



# Operation & Maintenance Manual of A240 NAMUR Solenoid Valves

## 1. Description

PROVAL A240 NAMUR Type Solenoid valves are designed for use on double and single acting pneumatic valve actuators with compressed air or non-corrosive and non flammable gases. Please keep this manual for your future reference and maintenance.

## 2. Areas of Application

PROVAL A240 NAMUR Solenoid valves can be used on Standard industrial applications as well as in explosive atmospheres with gases or combustable dust of the category 2 Group II according to EN 13463-1 only if suitable explosion proof coil (magnet) is used. This manual only refers to valve body and does not cover the coil (magnet). Please refer to coil (magnet) manufacturers application details. In case of use of explosion proof coils, due to thickness of coil an extension adaptor plate is required to be used between the valve and the actuator.

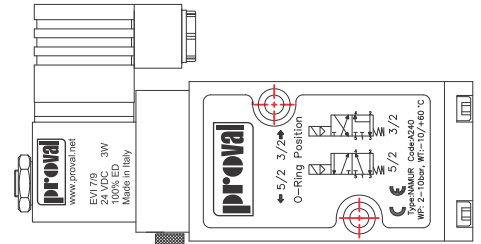
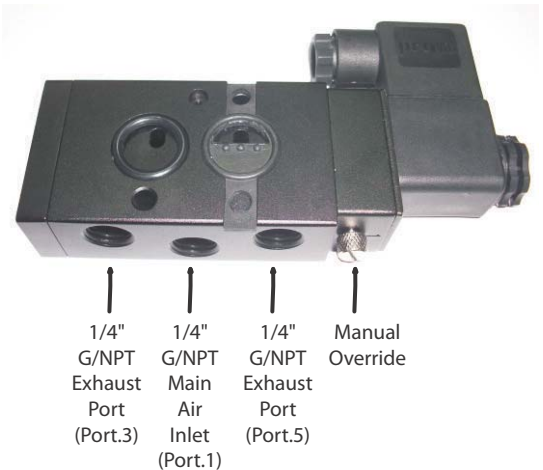
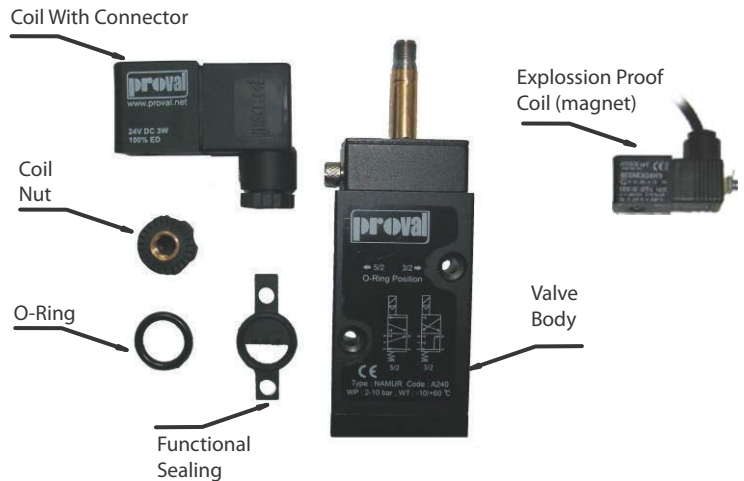
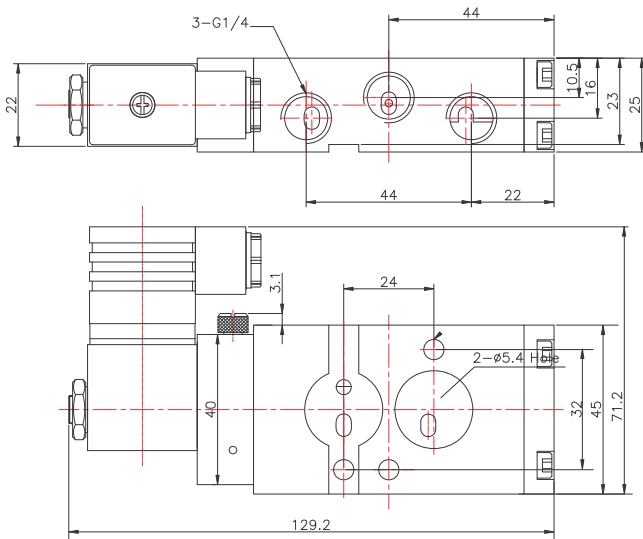


Figure-1 : Label of Solenoid Valves

## 3. Main Parts & Dimensions



In order to avoid any failure, the solenoid valves must be installed and initiated by skilled persons. Please read carefully the below instructions and follow up the steps carefully.

- Verify that the valve is correctly chosen for your application
- Please take appropriate measures to avoid accidental activation and improper external influence
- Consider the manual of the magnet coil manufacturer for the electrical initiation
- Protect the equipment and cables from any damage
- Avoid static charging or peripheral devices
- Ensure that the equipment will be available for regular cleaning
- Avoid strong bending of air tubes



**All ports must remain open. The solenoid valve will not be able to operate if any unused ports are closed. Use only suitable silencers / speed reducers to avoid dirt coming inside the valve.**



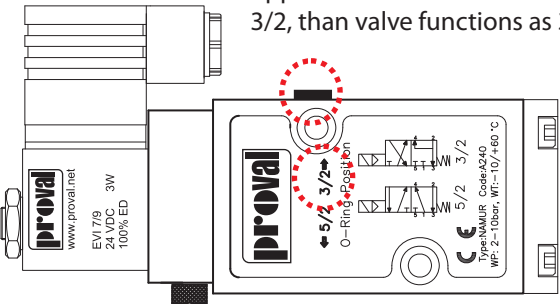
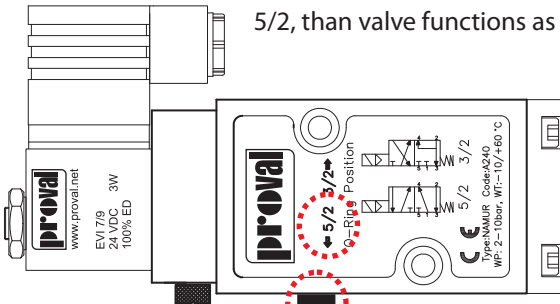
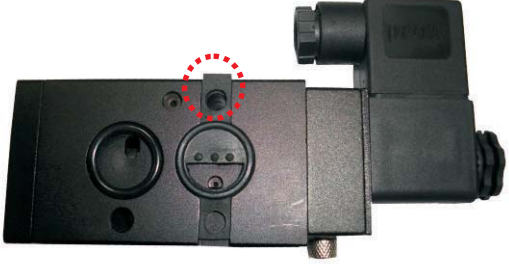

**During the functioning of the valve the magnet coil is heating-up. In order to avoid burning do not touch the coils while operating.**



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### 4. Assembly of Solenoid Valves

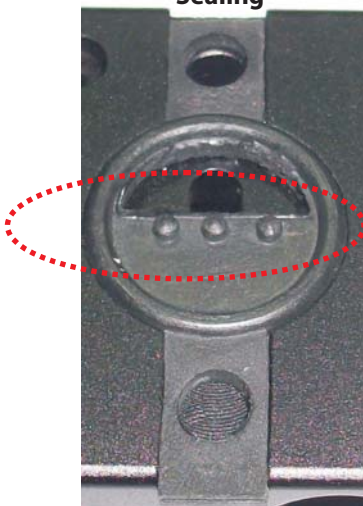
PROVAL A240 NAMUR Type Solenoid valves are 3/2 Way (for single acting actuators) and 5/2 way (for double acting actuators) convertible design. In order to change the valve from 3/2 way to 5/2 way just turn the functional sealing through 180° and place to its position.

3/2 Way Valve	5/2 Way Valve
<p>If functional seal is extending upper side and shows the arrow 3/2, than valve functions as 3/2 way</p>  <p>Front side view of 3/2 Valve</p>	<p>If functional seal is extending lower side and shows the arrow 5/2, than valve functions as 5/2 way</p>  <p>Front side view of 5/2 Valve</p>
 <p>Back side view of 3/2 Valve</p>	 <p>Back side view of 5/2 Valve</p>

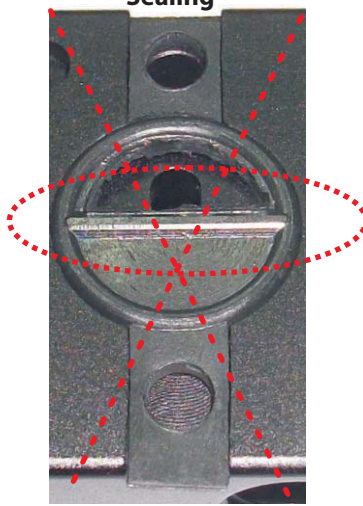


**Please ensure that functional sealing is in correct position.**

#### Correct Assembly Way of Functional Sealing



#### Wrong Assembly Way of Functional Sealing



When the solenoid valves are set for the right position (function) they can be mount on any NAMUR interface pneumatic actuators.

The mounting position is user defined but preferably with an upturned coil (magnet) position.



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### 5. Disassembly of Solenoid Valves

Please consider the safety instructions given on Chapter-3.

- 5.1. Disconnect the supply voltage line and remove the pneumatic air supply tube
- 5.2. Disconnect all leads from the solenoid valve
- 5.3. Release the hexagon socket screws and remove the solenoid valve from the actuator

### 6. Air Supply Ports

Working pressure of PROVAL A240 Solenoid valves is between 3.0 to 8.0 bar compressed air or non flammable gases.

 **Please ensure that solenoid valves are fed with filtered and dry air. Multifunction, due to dirt inside of the solenoid valve will not be covered in warranty conditions.**

Air is connected from Port Nr.1 (Main Air Inlet Line) and Ports Nr.3 and Nr.5 are for exhaust and must never be closed and always to be kept free for exhaust purposes during operation of solenoid valves.

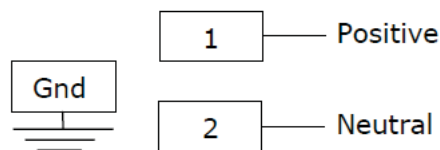
1/4" Size silencers (Proval A145) can be used to avoid the dirt or dust coming into the solenoid valve or adjustable speed reducer with silencer (Proval A146) can be used for regulating the speed of actuators to avoid water hammer in the process line because of the very fast closing of the valves as well as reducing the noise of exhaust air as in A145 Silencers.

### 7. Operation

Operate the solenoid valves only with filtered (clean) and lubricated or non-lubricated compressed air with a quality level 5 according to ISO8573-1. Corrosive and explosive gases are not allowed to use in any case. In areas with temperature with below 0°C it is highly necessary to use dried air.


Please always consider the indicated temperature class of the coil (magnet) which is marked on. The non-electric parts of the valve will not heat up as the coils.

- Bending or torsion on operator of solenoid valve will cause damage and the valve will not operate properly
- Overpressure on operation will cause damages on the valves
- Avoid contacts with corrosive gases and liquids



**The above wiring diagram is the same for all the voltages**

Before start up please ensure that the correct voltage coils are used. Operate the solenoid valves only with filtered (clean) and lubricated or non-lubricated compressed air with a quality level 5 according to ISO8573-1. Corrosive and explosive gases are not allowed to use in any case. In areas with temperature with below 0°C it is necessary to use dried air.

 **In order to avoid any mechanical damage please handle the valves properly. Bending or torsion on operator of solenoid valves will cause damage and the valve will not operate properly**

### 8. Maintenance

Check the connections regularly for both electrical and pneumatic supply. In case the valve is not operating check if the air pressure is in required range. Unless otherwise clearly specified, supplied valves are sized for actuators working in 5.6 bar standard industrial pressure range. If the coil is not functioning it may be burned and will require to be replaced. If the valve is not operating properly please remove the coil, and remove the valve from actuator and dismantle it completely, clean from any dirt, check for o-rings on piston; clean it and re-assemble and test it for proper functioning.

If you require any further assistance please contact your local dealer or the factory at below details.