

# With reliable gas control, we can help create an affluent society



The structure, function, and material of the system product are closely checked to ensure high safety.



We continuously pursue the ideal gas combustion components, and propose highly reliable systems based on safety.



We contribute to a society that can develop sustainably, adapting to carbon neutrality and clean energy.

## Water coolers/Heaters



Building/factory air conditioning, aquarium, etc.

## Boilers



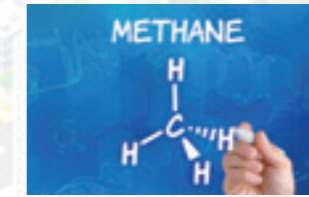
Hospitals, thermal power plants, food plants, etc.

## Industrial furnaces



Incinerators, industrial product coaters, dryers, etc.

## Methanation



Control of greenhouse gases, decarbonization, etc.

## Burners



Industrial components, equipment, agriculture, etc.

## Clean energy



Hydrogen extraction, hydrogen combustion, etc.

## Medium pressure gas combination valve

### GRV Series (Japan only)

- Large flow rate/space saving
- Supports up to medium pressure B (up to 0.3MPa)
- Slow open/quick shut with hydraulic drive
- Wide pressure adjusting range (10kPa to 150kPa)
- With indicator
- Connected delivery eliminates complicated piping work

## Intermediate pressure gas combination valve

### GHV Series

- Supports up to intermediate pressures (up to 50KPa)
- Supports dual gas cutoff by incorporating two solenoid valves
- Space saving and reduced piping hours are possible by integration of solenoid valve + governor + solenoid valve
- Port size change by replacing the flange is possible

## Gas cutoff valve

### VNA/VLA Series

- Hydrogen gas compatible option is added to the working fluid
- Supports up to intermediate pressures
- Supports a wide range of bore sizes (Rp1/2 to 2 1/2)
- Slow open prevents the burner from going out (VLA)

## Fluid operated 2-position cutoff valve

### HK1 Series

- Supports intermediate pressure to medium pressure gas
- With gas flow rate adjustment function (excluding size 125 to 200A)
- With indicator for checking valve open/close state

## Hydrogen option

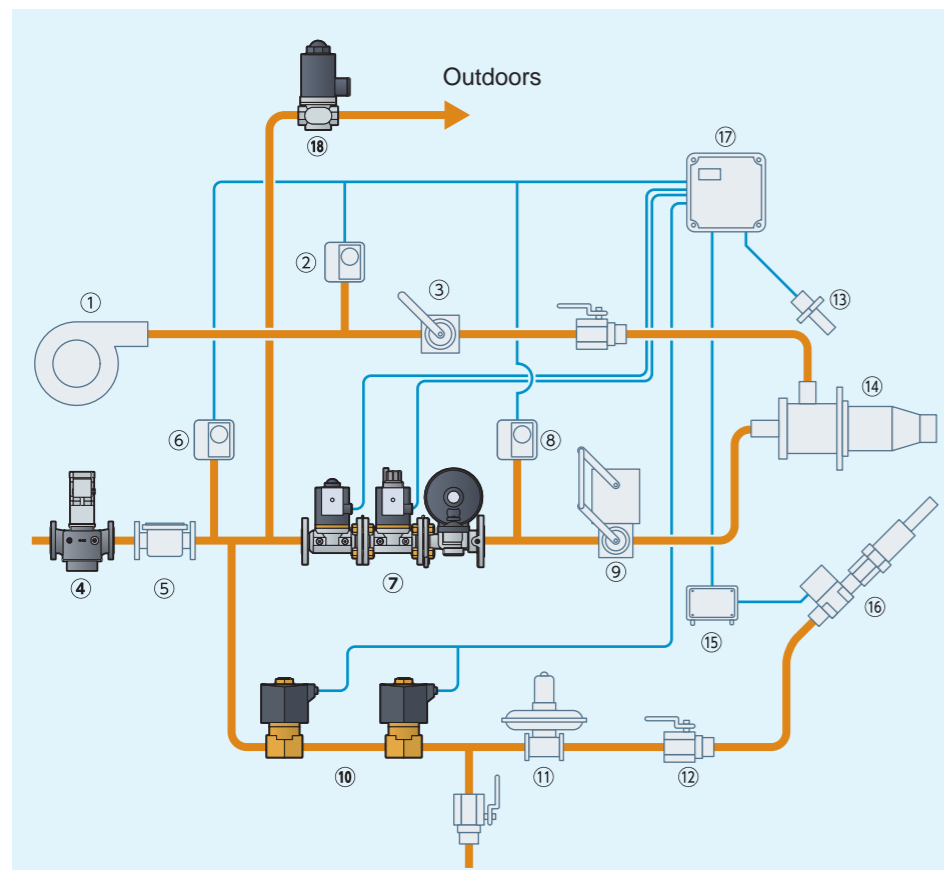
These options guarantee the use of hydrogen gas in low pressure, intermediate pressure, and medium pressure series.



In pursuit of system safety from every angle, CKD offers

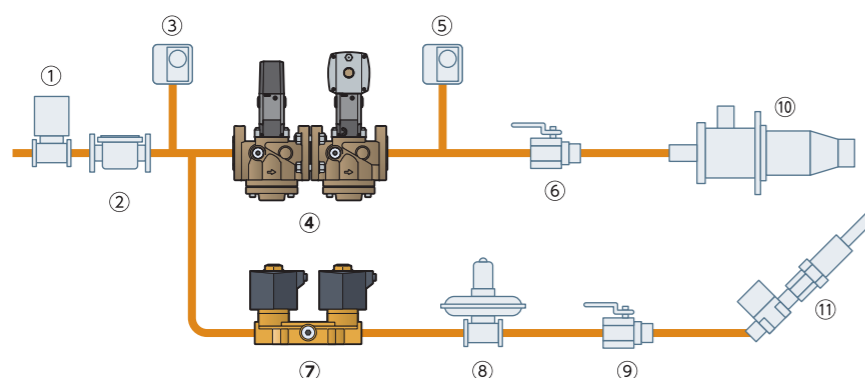
components required for gas combustion systems.

## Example of system circuit



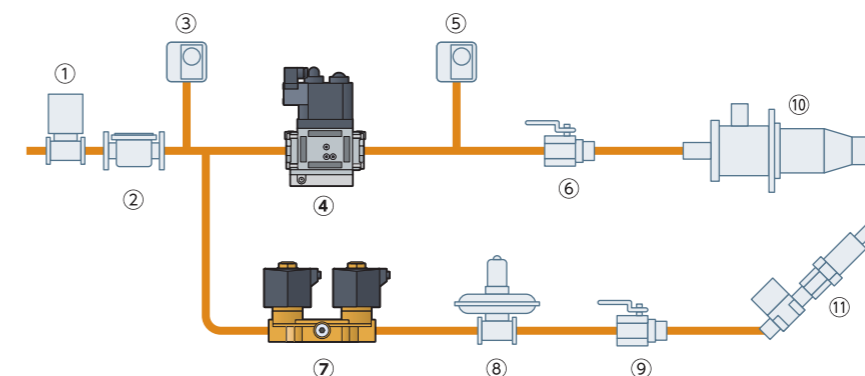
- ① Air blower
- ② Air pressure switch (lower limit)
- ③ Butterfly valve
- ④ Source valve HK1
- ⑤ Filter
- ⑥ Gas pressure switch (lower limit)
- ⑦ Safety shutoff control system TAC-25
- ⑧ Gas pressure switch (upper limit)
- ⑨ With control motor Butterfly valve
- ⑩ Solenoid valve (pilot system) AB4X
- ⑪ Governor (pilot system)
- ⑫ Gas control valve
- ⑬ UV phototube
- ⑭ Burner (pre-mixing)
- ⑮ Ignition transformer
- ⑯ Pilot burner
- ⑰ Automatic burner controller
- ⑱ Solenoid relief valve VNR

### Medium pressure circuit



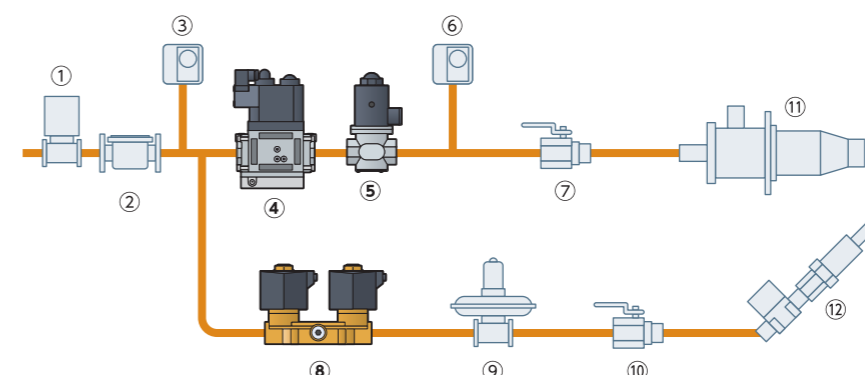
- ① Valve
- ② Filter
- ③ Pressure switch (lower limit)
- ④ Medium pressure gas combination valve GRV Series
- ⑤ Pressure switch (upper limit)
- ⑥ Gas control valve
- ⑦ Solenoid valve AB4X
- ⑧ Governor
- ⑨ Gas control valve
- ⑩ Burner
- ⑪ Pilot burner

### Intermediate pressure circuit (combination valve used)



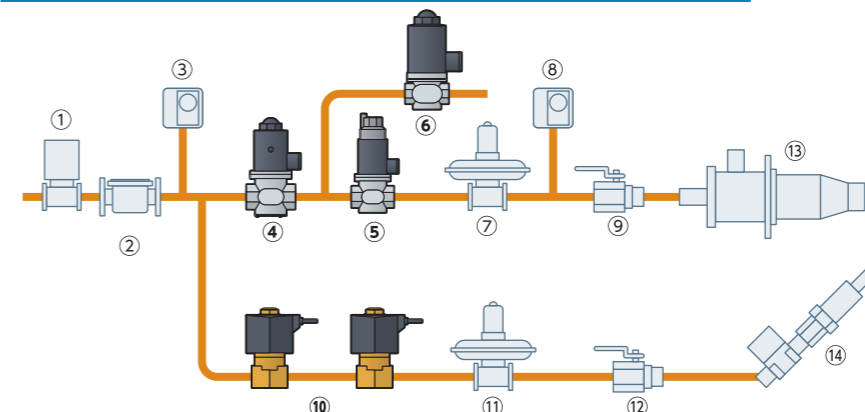
- ① Valve
- ② Filter
- ③ Pressure switch (lower limit)
- ④ Intermediate pressure gas combination valve GHV-G
- ⑤ Pressure switch (upper limit)
- ⑥ Gas control valve
- ⑦ Solenoid valve AB4X
- ⑧ Governor
- ⑨ Gas control valve
- ⑩ Burner
- ⑪ Pilot burner

### Intermediate pressure circuit (combination valve used: Hi-Lo-OFF control)



- ① Valve
- ② Filter
- ③ Pressure switch (lower limit)
- ④ Intermediate pressure gas combination valve GHV-G
- ⑤ Flow rate switching solenoid valve VNA-R
- ⑥ Pressure switch (upper limit)
- ⑦ Gas control valve
- ⑧ Solenoid valve AB4X
- ⑨ Governor
- ⑩ Gas control valve
- ⑪ Burner
- ⑫ Pilot burner

### Intermediate pressure circuit (conventional circuit)



- ① Valve
- ② Filter
- ③ Pressure switch (lower limit)
- ④ Flow rate switching solenoid valve VNA
- ⑤ Gas cutoff valve VLA
- ⑥ Solenoid relief valve VNR
- ⑦ Governor
- ⑧ Pressure switch (upper limit)
- ⑨ Gas control valve
- ⑩ Solenoid valve AB4X
- ⑪ Governor
- ⑫ Gas control valve
- ⑬ Burner
- ⑭ Pilot burner