

## Vacuum valve

### Vacuum air valve HRV

HRV10/HRV20

# HANWHA



Utility

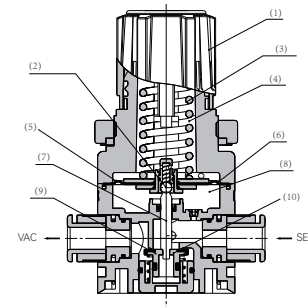
### Product characteristics

- \*Used for adjustable vacuum line pressure
- \* One side piping specification series
- \*Lightweight
- \*Built in quick change connector



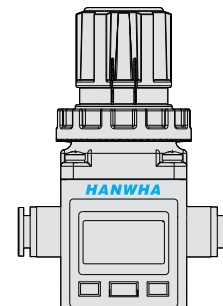
### Product structure

- |                                    |                          |
|------------------------------------|--------------------------|
| *1. Handwheel                      | *6. Diaphragm            |
| *2. Atmospheric suction valve core | *7. Valve stem           |
| *3. Set springs                    | *8. Atmospheric chamber  |
| *4. Vacuum chamber                 | *9. Main valve core      |
| *5. Diaphragm components           | *10. Valve core assembly |



### Product advantages

- \*The attachment clip makes it easy to install/remove pressure gauges or digital pressure switches
- \*The installation direction of the pressure gauge or digital pressure switch can be changed (limited to standard piping specifications)
- \*Change in installation angle of pressure gauge or digital pressure switch (with one installation position every 60°) easily



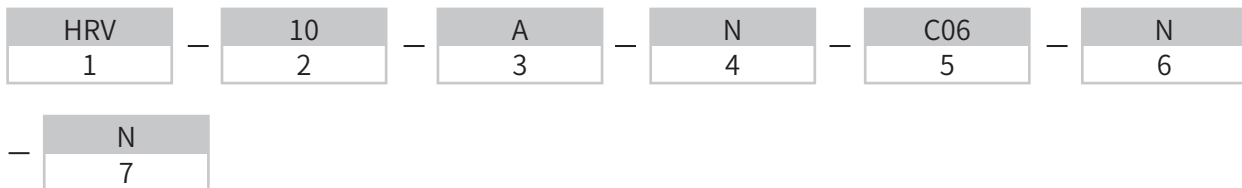
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### HRV Ordering NO



1-Series	HRV	Valve
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2-Body size	10	Maximum vacuum flow 140L/min
	20	Maximum vacuum flow 240L/min

4-Pipe joint	N	Straight
	L	Bend

3-Unilateral tube	N	Single side piping specifications
	A	

5-Outer diameter of connecting pipe	C06	ø6(Metric)
	C08	ø8(Metric)
	C10	ø10(Metric)
	N07	ø1/4(Imperial)
	N09	ø5/16(Imperial)
	N11	ø3/8(Imperial)

6-Attachment <sup>①</sup>	N	
	B	With bracket
	L	With bottom bracket

7-Attachment <sup>②</sup>	N	
	GN	Pressure gauge nut assembly
	G	Pressure gauge
	47	Pressure sensor type A

### Outer Diameter Of HRV Connecting Pipe

Mark	Tube outer diameter	HRV10	HRV20
C06	ø6(Metric)	⊙	⊙
C08	ø8(Metric)	⊙	⊙
C10	ø10(Metric)		⊙
N07	ø1/4(Imperial)	⊙	⊙
N09	ø5/16(Imperial)	⊙	⊙
N11	ø3/8(Imperial)		⊙

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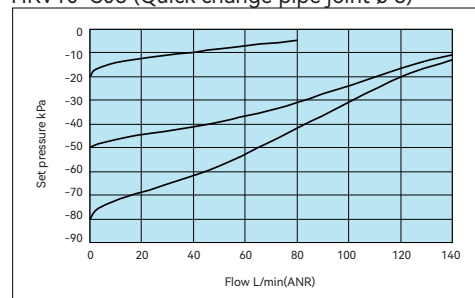
### HRV Technical Data

Models	Using fluids	Pressure range [kPa]	Pressure resistance [kPa]	Gas consumption [L/min]
HRV10	air	-100~-1.3	100(Except for pressure gauges)	Below 0.6
HRV20	air	-100~-1.3	100(Except for pressure gauges)	Below 0.6

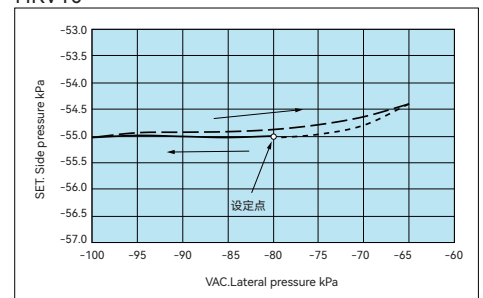
Models	Temperature of environment and fluid used [°C]	Outer diameter of VAC side pipe [mm]	Outer diameter of SET side pipe [mm]
HRV10	5~60	ø6 ø8 ø1/4 ø5/16	ø6 ø8 ø10 ø1/4 ø5/16 ø3/8
HRV20	5~60	ø6 ø8 ø1/4 ø5/16	ø6 ø8 ø10 ø1/4 ø5/16 ø3/8

Flow characteristics (representative values) Condition: Vacuum pump exhaust speed 2500L/min VAC. Side pressure -101kPa (at initial setting) Pressure characteristics (representative values)

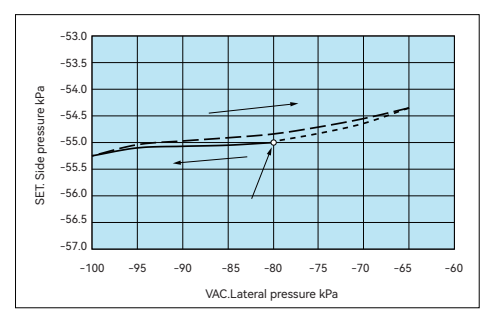
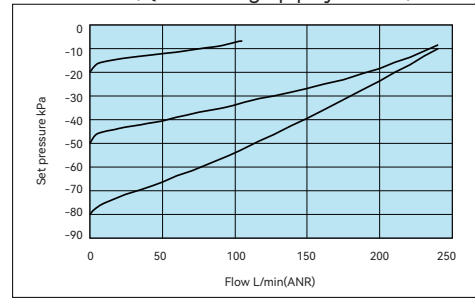
HRV10-C08 (Quick change pipe joint ø 8)



HRV10



HRV20-C10 (Quick change pipe joint ø10)



# Vacuum valve

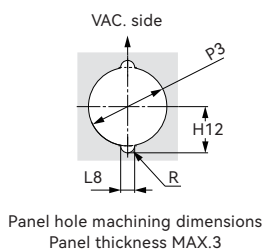
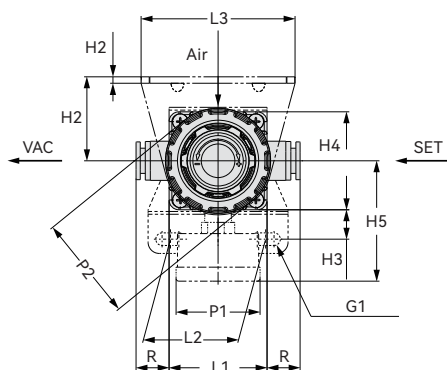
## Vacuum air valve HRV



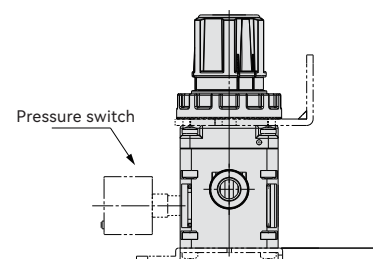
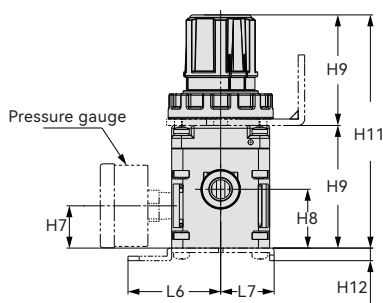
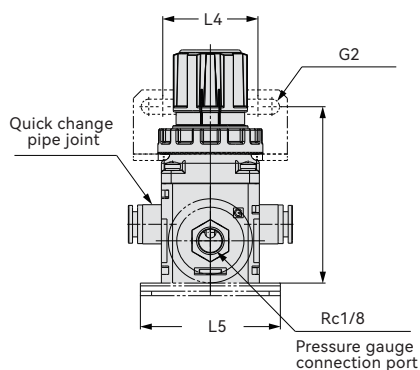
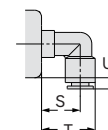
Utility

HRV10/HRV20

### HRV Specification



Bend joint



HRV-10-\*\*\*\*G/HRV-20-\*\*\*\*G /HRV-10-\*\*\*\*47/HRV-20-\*\*\*\*47Standard piping specifications

Size[mm]

Models	P1	P2	P3	G1	G2	L1	L2	L3	L4	L5	L6	L7
HRV-10-****G	ø30	ø37.5	ø28	10.5X4.5	15.4X5.4	35	34	55	34	50	33.1	19.1
HRV-20-****G	ø43	ø52	ø38	10.5X4.5	8X6.5	50	46	53	40	65	40.5	26.6
HRV-10-****47	ø30	ø37.5	ø28	10.5X4.5	15.4X5.4	35	34	55	34	50	33.1	19.1
HRV-20-****47	ø43	ø52	ø38	10.5X4.5	8X6.5	50	46	53	40	65	40.5	26.6

Size[mm]

Models	L8	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13
HRV-10-****G	5	30	2.3	10.5	35	43	63	15.1	21	43.8	39.5	83	4.5	16.5
HRV-20-****G	6	41	2.3	10.5	35	60	66.4	22	20	51.7	51.3	103	5.2	22
HRV-10-****47	5	30	2.3	10.5	35	43	63	15.1	21	43.8	39.5	83	4.5	16.5
HRV-20-****47	6	41	2.3	10.5	35	60	66.4	22	20	51.7	51.3	103	5.2	22

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Utility

HRV-10-\*\*\*\*G Standard piping specifications

Joint size (mm)

Joint size	VAC/SET			
	Straight	Bend	Bend	Bend
	R	S	T	U
ø6,ø1/4	10	19	26	3
ø8,ø5/16	12	20	28	6

HRV-20-\*\*\*\*G Standard piping specifications

Joint size (mm)

Joint size	VAC/SET			
	Straight	Bend	Bend	Bend
	R	S	T	U
ø6	10.5	21	27.5	21
ø1/4	10.5	21	27.5	21.5
ø8,ø5/16	10.5	21	28.5	24
ø10,ø3/8	11	21	30.5	27

HRV-10-\*\*\*\*47 Standard piping specifications

Joint size (mm)

Joint size	VAC/SET			
	Straight	Bend	Bend	Bend
	R	S	T	U
ø6,ø1/4	10	19	26	3
ø8,ø5/16	12	20	28	6

HRV-20-\*\*\*\*47 Standard piping specifications

Joint size (mm)

Joint size	VAC/SET			
	Straight	Bend	Bend	Bend
	R	S	T	U
ø6	10.5	21	27.5	21
ø1/4	10.5	21	27.5	21.5
ø8,ø5/16	10.5	21	28.5	24
ø10,ø3/8	11	21	30.5	27

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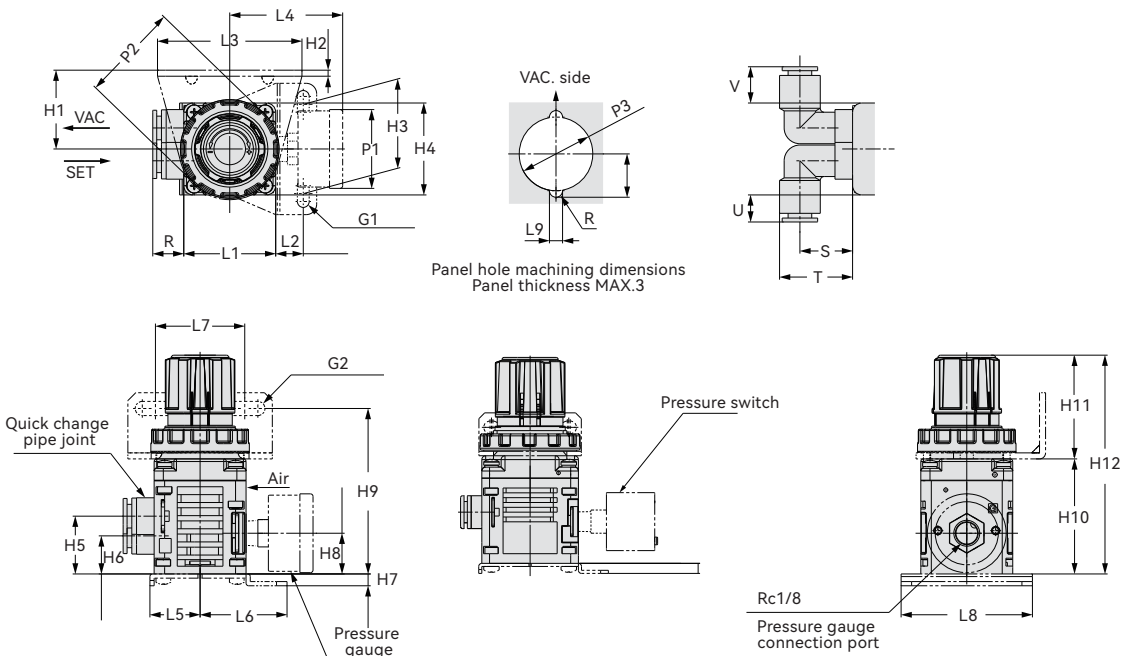
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Utility

HRV10/HRV20

### HRV Specification



HRV-10A-\*\*\*\*G/HRV-20A-\*\*\*\*G /HRV-10A-\*\*\*\*47/HRV-20A-\*\*\*\*47Single side piping specifications

Size[mm]

Models	P1	P2	P3	G1	G2	L1	L2	L3	L4	L5	L6	L7	L8
HRV-10A-****G	ø30	ø37.5	ø28	10.5X4.5	15.4X5.4	35	10.5	55	43	19.1	33.1	34	50
HRV-20A-****G	ø43	ø52	ø38	10.5X4.5	8X6.5	50	10.5	53	60	26.6	40.5	40	65
HRV-10A-****47	ø30	ø37.5	ø28	10.5X4.5	15.4X5.4	35	10.5	55	43	19.1	33.1	34	50
HRV-20A-****47	ø43	ø52	ø38	10.5X4.5	8X6.5	50	10.5	53	60	26.6	40.5	40	65

Size[mm]

Models	L9	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13
HRV-10A-****G	5	30	2.3	34	35	22	14.5	4.5	15.5	63	43.8	39.5	83	16.5
HRV-20A-****G	6	41	2.3	46	50	26.5	/	5.2	21.6	70.4	55.7	51.3	107	22
HRV-10A-****47	5	30	2.3	34	35	22	14.5	4.5	15.5	63	43.8	39.5	83	16.5
HRV-20A-****47	6	41	2.3	46	50	26.5	/	5.2	21.6	70.4	55.7	51.3	107	22

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HRV-10A-\*\*\*\*G Single side piping specifications

**Joint size** (mm)

Joint size	VAC/SET				
	Straight	Bend	Bend	Bend	Bend
	R	S	T	U	V
ø6,ø1/4	10	19	26	7.5	11
ø8,ø5/16	12	20	28	10.5	14

HRV-20A-\*\*\*\*G Single side piping specifications

**Joint size** (mm)

Joint size	VAC/SET				
	Straight	Bend	Bend	Bend	Bend
	R	S	T	U	V
ø6	10.5	21	27.5	1	8
ø1/4	10.5	21	27.5	1.5	8.5
ø8, ø5/16	10.5	21	28.5	4	11
ø10, ø3/8	11	21	30.5	7	14

HRV-10A-\*\*\*\*47 Single side piping specifications

**Joint size** (mm)

Joint size	VAC/SET				
	Straight	Bend	Bend	Bend	Bend
	R	S	T	U	V
ø6,ø1/4	10	19	26	7.5	11
ø8,ø5/16	12	20	28	10.5	14

HRV-20A-\*\*\*\*47 Single side piping specifications

**Joint size** (mm)

Joint size	VAC/SET				
	Straight	Bend	Bend	Bend	Bend
	R	S	T	U	V
ø6	10.5	21	27.5	1	8
ø1/4	10.5	21	27.5	1.5	8.5
ø8, ø5/16	10.5	21	28.5	4	11
ø10, ø3/8	11	21	30.5	7	14

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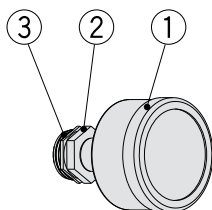
### Vacuum Pressure Gauge Technical Data

Component model	GP30-001	GP40-001
Suitable for series	HRV10	HRV20
Pressure indication range	-100~0kPa	
Unit identification	kPa	
Scale angle	180°	270°



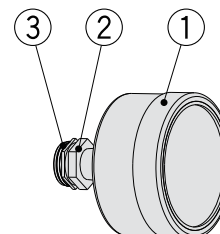
### Pressure gauge GP30-001 assembly

- \* (1) Pressure gauge
- \* (2) Pressure gauge nut
- \* (3) O-ring



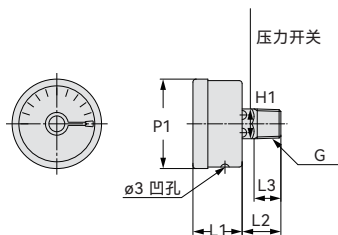
### Pressure gauge GP40-001 assembly

- \* (1) Pressure gauge
- \* (2) Pressure gauge nut
- \* (3) O-ring

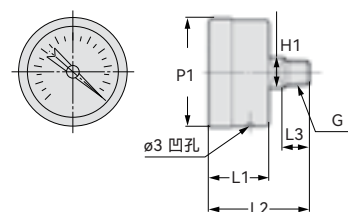


### Vacuum Pressure Gauge Specification

GP30-001 Vacuum pressure gauge



GP40-001 Vacuum pressure gauge



Size[mm]						
Models	P1	G	L1	L2	L3	H1
GP30-001	ø30	R1/8	17	13	9	10
GP40-001	ø43	R1/8	23.5	39.5	9	12



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### 47 Series Pressure Sensor Technical Data

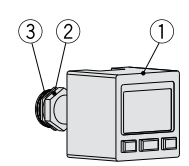
Models	Suitable for series
47C-01(NPN collector output)	HRV10
47C-03(NPN collector output)	HRV20



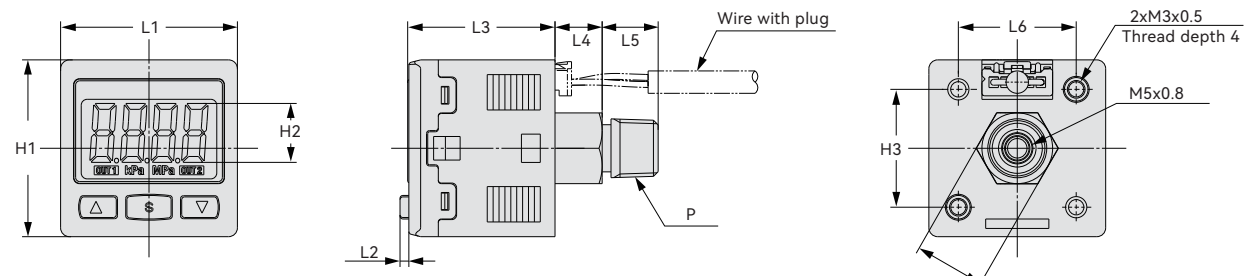
Models	47 series pressure sensor
Rated pressure range	0.0~101.0kPa
Set pressure range	10.0~105.0kPa
Pressure resistance	500kPa
Set minimum unit	0.1kPa
Suitable for fluids	Air, non corrosive gases, non combustible gases
supply voltage	DC12~24V ± 10%, pulsation (p-p) below 10% (with reverse connection protection)
Consumption current	40mA
Switch output	NPN or PNP collector output
Maximum load current	80mA
Maximum applied voltage	28V (at NPN output)
Residual voltage	Below 1V (when the load current is 80mA)
response time	Below 2.5ms (optional for preventing oscillation function: 2010050010002000ms)
Short circuit protection	Equipped

### 47 Series Pressure Sensor Assembly

- \* (1) Digital pressure switch
- \* (2) Pressure gauge nut
- \* (3) O-ring



### 47 Series Pressure Sensor Specification



Size[mm]											
Models	P	L1	L2	L3	L4	L5	L6	L7	H1	H2	H3
47C-01	R1/8	30	1.5	25	8	9.5	20	12	30	10	20
47C-03	R1/8	30	1.5	25	8	9.5	20	12	30	10	20