

HOW TO ORDER

KGCA **20** - **02** **G** - **01** **02** **01**

FR + L SERIES

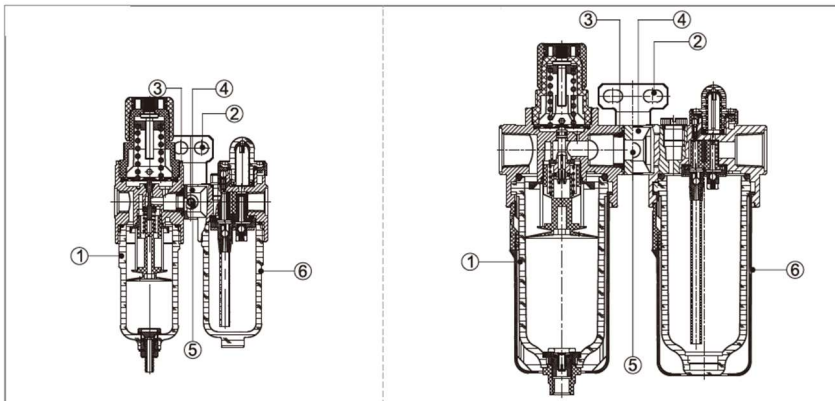


	Specification	Symbol	Description
1	Body Size	20	Series 2000
		40	Series 4000
2	Port Thread Type	Nil	PT
		G	G
		N	NPT
3	Thread Size	01	1/8
		02	1/4
		03	3/8
		04	1/2
4	Attachment	Nil	Without Pressure Gauge
		G	Pressure Gauge
5	Drain Type	Nil	Manual Drain
		A	Inbuilt Auto Drain
6	Set Pressure Range	Nil	0.5 to 8.5 kg/cm2
		1	0.2 to 2 kg/cm2
		2	0.2 to 4 kg/cm2
7	Flow Direction	Nil	Left to Right
		R	Right to Left

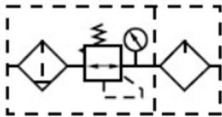
Internal Structure

KGCA2000

KGCA4000



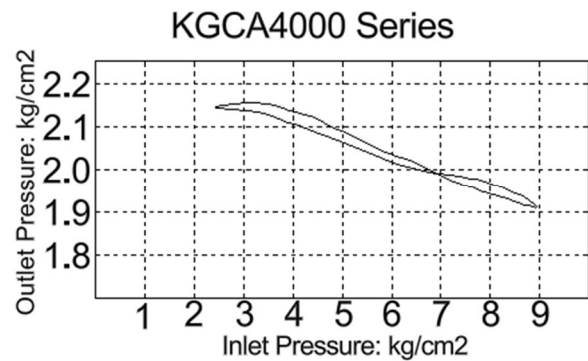
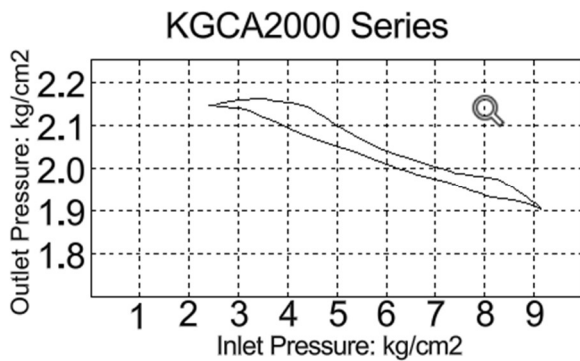
No	Item Description
1	Filter Regulator
2	Bracket
3	Gasket
4	Fixed Bracket
5	Screw
6	Lubricator



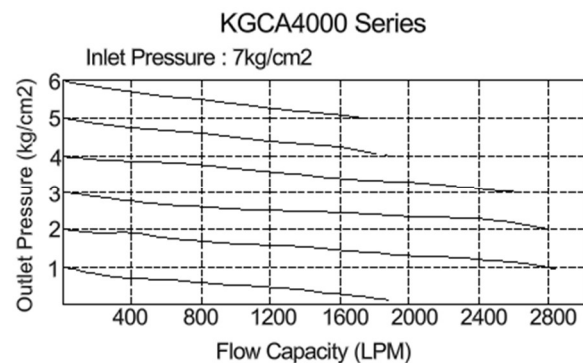
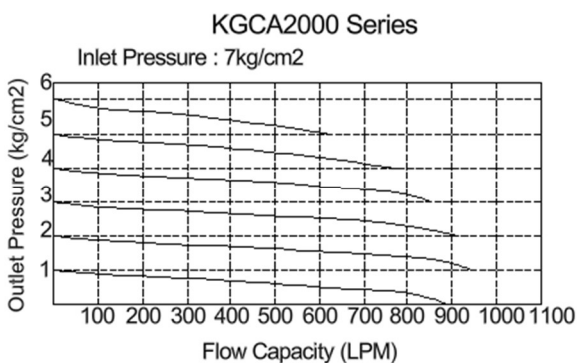
Standard Specification

Technical Specifications (KGCA)		
Model	KGCA2000	KGCA4000
Fluid	Air	
Filtration Precision	5 μ m or 40 μ m4	
Pressure Gauge Port	PT 1/8	PT 1/4
Bowl Protection	NA	Metal Cover
Set Pressure Range	Automatic and Differential Pressure Drain Type: 1.5~9 kg/cm ² .Manual drain type: 0.5~9 kg/cm ²	
Max Operating Pressure	10 kg/cm ²	
Proof Pressure	15 kg/cm ²	
Operating Temp.	-5~70°C(unfrozen)	
Filter Cup Capacity	15CC	60CC
Lubricator Cup Capacity	25CC	90 CC
Recommended lubrication oil	ISOVG32 or equivalent	
Weight	700 g	900 g

Pressure Chart

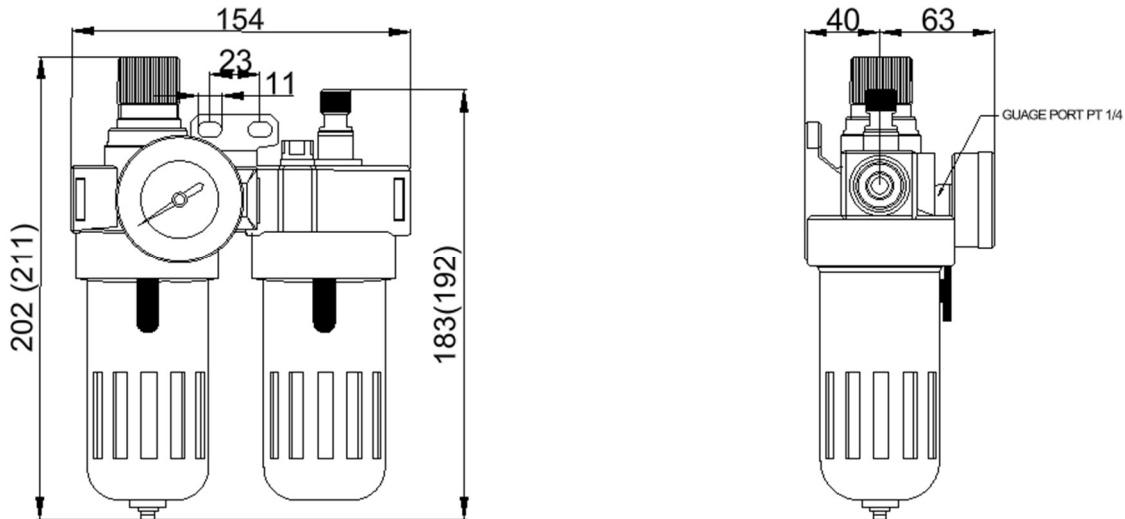


Flow Chart



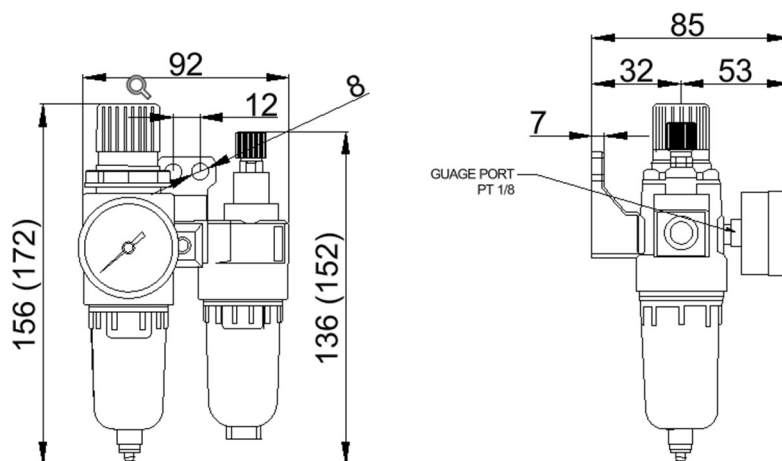
Dimensions

KGCA4000 Series



Note: () dimension for Auto drain.

KGCA2000 Series



Note: () dimension for Auto drain.

Safety and Installation Precautions

- **Pressure and Temperature Limits:**

- **NEVER** operate the FRL unit at pressures or temperatures outside the range specified. Exceeding these limits can cause damage, malfunction, or even rupture of components.
- Always ensure the maximum inlet pressure is appropriate for the unit.

- **Vertical Installation:**

- Install the FRL unit **vertically** with the bowls facing downward. This is crucial for the proper function of the filter drain and for checking the fluid levels.
- Adhere to the air **flow direction** marked on the unit (Filter, Regulator & Lubricator).

- **Shut-off Valve and Pressure Release:**

- Install a **manual isolation/shut-off valve** directly upstream of the FRL unit.
- **Always turn off the air supply and bleed all residual pressure** from the system before installing, removing, adjusting, or performing any maintenance. Air under pressure can be dangerous.

- **Chemical and Environment Exposure:**

- If the bowls are made of **polycarbonate** (standard transparent plastic), keep them away from organic solvents, chemicals, synthetic oils, alkali, or thread-locking solutions, as these can cause the bowl to crack or rupture. Use a metal bowl in harsh environments.
- Do not expose the unit to direct sunlight, radiant heat, heavy vibration, or corrosive gases (like sea water, steam, or strong chemicals).

- **Tightening:**

- Use the **correct tightening torque** for all threads and fittings to prevent leaks and damage to the unit. Avoid allowing pipe thread sealant to enter the interior of the components.

Operation and Maintenance Precautions

- **Air Quality:**

- The fluid must be **clean, compressed air**. Do not use compressed air that contains corrosive gases or harmful chemicals.
- Take measures (like installing an aftercooler or air dryer) to ensure the compressed air doesn't contain a large amount of drainage (water), as excessive moisture can cause malfunction.

- **Filter (F) Precautions:**

- **Drain the Filter Bowl Regularly:** Condensate (water) must be drained daily or at the start of each shift, especially for manual drain types. If the water level reaches the baffle, it can be carried downstream, causing corrosion.

- **Check and Replace the Element:** Periodically inspect the filter element. Replace it if you notice a significant drop in outlet pressure or restricted airflow, as this indicates clogging.
- **Regulator (R) Precautions:**
 - **Set Pressure Correctly:** Set the output pressure to the required level for the downstream equipment, typically using the adjustment knob and monitoring the pressure gauge. **Do not exceed the maximum rated pressure** of the downstream equipment.
 - **Avoid Frequent Cycling:** Do not use the unit in a way that requires frequent filling or releasing of pressure, as this can stress the components.
- **Lubricator (L) Precautions:**
 - **Use the Right Oil:** Only use a non-detergent pneumatic oil or light mineral oil specifically approved for pneumatic systems (often ISO VG32 viscosity). **Never use motor oil or hydraulic oil.**
 - **Monitor and Refill Oil:** Check the oil level regularly (daily/weekly) and refill as needed. Operating the system dry will accelerate wear.
 - **Adjust Flow:** Set the oil flow rate (drops per minute) according to the downstream equipment's needs—too little causes wear, and too much can lead to residue and clogging.
 - **Avoid Over-Lubrication:** If your pneumatic tools or valves are "oil-free" or self-lubricating, you should **not** use the lubricator component or opt for a Filter/Regulator (FR) unit instead.