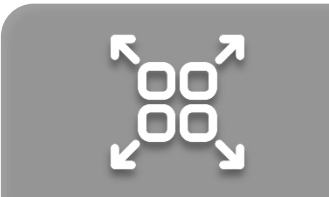
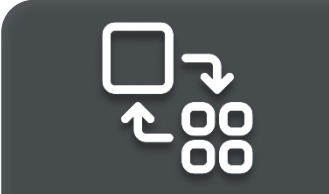
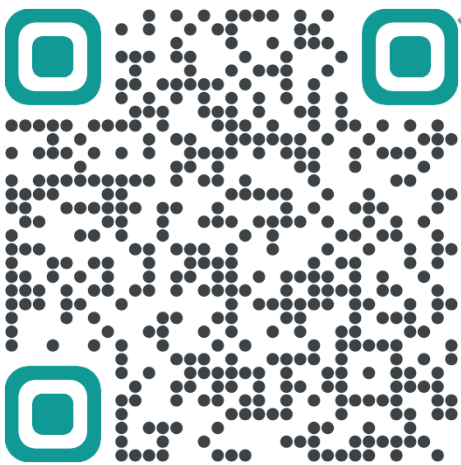




AIR FILTER REGULATOR USER MANUAL



INTRODUCTION

Thank you for purchasing Convalve products. Each product has been thoroughly inspected after its production to offer you the highest quality and reliable performance. Please read the product manual carefully prior to installing and commissioning the product.

- Installation, commissioning, and maintenance of the product may only be performed by trained specialist personnel who have been authorized by the plant operator accordingly.
- The manual should be provided to the end-user.
- The manual can be altered or revised without any prior notice. Any changes in product's specification, design, and/or any components may not be printed immediately but until the following revision of the manual.
- The manual should not be duplicated or reproduced for any purpose without prior approval from Convalve.
- In case of any other problems that are not stated in this manual, please make immediate contact with Convalve for assistance.

TRANSPORTATION AND STORAGE

- Convalve recommends storing Air filter regulator in a clean and dry environment. For optimal storage conditions, it is recommended to store the Air filter regulator indoors, safeguarding them against adverse weather conditions and other potentially harmful elements. At Convalve, we prioritize the longevity and performance of our products, and these storage guidelines are meant to preserve the Air filter regulator's functionality and reliability throughout their lifecycle.
- Handling the Air filter regulator with care is of utmost importance to prevent any scratches, damage, or harm to the environment during transportation. Adequate protection should be provided to ensure the air filter regulator remains intact throughout the transportation process.

PRODUCT DESCRIPTION

1. **Pressure Regulation** : The air filter regulator maintains a consistent and desirable pressure level, ensuring a stable and controlled air supply to connected devices, such as positioners or other pneumatically operated equipment. Regardless of fluctuations in the main supply pressure, the regulator ensures a reliable output pressure.
2. **Filtration** : Equipped with a 5-micron filter, the regulator effectively removes most particles and impurities from the main supply air. This filtration process helps prevent potential damage to downstream components, promoting smooth operation and extending the lifespan of the connected devices.
3. **Relief Function** : The regulator incorporates a relief mechanism that discharges excess pressure to the atmosphere if the output pressure exceeds the preset level. This safety feature protects the connected devices from potential overpressure situations, enhancing overall system safety.
4. **Durability** : Constructed with either aluminum or stainless steel body, the air filter regulator exhibits high durability, making it suitable for use in various environmental conditions. The choice of materials ensures resistance to corrosion and extends the regulator's service life.
5. **Drainage Options** : The YT-200 / 205 series provides the flexibility of manual or automatic draining options. Users can choose between these methods based on their specific application requirements and preferences.

In summary, the YT-200 / 205 air filter regulator is a reliable and versatile component in pneumatic systems, contributing to consistent pressure regulation, effective filtration, safety features, durability, and convenient drainage options for optimal performance and longevity of connected devices.

SPECIFICATION

The product has been rigorously tested under specific conditions to ensure its reliability and performance. The testing parameters include:

1. Ambient Temperature: 20 °C
2. Absolute Pressure: 760 mmHg
3. Humidity: 65 %

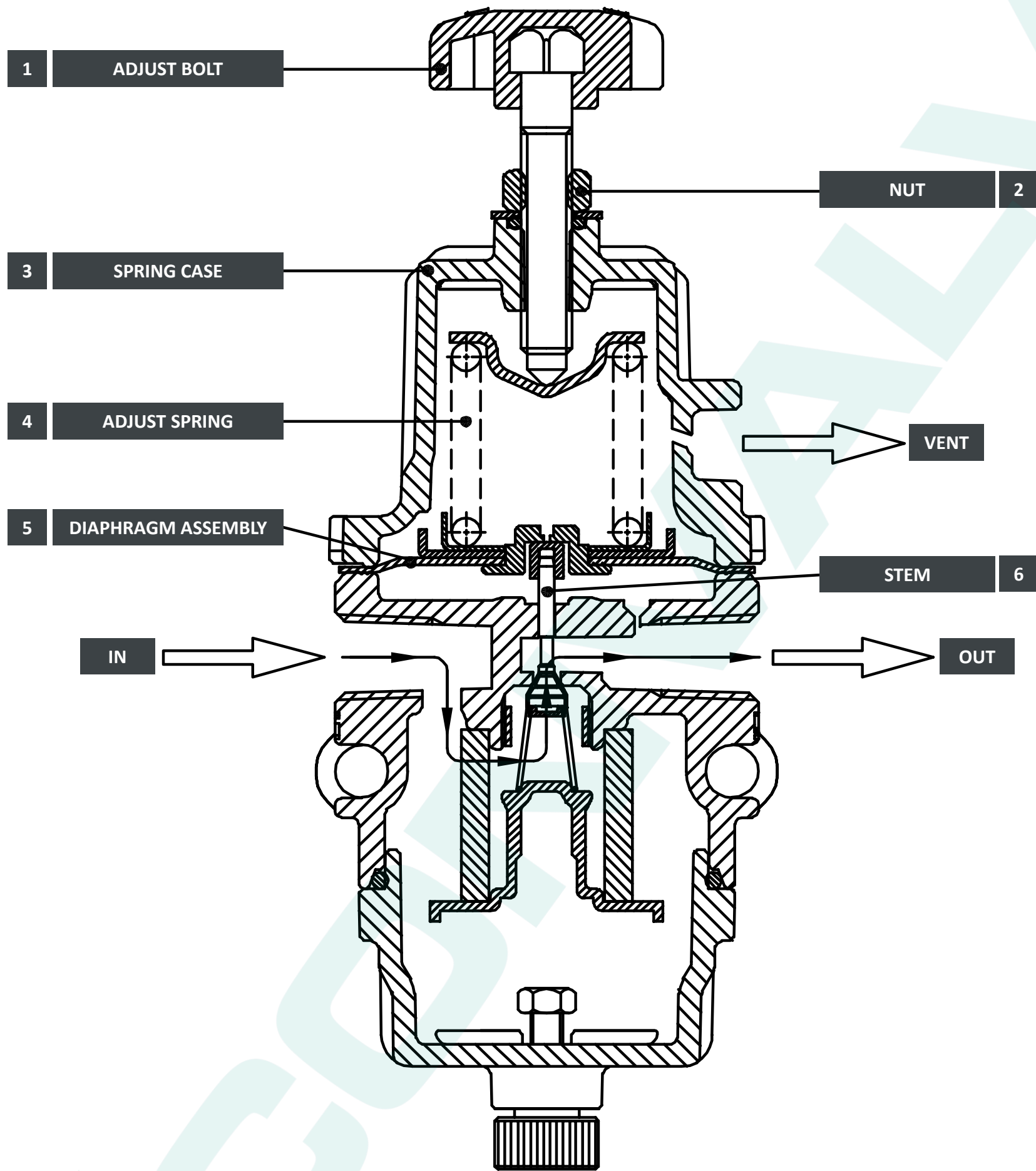
These testing conditions were selected to represent typical operating conditions and provide a baseline for the product's performance.

However, for more detailed information about the testing procedures and specifications, we recommend reaching out to Convalve. They can provide comprehensive testing data and answer any specific questions related to the product's performance under various conditions.

For additional information or to inquire about the detailed testing specifications, please contact Convalve, the manufacturer of the product.

MODEL		YT-200	YT-220
MAXIMUM SUPPLY PRESSURE		17 bar	
MAXIMUM OUT PRESSURE		4.2 bar (A Type), 5.4 bar (B Type)	
AIR CONNECTION		Rc 1/4 or 1/4 NPT	Rc 1/2 or 1/2 NPT
GAUGE CONNECTION		Rc 1/4 or 1/4 NPT	Rc 1/4 or 1/4 NPT
AMBIENT TEMPERATURE	STANDARD	-20 ~ 70 °C (-4 ~ 158 °F)	
	HIGH	-20 ~ 120 °C (-4 ~ 248 °F)	
	LOW	-40 ~ 70 °C (-40 ~ 158 °F)	
	ARCTIC	-50 ~ 70 °C (-58 ~ 158 °F)	
MINIMUM FILTERING SIZE		5 micron	
HOUSING MATERIAL		Aluminum	
WEIGHT	MANUAL DRAIN	0.62 kg	0.88 kg
	AUTO DRAIN	0.71 kg	0.94 kg

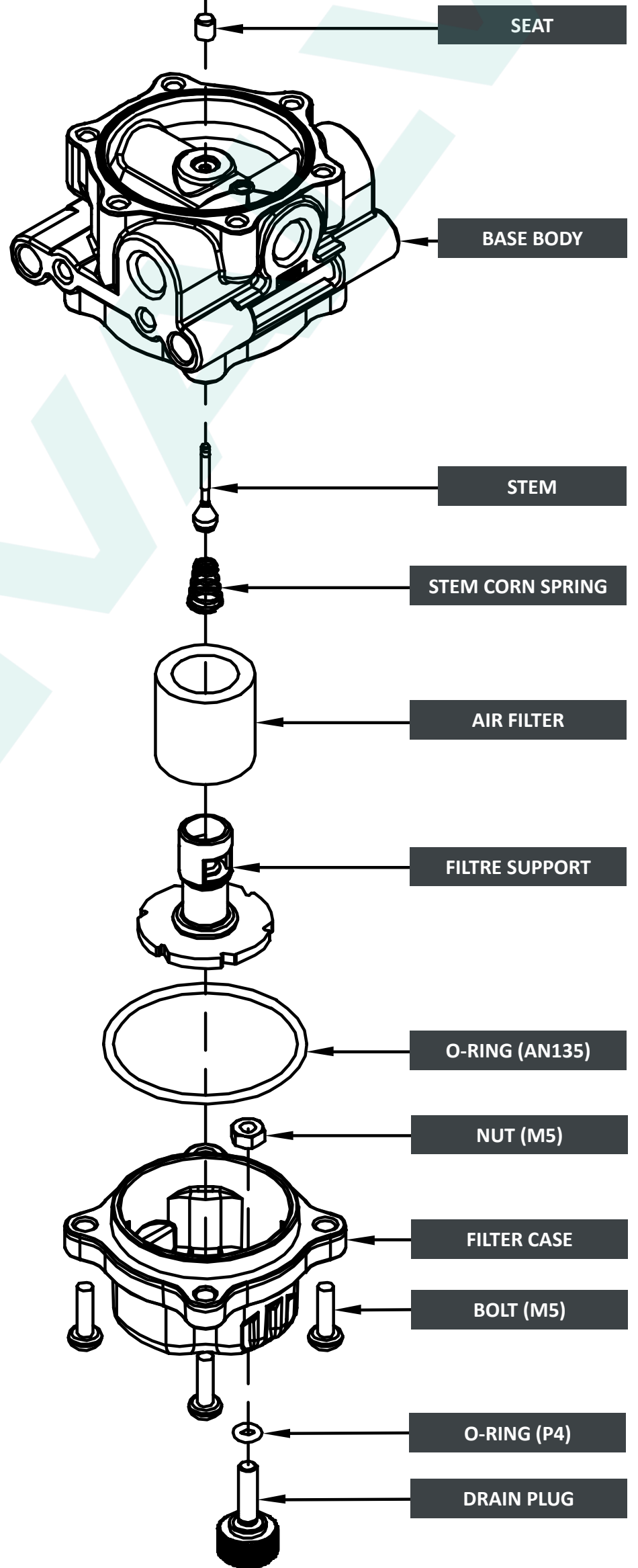
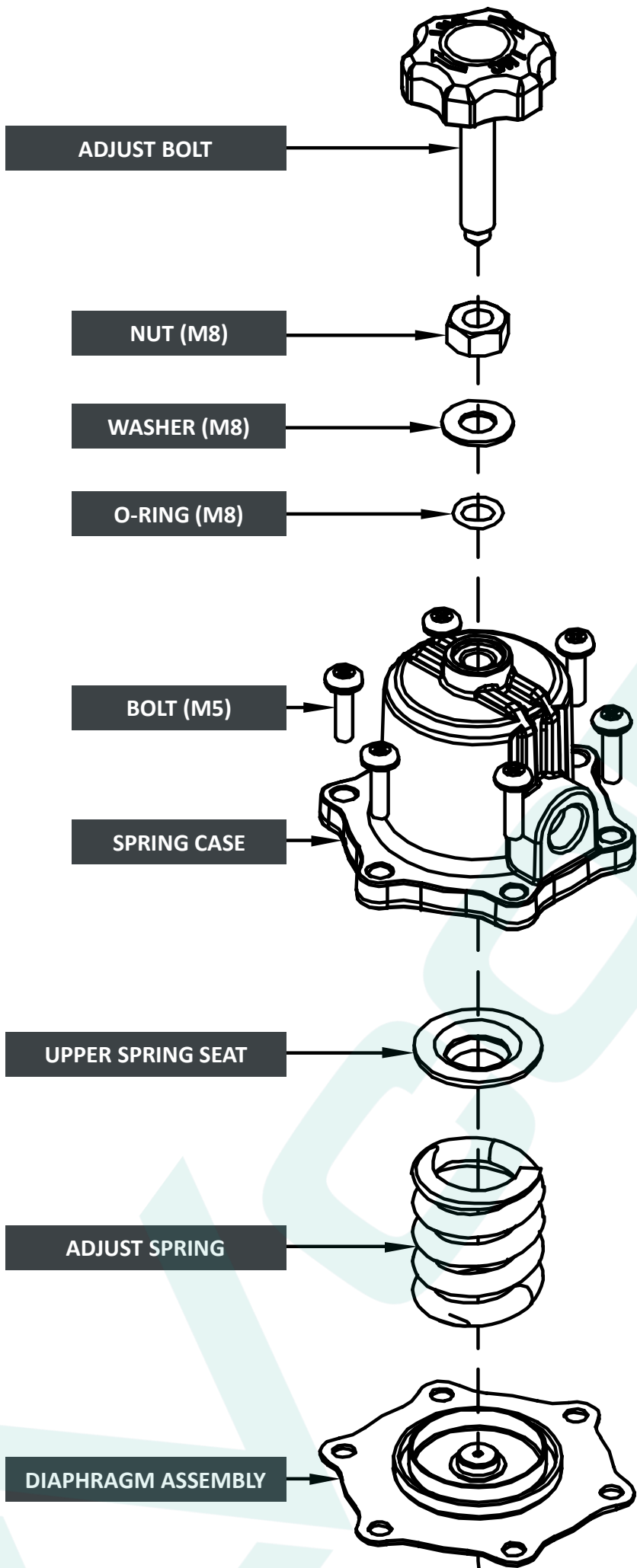
OPERATION LOGIC



When the adjustment bolt ① is turned clockwise, the adjusting spring ④ exerts force on the diaphragm ⑤, causing the stem ⑥ to move downward. As a result, the supply pressure (IN) is directed to the secondary output port (OUT). As the pressure on the secondary port reaches the set pressure, this pressure is transmitted to the bottom of the diaphragm through the output pressure sensing hole, and the set pressure is maintained by balancing the force with the adjusting spring ④.

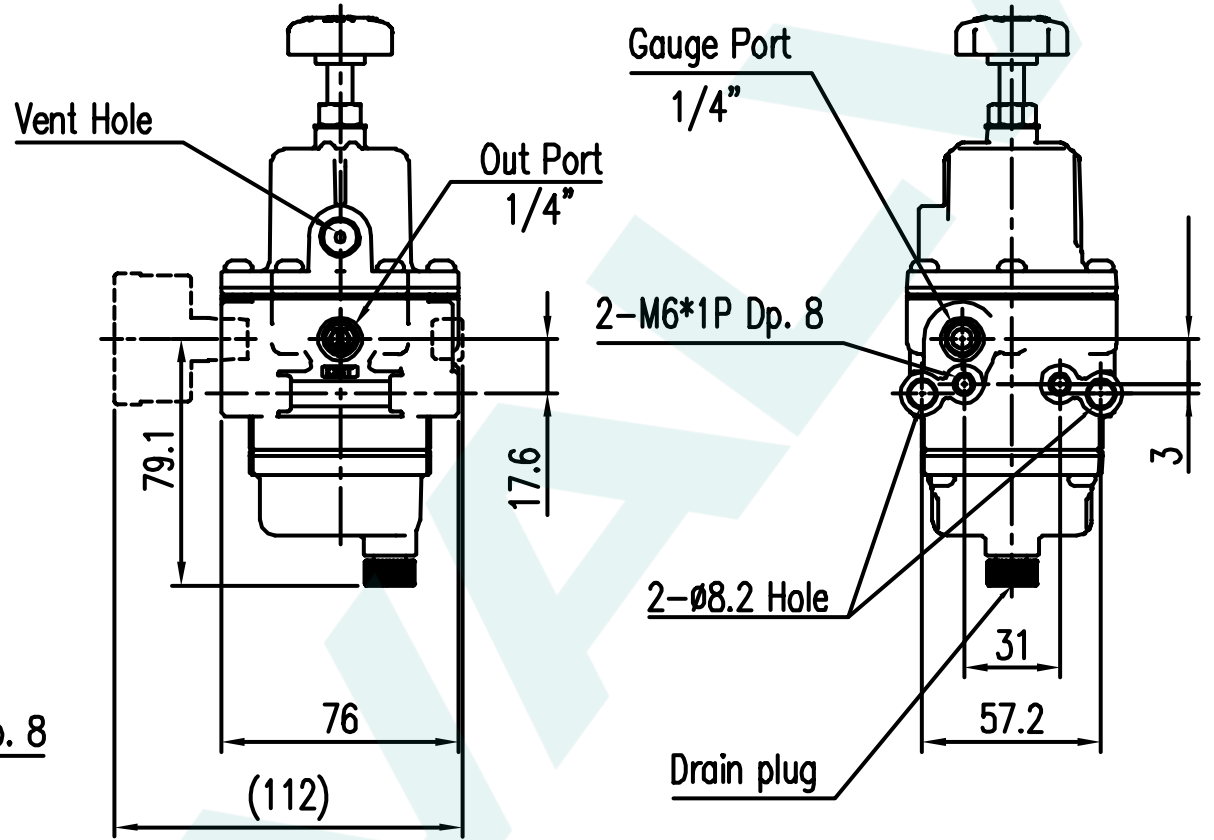
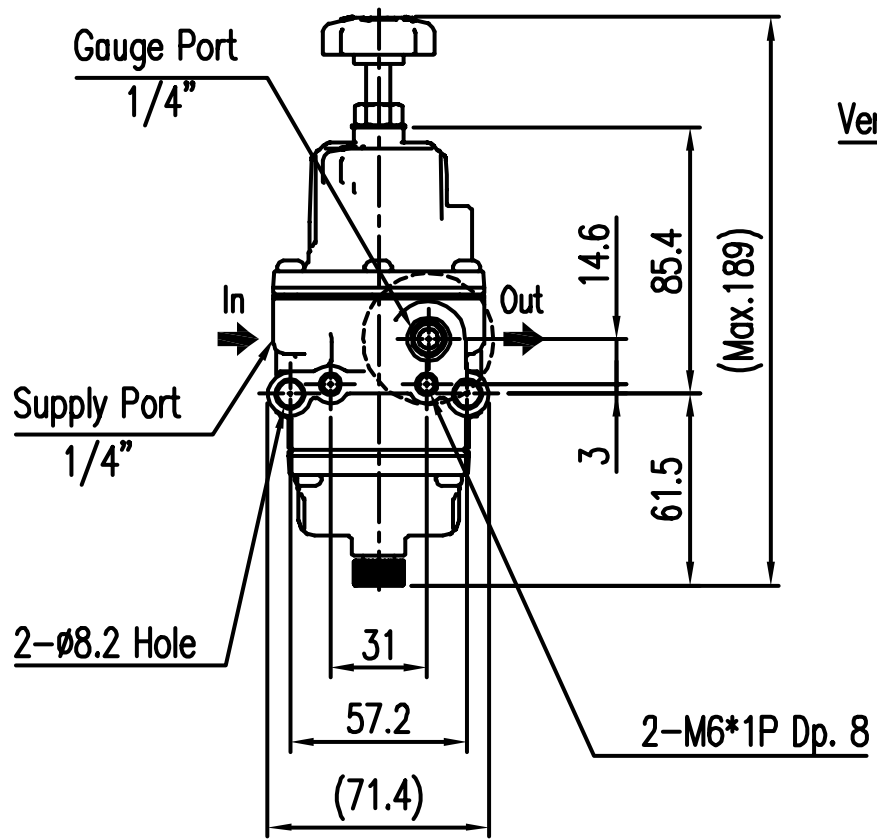
If the pressure on the secondary port exceeds the set pressure, the excess pressure is conveyed through the output pressure sensing hole, causing the diaphragm ⑤ to move upward and create an opening between the diaphragm and the stem ⑥. This allows the excess pressure to be discharged to the atmosphere through the spring case hole ③ to maintain the set pressure within the desired range.

In summary, the air filter regulator functions to maintain the desired pressure level at the secondary output port by using the adjusting spring and diaphragm mechanism to control the flow of supply pressure. It ensures stable and consistent pressure output, protecting downstream devices and systems from pressure fluctuations in the main supply air.

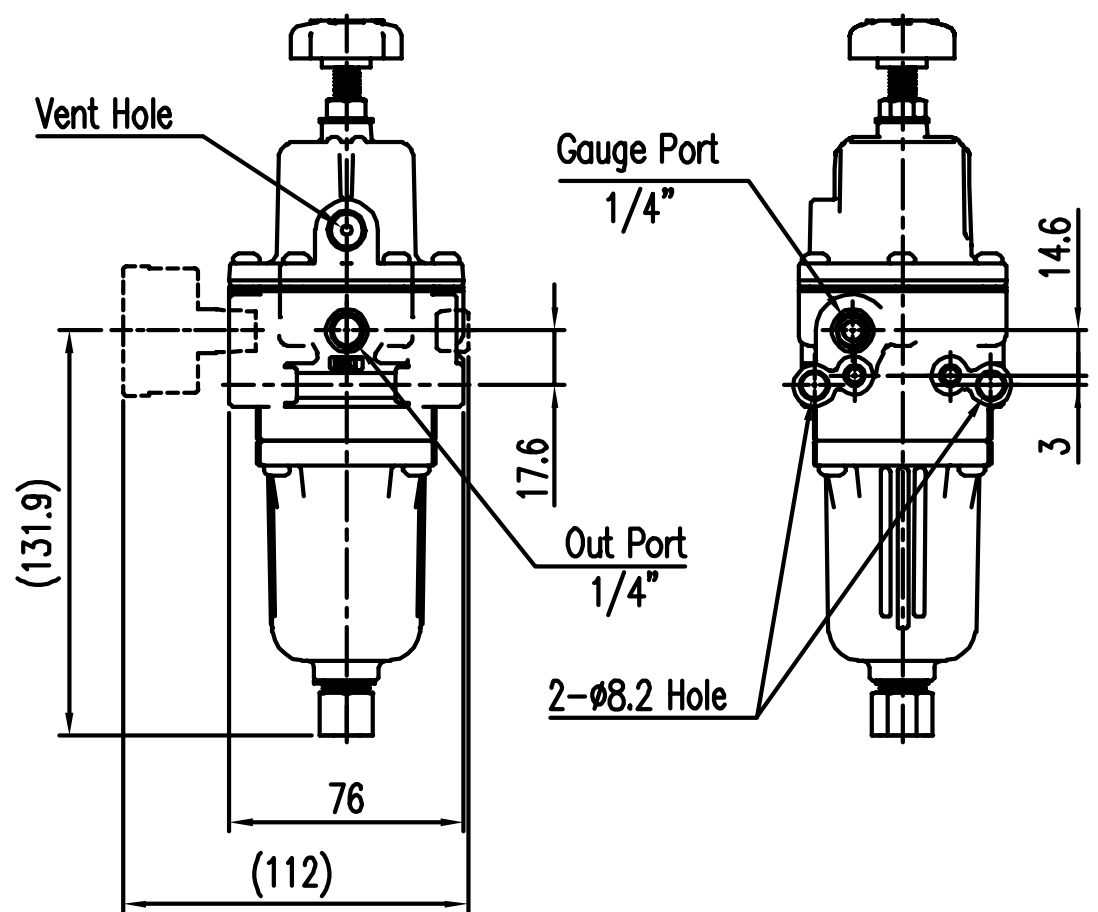
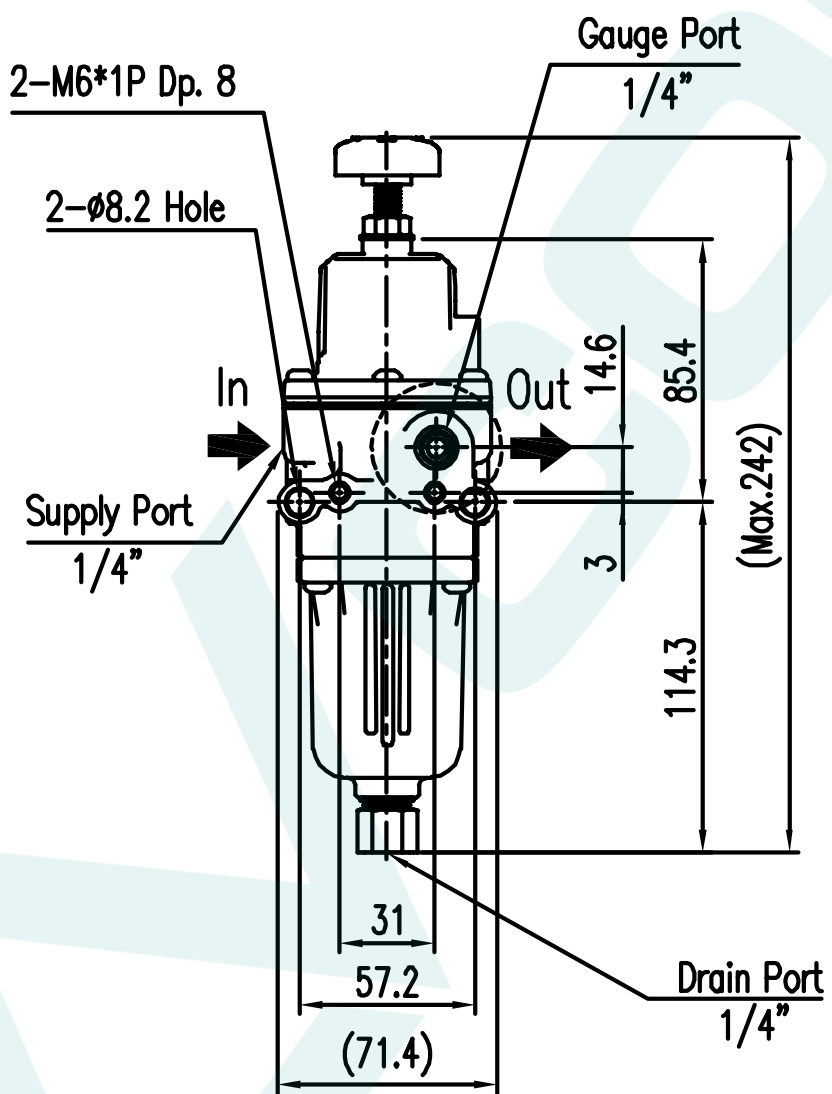


PRODUCT DIMENSION

YT-200 / 205 (MANUAL DRAIN TYPE)



YT-200 / 205 (AUTO DRAIN TYPE) :



INSTALLATION

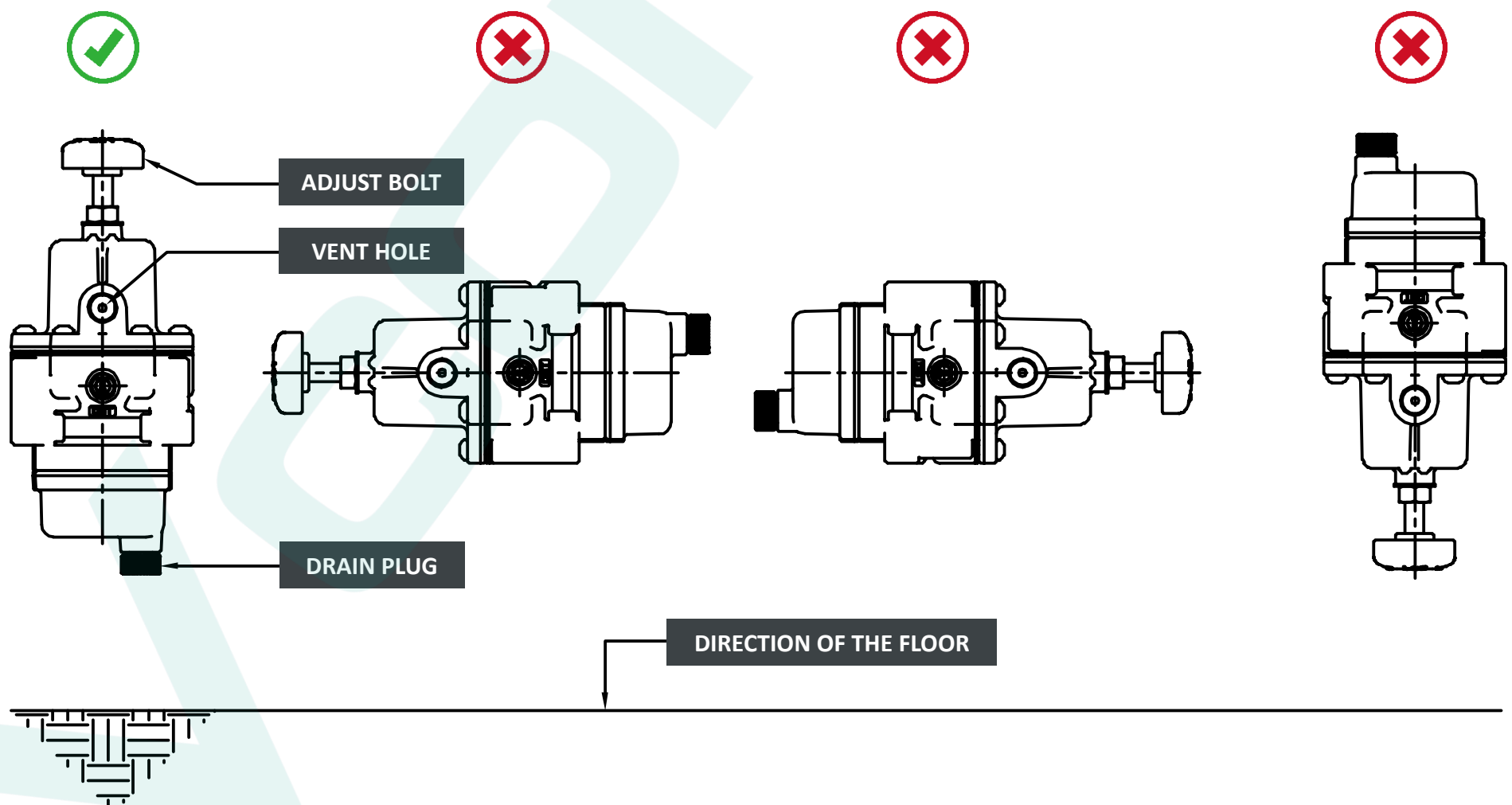
SAFETY IS OF UTMOST IMPORTANCE WHEN INSTALLING A POSITIONER.

Please read and adhere to the following safety instructions :

1. Before starting the installation process, carefully read and thoroughly understand all safety instructions provided in the manual. It is crucial to have the appropriate protective equipment and to strictly adhere to safety regulations to avoid any potential hazards.
2. Once you have set the desired pressure level, securely tighten the nut to prevent the adjustment bolt from turning accidentally. This will help maintain the set pressure and ensure stable operation.
3. Ensure that the supply pressure used is clean air. Contaminated air can adversely affect the performance and longevity of the unit, leading to potential issues in its operation.
4. To prevent any damages or accidents, always operate the unit within the specified parameters mentioned in the manual. Operating the unit beyond its specified limits can result in severe consequences, including damage to the product or even personal injury.
5. During handling, installation, and operation, exercise extreme caution to avoid any impact on the product. Even a slight impact can lead to malfunctions or failures, so it is crucial to handle the unit with care.
6. For regular maintenance, make sure to periodically open the drain plug located at the bottom of the unit to discharge any accumulated condensate. This will help maintain optimal performance and prevent potential issues caused by moisture build-up.
7. The unit's exhaust is directed to the atmosphere through a small exhaust hole (vent hole) located next to the spring case. Ensure that this vent hole remains unobstructed at all times to allow proper exhaust and prevent internal damage.
8. During installation, ensure that the adjustment bolt faces upward to avoid any potential risks. Improper installation may shorten the product's life cycle and may allow moisture and foreign substances to enter, leading to damage to internal components.

By diligently following these safety guidelines, you can ensure the smooth and reliable operation of the unit while prioritizing the safety of everyone involved.

If you have any questions or concerns regarding safety or the unit's operation, please do not hesitate to contact us for assistance. Your safety is paramount, and we are here to help in any way we can.



INSTALLATION

INSTALLATION :

The air filter regulator offers flexible installation options based on field conditions. It serves the crucial function of supplying consistent air pressure to various devices like positioners, actuators, and solenoid valves. The product can be easily installed using pneumatic piping without the need for an additional bracket. However, it is essential to follow some important steps before connecting it to ensure optimal performance:

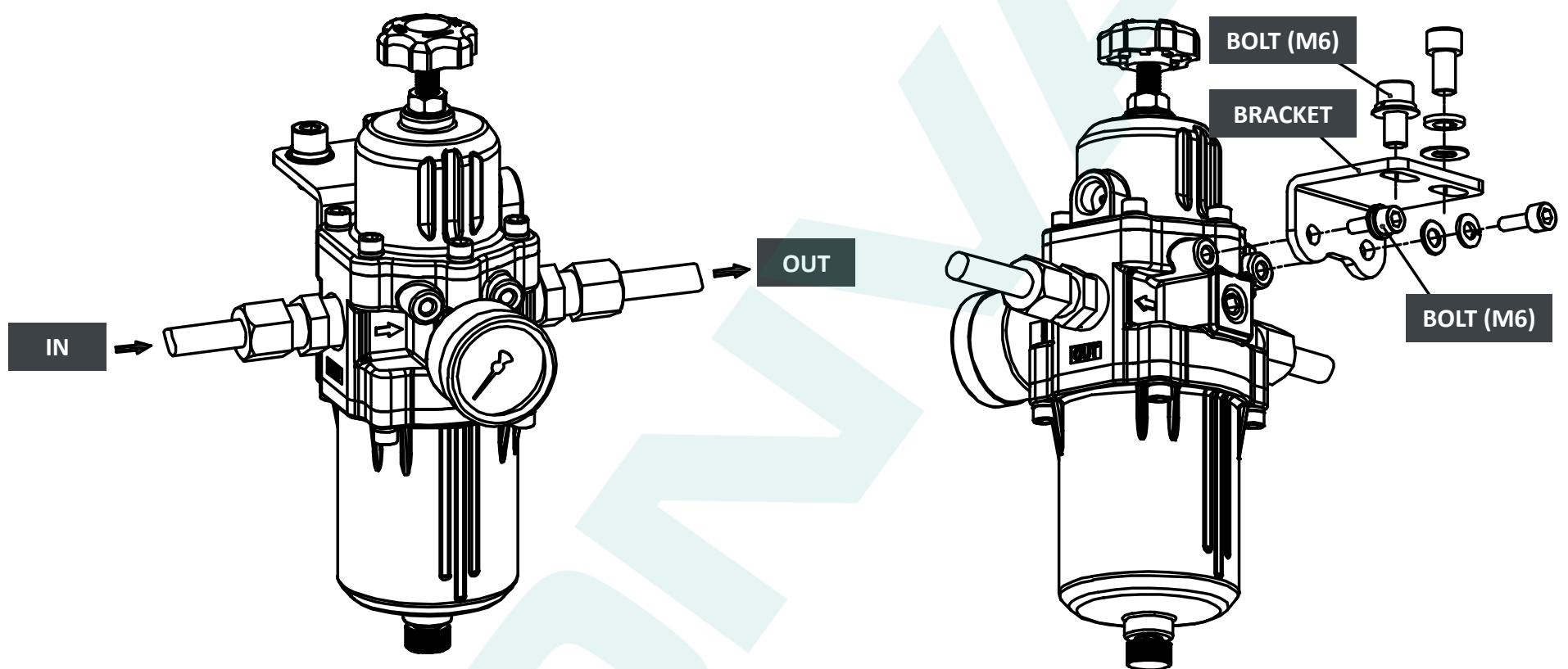
1. Precautions for Pneumatic Piping:

- Before connecting the air filter regulator, thoroughly blow out all piping to remove any impurities or debris that could potentially enter the product.
- Verify that the piping is of the correct size, meeting the required capacity, to ensure smooth and efficient air flow.

2. Installation with Brackets:

- If you require brackets for installation, you can customize the bracket type based on the dimensions mentioned in the diagram on the page 5.
- Each model may have specific bracket requirements, so please refer to the product manual or specifications for detailed information.

In conclusion, the air filter regulator provides flexibility in installation, catering to both bracketed and non-bracketed setups. Following proper precautions during installation and adhering to the product's specifications will ensure the effective and trouble-free operation of the air filter regulator in your pneumatic system.



HOW TO USE :

1. Before supplying air pressure to the product, make sure to turn the adjustment bolt counterclockwise until the adjustment spring is not compressed at all. This initial setting ensures a neutral starting point for calibration.
2. Install a pressure gauge on the output port (OUT) of the air filter regulator. This pressure gauge will provide a clear display of the output pressure, which is the pressure that is regulated from the primary supply pressure (IN).
3. Connect the output port to the desired ball valves or other devices using appropriate fittings. Similarly, connect the supply air pressure to the input port (IN) of the air filter regulator.
4. Now, it's time to calibrate the air filter regulator :
 - Gradually turn the adjust bolt clockwise to increase the secondary pressure until it reaches the desired set value. The pressure gauge on the output port will indicate the output pressure level.
 - Once the desired secondary pressure is attained, carefully turn the adjusting nut of the adjust bolt clockwise to lock it firmly. This ensures that the adjust bolt remains fixed in its position and prevents any unintentional adjustments.

By following these steps, you will achieve precise and stable pressure regulation with the air filter regulator. Proper calibration ensures that the device functions optimally and maintains the desired pressure level for your pneumatic system.

Remember to observe the pressure gauge periodically to verify that the output pressure remains within the desired range. If any adjustments are required in the future, repeat the calibration process following the steps outlined above.

Maintenance is essential to ensure the proper functioning and longevity of the air filter regulator.

REPLACEMENT OF PARTS:

YT-205 models require regular maintenance, and if needed, the following part should be replaced:

Assembly diaphragm: Replace with 1 unit of new diaphragm assembly.

DRAINING CONDENSED WATER :

To drain out condensed water from the air filter regulator, follow these steps :

- Shut down the main supply pressure to the product completely or adjust the pressure level to 1 kgf/cm² or below.
- Slowly open the drain plug to allow the condensed water to drain out.
- After draining, ensure to close the drain plug securely.

REPLACING ASSEMBLY DIAPHRAGM :

When replacing the diaphragm assembly, take the following precautions :

- Shut down the main supply pressure to the product completely or adjust the pressure level to 1 kgf/cm² or below.
- Loosen the nut of the adjust bolt and turn the adjust bolt counterclockwise until the output pressure drops to zero.
- Unscrew the six bolts on the spring case assembly diagonally.
- Carefully replace the diaphragm assembly with a new one.
- Lock the six bolts back on the spring case assembly, being cautious not to damage the diaphragm due to excessive torque during tightening.
- Increase the supply pressure to the air filter regulator and turn the adjust bolt clockwise to set the "set pressure." Once set, tighten the nut of the adjust bolt securely.

Following these maintenance procedures will help ensure the optimal performance and longevity of your air filter regulator.

Regular maintenance and replacement of the diaphragm assembly will contribute to the reliable operation of your pneumatic system.

If you have any questions or need further assistance, please don't hesitate to reach out to us. Our dedicated support team is ready to help you with any concerns related to the maintenance of your air filter regulator.