



Gas solenoid valve equipped with main & bypass flow rate adjustment mechanism, switchable between low and high gas combustion.

## Flow rate switching solenoid valve (quick open) VNA-R/RH Series

- City gas/LPG
- Port size: Rp3/4, Rp1, Rp1<sup>1</sup>/<sub>4</sub>, Rp1<sup>1</sup>/<sub>2</sub>



### Features

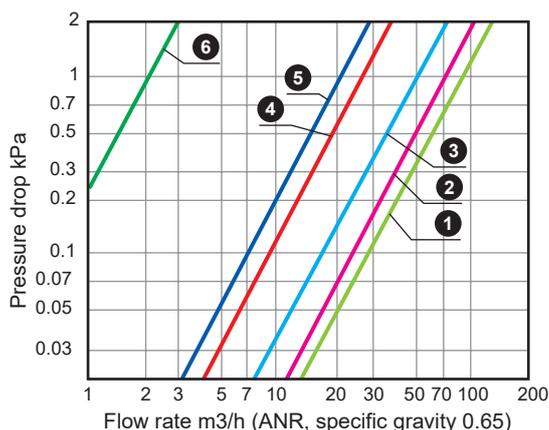
- The DC driven actuator with rectifier has eliminated noise and coil burnout for safety.
- Equipped with main and bypass flow rate adjustment mechanism as well as locking mechanism.
- High combustion gas rate supplied when energized and low combustion gas rate supplied when not energized (there is no closing function).
- Amount of gas can be arbitrarily adjusted with flow rate adjustment mechanism.
- Switching among three levels (low/medium/high combustion) can be done by using two units.
- Conventional bypass circuit (orifice plate) unnecessary, piping work-hours, cost, installation space and maintenance cost reduced.
- With power indicator lamp.
- Hydrogen-related equipment (only hydrogen gas option is used as the working fluid).

### Specifications

Item	VNA-20-R	VNA-25-R	VNA-32-R	VNA-40-R	VNA-20-RH	VNA-25-RH	VNA-32-RH	VNA-40-RH	
Working fluid	City gas/LPG (hydrogen gas *1)				City gas/LPG				
Working pressure MPa	0 to 0.055△when P=0.035 or less				0 to 0.1				
Flow rate m <sup>3</sup> /h(ANR) <small>Specific gravity of city gas 0.65 △P=0.25kPa</small>	Main + Bypass	19	23	42	45	19	23	42	45
	Bypass only	7.4	6.4	9.3	9.1	7.4	6.4	9.3	9.1
Cv	12.8	15.5	28.3	30.3	12.8	15.5	28.3	30.3	
Rated voltage	V		100AC <sup>+10%</sup> <sub>-15%</sub>		200AC <sup>+10%</sup> <sub>-15%</sub>				
Frequency	Hz		Common to 50 and 60						
Power consumption (apparent power) VA	31		50				82		
Ambient temperature °C	-20 to +60 (no freezing)								
Opening time	s		0.5 or less						
Closing time	s		1.0 or less						
Frequency	cycles/min		30 or less						
Flow rate adjustment %	Main flow rate	50 to 100							
	Bypass flow rate	10 to 100							
Mounting orientation	Vertical direction with the coil on top or horizontal direction with the coil horizontal								
Connection	Screw-in (Rp)								
Port size	3/4	1	1 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub>	3/4	1	1 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub>	
Weight	kg	2.6	2.5	4.1	4.0	3.0	2.9	5.1	5.0
Proof pressure	MPa	0.1				0.3			
Degree of protection	IPX4								

\* Cv value is the value at main fully open (+), bypass fully open (H).  
\* 1: Only the option for hydrogen gas as the working fluid can be used.

### Flow characteristics (typical: VNA-40-R, VNA-40-RH)



No.	Main	Bypass
①	Fully open (+)	Fully open (H)
②	Fully open (+)	Fully open (L)
③	Fully open (-)	Fully open (H)
④	Fully open (-)	Fully open (L)
⑤	Solenoid valve OFF	Fully open (H)
⑥	Solenoid valve OFF	Fully open (L)

### Reference: Conversion coefficient

Converted flow rate = (flow rate in table) x (coefficient)

Gas	City gas (13A)	Propane	Butane	Hydrogen gas *1
Specific gravity (air = 1)	0.65	1.6	2.0	0.07
Coefficient	1.0	0.63	0.57	3.04

## How to order

VNA - 20 - R H2 - AC100V

Model No.

① Port size

② Working pressure

③ Hydrogen compatible option

④ Voltage

\*1

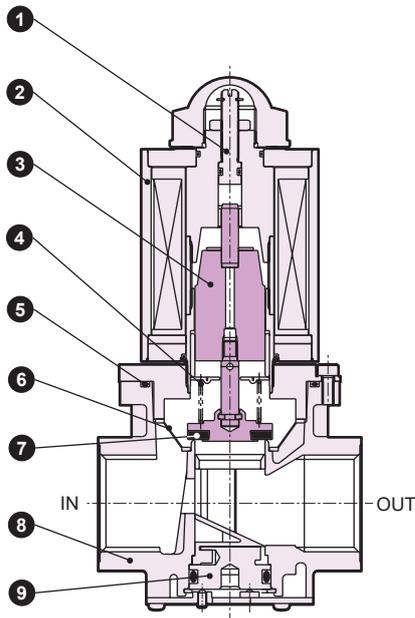
Code	Description	
<b>① Port size</b>		
20	Rp3/4	
25	Rp1	
32	Rp1 <sup>1</sup> / <sub>4</sub>	
40	Rp1 <sup>1</sup> / <sub>2</sub>	
<b>② Working pressure</b>		
Blank	0 to 0.055 MPa	
H	0 to 0.1 MPa	
<b>③ Hydrogen compatible option</b>		
Blank	Standard	
H2	Working fluid: Hydrogen gas	
<b>④ Voltage</b>		
AC100V	Standard	100 VAC 50/60 Hz
AC200V		200 VAC 50/60 Hz
AC110V	Option	110 VAC 50/60 Hz
AC220V		220 VAC 50/60 Hz
DC24V		24 VDC
DC100V		100 VDC

\*1: For voltages other than above, contact CKD.



Since it does not have a shutoff function, use it for flow rate switching.

## Internal structure/material

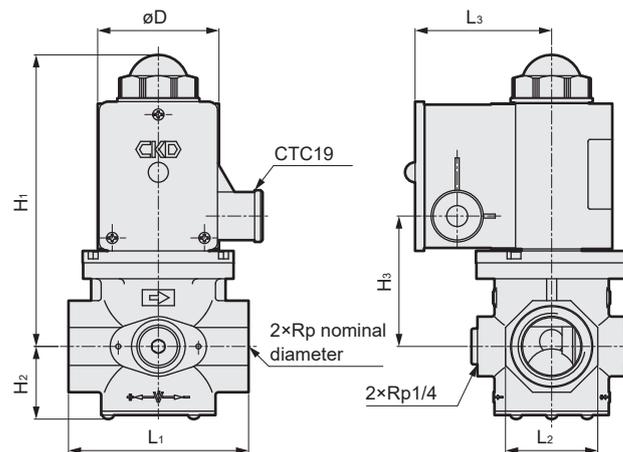


**Cannot be disassembled**

Part No.	Part name	Material
1	Adjusting screw	Stainless steel
2	Bonnet	Steel
3	Plunger	Stainless steel
4	Spring	Stainless steel wire
5	O-ring	Nitrile rubber
6	Strainer	Resin
7	Valve disc	Nitrile rubber (R), urethane rubber (RH)
8	Body	Aluminum die-casting
9	Flow rate adjustment screw	Aluminum

## Dimensions

● VNA-20 to 40-R/RH



Code	Port size	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	øD
VNA-20-R	3/4	147	37	65.5	89	46	73	60.5
VNA-25-R	1	147	37	65.5	89	46	73	60.5
VNA-32-R	1 1/4	166	45	84.5	128	65	78	70
VNA-40-R	1 1/2	166	45	84.5	128	65	78	70
VNA-20-RH	3/4	147	37	65.5	89	46	78	70
VNA-25-RH	1	147	37	65.5	89	46	78	70
VNA-32-RH	1 1/4	193	45	111.5	128	65	88	90
VNA-40-RH	1 1/2	193	45	111.5	128	65	88	90