



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, Rp1¹/₄, Rp1¹/₂

RoHS

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 shut-off 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 devices (only working fluid is hydrogen gas option)

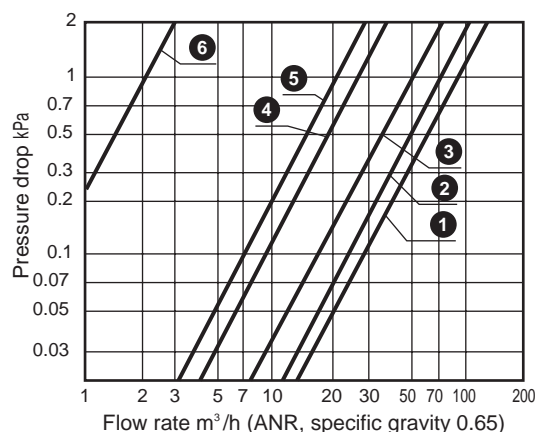
Specifications

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 *)								
Working pressure MPa	0 to 0.055 when ΔP=0.035 or less				0 to 0.1				
Flow rate ³ /h (ANR) <small>Specific gravity of city gas 0.65 ΔP=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	100 AC ^{+10%} _{-15%}				200 AC ^{+10%} _{-15%}			
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	Main flow rate	50 to 100							
adjustment %	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	1¼	1½	3/4	1	1¼	1½	
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 working fluid hydrogen gas option 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 H H2 - AC100V

Model No.

A Port size

B Working pressure

C Option
*2

D Voltage
*1

Code		Description
A Port size		
20		Rp3/4
25		Rp1
32		Rp1 1/4
40		Rp1 1/2
B Working pressure		
Blank		0 to 0.055 MPa
H		0 to 0.1 MPa
C Option		
Blank		Standard
H2		Working fluid: Hydrogen gas
D Voltage		
AC100V	Standard	100 VAC 50/60Hz
AC200V		200 VAC 50/60Hz
AC110V	Option	110 VAC 50/60Hz
AC220V		220 VAC 50/60Hz
DC24V		24 VDC
DC100V		100 VDC

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

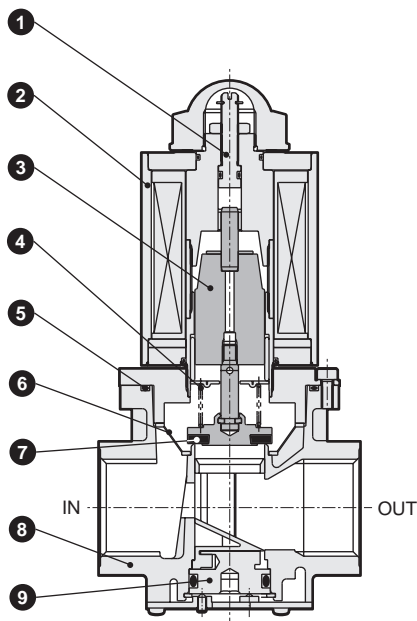
*2: Working gas: Hydrogen gas option cannot be combined with 0.1MPa specifications (Item B H).

EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/
AD
APK/
ADK
DryAir
EX-
XPLNprf
XPLNprf
HVB/
HVL
S B/
NAB
LAD/
NAD
Water-
Rela
NP/NAP/
NVP
SNP
CHB/G
MXB/G
Other valves
SWD/
MWD
DustColl
CVE/
CVSE
CCH/
CPE/D
LifeSci
Gas-
Combus
Auto-
Water
Outdoor
SpecFld
Custom
Ending

VNA-R/RH Series

EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/ AD
APK/ ADK
DryAir
EX- XPLNprf
XPLNprf
HVB/ HVL
S◇B/ NAB
LAD/ NAD
Water- Rela
NP/NAP/ NVP
SNP
CHB/G
MXB/G
Other valves
SWD/ MWD
DustColl
CVE/ CVSE
CCH/ CPE/D
LifeSci
Gas- Combus
Auto- Water
Outdoor
SpecFld
Custom
Ending

Internal structure and parts list

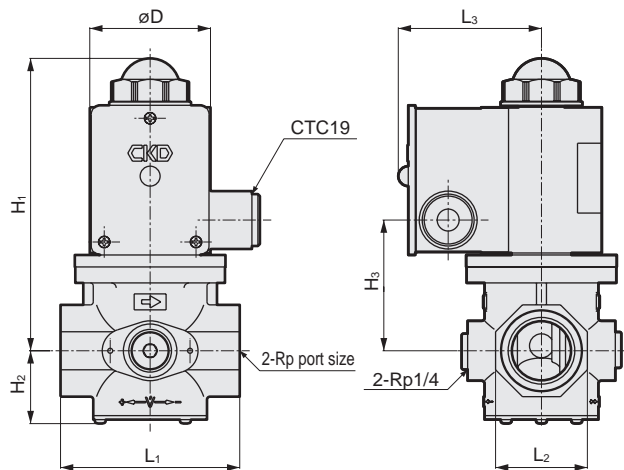


Cannot be disassembled

No.	Part name	Material
1	Adjustment 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 ₁	H ₂	H ₃	L ₁	L ₂	L ₃	ØD
Model No.								
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