Instruction and Operating Manual

Lock-Up Valve

LU Series

Power-Genex Ltd.

1. Introduction

1.1 General Information

This instruction and operating manual contains important notices the user should observe for a personal safety as well as for prevention against damage to property. Notices concerning a personal safety are highlighted by a safety alert symbol (⚠).

1.2 General Safety Instructions

This product was delivered out from the factory without any safety problems after a strict quality management process. In order to maintain this status and ensure a safe operation of this product, please be sure to read all safety instructions carefully described in this manual and observe safety information and symbols without exception.

1.3 Correct Usage

① This product can be used only for purposes specified in these instructions. If they are not definitely stated in these instructions, the user is fully responsible for all changes and retrofits to this product.

② This product is operated by air. So a supply air should be compressed and free of oil, moisture, water and particles.

③ Make sure of the installation order when installing other valve accessories (air volume booster and solenoid valve) together.

1.4 Range and Responsibilities of Personnel

① Qualified personnel should be trained, instructed or authorized in operating and maintaining products and systems according to the safety regulations for electrical circuits, high pressures and hazardous atmosphere.

② They should be trained or instructed in maintenance and use of proper safety equipment according to the safety instructions.

③ They should have a good experience to identify risks and avoid potential hazards when working with these products and systems.

1.5 Transport and Storage

Make sure that damages during delivery are prevented through proper packaging.

Products and replacement parts should be returned in their original packaging. If the original packaging is no longer available, please ensure that they should be packaged to provide sufficient protection against transport.

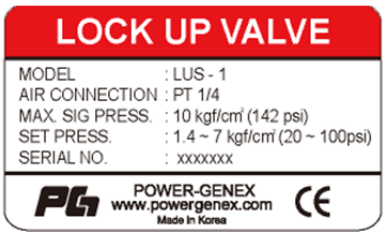
2. Overview

Dependable safety valve that retains a set supply air pressure and guarantees a steady process control when a supply air is suddenly failed by accident and its pressure becomes lower than a set pressure.

3. Specifications

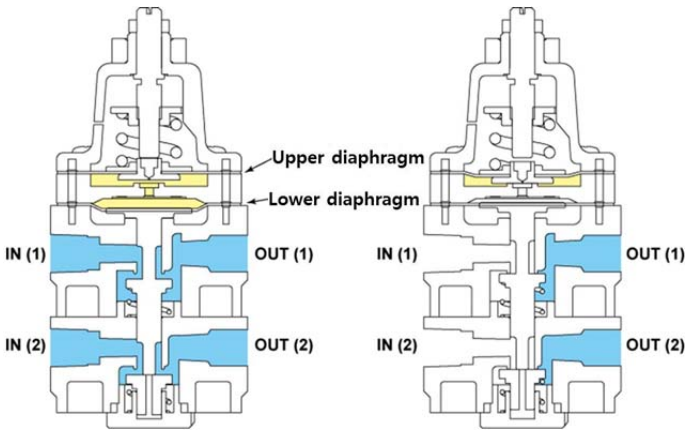
	LUS (for single acting)	LUD (for double acting)
Max. Supply / Output Pressure	10 kgf/㎠ (105 psi)	
Set Pressure Range	1.4 ~ 7 kgf/㎠	
Max. Signal Pressure	7 kgf/㎠ (105 psi)	
Flow Capacity (Cv)	0.9	
Operating Temperature Range	-20 ~ +70℃	
Pneumatic Connections	Rc 1/4 or NPT 1/4	
Hysteresis	0.1 kgf/㎠	
Material	Aluminum diecast	
Weight	0.6 kg	0.8 kg

4. Part Numbering System and Nameplate Description



	LU -	X	X	
Acting Type	For single	S		
	For double	D		
Pneumatic Connections	Rc 1/4		1	
	NPT 1/4		2	

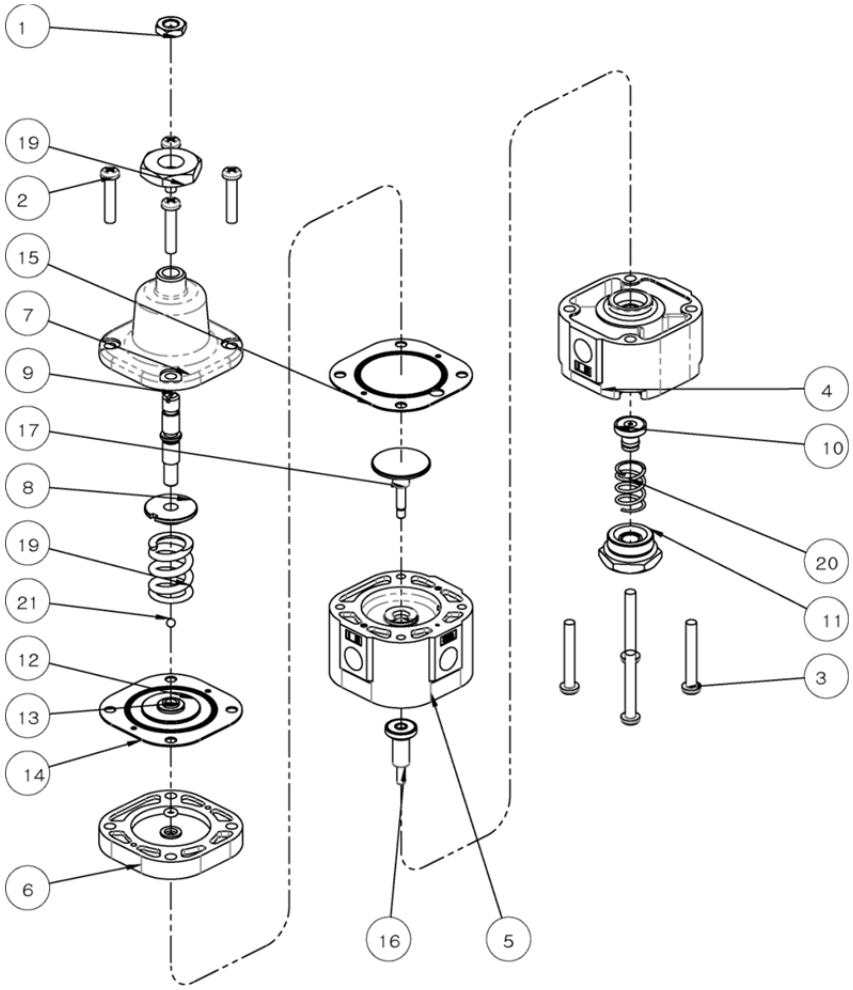
5. Principle of Operation



When the pressure of SIG (supply air in yellow) is stronger than a force of spring set, the pressure of SIG pushes a spool from the upper diaphragm to the lower diaphragm and it makes the pathways of In port and Out port open so that air can pass through under a normal situation.

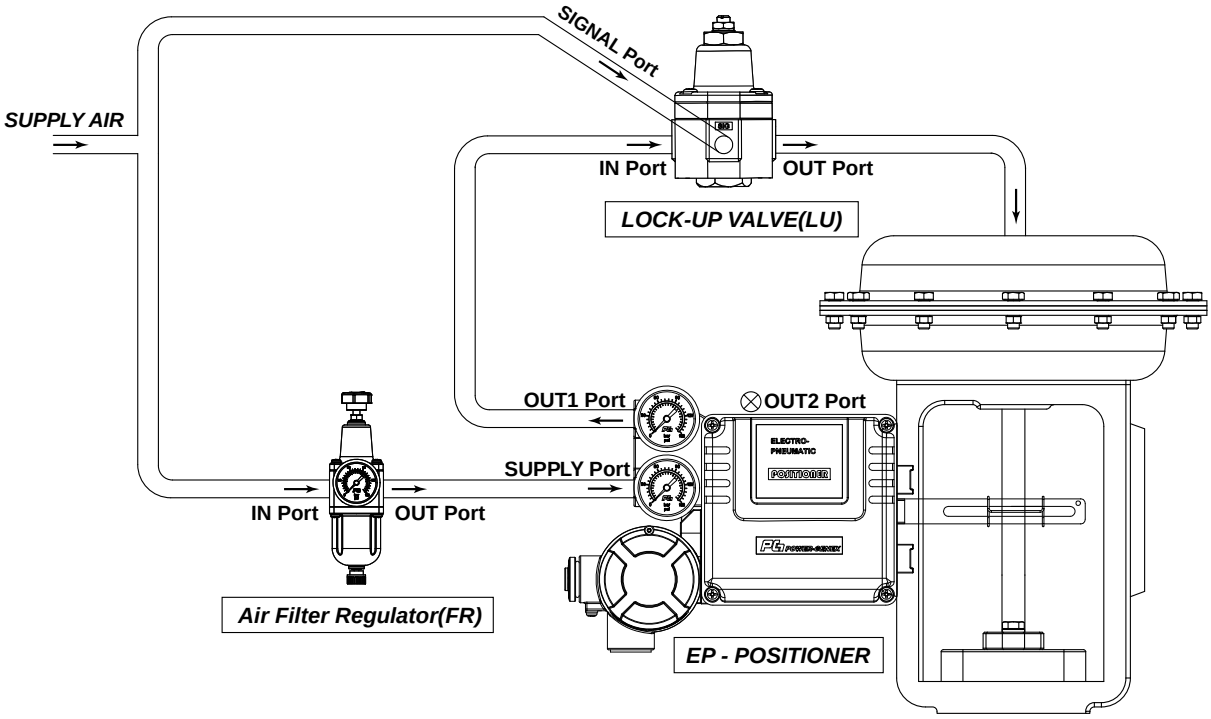
But, when the pressure of SIG is weaker than a force of spring set, the upper diagram blocks the lower diaphragm and the spool also blocks the pathways of In port and Out port so that the pressure of OUT can continue to maintain without loss of air pressure.

6. Parts

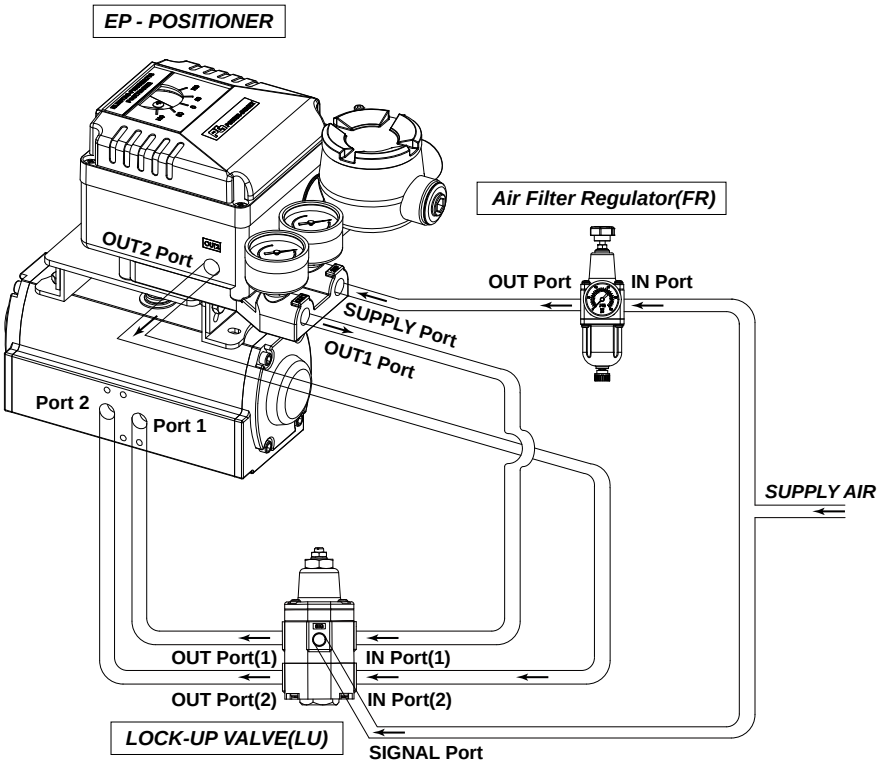


No.	Description	No.	Description
1	Lock Nut	12	Diaphragm fix ring 1
2	M5 X 25	13	Diaphragm fix ring 2
3	M5 X 35	14	Upper diaphragm
4	Double body	15	Lower diaphragm
5	Single body	16	Double disk seat
6	Exhaust ring	17	Push shaft
7	Cover	18	Mounting Nut
8	Spring seat	19	Adjust spring
9	Adjust screw	20	Return spring
10	Single disk seat	21	Ø4 ball
11	Plug		

7. Applications

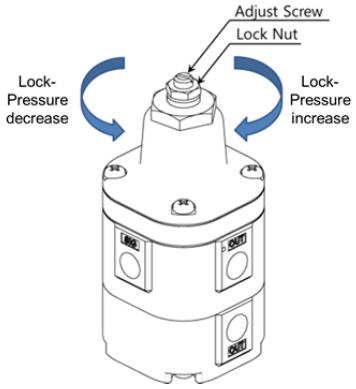


<Mounting on single acting linear actuator>



<Mounting on double acting rotary actuator>

8. How to Set

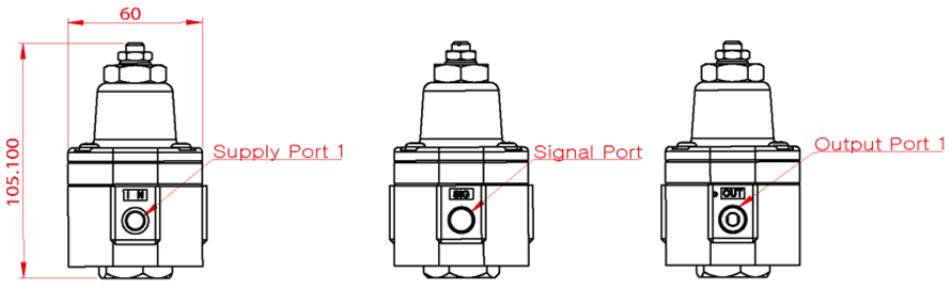


1) Set the positioner.
2) Set a supply air pressure to a desired air pressure that the lock-up valve works at.
3) Turn the adjust screw clockwise until the lock-up valve works.
4) While the lock-valve is working, supply any of 4-20mA input signals and turn the adjust screw counter-clockwise. The valve will start working. Then, turn the adjust screw clockwise a little.

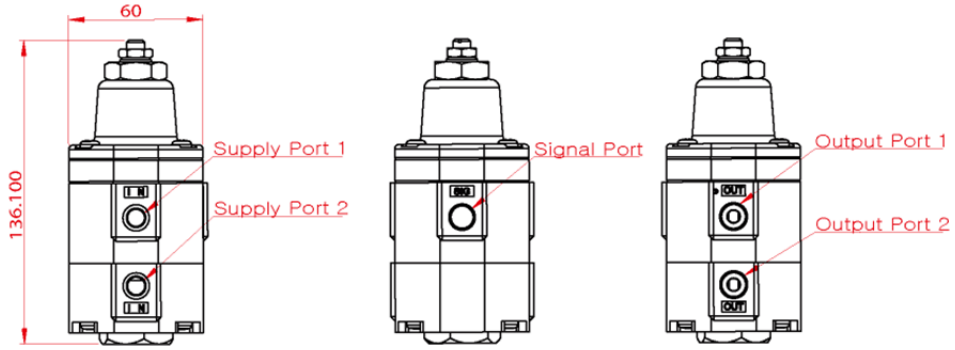
※ Change a supply air pressure and make sure of a proper operation again before using.
※ Be sure to fix the lock nut after a setting is completed.

9. Dimensions

< LUS >



< LUD >



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