

## Smart mechanical flow control with the REG from Kobold Instruments.

One of the main benefits of Kobold's REG flow restrictors is that they provide precise mechanical flow control and conditioning, so operate without any electrical power supply. They also maintain the constant flow rate of fluids with great accuracy ( $\pm 0.2$  L/min) regardless of fluctuating inlet pressure. By using an impressively simple but unique principle, combined with precision engineered components the REG delivers quality and reliability ensuring lifelong and maintenance-free use.

### How it works

With the REG the constant flow is realized by means of stainless steel spring plates (the so-called control orifice) and a ring or control funnel arranged thereafter. Depending on the differential pressure, the gap between control panel and ring varies. This keeps the flow rate constant. Depending on the flow rate, one to four control panels are used in different arrangements.

### In comparison

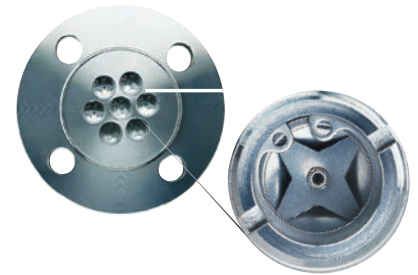
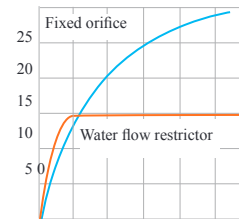
The REG is unlike restrictor products from other manufacturers. Usually they use a combination of rubber and metal discs, each with a round cavity in the middle. Water pressure compresses the elastic rubber disc, which changes the diameter of the cavity and thus regulates the flow; however, this only works as long as the rubber elasticity is intact! Due to temperature, chemical influence and aging, the molecular structure of the rubber changes over time and as a result, the elasticity is lost, causing hardening of the rubber and therefore the flow cannot be regulated or guaranteed. This condition becomes problematic and above all expensive if this characteristic is underestimated or not pointed out.

With the REG the maximum flow rate per controlling element is 40 l / min. There are options available with multiple elements in threaded and flanged connections, available in brass and stainless steel with a maximum differential pressure of 10 BAR. Thread connection sizes are  $\frac{1}{2}$  and  $\frac{3}{4}$  male and female. The available flow rates (Single Element) are: 0,5, 1,2,3,4,6,10,12,14,16,18,20,25,30 and 40 l/min.

With the REG, Kobold maintains a high degree of success in a wide range of industrial applications around the world.

Differential pressure curve

l/m 30



REG Simple and 6-fold

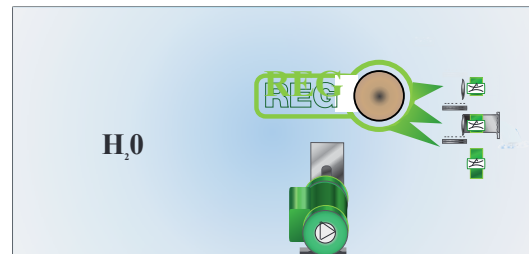
(Diagram: Example of a flow rate of 15 l / min in relation to a fixed orifice)

REGs are ideal for those applications where a constant flow rate is needed despite pressure fluctuations in the system, e.g. by switching on and off of consumers.

Fields of application for the Kobold flow restrictor REG:

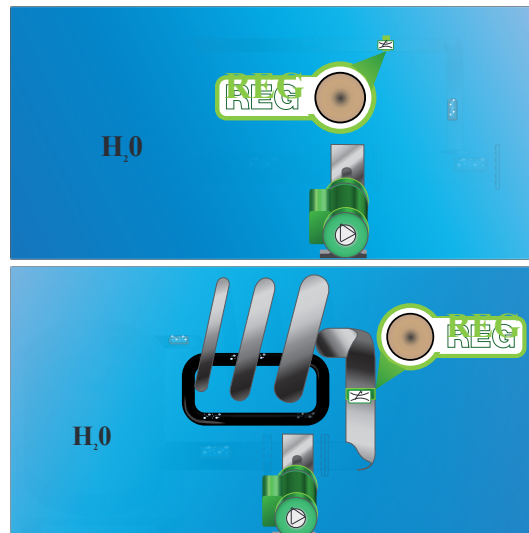
#### Water supply

- Even water distribution



#### Pump Protection

- For protection against overheating during zero flow, water hammer and cavitation.

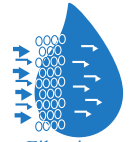




Heat exchange



Cooling circuit



Filtration



Humidification



Dosing



Livestock



Watering



Eyewashing



Building tech.

## Remote heating distribution

- Optimum flow rates in the heat exchanger circuit.

## Industrial applications

- Constant maintenance of different oil flow rates in a block system for lubrication in wind turbines.
- Cooling and lubrication of CNC tooling and cutting machines, as well as various machining centers.
- For cooling and maintaining the temperature of aluminum diecasting molds in car engine production or packaging machines for the food and pharmaceutical industries.
- Cooling circuit X-ray machines, laser machines, photovoltaic systems.
- Wire welding machines, coating and vacuum systems, induction hardening machines.
- Water circuits for heating and cooling systems.
- Use in printing machines for spray dampening. The REG limits the hot water consumption of the printing press in front of the spraying unit.
- For protection against manual incorrect settings of the flow in machines and plants.
- In areas with pressure fluctuations, REG ensure required water supply to machinery and equipment.
- Dust suppression via constant flow through sprinkler.
- Dosing Applications
- For optimum mixing of liquids
- Accurate chemical mixing

## Fire brigade and fire protection applications

- Flow rate limitation and even distribution to all strands.
- Accurate foaming agent dosing.

## Water supply / agriculture / irrigation

- Desired water distribution to all stables during livestock farming.
- Optimum flow rates at all delivery points.
- Irrigation control and irrigation systems.

## Emergency shower systems in industry

- Flow restrictors provide the required amount of water on all emergency showers

## Eyewash

- Flow rate limiters prevent excessive amounts of water.

## Water treatment

- Backwash flow control avoids fluid loss.
- UV sterilization: Controlled flow rate for bacterial destruction.

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