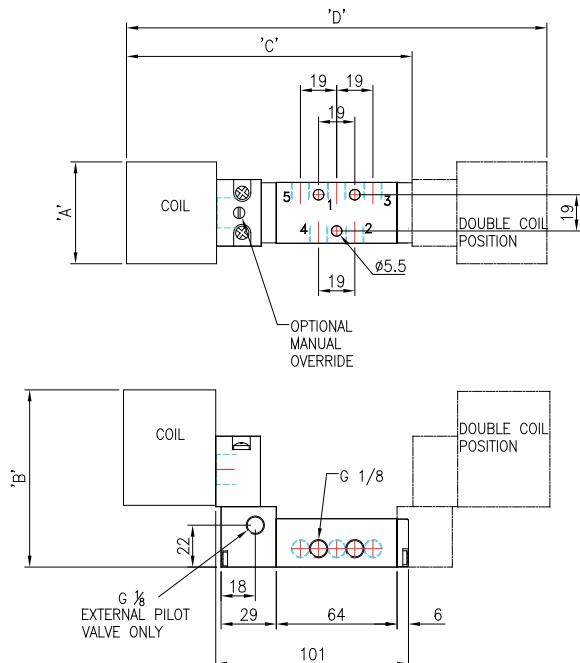
## COIL ORIENTATION

The coil itself can be rotated in 90° steps by releasing the four securing screws. (FIG 1) When rotating the coil care should be taken to ensure the core assembly (core, spring, seal and washer) remains intact and aligned correctly. This is easily achieved by only lifting the coil the small amount required to clear the screws enabling the coil to be rotated.



(FIG 1)

## DIMENSIONS (mm)



COIL TYPE	A	B	C	D
MC30 Plug & Socket	36	101	145	215
Heavy Duty Mazak Plug & Socket	36	112	145	215
Standard Terminal Box	36	99	153	231
SS Terminal Box	52	119	170	265
ExnA Terminal Box	36	99	153	231
Exd SS Terminal Box	52	119	170	265
Exm Flying Lead	36	106	141	207
Exme Terminal Box	36	99	153	231
Piezo Operator	32	72	154	233
Exia SS Terminal Box	52	119	177	279
Exia Std. Terminal Box	36	99	160	245
Exia Plug & Socket	36	125	148	221

## MATERIAL SPECIFICATIONS

STANDARD	
Body And End Caps	Black Anodised Aluminium (Dural)
Spool	Hard Anodised Aluminium PTFE Impregnated
Jet	Brass
Spacers	Glass Filled Acetal
Seals	Nitrile
Spring	Music Wire

## VALVE SPECIFICATIONS

STANDARD	
Port Connection Size	1/8" BSP
Working Pressure Internal Pilot Version	3 to 10 bar
Working Pressure External Pilot Version	3 to 10 bar
Minimum External Pilot Pressure	3 bar
Cv Factor	0.4
Flow Rate (at 6 bar with 1 bar pressure drop)	382 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

## COIL DETAILS

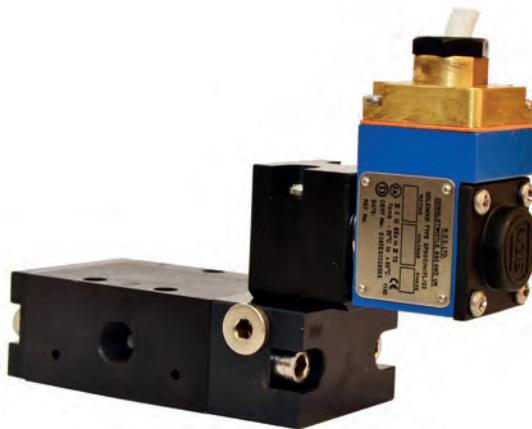
Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## E23--C Series, 1/4", 3/2 Function Solenoid Valve

**CALL:** +44 (0)1254 872277

**E-MAIL:** sales@pneumatrol.com



### DESCRIPTION

3 port 2 position, pilot operated solenoid valve.

Valve is illustrated with an Exm coil.

Body material available in

- Aluminium (standard)
- Stainless Steel
- Brass

Seal kit available – VSK200

### FEATURES

- External or internal pilot air connection
- Single coil spring return function or double coil stay put function
- Convenient fixing holes to enable bracket mounting
- Pilot exhaust dust caps fitted as standard
- Interchangeable CNOMO interface coil units, including hazardous area options
- SIL2 on energising, SIL3 on de-energising when used in 3/2 mode

**PRODUCT CODE: E 2 3**



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that  
are not required enter '0' in  
relevant box.

#### Operator

1 8	Spring return, internal pilot air feed
8 0	Spring return, external pilot air connection
1 9	Double solenoid, internal pilot air feed
9 0	Double solenoid, external pilot air connection

#### Coil

A	Exia (BASEEFA)
B	Terminal Box
U	Exia (FM)
D	Exd
K	MC30 Plug & Socket
N	ExnA
P	Plug & Socket
S	Exia (BASEEFA) Stainless Steel Housing
0	No Coil Unit
9	Exm

#### Options 1

C	Lever manual override
D	Push button manual override
S	Screw driver override (standard)
0	No option required

#### Standard Voltage

B	24v DC
H	24v DC Low Power <sup>(1)</sup>
R	24v AC (50/60 Hz)
T	110v AC (50/60 Hz)
N	220v AC (50/60 Hz)
U	240v AC (50/60 Hz)

\* A comprehensive range of non-standard voltages available on request

#### Designator

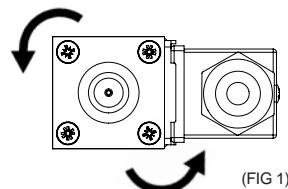
A	ATEX
C	IECEx <sup>(2)</sup>
E	Exme 0.5W
G	ATEX Exd IIB
H	Exm
J	Exme 2.4W
R	GOST CU TR <sup>(3)</sup>
X	NEPSI <sup>(4)</sup>

#### Options 2

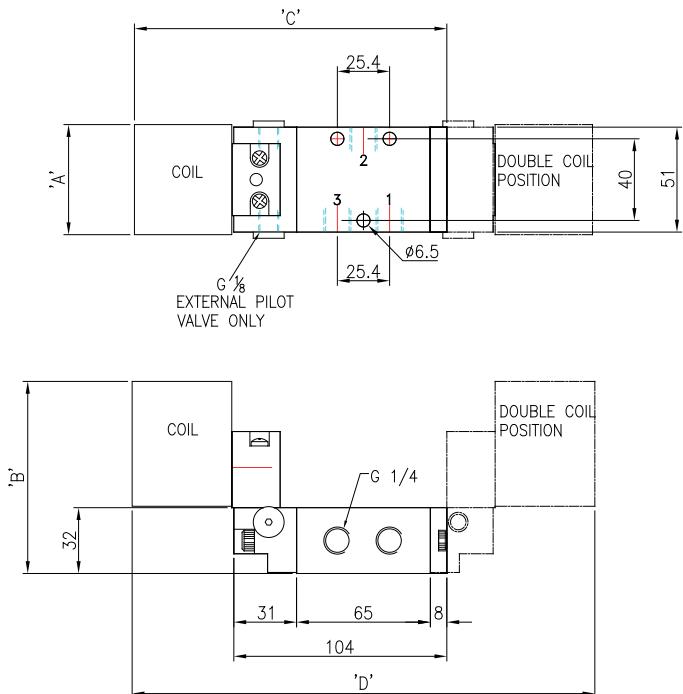
B	Valve body brass
C	Valve body brass and NPT ports
D	Valve body brass, NPT ports and 1/2" NPT electrical connection
E	1/2" NPT electrical connection
L	Low temperature duty -40°C
M	NPT ports and 1/2" NPT electrical connection
N	NPT ports
P	Valve body stainless steel, NPT ports and 1/2" NPT electrical connection
R	Valve body stainless steel and NPT ports
S	Valve body stainless steel
X	Valve suitable for use with Oxygen

## COIL ORIENTATION

The coil itself can be rotated in 90° steps by releasing the four securing screws. (FIG 1) When rotating the coil care should be taken to ensure the core assembly (core, spring, seal and washer) remains intact and aligned correctly. This is easily achieved by only lifting the coil the small amount required to clear the screws enabling the coil to be rotated.



## DIMENSIONS (mm)



## MATERIAL SPECIFICATIONS

STANDARD	
Body and End Caps	Black Anodised Aluminium (Dural)
Spool	Hard Anodised Aluminium PTFE Impregnated
Jet	Brass
Spacers	Glass Filled Acetal
Seals	Nitrile (Alternative Seals Available)
Spring	Music Wire

## VALVE SPECIFICATIONS

STANDARD	
Port Connection Size	1/4" BSP
Working Pressure Internal Pilot Version	3 to 10 bar
Working Pressure External Pilot Version	3 to 10 bar
Minimum External Pilot Pressure	3 bar
Cv Factor	1.2
Flow Rate (at 6 bar with 1 bar pressure drop)	1246 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

## COIL DETAILS

Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## E23A-0 Series, Direct Acting, 1/4", 3/2 Function Solenoid Valve

CALL: +44 (0)1254 872277

E-MAIL: sales@pneumatrol.com



### DESCRIPTION

3 way direct acting, solenoid valve available in normally closed or normally open configuration, for the operation of single acting pneumatic devices.

Valve is illustrated a safe area plug & socket coil.

Body material available in

- Aluminium (standard)
- Stainless Steel
- Brass

### FEATURES

- Remote or direct mount

PRODUCT CODE: **E 2 3 A** **0** **0** **0** **0**

OPERATOR

OPTIONS 1

VOLTAGE

COIL

OPTIONS 2

SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that  
are not required enter '0' in  
relevant box.

#### Operator

X Spring return, normally closed  
 Y Spring return, normally open

#### Coil

P Plug & Socket

#### Options 1

C Lever manual override

#### Standard Voltage

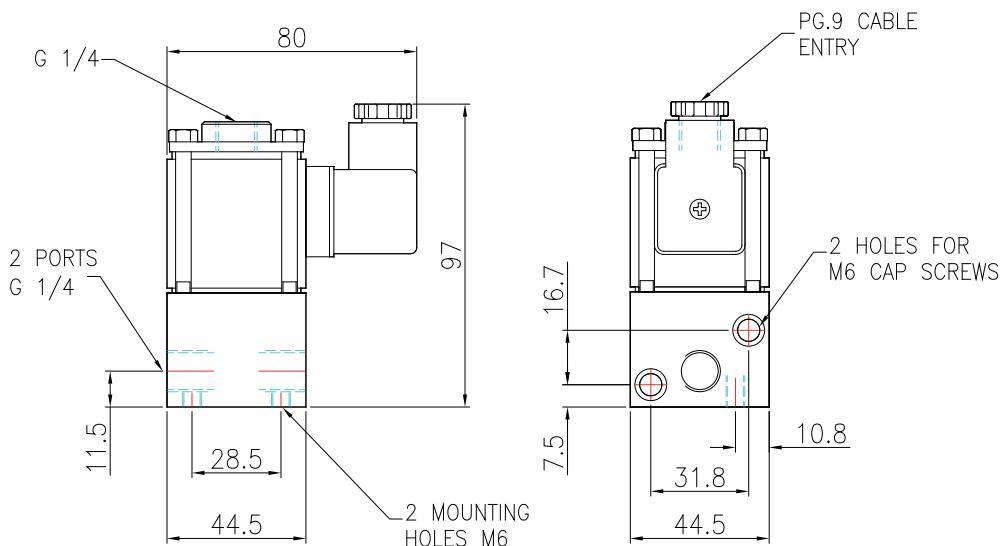
B 24v DC  
 H 24v DC Low Power  
 R 24v AC (50/60 Hz)  
 T 110v AC (50/60 Hz)  
 N 220v AC (50/60 Hz)  
 U 240v AC (50/60 Hz)

#### Options 2

N NPT ports

\* A comprehensive range of non-standard  
voltages available on request

## DIMENSIONS (mm)



## MATERIAL SPECIFICATIONS

STANDARD	
Body	Black Anodised Aluminium (Dural)
Jet	Brass
Seals	Viton

## VALVE SPECIFICATIONS

STANDARD	
Port Connection Size	1/4" BSP
Working Pressure	0 to 10 bar
Cv Factor	0.18
Flow Rate (at 6 bar with 1 bar pressure drop)	187 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C
Inlet Orifice Size	2.0
Exhaust Orifice Size	2.5

## COIL DETAILS

Coil Type	Plug & Socket
Area Class	Safe
Area Category	N/A
Ingress Protection	IP65
Cable Entry	PG.9
Ambient Temperature	-20 to +80 °C
Magnetic Wire Class	H

## E23A-G Series, Gang Mounted, Direct Acting, 1/4", 3/2 Function Solenoid Valve



CALL: +44 (0)1254 872277  
E-MAIL: sales@pneumatrol.com

### DESCRIPTION

Gang Mounted, 3 port 2 position direct acting available in normally closed or normally open configuration solenoid valves, for the operation of single acting pneumatic devices.

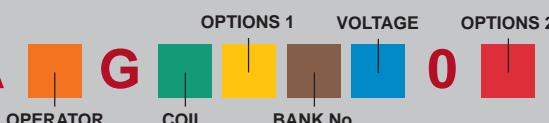
Body material available in

- Aluminium (standard)
- Stainless Steel
- Brass

### FEATURES

- Single air inlet connection port

PRODUCT CODE: **E 2 3 A**



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that are not required enter '0' in relevant box.

#### Operator

- X** Spring return, normally closed
- Y** Spring return, normally open

#### Coil

- P** Plug & Socket

#### Options 1

- C** Lever manual override

#### Bank No.

<b>2</b>	Bank of two (2)
<b>3</b>	Bank of three (3)
<b>4</b>	Bank of four (4)
<b>5</b>	Bank of five (5)
<b>6</b>	Bank of six (6)
<b>7</b>	Bank of seven (7)
<b>8</b>	Bank of eight (8)
<b>9</b>	Bank of nine (9)
<b>A</b>	Bank of ten (10)

#### Standard Voltage

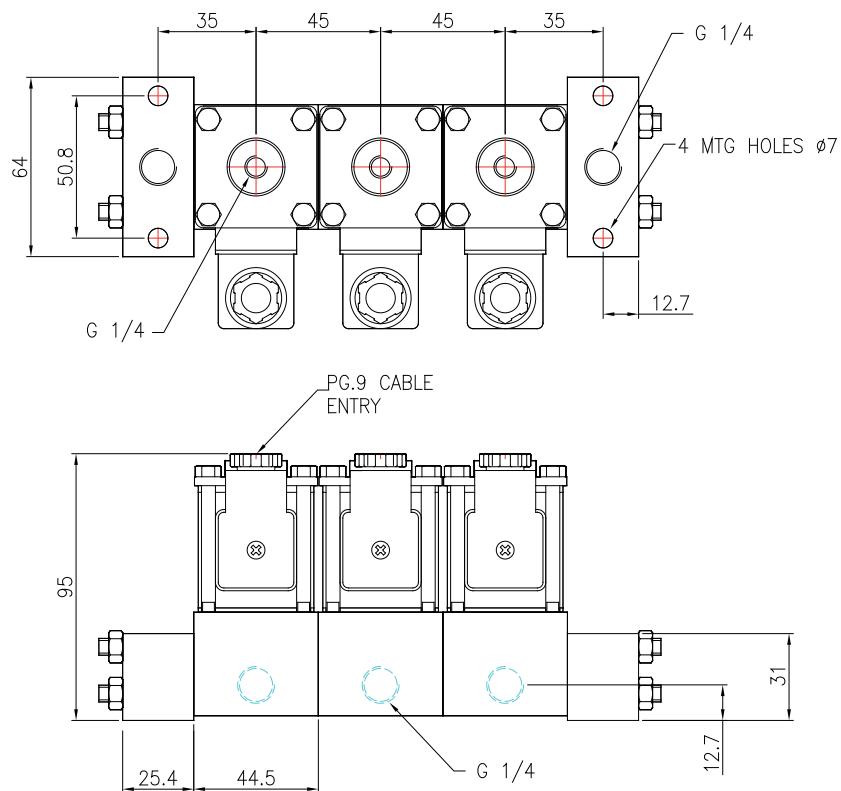
<b>B</b>	24v DC
<b>H</b>	24v DC Low Power
<b>R</b>	24v AC (50/60 Hz)
<b>T</b>	110v AC (50/60 Hz)
<b>N</b>	220v AC (50/60 Hz)
<b>U</b>	240v AC (50/60 Hz)

#### Options 2

- N** NPT ports

\* A comprehensive range of non-standard voltages available on request

## DIMENSIONS (mm)



## MATERIAL SPECIFICATIONS

STANDARD	
Body	Black Anodised Aluminium (Dural)
Jet	Brass
Tie Rods & Nuts	Stainless Steel
End Blocks	Black Anodised Aluminium (Dural)

## VALVE SPECIFICATIONS

STANDARD	
Port Connection Size	1/4" BSP
Working Pressure	0 to 10 bar
Cv Factor	0.18
Flow Rate (at 6 bar with 1 bar pressure drop)	187 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C
Inlet Orifice Size	2.0 mm
Exhaust Orifice Size	2.5 mm

## COIL DETAILS

Coil Type	Plug & Socket
Area Class	Safe
Area Category	N/A
Ingress Protection	IP65
Cable Entry	PG.9
Ambient Temperature	-20 to +80 °C
Magnetic Wire Class	H

## E238L0 Series, Low Pressure, 1/4", 3/2 Function Solenoid Valve

CALL: +44 (0)1254 872277

E-MAIL: sales@pneumatrol.com



### DESCRIPTION

3 port 2 position, low pressure pilot operated solenoid valve.

Valve is illustrated with a safe area plug & socket coil.

Body material available in

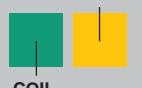
- Aluminium (standard)
- Stainless Steel
- Brass

### FEATURES

- External pilot air connection
- Interchangeable coils, including various hazardous area options
- Single coil spring return function
- Pilot exhaust dust caps fitted as standard

PRODUCT CODE: **E 2 3 8 L 0**

OPTIONS 1



DESIGNATOR



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that are not required enter '0' in relevant box.

#### Coil

<b>A</b>	Exia (BASEEFA)
<b>B</b>	Terminal Box
<b>U</b>	Exia (FM)
<b>D</b>	Exd
<b>K</b>	MC30 Plug & Socket
<b>N</b>	ExnA
<b>P</b>	Plug & Socket
<b>S</b>	Exia (BASEEFA) Stainless Steel Housing
<b>O</b>	No Coil Unit
<b>9</b>	Exm

#### Options 1

<b>C</b>	Lever manual override
<b>D</b>	Push button manual override
<b>1</b>	Tamperproof manual override
<b>0</b>	No option required

#### Standard Voltage

<b>B</b>	24v DC
<b>H</b>	24v DC Low Power <sup>(1)</sup>
<b>R</b>	24v AC (50/60 Hz)
<b>T</b>	110v AC (50/60 Hz)
<b>N</b>	220v AC (50/60 Hz)
<b>U</b>	240v AC (50/60 Hz)

\* A comprehensive range of non-standard voltages available on request

#### Designator

<b>A</b>	ATEX
<b>C</b>	IECEx <sup>(2)</sup>
<b>E</b>	Exme 0.5W
<b>G</b>	ATEX Exd IIB
<b>H</b>	Exm
<b>J</b>	Exme 2.4W
<b>R</b>	GOST CU TR <sup>(3)</sup>
<b>X</b>	NEPSI <sup>(4)</sup>

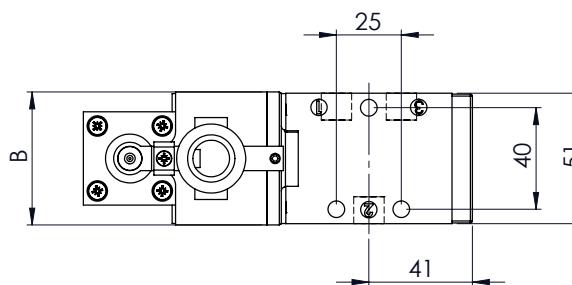
#### Options 2

<b>B</b>	Valve body brass
<b>C</b>	Valve body brass and NPT ports
<b>D</b>	Valve body brass, NPT ports and 1/2" NPT electrical connection
<b>E</b>	1/2" NPT electrical connection
<b>L</b>	Low temperature duty -40°C
<b>M</b>	NPT ports and 1/2" NPT electrical connection
<b>N</b>	NPT ports
<b>P</b>	Valve body stainless steel, NPT ports and 1/2" NPT electrical connection
<b>R</b>	Valve body stainless steel and NPT ports
<b>S</b>	Valve body stainless steel
<b>X</b>	Valve suitable for use with Oxygen

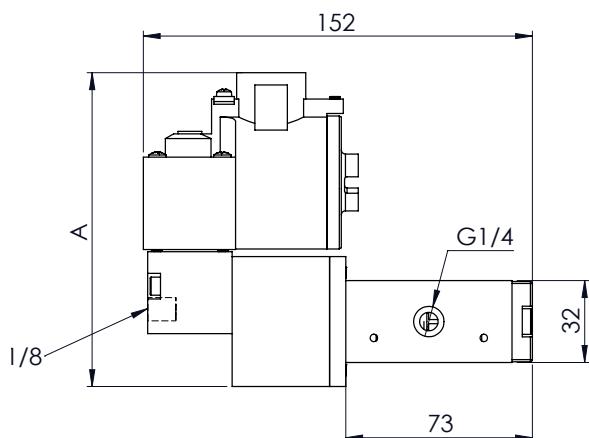
#### Note:

- (1) "H" option not available with Exia solenoids
- (2) IECEx only available with Exia and Exd Solenoids
- (3) GOST CU TR only available with Exd solenoids
- (4) NEPSI only available with Exia and Exd solenoids

## DIMENSIONS (mm)



COIL TYPE	A	B
Plug & Socket	102	51
Terminal Box	111	51
ExnA	111	51
Exd	123	52
Exia	117	51
Exm	93	51



## MATERIAL SPECIFICATIONS

## STANDARD

Body And End Caps	Black Anodised Aluminium (Dural)
Low Pressure Pilot End Caps	Natural Anodised Aluminium (Dural)
Spool	Hard Anodised Aluminium PTFE Impregnated
Jet	Brass
Spacers	Glass Filled Acetal
Seals	Nitrile
Spring	Music Wire

## VALVE SPECIFICATIONS

## STANDARD

Port Connection Size	1/4" BSP
External Pilot Port Connection	1/8" BSP
Working Pressure	1.5 to 10 bar
Minimum External Pilot Pressure	1.5 bar
Cv Factor	1.2
Flow Rate (at 6 bar with 1 bar pressure drop)	1246 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

## COIL DETAILS

Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## V23 series, 1/4", 3/2 Function Poppet Valve



### DESCRIPTION

3 port 2 position, spring return Poppet solenoid valve.

Valve is illustrated with an Exd coil.

Body material available in

- Aluminium (standard)
- Stainless Steel
- Brass

Seal kit available – VSK126

### FEATURES

- Internal or external pilot air connection
- Interchangeable coils, including various hazardous area options
- Pilot exhaust dust caps fitted as standard

PRODUCT CODE: **V 2 3**



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that  
are not required enter '0' in  
relevant box.

#### Operator

1	8	Spring return, internal pilot air feed
8	0	Spring return, external pilot air connection

#### Coil

A	Exia (BASEEFA)
B	Terminal Box
U	Exia (FM)
D	Exd
K	MC30 Plug & Socket
N	ExnA
P	Plug & Socket
S	Exia (BASEEFA) Stainless Steel Housing
0	No Coil Unit
9	Exm

#### Options 1

C	Lever manual override
---	-----------------------

#### Standard Voltage

B	24v DC
H	24v DC Low Power <sup>(1)</sup>
R	24v AC (50/60 Hz)
T	110v AC (50/60 Hz)
N	220v AC (50/60 Hz)
U	240v AC (50/60 Hz)

\* A comprehensive range of non-standard voltages available on request

#### Designator

A	ATEX
C	IECEx <sup>(2)</sup>
E	Exme 0.5W
G	ATEX Exd IIB
H	Exm
J	Exme 2.4W
R	GOST CU TR <sup>(3)</sup>
X	NEPSI <sup>(4)</sup>

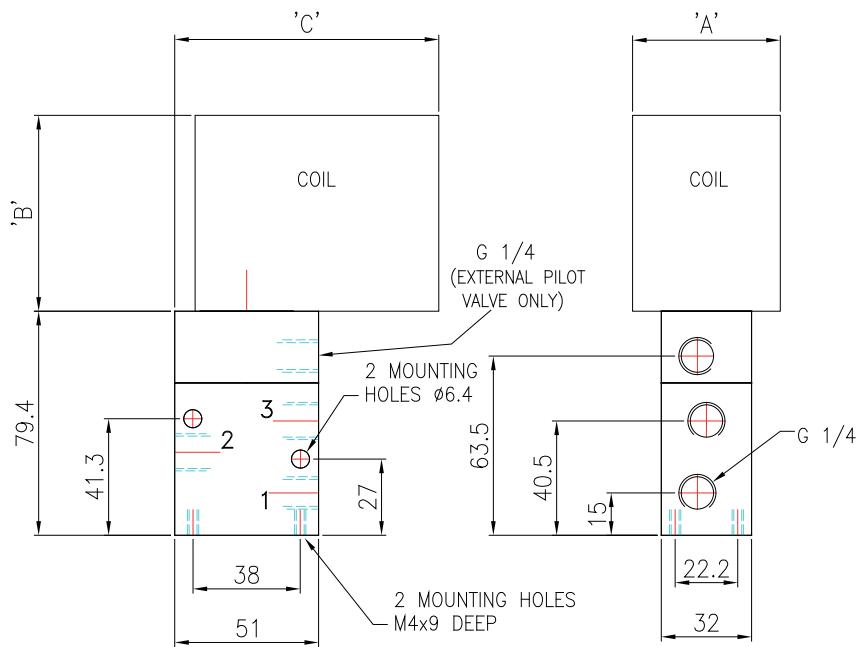
#### Options 2

B	Valve body brass
C	Valve body brass and NPT ports
D	Valve body brass, NPT ports and 1/2" NPT electrical connection
E	1/2" NPT electrical connection
L	Low temperature duty -40°C
M	NPT ports and 1/2" NPT electrical connection
N	NPT ports
P	Valve body stainless steel, NPT ports and 1/2" NPT electrical connection
R	Valve body stainless steel and NPT ports
S	Valve body stainless steel
X	Valve suitable for use with Oxygen

#### Note:

- (1) "H" option not available with Exia solenoids
- (2) IECEx only available with Exia and Exd Solenoids
- (3) GOST CU TR only available with Exd solenoids
- (4) NEPSI only available with Exia and Exd solenoids

## DIMENSIONS (mm)



COIL TYPE	A	B	C
Plug & Socket	35	55	88
Terminal Box	35	55	73
ExnA	35	55	73
Exd	52	75	93
Exia	35	75	73
Exm	35	55	80

## MATERIAL SPECIFICATIONS

STANDARD	
Body And End Caps	Black Anodised Aluminium (Dural)
Poppet Insert	Brass
Jet	Brass
Seals	Nitrile

## VALVE SPECIFICATIONS

STANDARD	
Port Connection Size	1/4" BSP
Working Pressure Internal Pilot Version	3 to 10 bar
Working Pressure External Pilot Version	3 to 10 bar
Minimum External Pilot Pressure	3 bar
Cv Factor	1.2
Flow Rate (at 6 bar with 1 bar pressure drop)	1246 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

## COIL DETAILS

Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## E25--C Series, 1/4", 5/2 Function Solenoid Valve

**CALL:** +44 (0)1254 872277

**E-MAIL:** sales@pneumatrol.com



### DESCRIPTION

5 port 2 position, pilot operated solenoid valve.

Valve is illustrated with an Exia plug & socket coil.

Body material available in

- Aluminium (standard)
- Stainless Steel
- Brass

Seal kit available – VSK200

### FEATURES

- Internal or external pilot air connection
- Single coil spring return function or double coil stay put function
- Convenient fixing holes to enable bracket mounting
- Pilot exhaust dust caps fitted as standard
- Interchangeable CNOMO interface coil units, including hazardous area options

**PRODUCT CODE: E 2 5**



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that  
are not required enter '0' in  
relevant box.

#### Operator

1 8	Spring return, internal pilot air feed
8 0	Spring return, external pilot air connection
1 9	Double solenoid, internal pilot air feed
9 0	Double solenoid, external pilot air connection

#### Coil

A	Exia (BASEEFA)
B	Terminal Box
U	Exia (FM)
D	Exd
K	MC30 Plug & Socket
N	ExnA
P	Plug & Socket
S	Exia (BASEEFA) Stainless Steel Housing
0	No Coil Unit
9	Exm

#### Options 1

C	Lever manual override
D	Push button manual override
S	Screw driver override (standard)
0	No option required

#### Standard Voltage

B	24v DC
H	24v DC Low Power <sup>(1)</sup>
R	24v AC (50/60 Hz)
T	110v AC (50/60 Hz)
N	220v AC (50/60 Hz)
U	240v AC (50/60 Hz)

\* A comprehensive range of non-standard voltages available on request

#### Designator

#### Options 2

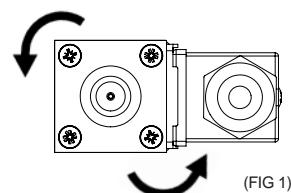
A	ATEX	B	Valve body brass
C	IECEx <sup>(2)</sup>	C	Valve body brass and NPT ports
E	Exme 0.5W	D	Valve body brass, NPT ports and 1/2" NPT electrical connection
G	ATEX Exd IIB	E	1/2" NPT electrical connection
H	Exm	L	Low temperature duty -40°C
J	Exme 2.4W	M	NPT ports and 1/2" NPT electrical connection
R	GOST CU TR <sup>(3)</sup>	N	NPT ports
X	NEPSI <sup>(4)</sup>	P	Valve body stainless steel, NPT ports and 1/2" NPT electrical connection
		R	Valve body stainless steel and NPT ports
		S	Valve body stainless steel
		X	Valve suitable for use with Oxygen

#### Note:

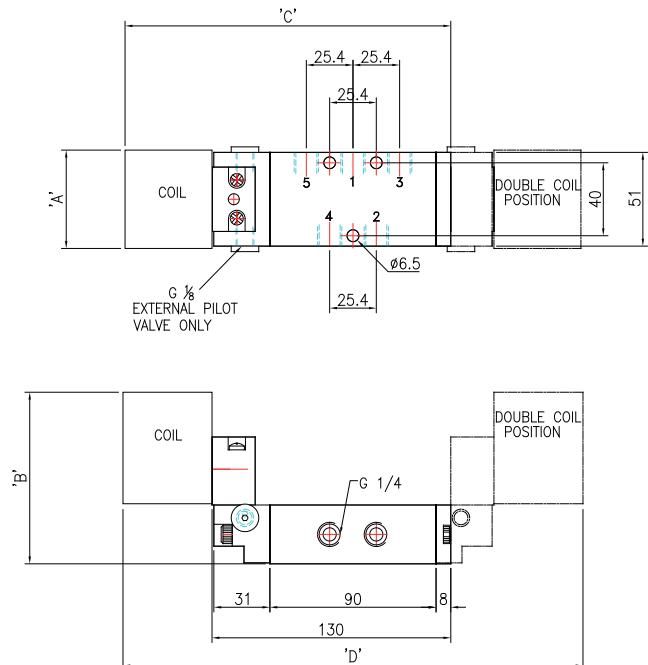
- (1) "H" option not available with Exia solenoids
- (2) IECEx only available with Exia and Exd Solenoids
- (3) GOST CU TR only available with Exd solenoids
- (4) NEPSI only available with Exia and Exd solenoids

## COIL ORIENTATION

The coil itself can be rotated in 90° steps by releasing the four securing screws. (FIG 1) When rotating the coil care should be taken to ensure the core assembly (core, spring, seal and washer) remains intact and aligned correctly. This is easily achieved by only lifting the coil the small amount required to clear the screws enabling the coil to be rotated.



## DIMENSIONS (mm)



## MATERIAL SPECIFICATIONS

## STANDARD

Body And End Caps	Black Anodised Aluminium (Dural)
Spool	Hard Anodised Aluminium PTFE Impregnated
Jet	Brass
Spacers	Glass Filled Acetal
Seals	Nitrile (Alternative Seals Available)
Spring	Music Wire

## VALVE SPECIFICATIONS

## STANDARD

Port Connection Size	1/4" BSP
Working Pressure Internal Pilot Version	3 to 10 bar
Working Pressure External Pilot Version	3 to 10 bar
Minimum External Pilot Pressure	3 bar
Cv Factor	1.2
Flow Rate (at 6 bar with 1 bar pressure drop)	1246 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

## COIL DETAILS

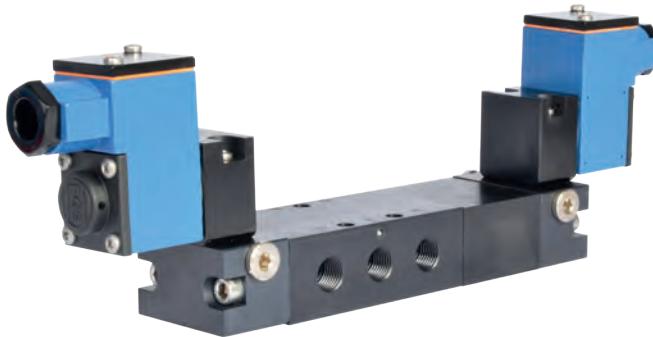
Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## E25--C Series, 1/4", 5/3 Function Solenoid Valve

**CALL:** +44 (0)1254 872277

**E-MAIL:** sales@pneumatrol.com



### DESCRIPTION

5 port 3 position, spring centering pilot operated solenoid valve.

Valve is illustrated with dual ExnA coils.

Body material available in

- Aluminium (standard)
- Stainless Steel
- Brass

Seal kit available – VSK200

### FEATURES

- Internal or external pilot air connection
- Optional, all ports open or all ports closed in centre position
- Convenient fixing holes to enable bracket mounting
- Pilot exhaust dust caps fitted as standard
- Interchangeable CNOMO interface coil units, including hazardous area options

**PRODUCT CODE: E 2 5**



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that  
are not required enter '0' in  
relevant box.

#### Operator

1	4	All ports sealed mid position, internal pilot air feed
4	0	All ports sealed mid position, external pilot air connection
1	5	Inlet sealed open exhaust mid position, internal pilot air feed
5	0	Inlet sealed open exhaust mid position, external pilot air connection

#### Coil

A	Exia (BASEEFA)
B	Terminal Box
U	Exia (FM)
D	Exd
K	MC30 Plug & Socket
N	ExnA
P	Plug & Socket
S	Exia (BASEEFA) Stainless Steel Housing
O	No Coil Unit
9	Exm

#### Options 1

C	Lever manual override
D	Push button manual override
S	Screw driver override (standard)
O	No option required

#### Standard Voltage

B	24v DC
H	24v DC Low Power <sup>(1)</sup>
R	24v AC (50/60 Hz)
T	110v AC (50/60 Hz)
N	220v AC (50/60 Hz)
U	240v AC (50/60 Hz)

\* A comprehensive range of non-standard voltages available on request

#### Designator

A	ATEX
C	IECEx <sup>(2)</sup>
E	Exme 0.5W
G	ATEX Exd IIB
H	Exm
J	Exme 2.4W
R	GOST CU TR <sup>(3)</sup>
X	NEPSI <sup>(4)</sup>

#### Options 2

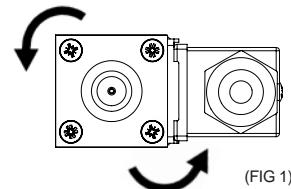
B	Valve body brass
C	Valve body brass and NPT ports
D	Valve body brass, NPT ports and 1/2" NPT electrical connection
E	1/2" NPT electrical connection
L	Low temperature duty -40°C
M	NPT ports and 1/2" NPT electrical connection
N	NPT ports
P	Valve body stainless steel, NPT ports and 1/2" NPT electrical connection
R	Valve body stainless steel and NPT ports
S	Valve body stainless steel
X	Valve suitable for use with Oxygen

#### Note:

- (1) "H" option not available with Exia solenoids
- (2) IECEx only available with Exia and Exd Solenoids
- (3) GOST CU TR only available with Exd solenoids
- (4) NEPSI only available with Exia and Exd solenoids

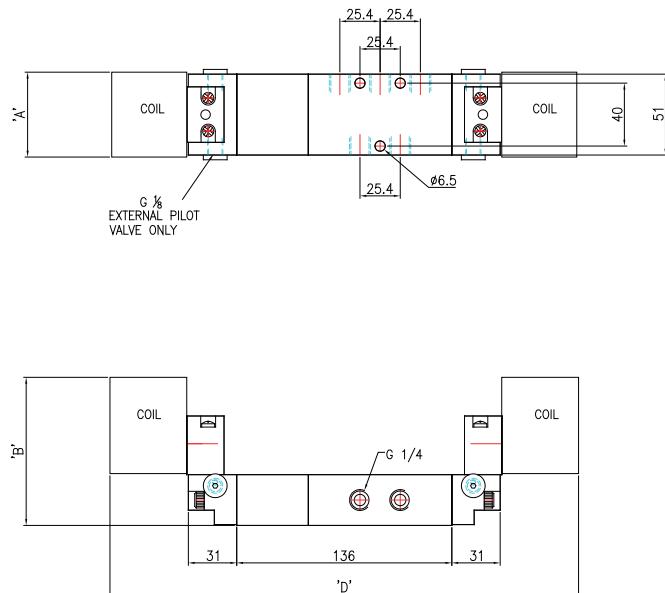
## COIL ORIENTATION

The coil itself can be rotated in 90° steps by releasing the four securing screws. (FIG 1) When rotating the coil care should be taken to ensure the core assembly (core, spring, seal and washer) remains intact and aligned correctly. This is easily achieved by only lifting the coil the small amount required to clear the screws enabling the coil to be rotated.



(FIG 1)

## DIMENSIONS (mm)



## COIL TYPE

	A	B	D
MC30 Plug & Socket	36	102	287
Heavy Duty Mazak Plug & Socket	36	113	287
Standard Terminal Box	36	100	303
SS Terminal Box	52	120	337
ExnA Terminal Box	36	100	303
Exd SS Terminal Box	52	120	337
Exm Flying Lead	36	107	279
Exme Terminal Box	36	100	303
Piezo Operator	32	73	305
Exia SS Terminal Box	52	120	351
Exia Std. Terminal Box	36	100	317
Exia Plug & Socket	36	126	293

## MATERIAL SPECIFICATIONS

## STANDARD

Body And End Caps	Black Anodised Aluminium (Dural)
Spool	Hard Anodised Aluminium PTFE Impregnated
Jet	Brass
Spacers	Glass Filled Acetal
Seals	Nitrile
Spring	Music Wire

## VALVE SPECIFICATIONS

## STANDARD

Port Connection Size	1/4" BSP
Working Pressure Internal Pilot Version	3 to 10 bar
Working Pressure External Pilot Version	3 to 10 bar
Minimum External Pilot Pressure	3 bar
Cv Factor	1.2
Flow Rate (at 6 bar with 1 bar pressure drop)	1246 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

## COIL DETAILS

Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## E43--C Series, 1/2", 3/2 Function Solenoid Valve

**CALL:** +44 (0)1254 872277

**E-MAIL:** sales@pneumatrol.com



### DESCRIPTION

3 port 2 position, pilot operated solenoid valve.

Valve is illustrated with a safe area plug & socket coil.

Body material available in

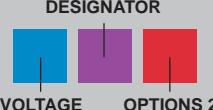
- Aluminium (standard)
- Stainless Steel
- Brass

Seal kit available – VSK501

### FEATURES

- Internal or external pilot air connection
- Interchangeable CNOMO interface coils, including various hazardous area options
- Single coil spring return function or double coil stay put function
- Convenient fixing holes to enable bracket mounting
- Pilot exhaust dust caps fitted as standard
- SIL2 on energising, SIL3 on de-energising when used in 3/2 mode

**PRODUCT CODE: E 4 3**



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that  
are not required enter '0' in  
relevant box.

#### Operator

1	8	Spring return, internal pilot air feed
8	0	Spring return, external pilot air connection
1	9	Double solenoid, internal pilot air feed
9	0	Double solenoid, external pilot air connection

#### Coil

A	Exia (BASEEFA)
B	Terminal Box
U	Exia (FM)
D	Exd
K	MC30 Plug & Socket
N	ExnA
P	Plug & Socket
S	Exia (BASEEFA) Stainless Steel Housing
0	No Coil Unit
9	Exm

#### Options 1

C	Lever manual override
D	Push button manual override
S	Screw driver override (standard)
0	No option required

#### Standard Voltage

B	24v DC
H	24v DC Low Power <sup>(1)</sup>
R	24v AC (50/60 Hz)
T	110v AC (50/60 Hz)
N	220v AC (50/60 Hz)
U	240v AC (50/60 Hz)

\* A comprehensive range of non-standard voltages available on request

#### Designator

#### Options 2

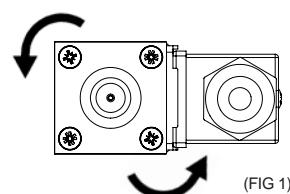
A	ATEX	B	Valve body brass
C	IECEx <sup>(2)</sup>	C	Valve body brass and NPT ports
E	Exme 0.5W	D	Valve body brass, NPT ports and 1/2" NPT electrical connection
G	ATEX Exd IIB	E	1/2" NPT electrical connection
H	Exm	L	Low temperature duty -40°C
J	Exme 2.4W	M	NPT ports and 1/2" NPT electrical connection
R	GOST CU TR <sup>(3)</sup>	N	NPT ports
X	NEPSI <sup>(4)</sup>	P	Valve body stainless steel, NPT ports and 1/2" NPT electrical connection
		R	Valve body stainless steel and NPT ports
		S	Valve body stainless steel
		X	Valve suitable for use with Oxygen

#### Note:

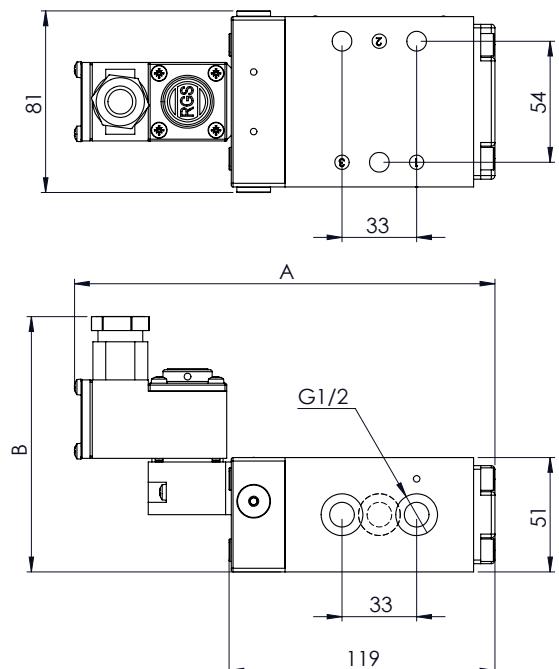
- (1) "H" option not available with Exia solenoids
- (2) IECEx only available with Exia and Exd Solenoids
- (3) GOST CU TR only available with Exd solenoids
- (4) NEPSI only available with Exia and Exd solenoids

## COIL ORIENTATION

The coil itself can be rotated in 90° steps by releasing the four securing screws. (FIG 1) When rotating the coil care should be taken to ensure the core assembly (core, spring, seal and washer) remains intact and aligned correctly. This is easily achieved by only lifting the coil the small amount required to clear the screws enabling the coil to be rotated.



## DIMENSIONS (mm)



COIL TYPE	A	B
Plug & Socket	190	105
MC30 Coil	182	100
Terminal Box	187	114
ExnA	187	114
Exd	203	126
Exia	155	120
Exm	155	96

## MATERIAL SPECIFICATIONS

STANDARD	
Body And End Caps	Black Anodised Aluminium (Dural)
Spool	Hard Anodised Aluminium PTFE Impregnated
Jet	Brass
Spacers	Glass Filled Acetal
Seals	Nitrile
Spring	Music Wire

## VALVE SPECIFICATIONS

STANDARD	
Inlet Port Connection Size	1/2" BSP
Working Pressure Internal Pilot Version	3 to 10 bar
Working Pressure External Pilot Version	3 to 10 bar
Minimum External Pilot Pressure	3 bar
Cv Factor	3.5
Flow Rate (at 6 bar with 1 bar pressure drop)	3534 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

## COIL DETAILS

Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## E45--C Series, 1/2", 5/2 Function Solenoid Valve



CALL: +44 (0)1254 872277

E-MAIL: sales@pneumatrol.com

### DESCRIPTION

5 port 2 position, pilot operated solenoid valve.

Valve is illustrated with an Exia plug & socket coil.

Body material available in

- Aluminium (standard)
- Stainless Steel
- Brass

Seal kit available – VSK501

### FEATURES

- Internal or external pilot air connection
- Interchangeable CNOMO interface coils, including various hazardous area options
- Single coil spring return function or double coil stay put function
- Convenient fixing holes to enable bracket mounting
- Pilot exhaust dust caps fitted as standard

PRODUCT CODE: **E 4 5**



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that  
are not required enter '0' in  
relevant box.

#### Operator

1	8	Spring return, internal pilot air feed
8	0	Spring return, external pilot air connection
1	9	Double solenoid, internal pilot air feed
9	0	Double solenoid, external pilot air connection

#### Coil

A	Exia (BASEEFA)
B	Terminal Box
U	Exia (FM)
D	Exd
K	MC30 Plug & Socket
N	ExnA
P	Plug & Socket
S	Exia (BASEEFA) Stainless Steel Housing
0	No Coil Unit
9	Exm

#### Options 1

C	Lever manual override
D	Push button manual override
S	Screw driver override (standard)
0	No option required

#### Standard Voltage

B	24v DC
H	24v DC Low Power <sup>(1)</sup>
R	24v AC (50/60 Hz)
T	110v AC (50/60 Hz)
N	220v AC (50/60 Hz)
U	240v AC (50/60 Hz)

\* A comprehensive range of non-standard voltages available on request

#### Designator

A	ATEX
C	IECEx <sup>(2)</sup>
E	Exme 0.5W
G	ATEX Exd IIB
H	Exm
J	Exme 2.4W
R	GOST CU TR <sup>(3)</sup>
X	NEPSI <sup>(4)</sup>

#### Options 2

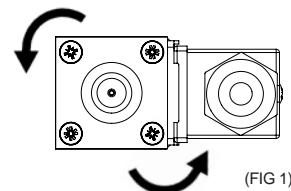
B	Valve body brass
C	Valve body brass and NPT ports
D	Valve body brass, NPT ports and 1/2" NPT electrical connection
E	1/2" NPT electrical connection
L	Low temperature duty -40°C
M	NPT ports and 1/2" NPT electrical connection
N	NPT ports
P	Valve body stainless steel, NPT ports and 1/2" NPT electrical connection
R	Valve body stainless steel and NPT ports
S	Valve body stainless steel
X	Valve suitable for use with Oxygen

#### Note:

- (1) "H" option not available with Exia solenoids
- (2) IECEx only available with Exia and Exd Solenoids
- (3) GOST CU TR only available with Exd solenoids
- (4) NEPSI only available with Exia and Exd solenoids

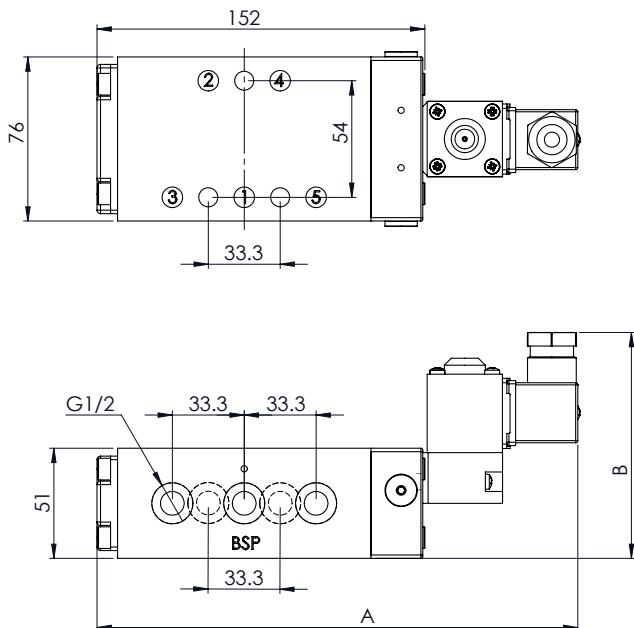
## COIL ORIENTATION

The coil itself can be rotated in 90° steps by releasing the four securing screws. (FIG 1) When rotating the coil care should be taken to ensure the core assembly (core, spring, seal and washer) remains intact and aligned correctly. This is easily achieved by only lifting the coil the small amount required to clear the screws enabling the coil to be rotated.



(FIG 1)

## DIMENSIONS (mm)



## COIL TYPE

	A	B
Plug & Socket	223	105
MC30 Coil	215	100
Terminal Box	220	114
ExnA	220	114
Exd	236	126
Exia	188	120
Exm	188	96

## MATERIAL SPECIFICATIONS

## STANDARD

Body And End Caps	Black Anodised Aluminium (Dural)
Spool	Hard Anodised Aluminium PTFE Impregnated
Jet	Brass
Spacers	Glass Filled Acetal
Seals	Nitrile
Spring	Music Wire

## VALVE SPECIFICATIONS

## STANDARD

Inlet Port Connection Size	1/2" BSP
Working Pressure Internal Pilot Version	3 to 10 bar
Working Pressure External Pilot Version	3 to 10 bar
Minimum External Pilot Pressure	3 bar
Cv Factor	3.5
Flow Rate (at 6 bar with 1 bar pressure drop)	3534 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

## COIL DETAILS

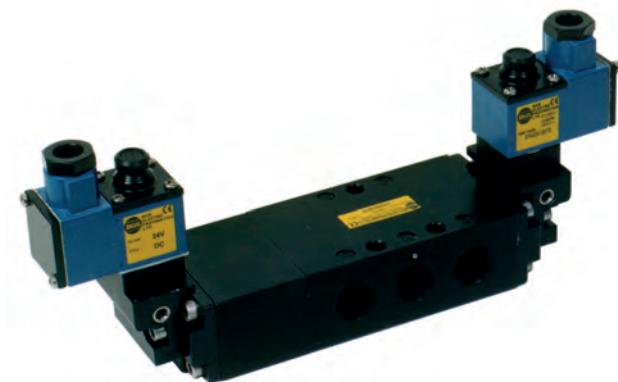
Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## E45--C Series, 1/2", 5/3 Function Solenoid Valve

CALL: +44 (0)1254 872277

E-MAIL: sales@pneumatrol.com



### DESCRIPTION

5 port 3 position, spring centering pilot operated solenoid valve.

Valve is illustrated with dual safe area terminal box coils.

Body material available in

- Aluminium (standard)
- Stainless Steel
- Brass

Seal kit available – VSK501

### FEATURES

- Internal or external pilot air connection
- Interchangeable CNOMO interface coils, including various hazardous area options
- Convenient fixing holes to enable bracket mounting
- Optional all ports open or all ports closed in center position
- Pilot exhaust dust caps fitted as standard

**PRODUCT CODE: E 4 5**



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that  
are not required enter '0' in  
relevant box.

#### Operator

1	4	All ports sealed mid position, internal pilot air feed
4	0	All ports sealed mid position, external pilot air connection
1	5	Inlet sealed open exhaust mid position, internal pilot air feed
5	0	Inlet sealed open exhaust mid position, external pilot air connection

#### Coil

A	Exia (BASEEFA)
B	Terminal Box
U	Exia (FM)
D	Exd
K	MC30 Plug & Socket
N	ExnA
P	Plug & Socket
S	Exia (BASEEFA) Stainless Steel Housing
O	No Coil Unit
9	Exm

#### Options 1

C	Lever manual override
D	Push button manual override
S	Screw driver override (standard)
0	No option required

#### Standard Voltage

B	24v DC
H	24v DC Low Power <sup>(1)</sup>
R	24v AC (50/60 Hz)
T	110v AC (50/60 Hz)
N	220v AC (50/60 Hz)
U	240v AC (50/60 Hz)

\* A comprehensive range of non-standard voltages available on request

#### Note:

- (1) "H" option not available with Exia solenoids
- (2) IECEx only available with Exia and Exd Solenoids
- (3) GOST CU TR only available with Exd solenoids
- (4) NEPSI only available with Exia and Exd solenoids

#### Designator

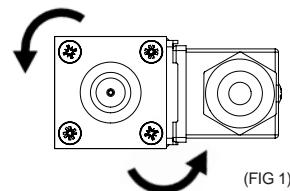
A	ATEX
C	IECEx <sup>(2)</sup>
E	Exme 0.5W
G	ATEX Exd IIB
H	Exm
J	Exme 2.4W
R	GOST CU TR <sup>(3)</sup>
X	NEPSI <sup>(4)</sup>

#### Options 2

B	Valve body brass
C	Valve body brass and NPT ports
D	Valve body brass, NPT ports and 1/2" NPT electrical connection
E	1/2" NPT electrical connection
L	Low temperature duty -40°C
M	NPT ports and 1/2" NPT electrical connection
N	NPT ports
P	Valve body stainless steel, NPT ports and 1/2" NPT electrical connection
R	Valve body stainless steel and NPT ports
S	Valve body stainless steel
X	Valve suitable for use with Oxygen

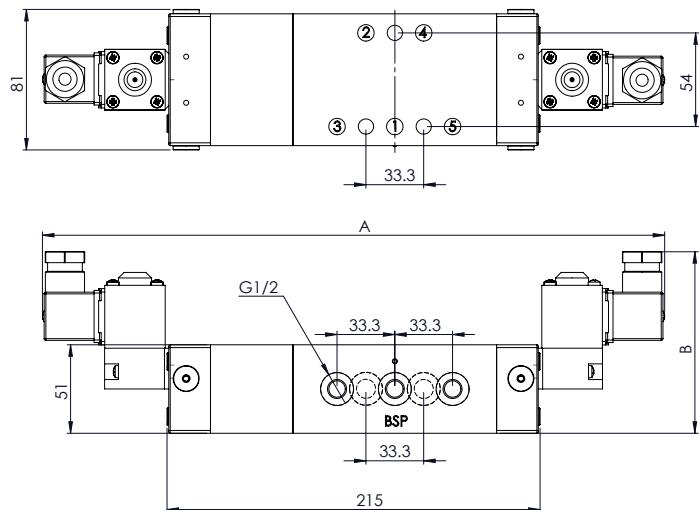
## COIL ORIENTATION

The coil itself can be rotated in 90° steps by releasing the four securing screws. (FIG 1) When rotating the coil care should be taken to ensure the core assembly (core, spring, seal and washer) remains intact and aligned correctly. This is easily achieved by only lifting the coil the small amount required to clear the screws enabling the coil to be rotated.



(FIG 1)

## DIMENSIONS (mm)



## COIL TYPE

	A	B
Plug & Socket	357	105
MC30 Coil	341	100
Terminal Box	351	114
ExnA	351	114
Exd	383	126
Exia	287	120
Exm	287	96

## MATERIAL SPECIFICATIONS

## STANDARD

Body And End Caps	Black Anodised Aluminium (Dural)
Spool	Hard Anodised Aluminium PTFE Impregnated
Jet	Brass
Spacers	Glass Filled Acetal
Seals	Nitrile
Spring	Music Wire

## VALVE SPECIFICATIONS

## STANDARD

Port Connection Size	1/2" BSP
Working Pressure Internal Pilot Version	3 to 10 bar
Working Pressure External Pilot Version	3 to 10 bar
Minimum External Pilot Pressure	3 bar
Cv Factor	3.5
Flow Rate (at 6 bar with 1 bar pressure drop)	3534 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

## COIL DETAILS

Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## E83--0 Series, 1", 3/2 Function Solenoid Valve

**CALL:** +44 (0)1254 872277

**E-MAIL:** sales@pneumatrol.com



### DESCRIPTION

3 port 2 position, pilot operated solenoid valve.

Valve is illustrated with a safe area plug & socket coil.

Body material available in

- Aluminium (standard)
- Stainless Steel
- Brass

Seal kit available – VSK1001

### FEATURES

- Internal or external pilot air connection
- Interchangeable coils, including various hazardous area options
- Single coil spring return function or double coil stay put function
- Convenient fixing holes to enable bracket mounting

**PRODUCT CODE: E 8 3**



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that are not required enter '0' in relevant box.

#### Operator

1	8	Spring return, internal pilot air feed
8	0	Spring return, external pilot air connection
1	9	Double solenoid, internal pilot air feed
9	0	Double solenoid, external pilot air connection

#### Coil

A	Exia (BASEEFA)
B	Terminal Box
U	Exia (FM)
D	Exd
K	MC30 Plug & Socket
N	ExnA
P	Plug & Socket
S	Exia (BASEEFA) Stainless Steel Housing
0	No Coil Unit
9	Exm

#### Options 1

C	Lever manual override
D	Push button manual override
1	Tamperproof manual override
0	No option required

#### Standard Voltage

B	24v DC
H	24v DC Low Power <sup>(1)</sup>
R	24v AC (50/60 Hz)
T	110v AC (50/60 Hz)
N	220v AC (50/60 Hz)
U	240v AC (50/60 Hz)

\* A comprehensive range of non-standard voltages available on request

#### Designator

A	ATEX
C	IECEx <sup>(2)</sup>
E	Exme 0.5W
G	ATEX Exd IIB
H	Exm
J	Exme 2.4W
R	GOST CU TR <sup>(3)</sup>
X	NEPSI <sup>(4)</sup>

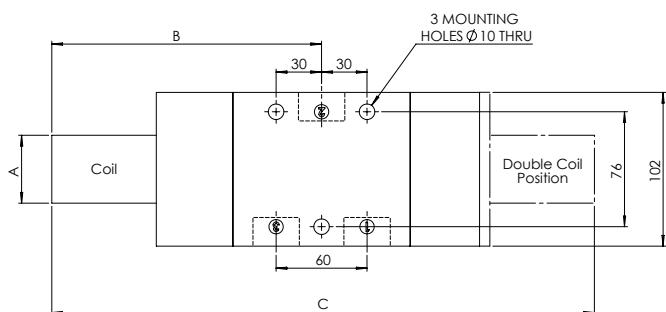
#### Options 2

B	Valve body brass
C	Valve body brass and NPT ports
D	Valve body brass, NPT ports and 1/2" NPT electrical connection
E	1/2" NPT electrical connection
L	Low temperature duty -40°C
M	NPT ports and 1/2" NPT electrical connection
N	NPT ports
P	Valve body stainless steel, NPT ports and 1/2" NPT electrical connection
R	Valve body stainless steel and NPT ports
S	Valve body stainless steel
X	Valve suitable for use with Oxygen

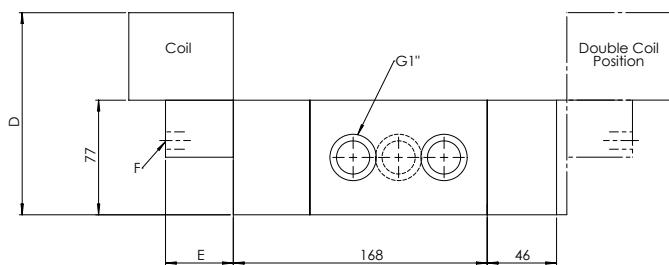
#### Note:

- (1) "H" option not available with Exia solenoids
- (2) IECEx only available with Exia and Exd Solenoids
- (3) GOST CU TR only available with Exd solenoids
- (4) NEPSI only available with Exia and Exd solenoids

## DIMENSIONS (mm)



COIL TYPE	A	B	C	D	E	F
Plug & Socket	45	193	386	134	45	G 1/4
Terminal Box	35	175	350	132	35	G 1/8
ExnA	35	175	350	132	35	G 1/8
Exd	52	195	390	152	35	G 1/8
Exia	35	175	350	152	35	G 1/8
Exm	35	182	364	132	35	G 1/8



## MATERIAL SPECIFICATIONS

## STANDARD

Body And End Caps	Black Anodised Aluminium (Dural)
Spool	Hard Anodised Aluminium PTFE Impregnated
Jet	Brass
Spacers	Glass Filled Acetal
Seals	Nitrile
Spring	Music Wire

## VALVE SPECIFICATIONS

## STANDARD

Port Connection Size	1" BSP
Working Pressure Internal Pilot Version	3 to 10 bar
Working Pressure External Pilot Version	3 to 10 bar
Minimum External Pilot Pressure	3 bar
Cv Factor	10
Flow Rate (at 6 bar with 1 bar pressure drop)	10384 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

## COIL DETAILS

Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## E85--0 Series, 1", 5/2 Function Solenoid Valve

**CALL:** +44 (0)1254 872277

**E-MAIL:** sales@pneumatrol.com



### DESCRIPTION

5 port 2 position, pilot operated solenoid valve.

Valve is illustrated with a safe area plug & socket coil.

Body material available in

- Aluminium (standard)
- Stainless Steel
- Brass

Seal kit available – VSK1001

### FEATURES

- Internal or external pilot air connection
- Interchangeable coils, including various hazardous area options
- Single coil spring return function or double coil stay put function
- Convenient fixing holes to enable bracket mounting
- Pilot exhaust dust caps fitted as standard

**PRODUCT CODE: E 8 5**



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that  
are not required enter '0' in  
relevant box.

#### Operator

1 8	Spring return, internal pilot air feed
8 0	Spring return, external pilot air connection
1 9	Double solenoid, internal pilot air feed
9 0	Double solenoid, external pilot air connection

#### Coil

A	Exia (BASEEFA)
B	Terminal Box
U	Exia (FM)
D	Exd
K	MC30 Plug & Socket
N	ExnA
P	Plug & Socket
S	Exia (BASEEFA) Stainless Steel Housing
0	No Coil Unit
9	Exm

#### Options 1

C	Lever manual override
D	Push button manual override
1	Tamperproof manual override
0	No option required

#### Standard Voltage

B	24v DC
H	24v DC Low Power <sup>(1)</sup>
R	24v AC (50/60 Hz)
T	110v AC (50/60 Hz)
N	220v AC (50/60 Hz)
U	240v AC (50/60 Hz)

\* A comprehensive range of non-standard voltages available on request

#### Designator

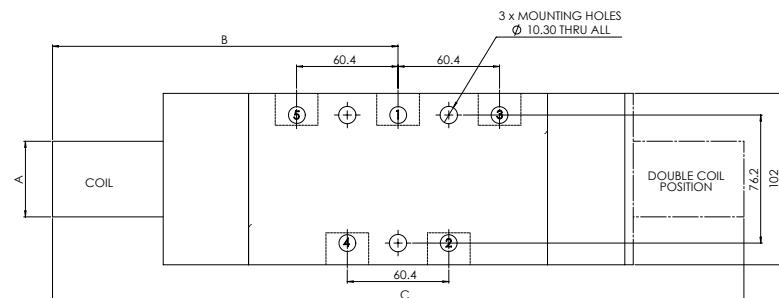
#### Options 2

A	ATEX	B	Valve body brass
C	IECEx <sup>(2)</sup>	C	Valve body brass and NPT ports
E	Exme 0.5W	D	Valve body brass, NPT ports and 1/2" NPT electrical connection
G	ATEX Exd IIB	E	1/2" NPT electrical connection
H	Exm	L	Low temperature duty -40°C
J	Exme 2.4W	M	NPT ports and 1/2" NPT electrical connection
R	GOST CU TR <sup>(3)</sup>	N	NPT ports
X	NEPSI <sup>(4)</sup>	P	Valve body stainless steel, NPT ports and 1/2" NPT electrical connection
		R	Valve body stainless steel and NPT ports
		S	Valve body stainless steel
		X	Valve suitable for use with Oxygen

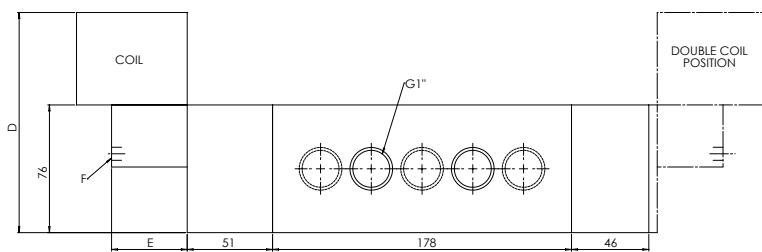
#### Note:

- (1) "H" option not available with Exia solenoids
- (2) IECEx only available with Exia and Exd Solenoids
- (3) GOST CU TR only available with Exd solenoids
- (4) NEPSI only available with Exia and Exd solenoids

## DIMENSIONS (mm)



COIL TYPE	A	B	C	D	E	F
Plug & Socket	45	215	430	131	45	G 1/4
Terminal Box	35	205	410	131	35	G 1/8
ExnA	35	205	410	131	35	G 1/8
Exd	52	225	450	151	35	G 1/8
Exia	35	205	410	151	35	G 1/8
Exm	35	212	424	131	35	G 1/8



## MATERIAL SPECIFICATIONS

## STANDARD

Body And End Caps	Black Anodised Aluminium (Dural)
Spool	Hard Anodised Aluminium PTFE Impregnated
Jet	Brass
Spacers	Natural Anodised Aluminium (Dural)
Seals	Nitrile
Spring	Music Wire

## VALVE SPECIFICATIONS

## STANDARD

Port Connection Size	1" BSP
Working Pressure Internal Pilot Version	3 to 10 bar
Working Pressure External Pilot Version	3 to 10 bar
Minimum External Pilot Pressure	3 bar
Cv Factor	10
Flow Rate (at 6 bar with 1 bar pressure drop)	10384 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

## COIL DETAILS

Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## E85--0 Series, 1", 5/3 Function Solenoid Valve



**CALL:** +44 (0)1254 872277

**E-MAIL:** sales@pneumatrol.com

### DESCRIPTION

5 port 3 position, spring centering pilot operated solenoid valve.

Valve is illustrated with dual safe area plug & socket coils.

Body material available in

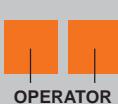
- Aluminium (standard)
- Stainless Steel
- Brass

Seal kit available – VSK1001

### FEATURES

- Internal or external pilot air connection
- Interchangeable coils, including various hazardous area options
- Convenient fixing holes to enable bracket mounting
- Optional all ports open or all ports closed in center position

**PRODUCT CODE: E 8 5**



**OPTIONS 1**  
0  
COIL

**OPTIONS 1**  
0  
VOLTAGE

**DESIGNATOR**  
0  
OPTIONS 2

**SEE BELOW FOR  
PRODUCT CODE  
DETAILS**

Any of the below options that are not required enter '0' in relevant box.

#### Operator

1	4	All ports sealed mid position, internal pilot air feed
4	0	All ports sealed mid position, external pilot air connection
1	5	Inlet sealed open exhaust mid position, internal pilot air feed
5	0	Inlet sealed open exhaust mid position, external pilot air connection

#### Coil

A	Exia (BASEEFA)
B	Terminal Box
U	Exia (FM)
D	Exd
K	MC30 Plug & Socket
N	ExnA
P	Plug & Socket
S	Exia (BASEEFA) Stainless Steel Housing
O	No Coil Unit
9	Exm

#### Options 1

C	Lever manual override
D	Push button manual override
1	Tamperproof manual override
0	No option required

#### Standard Voltage

B	24v DC
H	24v DC Low Power <sup>(1)</sup>
R	24v AC (50/60 Hz)
T	110v AC (50/60 Hz)
N	220v AC (50/60 Hz)
U	240v AC (50/60 Hz)

\* A comprehensive range of non-standard voltages available on request

#### Designator

A	ATEX
C	IECEx <sup>(2)</sup>
E	Exme 0.5W
G	ATEX Exd IIB
H	Exm
J	Exme 2.4W
R	GOST CU TR <sup>(3)</sup>
X	NEPSI <sup>(4)</sup>

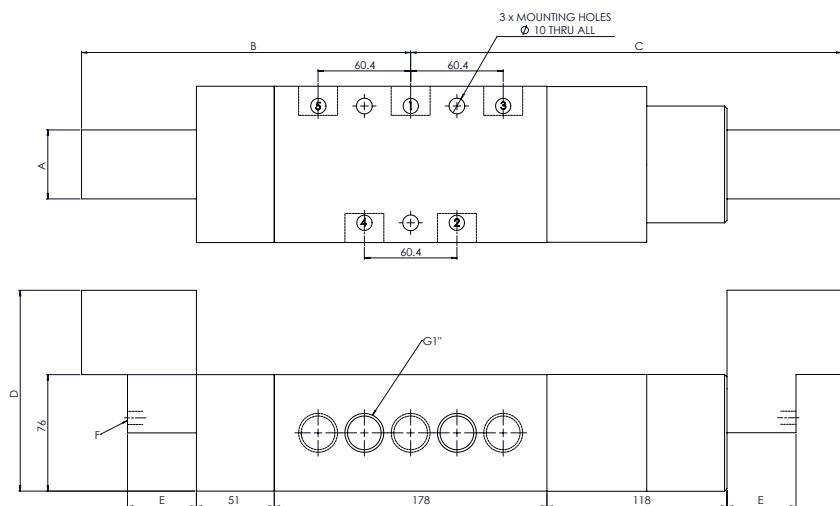
#### Options 2

B	Valve body brass
C	Valve body brass and NPT ports
D	Valve body brass, NPT ports and 1/2" NPT electrical connection
E	1/2" NPT electrical connection
L	Low temperature duty -40°C
M	NPT ports and 1/2" NPT electrical connection
N	NPT ports
P	Valve body stainless steel, NPT ports and 1/2" NPT electrical connection
R	Valve body stainless steel and NPT ports
S	Valve body stainless steel
X	Valve suitable for use with Oxygen

#### Note:

- (1) "H" option not available with Exia solenoids
- (2) IECEx only available with Exia and Exd Solenoids
- (3) GOST CU TR only available with Exd solenoids
- (4) NEPSI only available with Exia and Exd solenoids

## DIMENSIONS (mm)



COIL TYPE	A	B	C	D	E	F
Plug & Socket	45	215	282	131	45	G 1/4
Terminal Box	35	205	272	131	35	G 1/8
ExnA	35	205	272	131	35	G 1/8
Exd	52	225	292	151	35	G 1/8
Exia	35	205	272	151	35	G 1/8
Exm	35	212	279	131	35	G 1/8

## MATERIAL SPECIFICATIONS

STANDARD	
Body And End Caps	Black Anodised Aluminium (Dural)
Spool	Hard Anodised Aluminium PTFE Impregnated
Jet	Brass
Spacers	Natural Anodised Aluminium (Dural)
Seals	Nitrile
Spring	Music Wire

## VALVE SPECIFICATIONS

STANDARD	
Port Connection Size	1" BSP
Working Pressure Internal Pilot Version	3 to 10 bar
Working Pressure External Pilot Version	3 to 10 bar
Minimum External Pilot Pressure	3 bar
Cv Factor	10
Flow Rate (at 6 bar with 1 bar pressure drop)	10384 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

## COIL DETAILS

Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## CNOMO Based Solenoid

**CALL:** +44 (0)1254 872277

**E-MAIL:** sales@pneumatrol.com



### DESCRIPTION

Direct acting spring return normally closed solenoid, conforming to CNOMO standards.

Product is illustrated with an Exd coil.

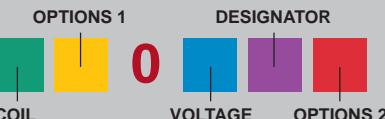
Body material available in

- Aluminium (standard)
- Stainless Steel
- Brass

### FEATURES

- Direct mounting to all valves meeting CNOMO fixing dimensions
- Interchangeable coils, including various hazardous area options
- Pilot exhaust dust caps fitted as standard

**PRODUCT CODE:** **E 1 3 A X C**



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that  
are not required enter '0' in  
relevant box.

Coil	Options 1
A Exia (BASEEFA)	C Lever manual override
B Terminal Box	D Push button manual override
U Exia (FM)	S Screw driver override (standard)
D Exd	O No option required
N ExnA	
P Plug & Socket	
S Exia (BASEEFA) Stainless Steel Housing	
2 Cnomo base complete with jet	
9 Exm	

#### Standard

##### Voltage

B 24v DC	A ATEX
H 24v DC Low Power <sup>(1)</sup>	C IECEx <sup>(2)</sup>
R 24v AC (50/60 Hz)	E Exme 0.5W
T 110v AC (50/60 Hz)	G ATEX Exd IIB
N 220v AC (50/60 Hz)	H Exm
U 240v AC (50/60 Hz)	J Exme 2.4W

\* A comprehensive range of non-standard voltages available on request

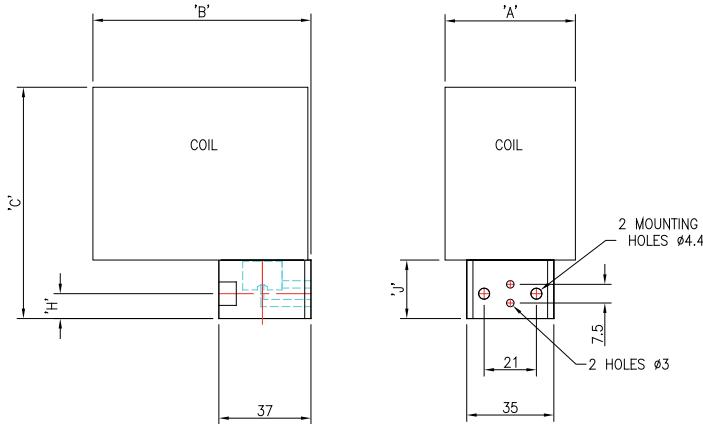
##### Designator

B Valve body brass
E 1/2" NPT electrical connection
L Low temperature duty -40°C
S Valve body stainless steel
X Valve suitable for use with Oxygen

##### Options 2

**Note:**  
 (1) "H" option not available with Exia solenoids  
 (2) IECEx only available with Exia and Exd Solenoids  
 (3) GOST CU TR only available with Exd solenoids  
 (4) NEPSI only available with Exia and Exd solenoids

## DIMENSIONS (mm)



COIL TYPE	A	B	C	H	J
Heavy Duty Mazak Plug & Socket	36	81	67	10.5	24
Standard Terminal Box	36	68	75	10.5	24
SS Terminal Box	52	88	92	10.5	24
ExnA Terminal Box	36	68	75	10.5	24
Exd SS Terminal Box	52	88	92	10.5	24
Exm Flying Lead	36	75	63	11.5	31.5
Exme Terminal Box	36	68	75	11.5	31.5
Exia SS Terminal Box	52	88	99	11.5	31.5
Exia Std. Terminal Box	36	68	82	11.5	31.5
Exia Plug & Socket	36	94	70	11.5	31.5

## MATERIAL SPECIFICATIONS

STANDARD	
Body	Natural Anodised Aluminium (Dural)
Jet	Brass

## VALVE SPECIFICATIONS

STANDARD	
Working Pressure	0 to 10 bar
Cv Factor	0.06 (0.04 Intrinsically safe coil)
Flow Rate (at 6 bar with 1 bar pressure drop)	62 l/min 42 l/min (Intrinsically safe coil)
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

## COIL DETAILS

Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## E53AXA Series, 1/8" 3/2 Function Compact Solenoid Valve

**CALL:** +44 (0)1254 872277  
**E-MAIL:** sales@pneumatrol.com



### DESCRIPTION

3 port 2 position direct acting, compact solenoid valve designed for direct banjo bolt mounting onto 1/4 turn pneumatically operated valve actuators having 1/8" BSP ports.

Body material available in  
 • Aluminium (standard)

### FEATURES

- Convenient single 1/8" BSP Banjo bolt connection
- Compact design to suit small actuators
- 1/4" BSP mains air connection and M5 exhaust

**PRODUCT CODE:** **E 5 3 A X A**

OPTIONS 1



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that  
are not required enter '0' in  
relevant box.

#### Coil

**K** MC30 Plug & Socket  
**2** No Coil (with stem)

#### Options 1

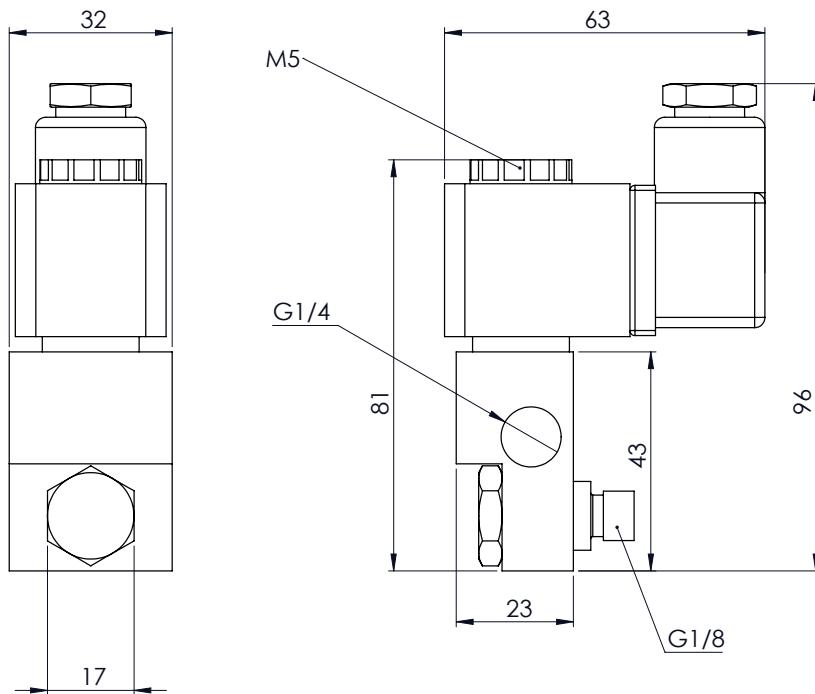
**C** Lever manual override  
**S** Screwdriver override (standard)  
**0** No option required

#### Standard Voltage

**B** 24v DC  
**H** 24v DC Low Power  
**R** 24v AC (50/60 Hz)  
**T** 110v AC (50/60 Hz)  
**N** 220v AC (50/60 Hz)  
**U** 240v AC (50/60 Hz)

\* A comprehensive  
range of non-standard  
voltages available on  
request

## DIMENSIONS (mm)



## MATERIAL SPECIFICATIONS

## STANDARD

Body	Black Anodised Aluminium (Dural)
Banjo Bolt	Brass Nickel Plated
Jet	Black Anodised Aluminium (Dural)
Seals	Nitrile & Viton

## VALVE SPECIFICATIONS

## STANDARD

Inlet Port Connection Size	1/4" BSP
Outlet Port Connection Size	1/8" BSP Banjo Bolt
Exhaust Port Connection Size	M5
Working Pressure	0 to 10 bar
Cv Factor	0.06
Flow Rate (at 6 bar with 1 bar pressure drop)	62 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

## COIL DETAILS

Coil Type	MC30 Plug & Socket
Area Class	Safe
Area Category	N/A
Ingress Protection	IP65
Cable Entry	PG.9
Ambient Temperature	-20 to +60 °C
Magnetic Wire Class	H

## E13A-A Series, 1/8" 3/2 Function Solenoid Valve

**CALL:** +44 (0)1254 872277  
**E-MAIL:** sales@pneumatrol.com



### DESCRIPTION

3 port 2 position direct acting, solenoid valve designed for direct banjo bolt mounting onto 1/4 turn pneumatically operated valve actuators having 1/8"BSP ports.

Valve is illustrated with a standard terminal box with M20 conduit entry.

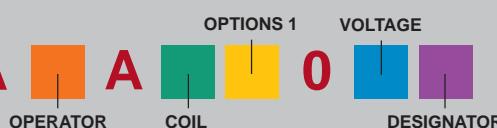
Body material available in

- Aluminium (standard)

### FEATURES

- Convenient single 1/8" BSP Banjo bolt connection
- Interchangeable coils, including various hazardous area options
- 1/4" BSP mains air connection and 1/8" BSP exhaust port
- Pilot exhaust dust caps fitted as standard

**PRODUCT CODE:** **E 1 3 A**



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that  
are not required enter '0' in  
relevant box.

#### Operator

- X** Spring return, normally closed
- Y** Spring return, normally open

#### Coil

- A** Exia (BASEEFA)
- B** Terminal Box
- U** Exia (FM)
- D** Exd
- K** MC30 Plug & Socket
- N** ExnA
- P** Plug & Socket
- S** Exia (BASEEFA) Stainless Steel Housing
- O** No Coil Unit
- 9** Exm

#### Options 1

- C** Lever manual override
- 0** No option required

#### Standard Voltage

- B** 24v DC
- H** 24v DC Low Power <sup>(1)</sup>
- R** 24v AC (50/60 Hz)
- T** 110v AC (50/60 Hz)
- N** 220v AC (50/60 Hz)
- U** 240v AC (50/60 Hz)

\* A comprehensive range of non-standard voltages available on request

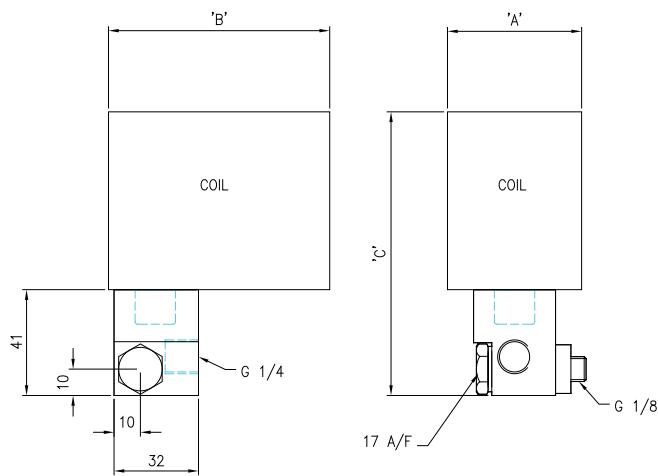
#### Designator

- A** ATEX
- C** IECEx <sup>(2)</sup>
- E** Exme 0.5W
- G** ATEX Exd IIB
- H** Exm
- J** Exme 2.4W
- R** GOST CU TR <sup>(3)</sup>
- X** NEPSI <sup>(4)</sup>

#### Note:

- (1) "H" option not available with Exia solenoids
- (2) IECEx only available with Exia and Exd Solenoids
- (3) GOST CU TR only available with Exd solenoids
- (4) NEPSI only available with Exia and Exd solenoids

## DIMENSIONS (mm)



COIL TYPE	A	B	C
Heavy Duty Mazak Plug & Socket	36	77	85
Standard Terminal Box	36	64	93
SS Terminal Box	52	84	110
ExnA Terminal Box	36	64	93
Exd SS Terminal Box	52	84	110
Exm Flying Lead	36	71	101
Exme Terminal Box	36	64	93
Exia SS Terminal Box	52	84	121
Exia Std. Terminal Box	36	64	104
Exia Plug & Socket	36	90	93

## MATERIAL SPECIFICATIONS

STANDARD	
Body	Black Anodised Aluminium (Dural)
Banjo Bolt	Brass Nickel Plated
Jet	Brass
Seals	Nitrile & Viton

## VALVE SPECIFICATIONS

STANDARD	
Inlet Port Connection Size	1/4" BSP
Outlet Port Connection Size	1/8" BSP Banjo Bolt
Exhaust Port Connection Size	1/8" BSP
Working Pressure	0 to 10 bar
Cv Factor	0.06 (0.04 Intrinsically Safe Coil)
Flow Rate (at 6 bar with 1 bar pressure drop)	62 l/min 42 l/min (Intrinsically Safe Coil)
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

## COIL DETAILS

Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## E53AXB Series, 1/4" 3/2 Function Compact Solenoid Valve

**CALL:** +44 (0)1254 872277

**E-MAIL:** sales@pneumatrol.com



### DESCRIPTION

3 port 2 position direct acting, compact solenoid valve designed for direct banjo bolt mounting onto 1/4 turn pneumatically operated valve actuators having 1/4" BSP ports.

Valve is illustrated with a MC30 plug & socket coil.

Body material available in

- Aluminium (standard)

### FEATURES

- Convenient single 1/4" BSP Banjo bolt connection
- Compact design to suit small actuators
- 1/4" BSP mains air connection and M5 exhaust

**PRODUCT CODE:** **E 5 3 A X B**

**OPTIONS 1**



**SEE BELOW FOR  
PRODUCT CODE  
DETAILS**

Any of the below options that are not required enter '0' in relevant box.

#### Coil

<b>K</b>	MC30 Plug & Socket
<b>2</b>	No Coil (with stem)

#### Options 1

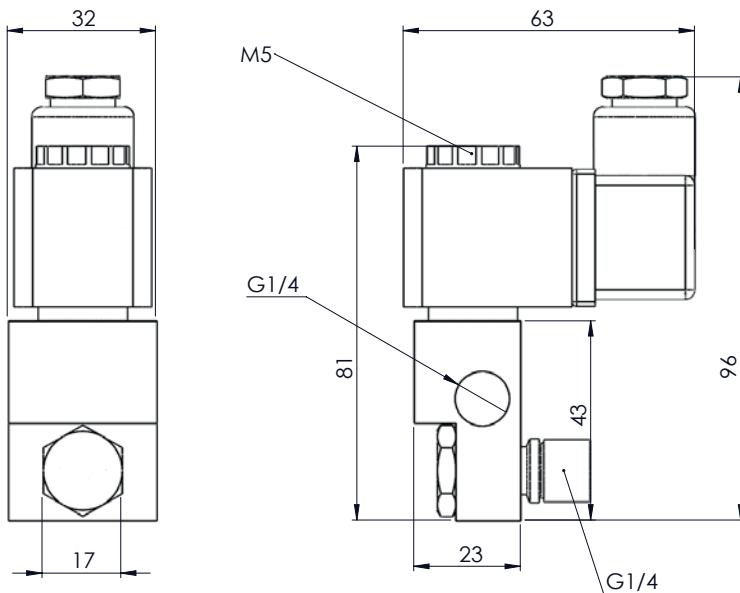
<b>C</b>	Lever manual override
<b>S</b>	Screwdriver override (standard)
<b>0</b>	No option required

#### Standard Voltage

<b>B</b>	24v DC
<b>H</b>	24v DC Low Power
<b>R</b>	24v AC (50/60 Hz)
<b>T</b>	110v AC (50/60 Hz)
<b>N</b>	220v AC (50/60 Hz)
<b>U</b>	240v AC (50/60 Hz)

\* A comprehensive range of non-standard voltages available on request

## DIMENSIONS (mm)



## MATERIAL SPECIFICATIONS

## STANDARD

Body	Black Anodised Aluminium (Dural)
Banjo Bolt	Brass Nickel Plated
Jet	Black Anodised Aluminium (Dural)
Seals	Nitrile & Viton

## VALVE SPECIFICATIONS

## STANDARD

Inlet Port Connection Size	1/4" BSP
Outlet Port Connection Size	1/4" BSP Banjo Bolt
Exhaust Port Connection Size	M5
Working Pressure	0 to 10 bar
Cv Factor	0.06
Flow Rate (at 6 bar with 1 bar pressure drop)	62 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

## COIL DETAILS

Coil Type	MC30 Plug & Socket
Area Class	Safe
Area Category	N/A
Ingress Protection	IP65
Cable Entry	PG.9
Ambient Temperature	-20 to +60 °C
Magnetic Wire Class	H

## E13A-B Series, 1/4" 3/2 Function Solenoid Valve

**CALL:** +44 (0)1254 872277  
**E-MAIL:** sales@pneumatrol.com



### DESCRIPTION

3 port 2 position direct acting, solenoid valve designed for direct banjo bolt mounting onto 1/4 turn pneumatically operated valve actuators having 1/4" BSP ports.

Valve is illustrated with a standard terminal box with M20 conduit entry.

Body material available in

- Aluminium (standard)

### FEATURES

- Convenient single 1/4" BSP Banjo bolt connection
- Interchangeable coils, including various hazardous area options
- 1/4" BSP mains air connection and 1/8" BSP exhaust port
- Pilot exhaust dust caps fitted as standard

**PRODUCT CODE: E 1 3 A**



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that are not required enter '0' in relevant box.

#### Operator

- X** Spring return, normally closed
- Y** Spring return, normally open

#### Coil

- A** Exia (BASEEFA)
- B** Terminal Box
- U** Exia (FM)
- D** Exd
- K** MC30 Plug & Socket
- N** ExnA
- P** Plug & Socket
- S** Exia (BASEEFA) Stainless Steel Housing
- O** No Coil Unit
- 9** Exm

#### Options 1

- C** Lever manual override
- D** No option required

#### Standard Voltage

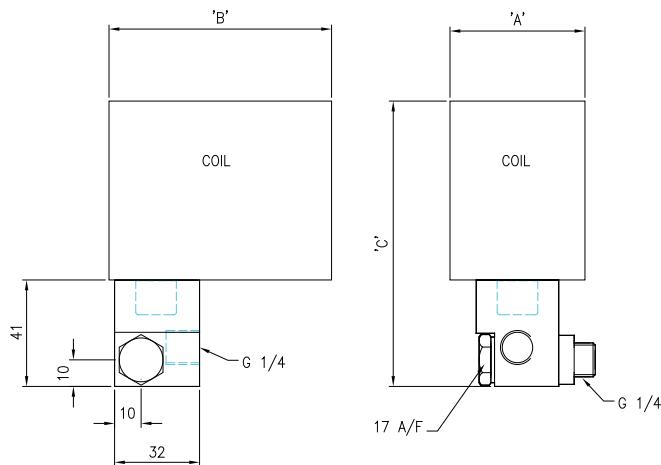
- B** 24v DC
- H** 24v DC Low Power <sup>(1)</sup>
- R** 24v AC (50/60 Hz)
- T** 110v AC (50/60 Hz)
- N** 220v AC (50/60 Hz)
- U** 240v AC (50/60 Hz)

\* A comprehensive range of non-standard voltages available on request

#### Designator

- A** ATEX
- C** IECEx <sup>(2)</sup>
- E** Exme 0.5W
- G** ATEX Exd IIB
- H** Exm
- J** Exme 2.4W
- R** GOST CU TR <sup>(3)</sup>
- X** NEPSI <sup>(4)</sup>

## DIMENSIONS (mm)



COIL TYPE	A	B	C
Heavy Duty Mazak Plug & Socket	36	77	85
Standard Terminal Box	36	64	93
SS Terminal Box	52	84	110
ExnA Terminal Box	36	64	93
Exd SS Terminal Box	52	84	110
Exm Flying Lead	36	71	101
Exme Terminal Box	36	64	93
Exia SS Terminal Box	52	84	121
Exia Std. Terminal Box	36	64	104
Exia Plug & Socket	36	90	93

## MATERIAL SPECIFICATIONS

STANDARD	
Body	Black Anodised Aluminium (Dural)
Banjo Bolt	Brass Nickel Plated
Jet	Brass
Seals	Nitrile & Viton

## VALVE SPECIFICATIONS

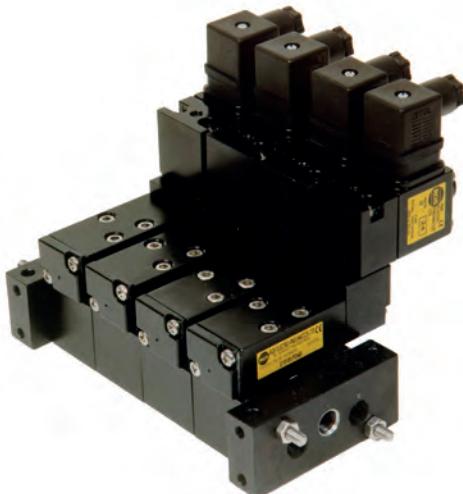
STANDARD	
Inlet Port Connection Size	1/4" BSP
Outlet Port Connection Size	1/4" BSP Banjo Bolt
Exhaust Port Connection Size	1/8" BSP
Working Pressure	0 to 10 bar
Cv Factor	0.06 (0.04 Intrinsically Safe Coil)
Flow Rate (at 6 bar with 1 bar pressure drop)	62 l/min 42 l/min (Intrinsically Safe Coil)
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

## COIL DETAILS

Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## E15--V Series, 1/8", 5/2 Function Solenoid Valves



### DESCRIPTION

5 port 2 position, Universal sub-base mount solenoid valve.

Valve is illustrated with safe area plug & socket coils.

Body material available in

- Aluminium (standard)
- Stainless Steel
- Brass

Seal kit available - VSK100/USB

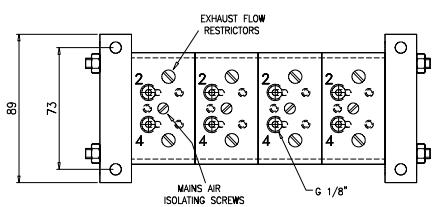
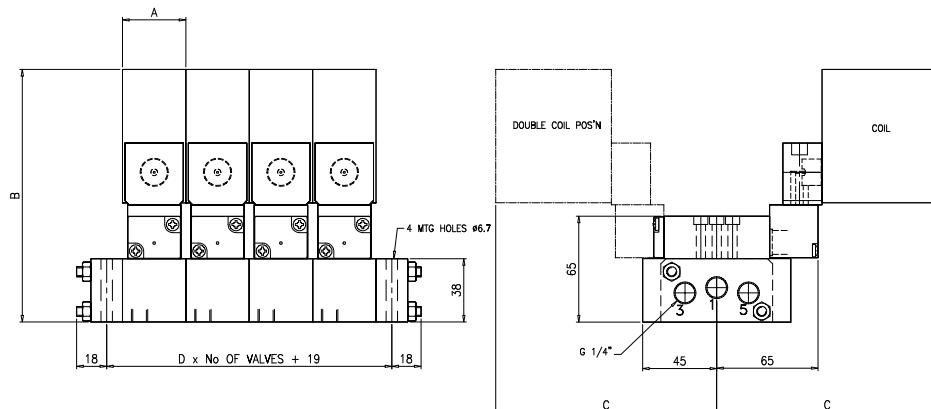
### FEATURES

- Internal or external pilot air connection
- 1/4" BSP inlet and exhaust connections and 1/8" BSP outlets
- Various manual override options
- Mains air isolating screw
- Single coil spring return function or double coil stay put function
- Pilot exhaust dust caps fitted as standard
- Interchangeable CNOMO interface coil units, including hazardous area options

PRODUCT CODE: E 1 5		OPERATOR	COIL	OPTIONS 1	VOLTAGE	BANK No.	DESIGNATOR	OPTIONS 2	SEE BELOW FOR PRODUCT CODE DETAILS
									Any of the below options that are not required enter '0' in relevant box.

Operator	Coil	Options 1	Bank No.	Standard Voltage	Designator	Options 2		
1 8	Spring return, internal pilot air feed	A Exia (BASEEFA)	C Lever manual override	2 Bank of two (2)	B 24v DC	A ATEX	B Valve body brass	
8 0	Spring return, external pilot air connection	B Terminal Box	D Push button manual override	3 Bank of three (3)	H 24v DC Low Power <sup>(1)</sup>	C IECEx <sup>(2)</sup>	C Valve body brass and NPT ports	
1 9	Double solenoid, internal pilot air feed	U Exia (FM)	S Screw driver override (standard)	4 Bank of four (4)	R 24v AC (50/60 Hz)	E Exme 0.5W	D Valve body brass, NPT ports and 1/2" NPT electrical connection	
9 0	Double solenoid, external pilot air connection	D Exd	0 No option required	5 Bank of five (5)	T 110v AC (50/60 Hz)	G ATEX Exd IIB	E 1/2" NPT electrical connection	
	K MC30 Plug & Socket	N ExnA		6 Bank of six (6)	N 220v AC (50/60 Hz)	H Exm	L Low temperature duty -40°C	
	P Plug & Socket	P Exia (BASEEFA) Stainless Steel Housing		7 Bank of seven (7)	U 240v AC (50/60 Hz)	J Exme 2.4W	M NPT ports and 1/2" NPT electrical connection	
	S	O No Coil Unit		8 Bank of eight (8)	* A comprehensive range of non-standard voltages available on request		R GOST CU TR <sup>(3)</sup>	
	9	Exm		9 Bank of nine (9)			X NEPSI <sup>(4)</sup>	
				A Bank of ten (10)				
Note:								
(1) "H" option not available with Exia solenoids								
(2) IECEx only available with Exia and Exd Solenoids								
(3) GOST CU TR only available with Exd solenoids								
(4) NEPSI only available with Exia and Exd solenoids								

DIMENSIONS (mm)



COIL TYPE	A	B	C	D
Plug & Socket	35	147	115	38
Terminal Box	35	139	116	38
ExnA	35	139	116	38
Exd	52	154	132	53
Exia	35	139	123	38
Exm	35	147	110	38

MATERIAL SPECIFICATIONS

STANDARD	
Body	Black Anodised Aluminium (Dural)
Spool	Hard Anodised Aluminium PTFE Impregnated
Jet	Brass
Spacers	Glass Filled Acetal
Seals	Nitrile
Spring	Music Wire
Tie Rods & Nuts	Stainless Steel

VALVE SPECIFICATIONS

STANDARD	
Inlet Port Connection Size	1/4" BSP
Exhaust Port Connection Size	1/8" BSP
Working Pressure Internal Pilot Version	3 to 10 bar
Working Pressure External Pilot Version	3 to 10 bar
Minimum External Pilot Pressure	3 bar
Cv Factor	0.4
Flow Rate (at 6 bar with 1 bar pressure drop)	382 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

COIL DETAILS

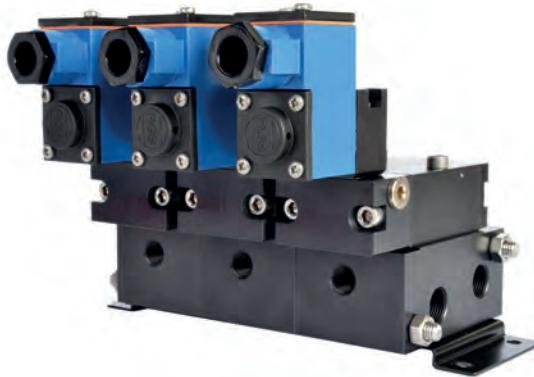
Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## E23--V Series, 1/4", 3/2 Function Solenoid Valves

**CALL:** +44 (0)1254 872277

**E-MAIL:** sales@pneumatrol.com



### DESCRIPTION

3 port 2 position,Universal sub-base mount solenoid valve.

Manifold valve is illustrated with safe area terminal box coils.

Body material available in

- Aluminium (standard)
- Stainless Steel
- Brass

Seal kit available - VSK200/USB

### FEATURES

- 3/8" BSP inlet and exhaust connections and 1/4" BSP outlets
- Various manual override options
- Mains air isolating screw
- Single coil spring return function or double coil stay put function
- Pilot exhaust dust caps fitted as standard
- Interchangeable CNOMO interface coil units, including hazardous area options

**PRODUCT CODE: E 2 3**



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that  
are not required enter '0' in  
relevant box.

#### Operator

1	8	Spring return, internal pilot air feed
1	9	Double solenoid, internal pilot air feed
A		Exia (BASEEFA)
B		Terminal Box
U		Exia (FM)
D		Exd
K		MC30 Plug & Socket
N		ExnA
P		Plug & Socket
S		Exia (BASEEFA) Stainless Steel Housing
0		No Coil Unit
9		Exm

#### Coil

A	Exia (BASEEFA)
B	Terminal Box
U	Exia (FM)
D	Exd
K	MC30 Plug & Socket
N	ExnA
P	Plug & Socket
S	Exia (BASEEFA) Stainless Steel Housing
0	No Coil Unit
9	Exm

#### Options 1

C	Lever manual override
D	Push button manual override
S	Screw driver override (standard)
0	No option required

#### Bank No.

2	Bank of two (2)
3	Bank of three (3)
4	Bank of four (4)
5	Bank of five (5)
6	Bank of six (6)
7	Bank of seven (7)
8	Bank of eight (8)
9	Bank of nine (9)
A	Bank of ten (10)

#### Standard Voltage

B	24v DC
H	24v DC Low Power <sup>(1)</sup>
R	24v AC (50/60 Hz)
T	110v AC (50/60 Hz)
N	220v AC (50/60 Hz)
U	240v AC (50/60 Hz)

\* A comprehensive range of non-standard voltages available on request

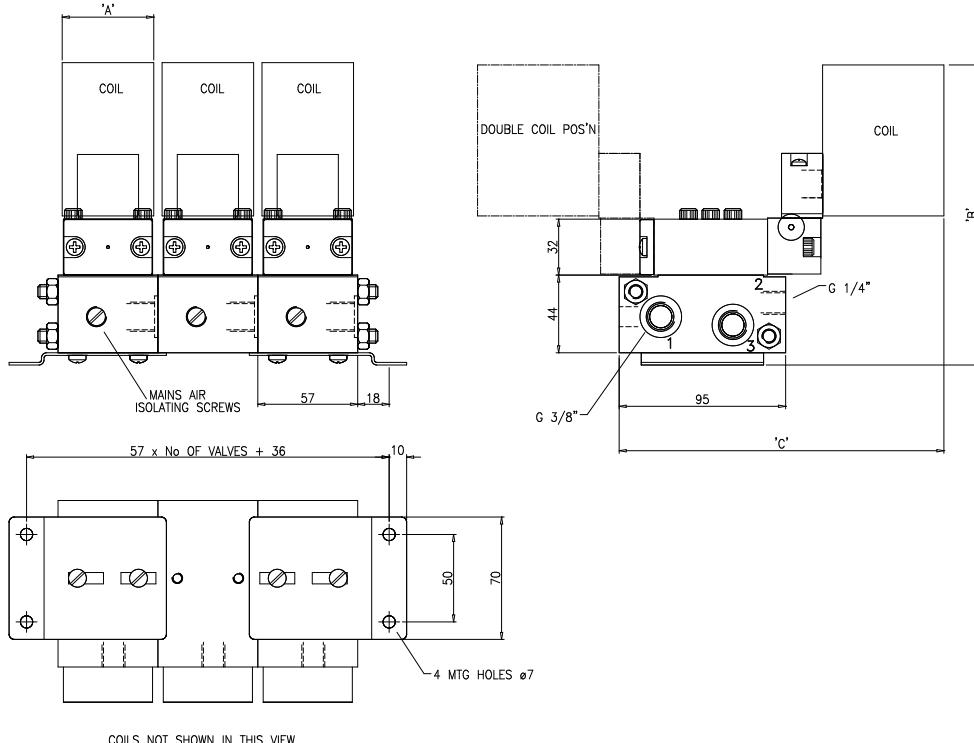
#### Designator

A	ATEX
C	IECEx <sup>(2)</sup>
E	Exme 0.5W
G	ATEX Exd IIB
H	Exm
J	Exme 2.4W
R	GOST CU TR <sup>(3)</sup>
X	NEPSI <sup>(4)</sup>

#### Options 2

B	Valve body brass
C	Valve body brass and NPT ports
D	Valve body brass, NPT ports and 1/2" NPT electrical connection
E	1/2" NPT electrical connection
L	Low temperature duty -40°C
M	NPT ports and 1/2" NPT electrical connection
N	NPT ports
P	Valve body stainless steel, NPT ports and 1/2" NPT electrical connection
R	Valve body stainless steel and NPT ports
S	Valve body stainless steel
X	Valve suitable for use with Oxygen

DIMENSIONS (mm)



COILS NOT SHOWN IN THIS VIEW

COIL TYPE	A	B	C
Plug & Socket	35	161	173
Terminal Box	35	154	174
ExnA	35	154	174
Exd	52	168	190
Exia	35	154	182
Exm	35	161	169

MATERIAL SPECIFICATIONS

STANDARD

Body and End Caps	Black Anodised Aluminium (Dural)
Spool	Hard Anodised Aluminium PTFE Impregnated
Jet	Brass
Spacers	Glass Filled Acetal
Seals	Nitrile
Spring	Music Wire
Tie Rods & Nuts	Stainless Steel

VALVE SPECIFICATIONS

STANDARD

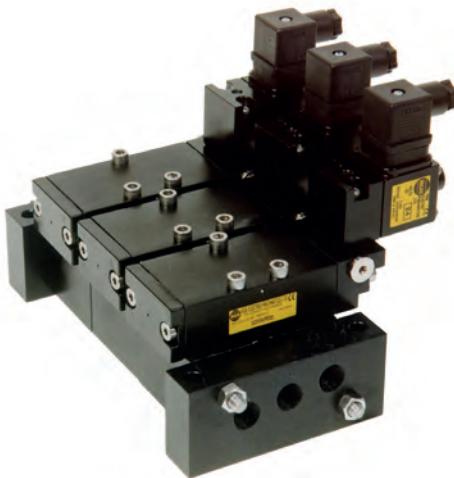
Inlet and Exhaust Port Connection Size	3/8" BSP
Outlet Port Connection Size	1/4" BSP
Working Pressure	3 to 10 bar
Cv Factor	1.2
Flow Rate (at 6 bar with 1 bar pressure drop)	1246 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

COIL DETAILS

Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## E25--V Series, 1/4", 5/2 Function Solenoid Valves



### DESCRIPTION

5 port 2 position, Universal sub-base mount solenoid valve.

Valve is illustrated with safe area plug & socket coils.

Body material available in

- Aluminium (standard)
- Stainless Steel
- Brass

Seal kit available - VSK200/USB

### FEATURES

- 3/8" BSP inlet and exhaust connections and 1/4" BSP outlets
- Various manual override options
- Mains air isolating screw
- Single coil spring return function or double coil stay put function
- Pilot exhaust dust caps fitted as standard
- Interchangeable CNOMO interface coil units, including hazardous area options

**PRODUCT CODE: E 2 5**



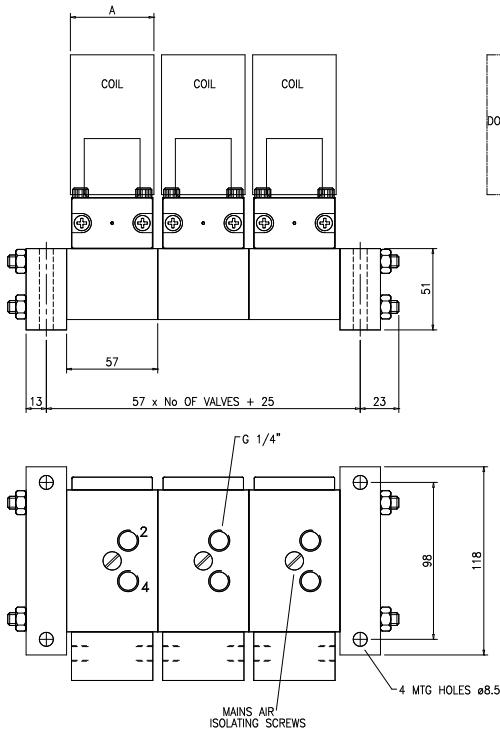
SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that  
are not required enter '0' in  
relevant box.

Operator	Coil	Options 1	Bank No.	Standard Voltage	Designator	Options 2
1 8	Exia (BASEEFA)	C Lever manual override	2 Bank of two (2)	B 24v DC	A ATEX	B Valve body brass
1 9	Double solenoid, internal pilot air feed	D Push button manual override	3 Bank of three (3)	H 24v DC Low Power <sup>(1)</sup>	C IECEEx <sup>(2)</sup>	C Valve body brass and NPT ports
	Terminal Box	S Screw driver override (standard)	4 Bank of four (4)	R 24v AC (50/60 Hz)	E Exme 0.5W	D Valve body brass, NPT ports and 1/2" NPT electrical connection
	Exia (FM)	O No option required	5 Bank of five (5)	T 110v AC (50/60 Hz)	G ATEX Exd IIB	E 1/2" NPT electrical connection
	Exd		6 Bank of six (6)	N 220v AC (50/60 Hz)	H Exm	L Low temperature duty -40°C
	MC30 Plug & Socket		7 Bank of seven (7)	U 240v AC (50/60 Hz)	J Exme 2.4W	M NPT ports and 1/2" NPT electrical connection
	ExnA		8 Bank of eight (8)		R GOST CU TR <sup>(3)</sup>	N NPT ports
	Plug & Socket		9 Bank of nine (9)		X NEPSI <sup>(4)</sup>	P Valve body stainless steel, NPT ports and 1/2" NPT electrical connection
	Exia (BASEEFA) Stainless Steel Housing		A Bank of ten (10)			R Valve body stainless steel and NPT ports
	No Coil Unit					S Valve body stainless steel
	9 Exm					X Valve suitable for use with Oxygen

**Note:**  
 (1) "H" option not available with Exia solenoids  
 (2) IECEEx only available with Exia and Exd  
 Solenoids  
 (3) GOST CU TR only available with Exd  
 solenoids  
 (4) NEPSI only available with Exia and Exd  
 solenoids

DIMENSIONS (mm)



COIL TYPE	A	B	C
Plug & Socket	35	161	173
Terminal Box	35	154	174
ExnA	35	154	174
Exd	52	168	190
Exia	35	154	182
Exm	35	161	169

MATERIAL SPECIFICATIONS

STANDARD	
Body and End Caps	Black Anodised Aluminium (Dural)
Spool	Hard Anodised Aluminium PTFE Impregnated
Jet	Brass
Spacers	Glass Filled Acetal
Seals	Nitrile
Spring	Music Wire
Tie Rods & Nuts	Stainless Steel

VALVE SPECIFICATIONS

STANDARD	
Inlet and Exhaust Port Connection Size	3/8" BSP
Outlet Port Connection Size	1/4" BSP
Working Pressure	3 to 10 bar
Cv Factor	1.2
Flow Rate (at 6 bar with 1 bar pressure drop)	1246 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

COIL DETAILS

Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## E15--T Series, 1/8", 5/2 Function Solenoid Valve



### DESCRIPTION

5 port 2 position, sub base mount solenoid valve.

Valve is illustrated with a safe area plug & socket coil.

Body material available in

- Aluminium (standard)
- Stainless Steel
- Brass

Seal kit available – VSK100

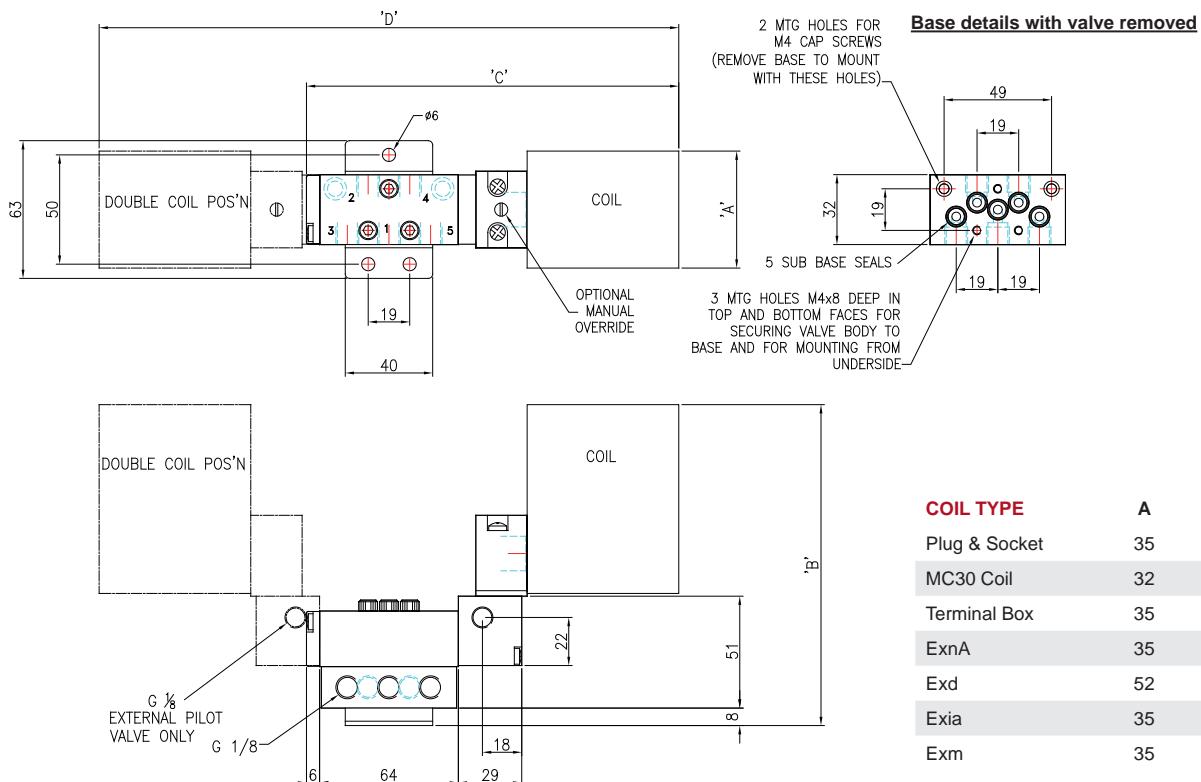
### FEATURES

- Internal or external pilot air connection
- Single coil spring return function or double coil stay put function
- Various manual override options
- Optional bracket mounting
- Fixing holes for mounting from under face
- Optional fixing holes for reverse mounting (Top Face)
- 1/8" BSP inlet and exhaust connections
- Interchangeable CNOMO interface coil units, including hazardous area options

PRODUCT CODE: E 1 5		OPERATOR	OPTIONS 1	DESIGNATOR	SEE BELOW FOR PRODUCT CODE DETAILS
T	0	COIL	VOLTAGE	OPTIONS 2	Any of the below options that are not required enter '0' in relevant box.

Operator	Coil	Options 1	Standard Voltage	Designator	Options 2
1 8	Spring return, internal pilot air feed	A Exia (BASEEFA)	B 24v DC	ATEX	B Valve body brass
8 0	Spring return, external pilot air connection	B Terminal Box	H 24v DC Low Power <sup>(1)</sup>	IECEx <sup>(2)</sup>	C Valve body brass and NPT ports
1 9	Double solenoid, internal pilot air feed	U Exia (FM)	R 24v AC (50/60 Hz)	Exme 0.5W	D Valve body brass, NPT ports and 1/2" NPT electrical connection
9 0	Double solenoid, external pilot air connection	D Exd	T 110v AC (50/60 Hz)	ATEX Exd IIB	E 1/2" NPT electrical connection
		K MC30 Plug & Socket	N 220v AC (50/60 Hz)	Exm	L Low temperature duty -40°C
		N ExnA	U 240v AC (50/60 Hz)	Exme 2.4W	M NPT ports and 1/2" NPT electrical connection
		P Plug & Socket	* A comprehensive range of non-standard voltages available on request		N NPT ports
		S Exia (BASEEFA) Stainless Steel Housing			P Valve body stainless steel, NPT ports and 1/2" NPT electrical connection
		O No Coil Unit			R Valve body stainless steel and NPT ports
		9 Exm			S Valve body stainless steel
					X Valve suitable for use with Oxygen

DIMENSIONS (mm)



MATERIAL SPECIFICATIONS

STANDARD	
Body and End Caps	Black Anodised Aluminium (Dural)
Sub-Base	Black Anodised Aluminium (Dural)
Bracket	Mild steel (Nickel Plated)
Spool	Hard Anodised Aluminium PTFE Impregnated
Jet	Brass
Spacers	Glass Filled Acetal
Seals	Nitrile
Spring	Music Wire
Mounting Screws	Stainless Steel

VALVE SPECIFICATIONS

STANDARD	
Port Connection Size	1/8" BSP
Working Pressure Internal Pilot Version	3 to 10 bar
Working Pressure External Pilot Version	3 to 10 bar
Minimum External Pilot Pressure	3 bar
Cv Factor	0.4
Flow Rate (at 6 bar with 1 bar pressure drop)	382 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

COIL DETAILS

Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## E25--T Series, 1/4", 5/2 Function Solenoid Valve



### DESCRIPTION

5 port 2 position, sub-base mount solenoid valve.

Valve is illustrated with a safe area plug & socket coil.

Body material available in

- Aluminium (standard)
- Stainless Steel
- Brass

Seal kit available – VSK200

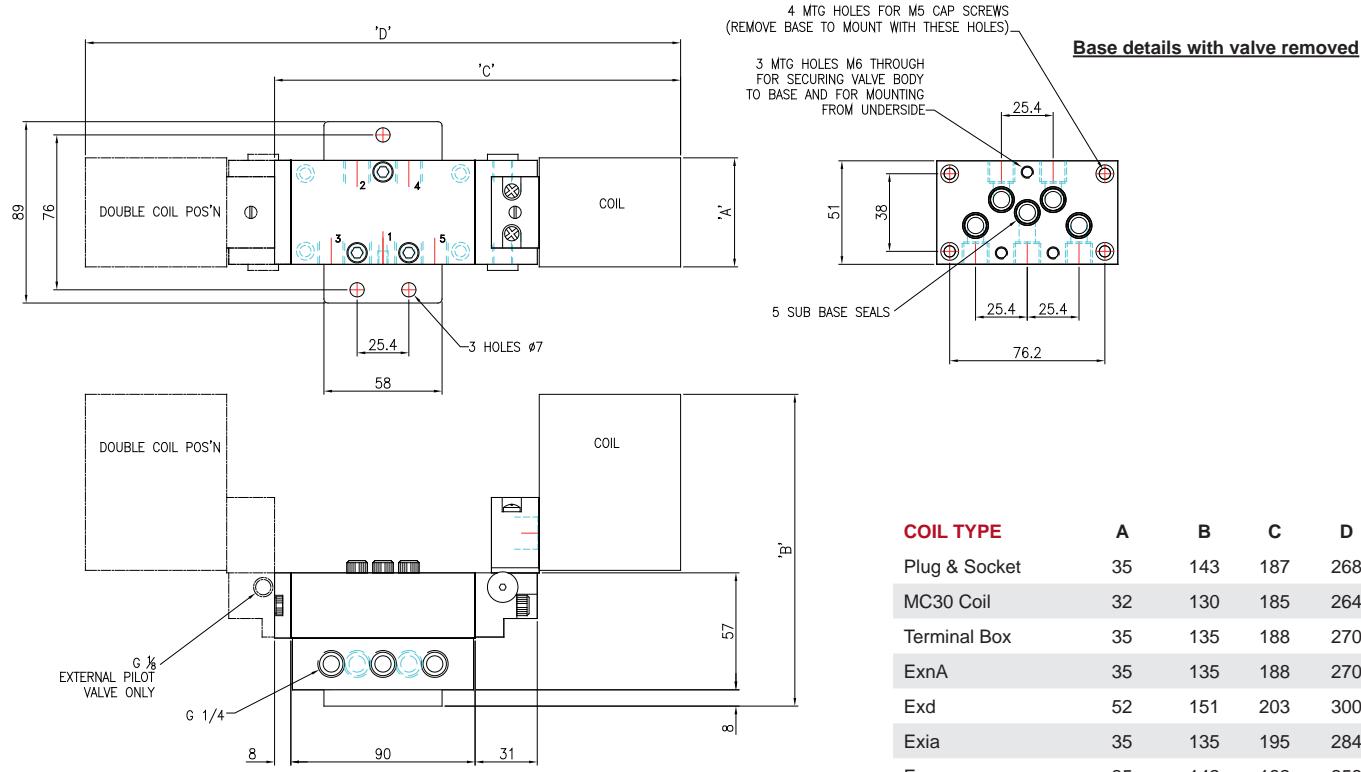
### FEATURES

- Internal or external pilot air connection
- Single coil spring return function or double coil stay put function
- Various manual override options
- Optional bracket mounting
- Fixing holes for mounting from under face
- Optional fixing holes for optional top face mounting
- 1/4" BSP inlet and exhaust connections
- Interchangeable CNOMO interface coil units, including hazardous area options

PRODUCT CODE: E 2 5			OPTIONS 1	DESIGNATOR	SEE BELOW FOR PRODUCT CODE DETAILS
OPERATOR	COIL	VOLTAGE	OPTIONS 2	Any of the below options that are not required enter '0' in relevant box.	
1 8	Spring return, internal pilot air feed	A Exia (BASEEFA)	C Lever manual override	B 24v DC	B Valve body brass
8 0	Spring return, external pilot air connection	B Terminal Box	D Push button manual override	H 24v DC Low Power <sup>(1)</sup>	C Valve body brass and NPT ports
1 9	Double solenoid, internal pilot air feed	U Exia (FM)	S Screw driver override (standard)	R 24v AC (50/60 Hz)	D Valve body brass, NPT ports and 1/2" NPT electrical connection
9 0	Double solenoid, external pilot air connection	D Exd	O No option required	T 110v AC (50/60 Hz)	E 1/2" NPT electrical connection
		K MC30 Plug & Socket		N 220v AC (50/60 Hz)	L Low temperature duty -40°C
		N ExnA		U 240v AC (50/60 Hz)	M NPT ports and 1/2" NPT electrical connection
		P Plug & Socket			N NPT ports
		S Exia (BASEEFA) Stainless Steel Housing			P Valve body stainless steel, NPT ports and 1/2" NPT electrical connection
		0 No Coil Unit			R Valve body stainless steel and NPT ports
		9 Exm			S Valve body stainless steel
					X Valve suitable for use with Oxygen

Operator	Coil	Options 1	Standard Voltage	Designator	Options 2
1 8	Spring return, internal pilot air feed	A Exia (BASEEFA)	B 24v DC	A ATEX	B Valve body brass
8 0	Spring return, external pilot air connection	B Terminal Box	H 24v DC Low Power <sup>(1)</sup>	C IECEEx <sup>(2)</sup>	C Valve body brass and NPT ports
1 9	Double solenoid, internal pilot air feed	U Exia (FM)	R 24v AC (50/60 Hz)	E Exme 0.5W	D Valve body brass, NPT ports and 1/2" NPT electrical connection
9 0	Double solenoid, external pilot air connection	D Exd	T 110v AC (50/60 Hz)	G ATEX Exd IIB	E 1/2" NPT electrical connection
		K MC30 Plug & Socket	N 220v AC (50/60 Hz)	H Exm	L Low temperature duty -40°C
		N ExnA	U 240v AC (50/60 Hz)	J Exme 2.4W	M NPT ports and 1/2" NPT electrical connection
		P Plug & Socket		R GOST CU TR <sup>(3)</sup>	N NPT ports
		S Exia (BASEEFA) Stainless Steel Housing		X NEPSI <sup>(4)</sup>	P Valve body stainless steel, NPT ports and 1/2" NPT electrical connection
		0 No Coil Unit			R Valve body stainless steel and NPT ports
		9 Exm			S Valve body stainless steel
					X Valve suitable for use with Oxygen

DIMENSIONS (mm)



COIL TYPE	A	B	C	D
Plug & Socket	35	143	187	268
MC30 Coil	32	130	185	264
Terminal Box	35	135	188	270
ExnA	35	135	188	270
Exd	52	151	203	300
Exia	35	135	195	284
Exm	35	142	182	258

MATERIAL SPECIFICATIONS

STANDARD	
Body and End Caps	Black Anodised Aluminium (Dural)
Sub-Base	Black Anodised Aluminium (Dural)
Bracket	Mild Steel (Nickel Plated)
Spool	Hard Anodised Aluminium PTFE Impregnated
Jet	Brass
Spacers	Glass Filled Acetal
Seals	Nitrile
Spring	Music Wire
Mounting Screws	Stainless Steel

VALVE SPECIFICATIONS

STANDARD	
Port Connection Size	1/4" BSP
Working Pressure Internal Pilot Version	3 to 10 bar
Working Pressure External Pilot Version	3 to 10 bar
Minimum External Pilot Pressure	3 bar
Cv Factor	1.2
Flow Rate (at 6 bar with 1 bar pressure drop)	1246 l/min
Maximum Ambient Temperature	+80 °C
Minimum Working Temperature	-20 °C

COIL DETAILS

Coil Type	Plug & Socket	Terminal Box	ExnA	Exd	Exm	Exia
Area Class	Safe	Safe	Zone 2	Zones 1 & 2	Zones 1 & 2	Zone 0, 1 & 2
Area Category	N/A	N/A	Exn II T4-T6	Exd IIC T3-T6	Exm IIC T5	Exia IIC T6
Ingress Protection	IP65	IP65	IP65	IP66	IP65	IP65
Cable Entry	PG.9	M20 x 1.5	M20 x 1.5	M20 x 1.5	Flying leads	M20 x 1.5
Ambient Temperature	-20 to +80 °C	-20 to +80 °C	-40 to +60 °C	-60 to +80 °C	-20 to +65 °C	-40 to +65 °C
Magnetic Wire Class	H	H	H	H	H	H

\* FURTHER SOLENOID OPTIONS AVAILABLE ON REQUEST

## MC30 Plug and Socket Coil Unit

**CALL:** +44 (0)1254 872277**E-MAIL:** sales@pneumatrol.com

### DESCRIPTION

Moulded Plug and Socket safe area coil.

### FEATURES

- PG.9 cable gland (cable diameter 6 - 8mm)
- Protection class IP65 according to ENBS60529
- Plug connector DIN 43650 - form A / ISO 4400
- Continuously rated
- Maximum permitted voltage variation  $\pm 10\%$
- Maximum ambient temperature  $+60^{\circ}\text{C}$
- Low power consumption
- Wide range of voltages available

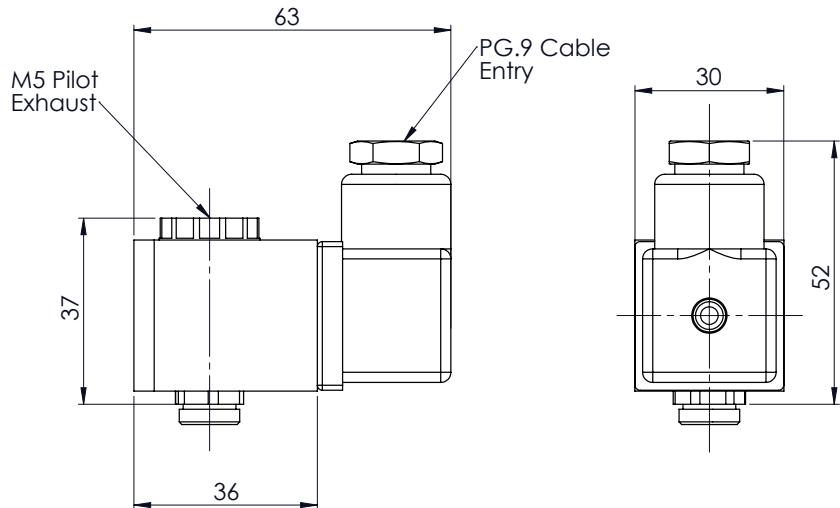
**PRODUCT CODE: A V 4 5 2 5 P 0 0****SEE BELOW FOR  
PRODUCT CODE  
DETAILS**

Any of the below options that are not required enter '0' in relevant box.

#### Standard Voltage

<b>B</b>	24v DC
<b>R</b>	24v AC (50/60 Hz)
<b>T</b>	110v AC (50/60 Hz)
<b>U</b>	240v AC (50/60 Hz)

## DIMENSIONS (mm)



## MATERIAL SPECIFICATIONS

## STANDARD

Coil Case Zinc Alloy Epoxy Powder Coated

Plug Connector Polyamide +30% Glass Filled

Armature and Fixed Pole Piece Magnetic Solenoid Quality Stainless Steel

Springs Stainless Steel

Seals and Seats Nitrile (Viton available)

Coil Former 30% Glass Filled PBR

Magnetic Wire Class H Coated Copper

## SOLENOID SPECIFICATIONS

Coil Type	DC Solenoid Coil	AC Solenoid
Voltage Standard	24	24, 110, 240 (50/60 Hz)
Voltage Tolerance	-10%	-10%
Ambient Temperature	-20 to +60°C	-20 to +60°C
Duty Cycle	100%	100%
Degree Of Protection	IP65	IP65
Electrical Connection	PG.9 Cable Gland	PG.9 Cable Gland
Power Consumption	2.0W	Pull In - 9VA, Holding - 5VA
Pressure Range	0 - 10 Bar	0 - 10 Bar

## Plug and Socket Coil Unit

**CALL:** +44 (0)1254 872277**E-MAIL:** sales@pneumatrol.com

### DESCRIPTION

Plug and Socket safe area coil.

### FEATURES

- PG.9 cable gland. (cable diameter 6 - 8mm)
- Protection class IP65 according to ENBS60529
- Plug connector DIN 43650 - Form A / ISO 4400
- Continuously rated
- Maximum permitted voltage variation  $\pm 10\%$
- Maximum ambient temperature  $+80^\circ\text{C}$
- Low power consumption
- Wide range of voltages available

**PRODUCT CODE: A V 6 3 6 0 P 0 0****SEE BELOW FOR  
PRODUCT CODE  
DETAILS**

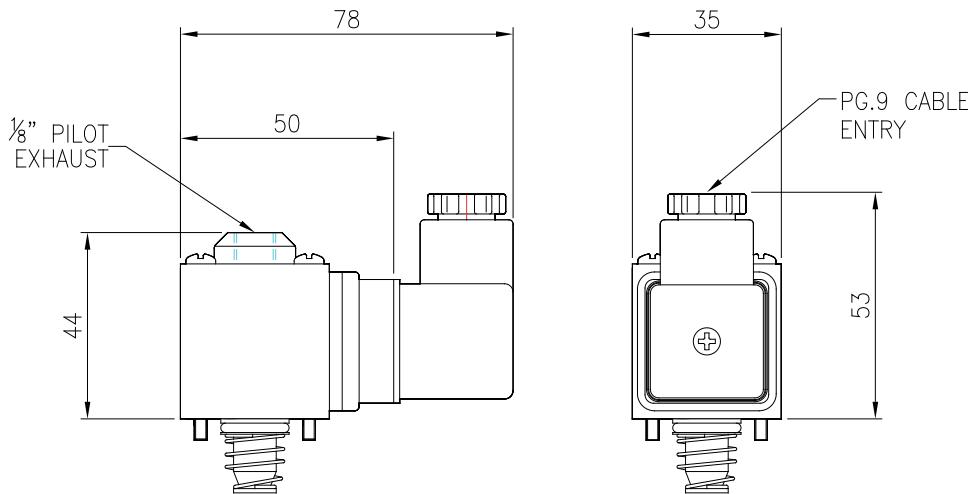
Any of the below options that are not required enter '0' in relevant box.

#### Standard Voltage

<b>B</b>	24v DC
<b>H</b>	24v DC Low Power
<b>R</b>	24v AC (50/60 Hz)
<b>T</b>	110v AC (50/60 Hz)
<b>N</b>	220v AC (50/60 Hz)
<b>U</b>	240v AC (50/60 Hz)

\* A comprehensive range of non-standard voltages available on request

## DIMENSIONS (mm)



## MATERIAL SPECIFICATIONS

## STANDARD

Coil Case	Zinc Alloy Epoxy Powder Coated
Plug Connector	Polyamide +30% Glass Filled
Armature and Fixed Pole Piece	Magnetic Solenoid Quality Stainless Steel
Springs	Stainless Steel
Seals and Seats	Viton
Coil Former	30% Glass Filled PBR
Magnetic Wire	Class H Coated Copper

## SOLENOID SPECIFICATIONS

Coil Type	DC Solenoid Coil	AC Solenoid
Voltage Standard	24	24, 110, 220, 240 (50/60 Hz)
Voltage Tolerance	±10%	±10%
Ambient Temperature	-20 to +80°C	-20 to +80°C
Duty Cycle	100%	100%
Degree Of Protection	IP65	IP65
Electrical Connection	PG.9 Cable Gland	PG.9 Cable Gland
Power Consumption	2.4W or 1.3 W	Pull In - 10VA, Holding - 5VA
Pressure Range	0 - 10 Bar	0 - 10 Bar

## Terminal Box Coil Unit

CALL: +44 (0)1254 872277

E-MAIL: sales@pneumatrol.com



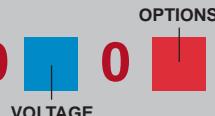
### DESCRIPTION

Safe area coil with Terminal box connection and screwed terminals.

### FEATURES

- M20 x 1.5 conduit entry (cable diameter 6 - 8mm) or 1/2" NPT
- Protection class IP65 according to ENBS60529
- Connection by 2-pole 2.5mm<sup>2</sup> terminal strip + earth
- Continuously rated
- Maximum permitted voltage variation ±10%
- Maximum ambient temperature +80°C
- Low power consumption
- Wide range of voltages available

PRODUCT CODE: **A V 6 3 6 0 B 0 0 0**



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that  
are not required enter '0' in  
relevant box.

#### Standard Voltage

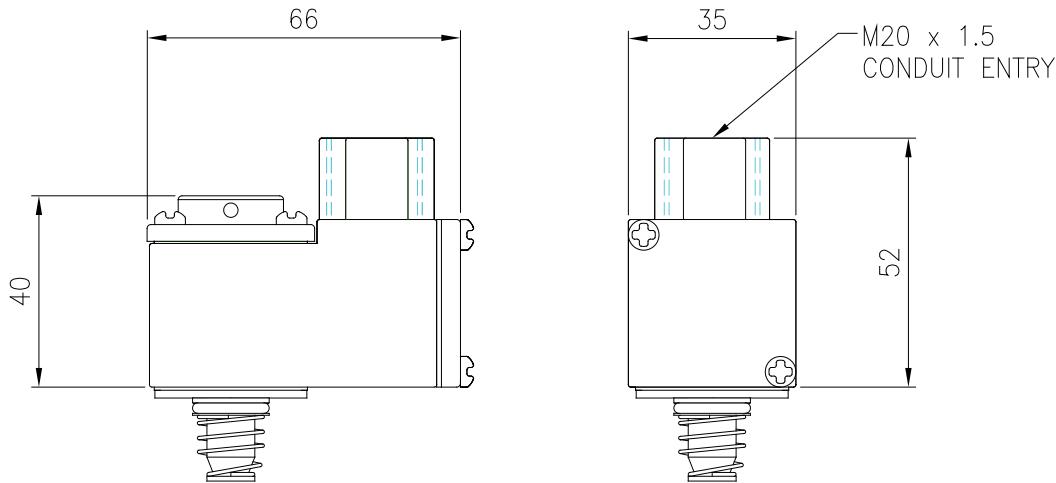
<b>B</b>	24v DC
<b>H</b>	24v DC Low Power
<b>R</b>	24v AC (50/60 Hz)
<b>T</b>	110v AC (50/60 Hz)
<b>N</b>	220v AC (50/60 Hz)
<b>U</b>	240v AC (50/60 Hz)

#### Options

<b>0</b>	No option required
<b>E</b>	1/2" NPT electrical connection

\* A comprehensive  
range of non-standard  
voltages available on  
request

## DIMENSIONS (mm)



## MATERIAL SPECIFICATIONS

### STANDARD

Coil Case	Zinc Alloy Epoxy Powder Coated
Armature and Fixed Pole Piece	Magnetic Solenoid Quality Stainless Steel
Springs	Stainless Steel
Seals and Seats	Viton
Coil Former	30% Glass Filled PBR
Magnetic Wire	Class H Coated Copper

## SOLENOID SPECIFICATIONS

Coil Type	DC Solenoid Coil	AC Solenoid
Voltage Standard	24	24, 110, 220, 240 (50/60 Hz)
Voltage Tolerance	±10%	±10%
Ambient Temperature	-20 to +80°C	-20 to +80°C
Duty Cycle	100%	100%
Degree Of Protection	IP65	IP65
Electrical Connection	Junction Box with M20 Conduit Entry	Junction Box with M20 Conduit Entry
Power Consumption	2.4W or 1.3W	Pull In - 10VA, Holding - 5VA
Pressure Range	0 - 10 Bar	0 - 10 Bar

## Terminal Box Stainless Steel Coil Unit

**CALL:** +44 (0)1254 872277  
**E-MAIL:** sales@pneumatrol.com



### DESCRIPTION

Safe area Stainless Steel coil with Terminal box connection and screwed terminals.

### FEATURES

- M20 x 1.5 conduit entry or 1/2 NPT
- Protection class IP66 according to ENBS60529
- Connection by 2-pole 2.5mm<sup>2</sup> terminal strip + earth
- Continuously rated
- Maximum permitted voltage variation ±10%
- Maximum ambient temperature +80°C
- Low power consumption
- Wide range of voltages available

**PRODUCT CODE: A V 6 3 6 0 4 0 0 0**



**SEE BELOW FOR  
PRODUCT CODE  
DETAILS**

Any of the below options that are not required enter '0' in relevant box.

#### Standard Voltage

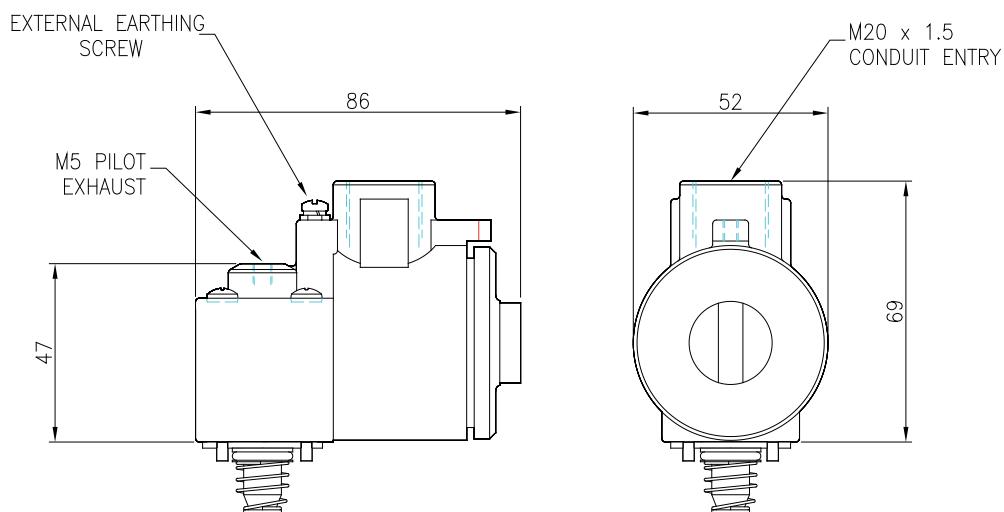
<b>B</b>	24v DC
<b>H</b>	24v DC Low Power
<b>R</b>	24v AC (50/60 Hz)
<b>T</b>	110v AC (50/60 Hz)
<b>N</b>	220v AC (50/60 Hz)
<b>U</b>	240v AC (50/60 Hz)

#### Options

<b>0</b>	No option required
<b>E</b>	1/2" NPT electrical connection

\* A comprehensive range of non-standard voltages available on request

## DIMENSIONS (mm)



## MATERIAL SPECIFICATIONS

## STANDARD

Coil Case	ANC1B Stainless Steel Epoxy Powder Coated
Armature and Fixed Pole Piece	Magnetic Solenoid Quality Stainless Steel
Springs	Stainless Steel
Seals and Seats	Viton
Coil Former	30% Glass Filled PBR
Magnetic Wire	Class H Coated Copper

## SOLENOID SPECIFICATIONS

Coil Type	DC Solenoid Coil	AC Solenoid
Voltage Standard	24	24, 110, 220, 240 (50/60 Hz)
Voltage Tolerance	±10%	±10%
Ambient Temperature	-20 to +80°C	-20 to +80°C
Duty Cycle	100%	100%
Degree Of Protection	IP66	IP66
Electrical Connection	Junction Box with M20 Conduit Entry	Junction Box with M20 Conduit Entry
Power Consumption	2.4W or 1.3W	Pull In - 10VA, Holding - 5VA
Pressure Range	0 - 10 Bar	0 - 10 Bar

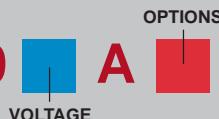
## BASEEFA Approved ExnA Non-incendive Coil Unit



### FEATURES

- M20 x 1.5 conduit entry or 1/2" NPT
- Protection class IP65 according to ENBS60529
- Connection by 2-pole 2.5mm<sup>2</sup> terminal strip + earth
- Continuously rated
- Maximum permitted voltage variation ±10%
- Maximum ambient temperature +60°C
- Low power consumption
- Wide range of voltages available

**PRODUCT CODE: A V 6 3 6 0 N 0 0 A**



**SEE BELOW FOR  
PRODUCT CODE  
DETAILS**

Any of the below options that are not required enter '0' in relevant box.

#### Standard Voltage

<b>B</b>	24v DC
<b>H</b>	24v DC Low Power
<b>R</b>	24v AC (50/60 Hz)
<b>T</b>	110v AC (50/60 Hz)
<b>N</b>	220v AC (50/60 Hz)
<b>U</b>	240v AC (50/60 Hz)

#### Options

<b>0</b>	No option required
<b>E</b>	1/2" NPT electrical connection

\* A comprehensive range of non-standard voltages available on request

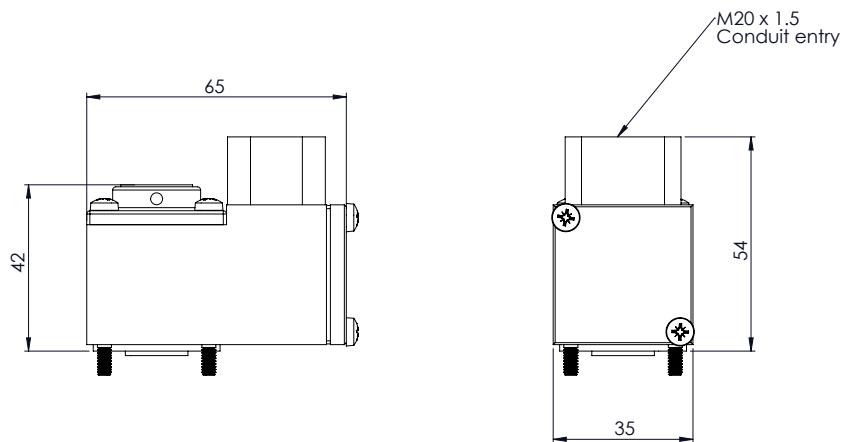
### INSTALLATION

The valve is provided with M20 conduit thread electrical entry to accept screw-in compression type cable gland or conduit stopping gland with or without adapter, chosen in accordance with a recognised Code of Practice for the conditions of use. Sealing of the gland thread is not a requirement of the approval but thread sealant or sealing washers may be used to maintain the IP rating of the enclosure.

### SPECIAL CERTIFICATION CONDITIONS

1. The valve assembly must be complete before the coil is energised.
2. The supply voltage must not exceed 1.1X rated voltage for AC units, 1.2X rated voltage for DC units.
3. The coil supply circuit must be individually protected by a fuse which has a standard rated current nearest to that of the normal operating current of the solenoid and of the type specified in Standard Sheet III of IEC Publication 127 for up to 250 V. (See FUSE RATING shown overleaf)
4. The temperature of the medium passing through the valve must not exceed 40°C.
5. Any internal earth conductor must be connected by means of a crimped ring type connector.

## DIMENSIONS (mm)



## MATERIAL SPECIFICATIONS

### STANDARD

Coil Case	Zinc Alloy Epoxy Powder Coated
Armature and Fixed Pole Piece	Magnetic Solenoid Quality Stainless Steel
Springs	Stainless Steel
Seals and Seats	Viton
Coil Former	30% Glass Filled PBR
Magnetic Wire	Class H Coated Copper

## SOLENOID SPECIFICATIONS

Coil Type	DC Solenoid Coil	AC Solenoid
Voltage Standard	24	24, 110, 220, 240 (50/60 Hz)
Voltage Tolerance	±10%	±10%
Ambient Temperature	-40 to +60°C	-40 to +60°C
Duty Cycle	100%	100%
Degree Of Protection	IP65	IP65
Electrical Connection	Junction Box with M20 or 1/2" NPT Conduit Entry	Junction Box with M20 or 1/2" NPT Conduit Entry
Power Consumption	2.4W or 1.3W	Pull In - 10VA, Holding - 5VA
Pressure Range	0 - 10 Bar	0 - 10 Bar

## FUSE RATING

DC	AC	Rating
24	110	125mA
	220/240	63mA

## BASEEFA Approved ExnA Non-incendive Stainless Steel Coil Unit



### FEATURES

- M20 x 1.5 conduit entry or 1/2 NPT
- Protection class IP66 according to ENBS60529 : 1992
- Connection by 2-pole 2.5mm<sup>2</sup> terminal strip + earth
- Continuously rated
- Maximum permitted voltage variation ±10%
- Maximum ambient temperature +60°C
- Low power consumption
- Wide range of voltages available

**PRODUCT CODE: A V 6 3 6 0 5 0 0**



**SEE BELOW FOR PRODUCT CODE DETAILS**

Any of the below options that are not required enter '0' in relevant box.

#### Standard Voltage

<b>B</b>	24v DC
<b>H</b>	24v DC Low Power
<b>R</b>	24v AC (50/60 Hz)
<b>T</b>	110v AC (50/60 Hz)
<b>N</b>	220v AC (50/60 Hz)
<b>U</b>	240v AC (50/60 Hz)

#### Options

<b>O</b>	No option required
<b>E</b>	1/2" NPT electrical connection

\* A comprehensive range of non-standard voltages available on request

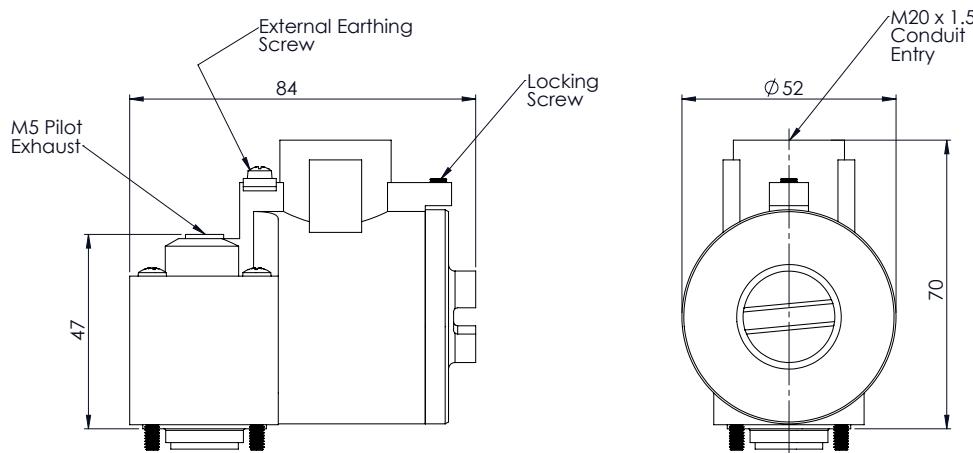
### INSTALLATION

The valve is provided with M20 conduit thread electrical entry to accept screw in compression type cable gland or conduit stopping gland with or without adapter, chosen in accordance with a recognised Code of Practice for the conditions of use. Sealing of the gland thread is not a requirement of the approval but thread sealant or sealing washers may be used to maintain the IP rating of the enclosure.

### SPECIAL CERTIFICATION CONDITIONS

1. The valve assembly must be complete when the coil is energised.
2. The supply voltage must not exceed 1.1X rated voltage for AC units, 1.2X rated voltage for DC units.
3. The coil supply circuit must be individually protected by a fuse which has a standard rated current nearest to that of the normal operating current of the solenoid and of the type specified in Standard Sheet III of IEC Publication 127 for up to 250 V. (See FUSE RATING shown overleaf)
4. The temperature of the medium passing through the valve must not exceed 40°C.
5. Any internal earth conductor must be connected by means of a crimped ring type connector.

## DIMENSIONS (mm)



## MATERIAL SPECIFICATIONS

### STANDARD

Coil Case	ANC1B Stainless Steel Epoxy Powder Coated
Armature and Fixed Pole Piece	Magnetic Solenoid Quality Stainless Steel
Springs	Stainless Steel
Seals and Seats	Viton
Coil Former	30% Glass Filled PBR
Magnetic Wire	Class H Coated Copper

## SOLENOID SPECIFICATIONS

Coil Type	DC Solenoid Coil	AC Solenoid
Voltage Standard	24	24, 110, 220, 240 (50/60 Hz)
Voltage Tolerance	±10%	±10%
Ambient Temperature	-40 to +60°C	-40 to +60°C
Duty Cycle	100%	100%
Degree Of Protection	IP66	IP66
Electrical Connection	Junction Box with M20 Conduit Entry	Junction Box with M20 Conduit Entry
Power Consumption	2.4W or 1.3W	Pull In - 10VA, Holding - 5VA
Pressure Range	0 - 10 Bar	0 - 10 Bar

## FUSE RATING

DC	AC	Rating
24	110	125mA
	220/240	63mA

## BASEEFA Approved Exd Flame Proof Coil Unit (Exd IIC T3 to T6)



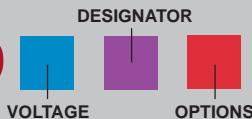
### DESCRIPTION

Flameproof coil suitable for Zones 1 and 2, manufactured in accordance with the requirements of the European harmonised standards EN/IEC60079-0, EN/IEC60079-1 and EN/IEC60079-31. Covered by Certificate of Conformity BAS No. BASEEFA06ATEX0123, category Exd IIC T3 to T6.

### FEATURES

- M20 x 1.5 conduit entry or 1/2" NPT
- Protection class IP66 according to ENBS60529
- Connection by 2-pole 2.5mm<sup>2</sup> terminal strip + earth
- Continuously rated
- Maximum permitted voltage variation ±10%
- Internal and external earthing connection screw
- Low power consumption
- Wide range of voltages available
- BASEEFA approvals available - ATEX, IECEx, GOST CU TR, NEPSI

**PRODUCT CODE: A V 6 3 6 0 D 0 0**



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that are not required enter '0' in relevant box.

#### Standard Voltage

<b>B</b>	24v DC
<b>H</b>	24v DC Low Power
<b>R</b>	24v AC (50/60 Hz)
<b>T</b>	110v AC (50/60 Hz)
<b>N</b>	220v AC (50/60 Hz)
<b>U</b>	240v AC (50/60 Hz)

#### Designator

<b>A</b>	ATEX
<b>C</b>	IECEx
<b>G</b>	ATEX Exd IIB
<b>R</b>	GOST CU TR
<b>X</b>	NEPSI

#### Options

<b>0</b>	No option required
<b>E</b>	1/2" NPT electrical connection

\* A comprehensive range of non-standard voltages available on request

### FLAMEPROOF SAFETY

Flameproof equipment is used extensively to prevent possible overheating or sparking of electrical equipment causing ignition in an potentially explosive atmosphere.

In the case of a solenoid the coil is enclosed in a robust enclosure which will contain an internal explosion should it occur and prevent its transmission to the surrounding atmosphere.

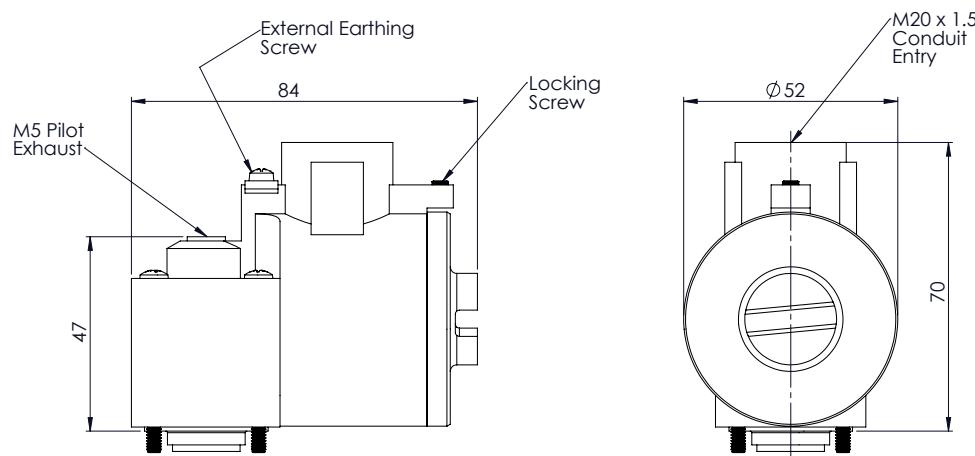
All construction joints in the enclosure are known as flame paths which prevent the transmission of a flame from within the enclosure to the outside atmosphere.

### CABLE GLANDS AND CABLE

Cable Glands 2nd Field wiring must be of a certified type and the cabling methods used must be suitable for the conditions of use. (EN/IEC60079-14)

Sealing of the gland thread is not a requirement of the approval but thread sealant or sealing washers may be used to maintain the IP rating of the enclosure. (EN/IEC60079-14)

## DIMENSIONS (mm)



## MATERIAL SPECIFICATIONS

### STANDARD

Coil Case	Stainless Steel Epoxy Powder Coated
Armature and Fixed Pole Piece	Magnetic Solenoid Quality Stainless Steel
Springs	Stainless Steel
Seals and Seats	Viton
Coil Former	30% Glass Filled PBR
Magnetic Wire	Class H Coated Copper
Guide Tube	Stainless Steel

## SOLENOID SPECIFICATIONS

Coil Type	DC Solenoid Coil	AC Solenoid
Voltage Standard	24	24, 110, 220, 240 (50/60 Hz)
Voltage Tolerance	±10%	±10%
Ambient Temperature	-60 to +80°C	-60 to +55°C
Duty Cycle	100%	100%
Degree Of Protection	IP66	IP66
Electrical Connection	Junction Box with M20 or 1/2" NPT Conduit Entry	Junction Box with M20 or 1/2" NPT Conduit Entry
Power Consumption	3W or 1.3W	Pull In - 10VA, Holding - 5VA
Pressure Range	0 - 10 Bar	0 - 10 Bar

## TEMPERATURE

Temperature Rating	Voltage	Rating	Max. Ambient Temp.	Max. Cable Entry Temp.
T6	DC	3W	40°C	N/A
T4	AC	9.5va	40°C	90°C
T5	DC	3W	55°C	N/A
T3	AC	9.5va	55°C	105°C
T4	DC	3W	65°C	85°C
T4	DC	3W	80°C	105°C

## BASEEFA Approved Exd Flame Proof Coil Unit (Exd IIB +H2 T3 to T6)



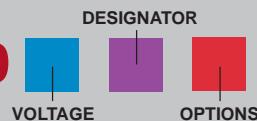
### DESCRIPTION

Flameproof coil suitable for Zones 1 and 2, manufactured in accordance with the requirements of the European harmonised standards EN/IEC60079-0, EN/IEC60079-1 and EN/IEC60079-31. Covered by Certificate of Conformity BAS No. BASEEFA06ATEX0037, category Exd IIB +H2 T3 to T6.

### FEATURES

- M20 x 1.5 conduit entry or 1/2" NPT
- Protection class IP66 according to ENBS60529
- Connection by 2-pole 2.5mm<sup>2</sup> terminal strip + earth
- Continuously rated
- Maximum permitted voltage variation ±10%
- Internal and external earthing connection screw
- Low power consumption
- Wide range of voltages available
- BASEEFA approvals available - ATEX

**PRODUCT CODE: A V 6 3 6 0 D 0 0**



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that are not required enter '0' in relevant box.

#### Standard Voltage

<b>B</b>	24v DC
<b>H</b>	24v DC Low Power
<b>R</b>	24v AC (50/60 Hz)
<b>T</b>	110v AC (50/60 Hz)
<b>N</b>	220v AC (50/60 Hz)
<b>U</b>	240v AC (50/60 Hz)

\* A comprehensive range of non-standard voltages available on request

#### Designator Options

<b>G</b>	ATEX Exd IIB	<b>0</b>	No option required
		<b>E</b>	1/2" NPT electrical connection

### FLAMEPROOF SAFETY

Flameproof equipment is used extensively to prevent possible overheating or sparking of electrical equipment causing ignition in an potentially explosive atmosphere.

In the case of a solenoid the coil is enclosed in a robust enclosure which will contain an internal explosion should it occur and prevent its transmission to the surrounding atmosphere.

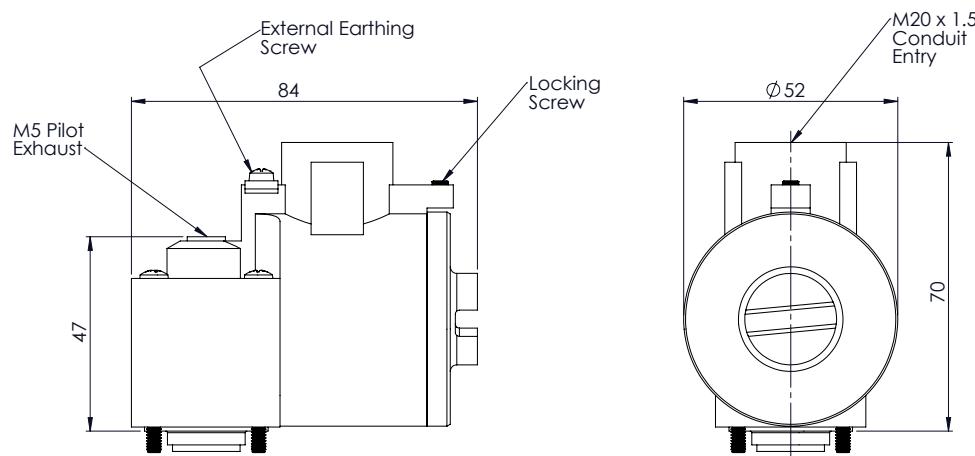
All construction joints in the enclosure are known as flame paths which prevent the transmission of a flame from within the enclosure to the outside atmosphere.

### CABLE GLANDS AND CABLE

Cable Glands 2nd Field wiring must be of a certified type and the cabling methods used must be suitable for the conditions of use. (EN/IEC60079-14)

Sealing of the gland thread is not a requirement of the approval but thread sealant or sealing washers may be used to maintain the IP rating of the enclosure. (EN/IEC60079-14)

## DIMENSIONS (mm)



## MATERIAL SPECIFICATIONS

### STANDARD

Coil Case	Stainless Steel Epoxy Powder Coated
Armature and Fixed Pole Piece	Magnetic Solenoid Quality Stainless Steel
Springs	Stainless Steel
Seals and Seats	Viton
Coil Former	30% Glass Filled PBR
Magnetic Wire	Class H Coated Copper
Guide Tube	Stainless Steel

## SOLENOID SPECIFICATIONS

Coil Type	DC Solenoid Coil	AC Solenoid
Voltage Standard	24	24, 110, 220, 240 (50/60 Hz)
Voltage Tolerance	±10%	±10%
Ambient Temperature	-60 to +80°C	-60 to +55°C
Duty Cycle	100%	100%
Degree Of Protection	IP66	IP66
Electrical Connection	Junction Box with M20 or 1/2" NPT Conduit Entry	Junction Box with M20 or 1/2" NPT Conduit Entry
Power Consumption	3W or 1.3W	Pull In - 10VA, Holding - 5VA
Pressure Range	0 - 10 Bar	0 - 10 Bar

## TEMPERATURE

Temperature Rating	Voltage	Rating	Max. Ambient Temp.	Max. Cable Entry Temp.
T6	DC	3W	40°C	N/A
T4	AC	9.5va	40°C	90°C
T5	DC	3W	55°C	N/A
T3	AC	9.5va	55°C	105°C
T4	DC	3W	65°C	85°C
T4	DC	3W	80°C	105°C

## DEMKO Approved Exm Encapsulated Coil Unit



### FEATURES

- Flying lead cable 3 core x 1.5m long
- Protection class IP65 according to ENBS60529
- External earth connection
- Continuously rated
- Maximum permitted voltage variation  $\pm 10\%$
- Maximum ambient temperature  $+65^{\circ}\text{C}$
- Low power consumption
- Range of voltages available

**PRODUCT CODE: A V 6 3 6 0 9 0 0**



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that are not required enter '0' in relevant box.

### Standard Voltage

B	A	24v DC Low Power
B	H	24v DC

R	H	24v AC (50/60 Hz)
T	H	110v DC (50/60 Hz)
N	H	220v AC (50/60 Hz)
U	H	240v AC (50/60 Hz)

### ENCAPSULATION SAFETY

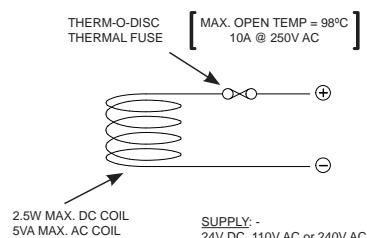
Type 'm' (Encapsulation) is a type of protection in which the parts which could ignite an explosive atmosphere by either sparking or heating are enclosed in a compound in such a way that the explosive atmosphere cannot be ignited.

The Pneumatrol 'm' coil is housed in a metal enclosure which is potted with epoxy resin to form a hermetically sealed unit. A thermal fuse is embedded in the resin to prevent the coil overheating in the event of a fault.

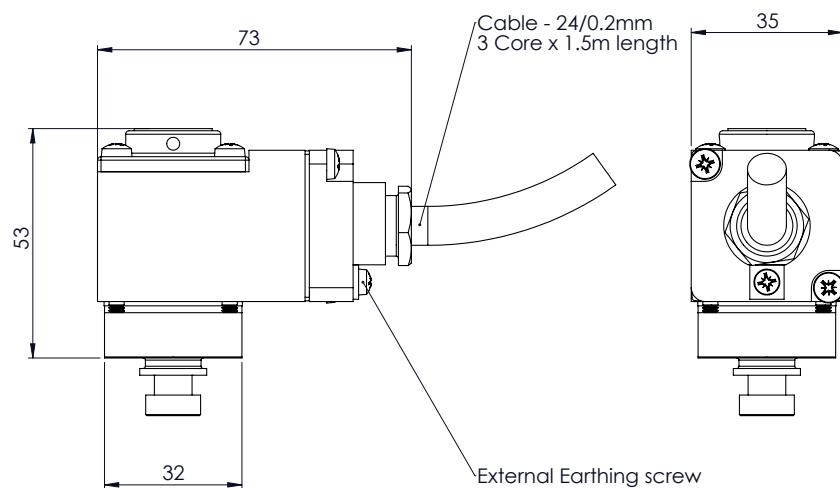
### INSTALLATION

The coil must be protected for a projective short circuit current of 4000A by providing a fuse in the supply with a breaking capacity of 4000A. The recommended rating for each fuse is 250mA for all Ex'm' coil voltages.

#### COIL CIRCUIT



## DIMENSIONS (mm)



## MATERIAL SPECIFICATIONS

### STANDARD

Coil Case	Zinc Alloy Epoxy Powder Coated
Armature and Fixed Pole Piece	Magnetic Solenoid Quality Stainless Steel
Springs	Stainless Steel
Seals and Seats	Viton
Coil Former	30% Glass Filled PBR
Magnetic Wire	Class H Coated Copper

## SOLENOID SPECIFICATIONS

Coil Type	DC Solenoid Coil	AC Solenoid
Voltage Standard	24	24, 110, 220, 240 (50/60 Hz)
Voltage Tolerance	±10%	±10%
Ambient Temperature	-20 to +65°C	-20 to +65°C
Duty Cycle	100%	100%
Degree Of Protection	IP65	IP65
Electrical Connection	Flying Leads	Flying Leads
Power Consumption	0.5W (low power) or 2.4W	Pull In - 10VA, Holding - 5VA
Pressure Range	0 - 10 Bar	0 - 10 Bar

## Exme Encapsulated Solenoid

**CALL:** +44 (0)1254 872277

**E-MAIL:** sales@pneumatrol.com



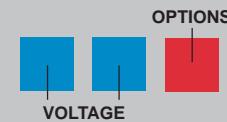
### DESCRIPTION

Encapsulated coil suitable for ATEX category Ex II 2G, manufactured in accordance with the essential protection requirements of the EN/IEC standards EN/IEC60079-0, EN/IEC60079-7, EN/IEC60079-18 and the ATEX directive 94/9/EC. Covered by Certificate of Conformity **DEMKO No. 03ATEX132854X category II 2 G Exme II T5.**

### FEATURES

- M20 conduit entry or 1/2" NPT
- Protection class IP65 according to ENBS60529
- Internal earth connection
- Continuously rated.
- Maximum permitted voltage variation  $\pm 10\%$
- Maximum ambient temperature  $+65^{\circ}\text{C}$
- Low power consumption
- Range of voltages available

**PRODUCT CODE: A V 6 3 6 0 9 0 0**



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that are not required enter '0' in relevant box.

#### Standard Voltage

B	E	24v DC Low Power
B	J	24V DC
R	J	24v AC (50/60 Hz)
T	J	110v AC (50/60 Hz)
N	J	220v AC (50/60 Hz)
U	J	240v AC (50/60 Hz)

#### Options

0	No option required
E	1/2" NPT electrical connection

### ENCAPSULATION SAFETY

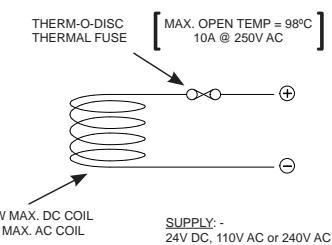
Type 'm' (encapsulation) is a type of protection in which the parts that could ignite an explosive atmosphere by either sparking or heating are enclosed in a compound in such a way that the explosive atmosphere cannot be ignited.

The Pneumatrol Exme solenoid is housed in a metal enclosure which is potted with epoxy resin to form an hermetically sealed unit. A thermal fuse is embedded in the resin to prevent the coil overheating in the event of a fault.

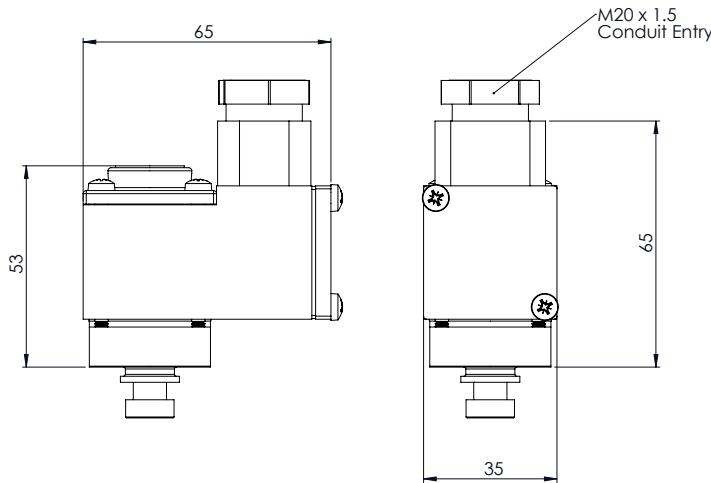
### INSTALLATION

The coil must be protected for a prospective short circuit current of 4000A by providing a fuse in the supply with a breaking capacity of 4000A. The recommended rating for each fuse is 250mA for all Exme solenoid voltages.

#### COIL CIRCUIT



## DIMENSIONS (mm)



## MATERIAL SPECIFICATIONS

### STANDARD

Coil Case	Zinc Alloy Epoxy Powder Coated
Armature and Fixed Pole Piece	Magnetic Solenoid Quality Stainless Steel
Springs	Stainless Steel
Seals and Seats	Nitrile & Viton
Coil Former	30% Glass Filled PBT
Magnetic Wire	Class H Coated Copper

## SOLENOID SPECIFICATIONS

Coil Type	DC Solenoid Coil	AC Solenoid
Voltage Standard	24	24, 110, 220, 240 (50/60 Hz)
Voltage Tolerance	±10%	±10%
Ambient Temperature	-20 to +65°C	-20 to +65°C
Duty Cycle	100%	100%
Degree Of Protection	IP65	IP65
Electrical Connection	M20 or 1/2" NPT Conduit Entry	M20 or 1/2" NPT Conduit Entry
Power Consumption	1.5W or 2.4W	Pull In - 10VA, Holding - 5VA
Pressure Range	0 - 10 Bar	0 - 10 Bar

## BASEEFA Approved Exia Intrinsically Safe Coil Unit

**CALL:** +44 (0)1254 872277  
**E-MAIL:** sales@pneumatrol.com



### DESCRIPTION

Intrinsically safe coil suitable for Zones 0, 1 and 2, manufactured in accordance with the requirements of the European harmonised standards EN/IEC60079-0, EN/IEC60079-11, and EN/IEC60079-31. Covered by Certificate of Conformity BAS No. BAS01ATEX1391X.

### FEATURES

- M20 x 1.5 conduit entry (Cable diameter 6 - 8mm) or 1/2" NPT
- Protection class IP65 according to ENBS60529
- Connection by 2-pole 2.5mm<sup>2</sup> terminal strip
- Continuously rated
- Maximum permitted voltage variation ±10%

- Maximum ambient temperature +65°C
- Low power consumption
- BASEEFA, FM, IECEx and NEPSI approvals available
- Operates with a wide range of barriers and galvanic isolators

**PRODUCT CODE:** **A V 6 3 6 0**



**SEE BELOW FOR PRODUCT CODE DETAILS**

Any of the below options that are not required enter '0' in relevant box.

Coil	Designator	Options
A U	ATEX / IECEx FM (USA & Canada)	0 No option required
		B ATEX 33mA 10mA
		C IECEx 33mA
		E 1/2" NPT electrical connection

### INTRINSIC SAFETY

Intrinsic safety is the safest form of protection for electrical equipment operating in potentially hazardous atmospheres. Intrinsic safety (IS) is based on the principle of restricting the electrical energy available in hazardous area circuits such that any sparks or hot surfaces that may occur as a result of electrical faults are too weak to cause ignition.

An intrinsically safe system consists of a certified IS interface which passes signals to and from the process (hazardous area) but limits the energy (that is voltage and current) that can reach the hazardous area under fault conditions.

The interface is usually mounted in the safe area and can be either a shunt diode safety barrier or a galvanic isolator.

In the hazardous area 'simple' or 'non-energy storing devices' (switches thermocouples & LED's) can be used without certification but 'Energy-storing' equipment such as solenoid valves must be designed so as to prevent this energy escaping and of necessity need to be of sufficiently low power to operate within the constraints of the power of the IS signal.

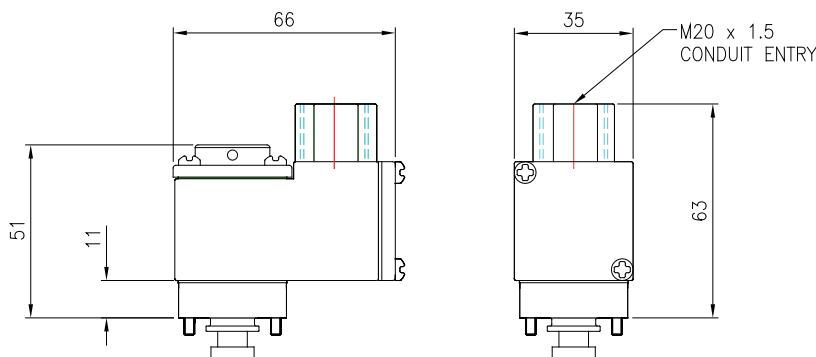
### HAZARDOUS AREA SOLENOID VALVE

The Pneumatrol EP000/ia solenoid coil is approved for this duty and is certified safe for all classified areas of hazard and gasses when installed in accordance with an approved system. The coil is protected by diodes which suppresses the inductance, effectively to zero, and there is no capacitive characteristics in the coil either.

The coil assembly, which is encapsulated, forms a compact solenoid actuator to interchange with the standard (non-hazardous duty) coil fitted to the 3 and 4 way spool valves.

The IS coil because of its low wattage requires that the spring load and travel of the armature be closely controlled and for this reason each solenoid has an inbuilt adjustable jet which is factory set so as to control the operating characteristics of the coil. Where the IS solenoid actuator is fitted to the spool valve, the jet in the end cap which is required for the normal coil, is removed.

## DIMENSIONS (mm)



## MATERIAL SPECIFICATIONS

STANDARD	
Coil Case	Zinc Alloy Epoxy Powder Coated
Armature	Magnetic Solenoid Quality Stainless Steel
Springs	Stainless Steel
Seals and Seats	Viton
Coil Former	30% Glass Filled PBT
Magnetic Wire	Class H Coated Copper

## SOLENOID SPECIFICATIONS

Coil Type	DC Solenoid Coil
Nominal Voltage	24
Voltage Tolerance	-10%
Ambient Temperature	-40 to +65°C
Duty Cycle	100%
Degree Of Protection	IP65
Electrical Connection	Junction Box with M20 Conduit Entry
Power Consumption	0.4W or 0.27W
Pressure Range	0 - 10 Bar
Resistance	370 Ohms or 2100 Ohms
Inductance (Apparent)	Zero
Capacitance	Zero

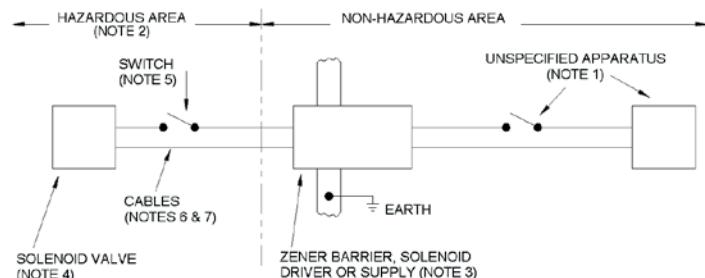
## INTRINSICALLY SAFE SUPPLY SPECIFICATION

Umax : in	31 Vdc
I <sub>max</sub> :	0.67 A
W <sub>max</sub> : in	2.98 W

## TABLE 1

GROUP	CAPACITANCE ( $\mu$ F)	INDUCTANCE (mH)	L/R RATIO ( $\mu$ H/ohm)
IIC	0.083	1.4	39
IIB	0.65	7.2	155
IIA	2.1	14.4	283

## SOLENOID VALVE CONTROL SYSTEM



## NOTE 1

This apparatus is unspecified except that it must not contain under normal or abnormal conditions a source of potential with respect to earth in excess of 250V R.M.S. or 250V DC.

## NOTE 2

The electrical circuit in the Hazardous area must be capable of withstanding an AC test voltage of 500V R.M.S. to earth or frame of the apparatus for one minute.

## NOTE 3

Any single channel or single channel of a multiple channel Shunt Zener Diode Safety Barrier, Solenoid Driver or supply certified by any EU notified certification body to [Exia] IIC, whose output voltage ( $U_z$ ,  $U_{max,out}$  or  $U_o$ ) does not exceed 28V and whose output current ( $I_{max,out}$  or  $I_o$ ) is limited by resistance 'R' such that the output voltage divided by 'R' does not exceed 110mA, or whose output voltage ( $U_z$ ,  $U_{max,out}$  or  $U_o$ ) does not exceed 25.5V and whose output current ( $I_{max,out}$  or  $I_o$ ) is limited by resistance 'R' such that the output voltage divided by 'R' does not exceed 147mA.

## NOTE 4

Pneumatrol solenoid valve covered by Certificate of Conformity BAS. No. BAS01ATEX1391 to category Exia IIC T6.

## NOTE 5

Switch must be selected and installed to meet the requirements of clauses 5.4 of EN60079-11.

## NOTE 6

The cable maybe twin pair, or a pair contained in a type A, or type B multicore cable ( as defined in clause 5.3 of EN60079-25), provided that the peak voltage of any circuit contained within the multicore does not exceed 60 volts.

## NOTE 7

The capacitance and inductance to resistance ratio of the hazardous area cables must not exceed the values shown in table 1.

**Certificate of Conformity BAS No. Ex 01E2392**

## BASEEFA Approved Exia Intrinsically Safe Stainless Steel Coil Unit



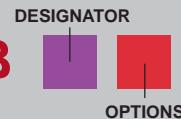
### FEATURES

- M20 x 1.5 conduit entry (Cable diameter 6 - 8mm) or 1/2 NPT
- Protection class IP66 according to ENBS60529
- Connection by 2-pole 2.5mm<sup>2</sup> terminal strip
- Continuously rated
- Maximum permitted voltage variation ±10%

### DESCRIPTION

Intrinsically safe coil suitable for Zones 0, 1 and 2, manufactured in accordance with the requirements of the European harmonised standards EN/IEC60079-0, EN/IEC60079-11 and EN/IEC60079-31. Covered by Certificate of Conformity BAS No. BAS01ATEX1391X.

**PRODUCT CODE: A V 6 3 6 0 S 0 0 B**



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that are not required enter '0' in relevant box.

#### Designator      Options

<b>A</b>	ATEX 33mA	<b>0</b>	No option required
<b>B</b>	ATEX 10mA	<b>E</b>	1/2" NPT electrical connection

### INTRINSIC SAFETY

Intrinsic safety is the safest form of protection for electrical equipment operating in potentially hazardous atmospheres. Intrinsic safety (IS) is based on the principle of restricting the electrical energy available in hazardous area circuits such that any sparks or hot surfaces that may occur as a result of electrical faults are too weak to cause ignition.

An intrinsically safe system consists of a certified IS interface which passes signals to and from the process (hazardous area) but limits the energy (that is voltage and current) that can reach the hazardous area under fault conditions.

The interface is usually mounted in the safe area and can be either a shunt diode safety barrier or a galvanic isolator.

In the hazardous area 'simple' or 'non-energy storing devices' (switches thermocouples & LED's) can be used without certification but 'Energy-storing' equipment such as solenoid valves must be designed so as to prevent this energy escaping and of necessity need to be of sufficiently low power to operate within the constraints of the power of the IS signal.

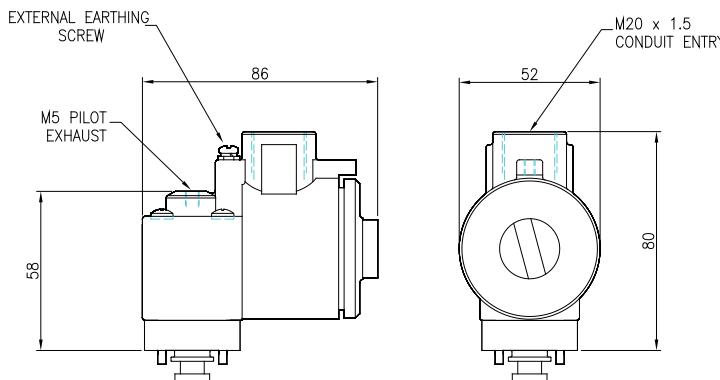
### HAZARDOUS AREA SOLENOID VALVE

The Pneumatrol EP000/ia solenoid coil is approved for this duty and is certified safe for all classified areas of hazard and gasses when installed in accordance with an approved system. The coil is protected by diodes which suppresses the inductance, effectively to zero, and there is no capacitive characteristics in the coil either.

The coil assembly, which is encapsulated, forms a compact solenoid actuator to interchange with the standard (non-hazardous duty) coil fitted to the 3 and 4 way spool valves.

The IS coil because of its low wattage requires that the spring load and travel of the armature be closely controlled and for this reason each solenoid has an inbuilt adjustable jet which is factory set so as to control the operating characteristics of the coil. Where the IS solenoid actuator is fitted to the spool valve, the jet in the end cap which is required for the normal coil, is removed.

## DIMENSIONS (mm)



## MATERIAL SPECIFICATIONS

STANDARD	
Coil Case	Zinc Alloy Epoxy Powder Coated
Armature	Magnetic Solenoid Quality Stainless Steel
Springs	Stainless Steel
Seals and Seats	Viton
Coil Former	30% Glass Filled PBT
Magnetic Wire	Class H Coated Copper

## SOLENOID SPECIFICATIONS

Coil Type	DC Solenoid Coil
Nominal Voltage	24
Voltage Tolerance	-10%
Ambient Temperature	-40 to +65°C
Duty Cycle	100%
Degree Of Protection	IP66
Electrical Connection	Junction Box with M20 Conduit Entry
Power Consumption	0.4W or 0.27W
Pressure Range	0 - 10 Bar
Resistance	370 Ohms or 2100 Ohms
Inductance (Apparent)	Zero
Capacitance	Zero

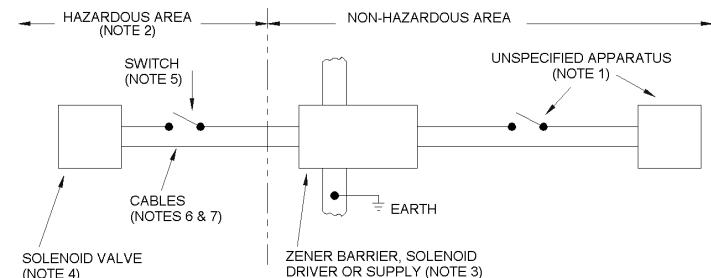
## INTRINSICALLY SAFE SUPPLY SPECIFICATION

Umax : in	31 Vdc
Imax :	0.67 A
Wmax : in	2.98 W

## TABLE 1

GROUP	CAPACITANCE ( $\mu$ F)	INDUCTANCE (mH)	L/R RATIO ( $\mu$ H/ohm)
IIC	0.083	1.4	39
IIB	0.65	7.2	155
IIA	2.1	14.4	283

## SOLENOID VALVE CONTROL SYSTEM



## NOTE 1

This apparatus is unspecified except that it must not contain under normal or abnormal conditions a source of potential with respect to earth in excess of 250V R.M.S. or 250V DC.

## NOTE 2

The electrical circuit in the Hazardous area must be capable of withstanding an AC test voltage of 500V R.M.S. to earth of frame of the apparatus for one minute.

## NOTE 3

Any single channel or single channel of a multiple channel Shunt Zener Diode Safety Barrier, Solenoid Driver or supply certified by any EU notified certification body to [Exia] IIC, whose output voltage ( $U_z$ ,  $U_{max,out}$  or  $U_o$ ) does not exceed 28V and whose output current ( $I_{max,out}$  or  $I_o$ ) is limited by resistance 'R' such that the output voltage divided by 'R' does not exceed 110mA, or whose output voltage ( $U_z$ ,  $U_{max,out}$  or  $U_o$ ) does not exceed 25.5V and whose output current ( $I_{max,out}$  or  $I_o$ ) is limited by resistance 'R' such that the output voltage divided by 'R' does not exceed 147mA.

## NOTE 4

Pneumatrol solenoid valve covered by Certificate of Conformity BAS. No. BAS01ATEX1391 to category Exia IIC T6.

## NOTE 5

Switch must be selected and installed to meet the requirements of clauses 5.4 of EN60079-11.

## NOTE 6

The cable maybe twin pair, or a pair contained in a type A, or type B multicore cable ( as defined in clause 5.3 of EN60079-25), provided that the peak voltage of any circuit contained within the multicore does not exceed 60 volts.

## NOTE 7

The capacitance and inductance to resistance ratio of the hazardous area cables must not exceed the values shown in table 1.

**Certificate of Conformity BAS No. Ex 01E2392**

## BASEEFA Approved Exia Intrinsically Safe Plug & Socket Coil Unit

**CALL:** +44 (0)1254 872277  
**E-MAIL:** sales@pneumatrol.com



### DESCRIPTION

Intrinsically safe coil suitable for Zones 0, 1 and 2, manufactured in accordance with the requirements of the European harmonised standards EN/IEC60079-0, EN/IEC60079-11 and EN/IEC60079-31. Covered by Certificate of Conformity BAS No. BAS01ATEX1391X category Exia IIC T6...T5.

### FEATURES

- PG.9 Cable Gland. (Cable diameter 6 - 8mm)
- Plug connector DIN 43650 - Form A / ISO 4400
- Protection class IP65 according to ENBS60529
- Continuously rated
- Maximum permitted voltage variation  $\pm 10\%$
- Maximum Ambient Temperature +65°C
- Low power consumption
- Operates with a wide range of barriers and galvanic isolators

**PRODUCT CODE: A V 6 3 6 0 H 0 0 B**

DESIGNATOR



SEE BELOW FOR  
PRODUCT CODE  
DETAILS

Any of the below options that are not required enter '0' in relevant box.

#### Designator

**A** ATEX 33mA  
**B** ATEX 10mA

### INTRINSIC SAFETY

Intrinsic safety is the safest form of protection for electrical equipment operating in potentially hazardous atmospheres. Intrinsic safety (IS) is based on the principle of restricting the electrical energy available in hazardous area circuits such that any sparks or hot surfaces that may occur as a result of electrical faults are too weak to cause ignition.

An intrinsically safe system consists of a certified IS interface which passes signals to and from the process (hazardous area) but limits the energy (that is voltage and current) that can reach the hazardous area under fault conditions.

The interface is usually mounted in the safe area and can be either a shunt diode safety barrier or a galvanic isolator.

In the hazardous area 'simple' or 'non-energy storing devices' (switches thermocouples & LED's) can be used without certification but 'Energy-storing' equipment such as solenoid valves must be designed so as to prevent this energy escaping and of necessity need to be of sufficiently low power to operate within the constraints of the power of the IS signal.

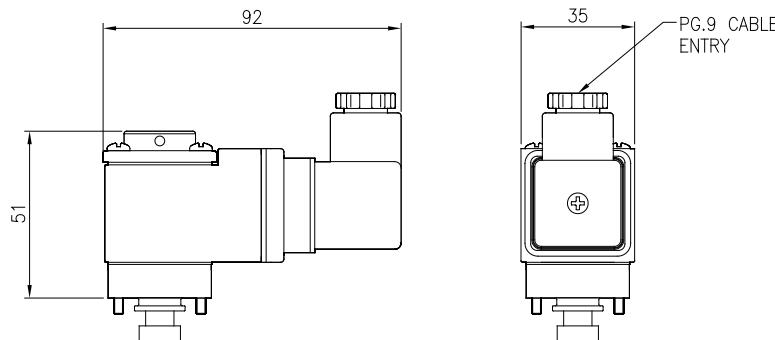
### HAZARDOUS AREA SOLENOID VALVE

The Pneumatrol EP000/ia solenoid coil is approved for this duty and is certified safe for all classified areas of hazard and gasses when installed in accordance with an approved system. The coil is protected by diodes which suppresses the inductance, effectively to zero, and there is no capacitive characteristics in the coil either.

The coil assembly, which is encapsulated, forms a compact solenoid actuator to interchange with the standard (non-hazardous duty) coil fitted to the 3 and 4 way spool valves.

The IS coil because of its low wattage requires that the spring load and travel of the armature be closely controlled and for this reason each solenoid has an inbuilt adjustable jet which is factory set so as to control the operating characteristics of the coil. Where the IS solenoid actuator is fitted to the spool valve, the jet in the end cap which is required for the normal coil, is removed.

## DIMENSIONS (mm)



## MATERIAL SPECIFICATIONS

STANDARD	
Coil Case	Zinc Alloy Epoxy Powder Coated
Plug Connector	Polyamide + 30% Glass Filled
Armature	Magnetic Solenoid Quality Stainless Steel
Springs	Stainless Steel
Seals and Seats	Viton
Coil Former	30% Glass Filled PBT
Magnetic Wire	Class H Coated Copper

## SOLENOID SPECIFICATIONS

Coil Type	DC Solenoid Coil
Voltage Standard	24
Voltage Tolerance	±10%
Ambient Temperature	-40 to +65°C
Duty Cycle	100%
Degree Of Protection	IP65
Electrical Connection	PG.9 Cable Gland
Power Consumption	0.4W or 0.27W
Pressure Range	0 - 10 Bar
Resistance	370 Ohms or 2100 Ohms
Inductance (Apparent)	Zero
Capacitance	Zero

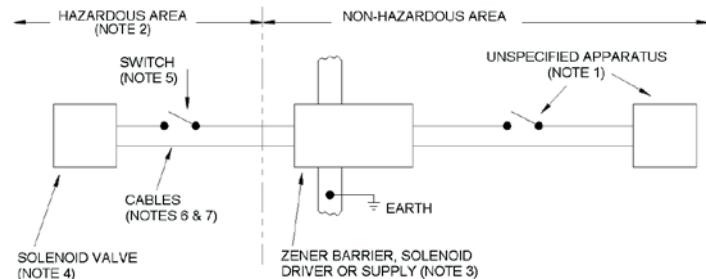
## INTRINSICALLY SAFE SUPPLY SPECIFICATION

Umax : in	31 Vdc
Imax :	0.67 A
Wmax : in	2.98 W

## TABLE 1

GROUP	CAPACITANCE ( $\mu$ F)	INDUCTANCE (mH)	L/R RATIO ( $\mu$ H/ohm)
IIC	0.083	1.4	39
IIB	0.65	7.2	155
IIA	2.1	14.4	283

## SOLENOID VALVE CONTROL SYSTEM



## NOTE 1

This apparatus is unspecified except that it must not contain under normal or abnormal conditions a source of potential with respect to earth in excess of 250V R.M.S. or 250V DC.

## NOTE 2

The electrical circuit in the Hazardous area must be capable of withstanding an AC test voltage of 500V R.M.S. to earth of frame of the apparatus for one minute.

## NOTE 3

Any single channel or single channel of a multiple channel Shunt Zener Diode Safety Barrier, Solenoid Driver or supply certified by any EU notified certification body to [Exia] IIC, whose output voltage ( $U_z$ ,  $U_{max,out}$  or  $U_o$ ) does not exceed 28V and whose output current ( $I_{max,out}$  or  $I_o$ ) is limited by resistance 'R' such that the output voltage divided by 'R' does not exceed 110mA, or whose output voltage ( $U_z$ ,  $U_{max,out}$  or  $U_o$ ) does not exceed 25.5V and whose output current ( $I_{max,out}$  or  $I_o$ ) is limited by resistance 'R' such that the output voltage divided by 'R' does not exceed 147mA.

## NOTE 4

Pneumatrol solenoid valve covered by Certificate of Conformity BAS. No. BAS01ATEX1391 to category Exia IIC T6.

## NOTE 5

Switch must be selected and installed to meet the requirements of clauses 5.4 of EN60079-11.

## NOTE 6

The cable maybe twin pair, or a pair contained in a type A, or type B multicore cable ( as defined in clause 5.3 of EN60079-25), provided that the peak voltage of any circuit contained within the multicore does not exceed 60 volts.

## NOTE 7

The capacitance and inductance to resistance ratio of the hazardous area cables must not exceed the values shown in table 1.

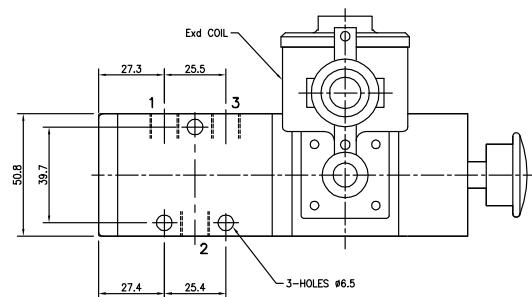
Certificate of Conformity BAS No. Ex 01E2392

## Safety Reset Function

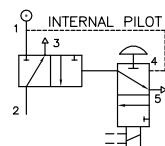
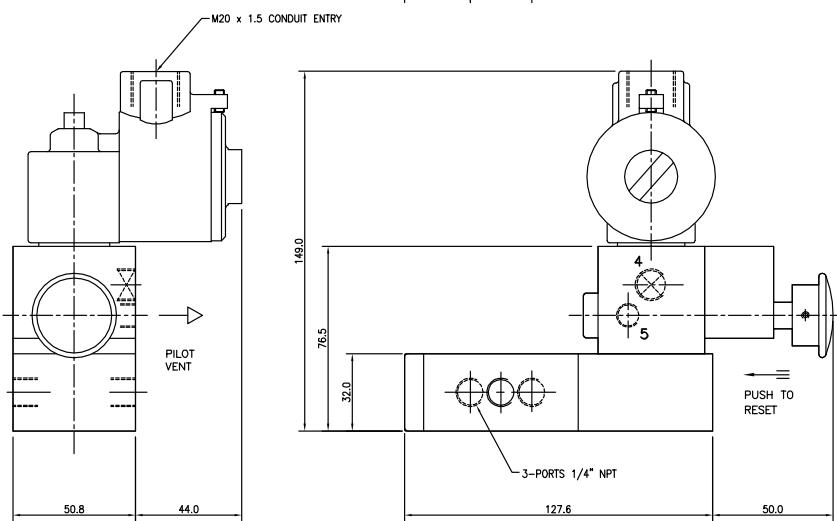
Upon energising the solenoid, the valve will not operate until the Safety Reset Button is pressed. If the solenoid is de-energised or if there is a loss of air pressure or electrical supply, the valve will close. The valve will only re-open when power and air pressure are reinstated and when the Safety Reset Button is pressed.

Products available with this function are:

- E23 series
- E25 series
- E43 series
- E45 series



**Drawing illustrated is the assembly of 1/4" NPT 3-way solenoid safety reset valve**



## Manual Reset Function

Upon de-energising the solenoid or if there is a loss of air pressure or electrical supply, the valve will not close until the Manual Reset Button is pressed. The valve will only re-open when power and air pressure are reinstated.

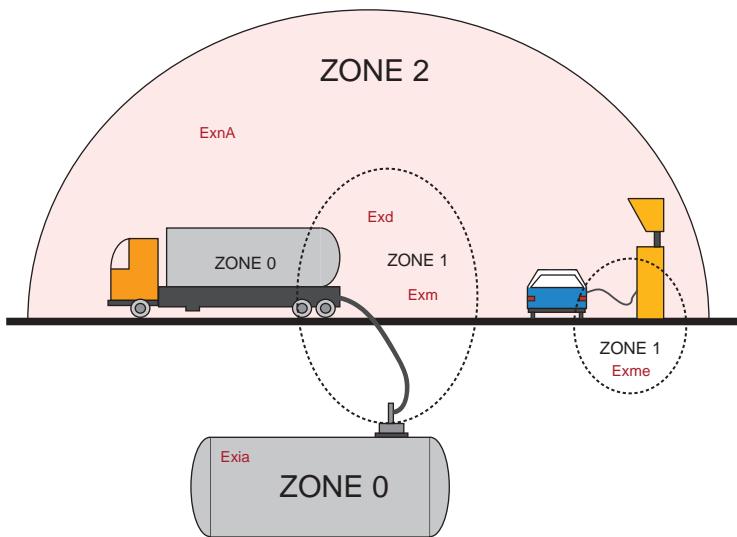
For more information, please contact our sales office at +44 (0)1254 872277

# Hazardous Areas

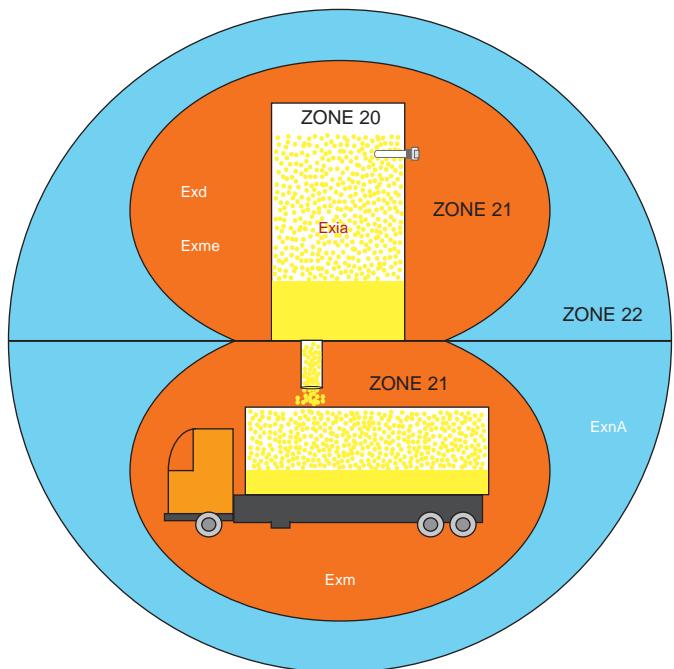
## ZONES CLASSIFICATION

Gases, vapours and mists		Dusts	
Zone 0	A place in which an explosive atmosphere consisting of a mixture with air of dangerous substances in the form of gas, vapour or mist is present continuously or for long periods or frequently.	Zone 20	A place in which an explosive atmosphere in the form of a cloud of combustible dust in air is present continuously, or for long periods or frequently.
Zone 1	A place in which an explosive atmosphere consisting of a mixture with air of dangerous substances in the form of gas, vapour or mist is likely to occur in normal operation occasionally.	Zone 21	A place in which an explosive atmosphere in the form of a cloud of combustible dust in air is likely to occur in normal operation occasionally.
Zone 2	A place in which an explosive atmosphere consisting of a mixture with air of dangerous substances in the form of gas, vapour or mist is not likely to occur in normal operation but, if it does occur, will persist for a short period only.	Zone 22	A place in which an explosive atmosphere in the form of a cloud of combustible dust in air is not likely to occur in normal operation but, if it does occur, will persist for a short period only.

Gas / Vapour Area Zones



Dust Area Zones



## Solenoids Valves in Hazardous Areas

Not all of these methods are applicable to solenoid protection, the more commonly used are listed below.

### 1. Flameproof

This form of protection entails enclosing the coils in a robust enclosure which will contain an internal explosion should it occur and prevent its transmission to the surrounding atmosphere.

### 2. N-Type Protection (Non-incendive)

Generally applied to non-sparking electrical equipment such as a solenoid coil which will not get abnormally hot even if the armature is locked out.

### 3. Encapsulation

This involves enclosing the coil and any associated electrical components in a compound so as to prevent the ignition of a surrounding explosive atmosphere.

### 4. Intrinsically Safe

Intrinsic safety is a technique that achieves safety by limiting the electrical-spark energy (and surface temperature) that can arise in hazardous area circuits to levels that are insufficient to ignite an explosive atmosphere.

An intrinsically safe system consists of a certified Intrinsically safe interface which passes signals to and from the process (hazardous area) but limits the energy (that is voltage and current) that can reach the hazardous area under fault conditions.

The interface is usually mounted in the safe area and can be either a shunt diode safety barrier or a galvanic isolator.

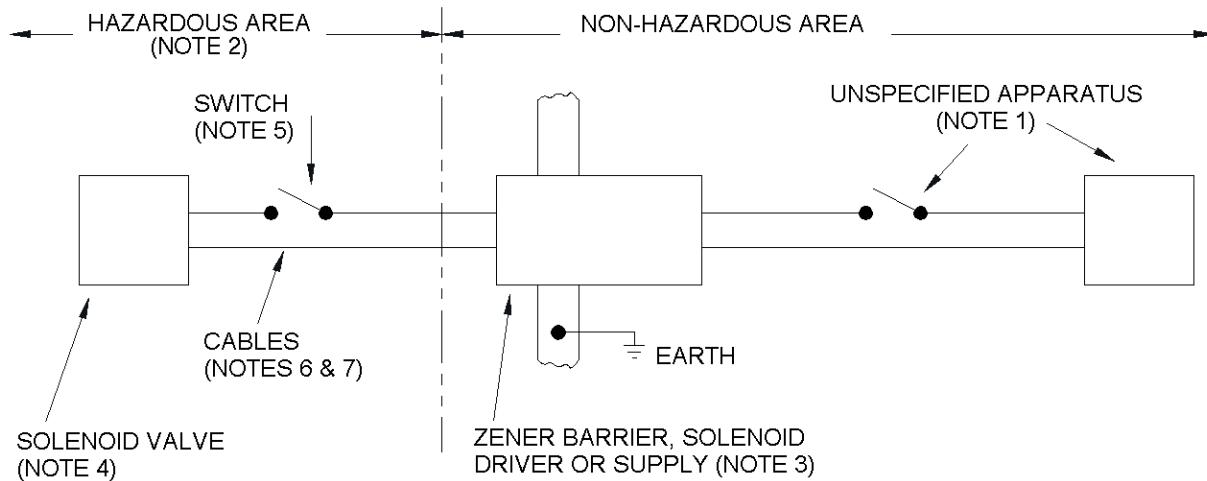
In the hazardous area 'simple' or 'non-energy storing devices' (switches, thermocouples & LED's) can be used without certification but 'Energy-storing' equipment such as solenoid valves must be designed so as to prevent this energy escaping and of necessity need to be of sufficiently low power to operate within the constraints of the IS signal.

### 5. Special Protection

Special protection offers combination of one or more methods of protection and in the case of solenoids these are usually 'e' and 'm', where the coil is encapsulated, has over temperature protection and the terminals are approved under the increased safety requirement.

## Intrinsic Safety Information

### SOLENOID VALVE CONTROL SYSTEM



#### NOTE 1

This apparatus is unspecified except that it must not contain under normal or abnormal conditions a source of potential with respect to earth in excess of 250V R.M.S. or 250V DC.

#### NOTE 2

The electrical circuit in the Hazardous area must be capable of withstanding an AC test voltage of 500V R.M.S. to earth of frame of the apparatus for one minute.

#### NOTE 3

Any single channel or single channel of a multiple channel Shunt Zener Diode Safety Barrier, Solenoid Driver or supply certified by any EU notified certification body to [Exia] IIC, whose output voltage ( $U_z$ ,  $U_{max:out}$  or  $U_o$ ) does not exceed 28V and whose output current ( $I_{max:out}$  or  $I_o$ ) is limited by resistance 'R' such that the output voltage divided by 'R' does not exceed 110mA, or whose output voltage ( $U_z$ ,  $U_{max:out}$  or  $U_o$ ) does not exceed 25.5V and whose output current ( $I_{max:out}$  or  $I_o$ ) is limited by resistance 'R' such that the output voltage divided by 'R' does not exceed 147mA.

#### NOTE 4

Pneumatrol solenoid valve covered by Certificate of Conformity BAS. No. BAS01ATEX1391 to category Exia IIC T6.

#### NOTE 5

Switch must be selected and installed to meet the requirements of clauses 5.4 of EN60079-11.

#### NOTE 6

The cable maybe twin pair, or a pair contained in a type A, or type B multicore cable ( as defined in clause 5.3 of EN60079-25), provided that the peak voltage of any circuit contained within the multicore does not exceed 60 volts.

#### NOTE 7

The capacitance and inductance to resistance ratio of the hazardous area cables must not exceed the values shown below.

Group	Capacitance in $\mu\text{F}$	Inductance in $\text{mH}$	OR	L/R Ratio in $\mu\text{H}/\text{ohm}$
IIC	0.083	1.4		39
IIB	0.65	7.2		155
IIA	2.1	14.4		283

## Intrinsically Safe Solenoid Coil Specification – 10mA & 33mA

### COIL OPERATING CHARACTERISTICS

Construction	Diode protected encapsulated assembly
Nominal operating voltage (2,100 ohms)	24V DC (10mA, 0.27W)
Nominal operating voltage (370 ohms)	12V DC (33mA, 0.40W)
Temperature rating	T6
Maximum permitted ambient temperature	65°C
Maximum operating pressure	10 Bar (Air or inert gases)
Cv Factor	0.02

### COIL APPROVAL REFERENCE LABELS

The following are the approval references for the coil only, which should not be confused with the full Product Codes.

Note. The relevant Product Code can be found on the appropriate coil or valve data sheet.

- BASEEFA ATEX and IECEx Approval Ref. - EP000/ia
- FM US Approval Reference - EP000/ia/aFM
- FM Canadian Approval Reference - EP000/ia/aFM

### IMPORTANT

Coils must be installed in accordance with the appropriate approval details.

### APPROVALS

Intrinsically Safe in accordance with the following approvals:

- BASEEFA (ATEX) - Certificate No. BAS01ATEX1391X EExia IIC T6
- FM US (Entity Concept)- Report 3020332 Class I, II, III Division 1 Groups A, B, C, D, E, F & G
- FM Canadian Report 3028180 Class I, II, III Division 1 Groups A, B, C, D, E, F & G
- IECEx – Certificate No BAS 05.0040X Ex ia IIC T6

### INTRINSICALLY SAFE SYSTEMS

BASEEFA ATEX and IECEx – Ex 01E2392 Solenoid Valve Control System

Ui = 31V, Ii = 0.67A, Pi = 2.98W, Ci = 0, Li = 0.\*

FM (America and Canada) - Under 'Entity' requirements, the concept allows interconnection of intrinsically safe apparatus to safe area apparatus, provided that the criteria for intrinsic safety are met (Maximum voltage, current and maximum unprotected capacitance and inductance).

- Maximum input parameters to coil 35V / 300mA Ci = 0, Li = 0.\*

**\* Note.** These figures do not represent the operating voltage or current of the coil. An IS interface in circuit with the coil gives operating characteristics as shown above, i.e. approximately 10mA, 0.27W and 33mA, 0.4W power consumption.

## Solenoid Specifications

Coil Type	Exia	Exd	Exm	Exme	ExnA	Terminal Box (IP65)
<b>Ratings</b>						
1) DC Voltages	12V - 24V	12V, 24V, 110V, 240V	12V, 24V, 48V, 110V, 240V	12V, 24V, 110V, 240V	12V, 24V, 48V, 110V	12V, 24V, 110V, 240V
2) Power ratings	0.4W - 0.27W	1.3W - 3W	0.5W - 3W	0.5W - 1.3W - 2.4W	0.5W - 0.24W	1.3W - 2.4W
3) AC Voltages	N/A	12V, 24V, 110V, 220V, 240V, 440V	12V, 24V, 110V, 220V, 240V, 415V	12V, 24V, 110V, 220V, 240V, 275V	12V, 24V, 48V, 110V, 220V, 240V, 440V	12V, 24V, 110V, 220V, 240V, 440V
4) VA rating	N/A	9.5VA Max	9.0VA Max	9.0VA Max	10VA Max	9.5VA Max
5) Frequency	N/A	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
6) Diodes	Standard	N/A	Optional	Optional	Optional	Optional
7) Bridge Rectifier	N/A	Optional	Optional	Optional	Optional	Optional
<b>Construction Types</b>						
8) Terminal Box	Yes	Yes	No	Yes	Yes	Yes
9) Plug and Socket	Yes - DIN 43650 Type Form A	No	No	No	Yes - DIN 43650 Type Form A	Yes - DIN 43650 Type Form A
10) Flying Lead	Yes	No	Yes	No	No	Yes
11) Inline Connector	Yes	No	No	Yes	No	Yes
12) CNOMO Interface	Yes	Yes	Yes	Yes	Yes	Yes
13) Screwdriver override	Available (not with 29)	Available (not with 29)	Available (not with 29)	Available (not with 29)	Available (not with 29)	Available (not with 29)
14) Terminal Box options	1/2 NPT, M20	1/2 NPT, M20	N/A	1/2 NPT, M20	1/2 NPT, M20	1/2 NPT, M20
<b>Approvals</b>						
15) IP 65 Rating	IP65 - All variants except SS	N/A	IP65	IP65	IP65 - All variants except SS	IP65 - All variants except SS
16) IP 66 Rating	Stainless Steel Hsg. only	IP66	N/A	N/A	Stainless Steel Hsg. only	Stainless Steel Hsg. Only
17) NEMA 4	Yes	Yes	Yes	Yes	Yes	Yes
18) NEMA 4X	Stainless Housing only	Yes	No	No	Stainless Housing only	No
19) NEMA 7	Yes - Groups B, C, & D (Stainless Housing)	Yes - Groups B, C, & D	No	No	Yes - Groups B, C, & D (Stainless Housing)	No
20) ATEX Category	Cat 1 - 2 - 3 Gas and Dust	Cat 2 - 3 Gas and Dust	Cat 2, 3 - Gas only	Cat 2, 3 Gas and Dust	Cat 3 - Gas and Dust	N/A
21) GAS Group	IIA, IIB, IIC	IIA, IIB + H2, IIC	IIA, IIB, IIC	IIA, IIB, IIC	IIA, IIB, IIC	N/A
22) FM USA	Class I, II, III, Div 1, Groups A, B, C, D, E, F, and G.	No	No	No	No	N/A
23) FM Canadian	Class I, II, III, Div 1, Groups A, B, C, D, E, F, and G.	No	No	No	No	N/A
24) Gost CU TR	No	Yes	No	No	No	N/A
25) IECEx	Yes	Yes	No	Yes	No	N/A
26) NEPSI	Yes	Yes	No	N/A	Pending	N/A
27) T Classification	T6	T3, 4, 5, 6	T5	T5	T4 & T6	N/A
28) Temperature rating	-40° C to + 65° C	See below	-20° C to + 65° C	-20° C to + 65° C	-40° C to + 60° C ( 48° C max plug & socket)	-40° C to + 80° C
29) SIL Approved	SIL 2 & 3	SIL 2 & 3	SIL 2 & 3	SIL 2 & 3	SIL 2 & 3	SIL 2 & 3
Maximum Ambient Temperatures for Exd	T4 (a.c) (cable temperature 90° C), & T6 (d.c) is -60° C to +40° C T3 (a.c) (cable temperature 105° C), T5 (a.c/d.c. rectified) & T5 (d.c) is -60° C to +55° C T4 (d.c) (cable temperature 85° C) is -60° C to +65° C. T4 (d.c) 105° C (cable temperature 105° C) is -60° C to +80° C.					
						Category 1 equipment for use in Zone 0 and Zone 20 Category 2 equipment for use in Zone 1 and Zone 21 Category 3 equipment for use in Zone 2 and Zone 22

## Product Marking

### EU PRODUCT MARKING



**II 2**

**G**

**Ex d**

**IIB**

**T6**

Approval Symbol	Equipment Group	Gas or Dust	Type of Protection	Gas or Dust Group	Temperature Classification
	II 1 Very high protection	G Gas	Ex ia Intrinsic safety	I Methane (mining only)	T1 450°C
	II 2 High protection	D Dust	Ex ib Intrinsic safety	II A Propane	T2 300°C
	II 3 Normal protection		Ex e Increased safety	II B Ethylene	T3 200°C
			Ex d Flameproof	II C Hydrogen / Acetylene	T4 135°C
			Ex p Pressurisation	III A Combustible Flyings	T5 100°C
			Ex q Powder filing	III B Non-conductive Dust	T6 85°C
			Ex m Encapsulation		
			Ex o Oil immersion		
			Ex n Type 'n'	III C Conductive Dust	

### US / CANADA PRODUCT MARKING

#### Method of Protection

**Explosionproof with I.S. Outputs,**

**Class I Division 1,**

**Groups A,B,C,D,**

**T5**

#### Permitted Class and Division

Class I Division 1	Explosive Gases; Gases normally present in explosive amounts
Class I Division 2	Explosive Gases; Gases not normally present in explosive amounts
Class II Division 1	Explosive Dusts; Dusts normally present in explosive amounts
Class II Division 2	Explosive Gases; Dusts not normally present in explosive amounts

#### Permitted Gas or Dust Group

Group A	Acetylene
Group B	Hydrogen
Group C	Ethylene and related products
Group D	Propane and alcohol products
Group E	Metal dust
Group F	Coal dust
Group G	Grain and non-metallic dust

#### Temperature Classification

T1	450°C
T2	300°C
T3	200°C
T4	135°C
T5	100°C
T6	85°C

## Approvals & Certificates

As a company we are committed to working to very high quality standards and in line with this we have a solid portfolio of approvals and certifications.

### APPROVALS FOR HAZARDOUS AREA SOLENOIDS

---



ATEX



IECEx



FM (USA / Canada)



GOST CU TR  
(Russia)



NEPSI (China)

### QUALITY MANAGEMENT SYSTEM

---



BS EN ISO 9001

### SIL CERTIFICATES

---



Safety  
Integrity Level