

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/natural gas/LPG
- Port size: Rp3/4, Rp1, Rp1 1/4, Rp1 1/2



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

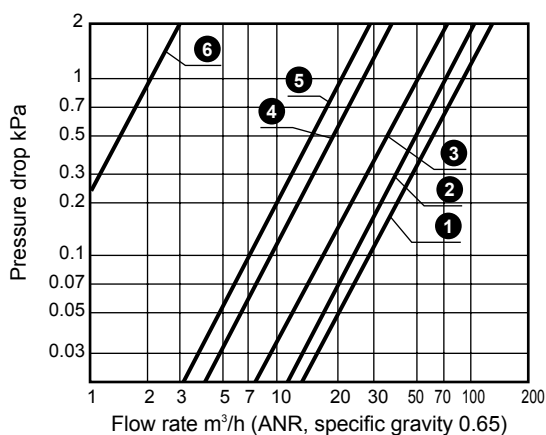
Specifications

1 MPa = 10 bar

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/natural gas/LPG								
Working pressure MPa	0 (≈0 psi) to 0.055 (≈8 psi) when ΔP = 0.035 (≈5.1 psi) or less				0 (≈0 psi, 0 bar) to 0.1 (≈15 psi, 1 bar)				
Flow rate m ³ /h(ANR) Specific gravity of natural gas 0.65 ΔP = 0.25 kPa	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	100 AC ^{+10%} / _{-15%}				200 AC ^{+10%} / _{-15%}				
Frequency	Common to 50 and 60								
Power consumption (apparent power) VA	31			50			82		
Ambient temperature	-20 (-4°F) to +60 (140°F) (no freezing)								
Opening time	0.5 or less								
Closing time	1.0 or less								
Frequency	Cycle/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 1/4	1 1/2	3/4	1	1 1/4	1 1/2	
Weight kg	2.6	2.5	4.1	4.0	3.0	2.9	5.1	5.0	
Proof pressure MPa	0.1 (≈15 psi, 1 bar)				0.3 (≈44 psi, 3 bar)				
Degree of protection	IPX4								

* Cv value is the value at main fully open (+), bypass fully open (H).

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 type	Natural gas (13A)	City gas (6B.6C)	Propane	Butane	Butane-air (6A)
Specific gravity (air = 1)	0.65	0.54	1.6	2.0	1.25
Coefficient	1.0	1.09	0.63	0.57	0.72

How to order

VNA - **20** - **R** **H** - **AC100V**

Model No.

A Port size

B Working pressure

C Voltage

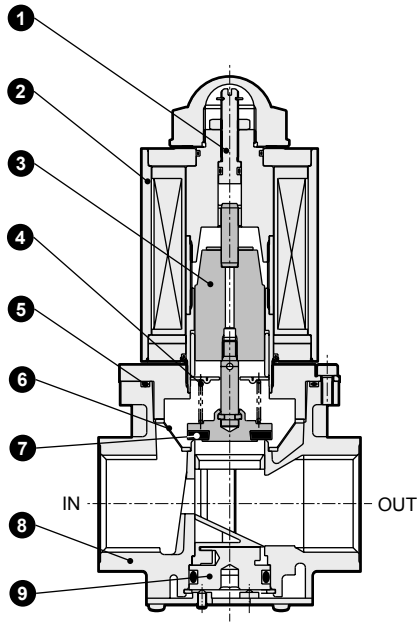
Code		Description
A Port size		
20		Rp3/4
25		Rp1
32		Rp1 ¹ / ₄
40		Rp1 ¹ / ₂
B Working pressure		
Blank		0 to 0.055 MPa
H		0 to 0.1 MPa
C Voltage		
AC100V	Std.	100 VAC 50/60 Hz
AC200V		200 VAC 50/60 Hz
AC110V	Option	110 VAC 50/60 Hz
AC220V		220 VAC 50/60 Hz
DC24V		24 VDC
DC100V		100 VDC

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

- 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^ϕB/
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

Internal structure and parts list

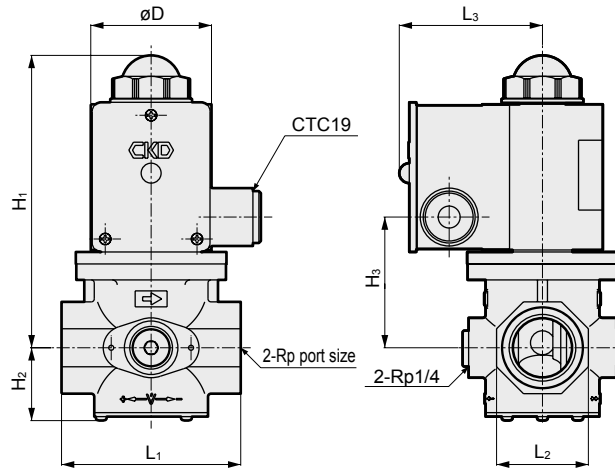


Cannot be disassembled

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