

Pressure control valves

Direct type relief valves (Series HR1-DTO)



Suitable for relatively large flow with narrow setting pressure range.
Mainly used as safety valve.

Symbol



● Model coding

HR 1 - D T O - 06

- Relief valve
- Max. operating pressure
1: 7MPa 1,000psi
- Structure D: direct
- Piping method T: Rescrew
- Pressure adjusting range
0: 0.3 ~ 1.5MPa
43 ~ 214 psi
- Nominal size

● Specifications

Pipe size	Rated flow		Max. operating pressure		Pressure adjusting range		Model
	ℓ/min	gpm	MPa	psi	MPa	psi	
3/4	75	20	7	1,000	0.3 ~ 1.5	43 ~ 214	HR1-DTO-06

Balancing piston type relief valves (Series HR3-B)



● Features

1. Its balancing piston structure has improved pressure-flow characteristic and the variation of set pressure, free from chattering.
2. Unloading circuit is possible with a vent port (VE). Pressure can be remote-controlled by connecting a pilot relief valve. (04 and larger ones) Close the master valve for the remote control.

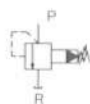
● Model coding

HR 3 - B G 2 - 06 (※)

- Relief valve
- Max. operating pressure
3: 21MPa 3,000 psi
- Structure
B: Balancing piston
- Piping method
G: Gasket
T: Rescrew
F: Flange
- Pressure adjusting range
1: 0.5 ~ 7MPa
71 ~ 1,000 psi
2: 3.5 ~ 14MPa
500 ~ 2,000 psi
3: 10.5 ~ 21MPa
1,500 ~ 3,000 psi
- Nominal size
- Design No.



Symbol



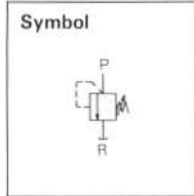
● Specifications

Pipe size	Rated flow		Max. flow		Max. operating pressure		Pressure adjusting range		Model		
	ℓ/min	gpm	ℓ/min	gpm	MPa	psi	MPa	psi	Thread connection type	Gasket connection type	Flange connection type
1/4	12	3.2	20	5.3	21	3,000	0.5 ~ 21	71 ~ 3,000	—	HR3-BG※-02A	—
1/2	40	10.6	80	21.2					HR3-BT※-04	HR3-BG※-04	HR3-BF※-04
3/4	120	31.7	190	50.3					HR3-BT※-06	HR3-BG※-06	HR3-BF※-06
1-1/4	320	84.6	500	132.3					HR3-BT※-10	HR3-BG※-10	HR3-BF※-10
2	800	211.6	1,200	317.5					—	HR3-BG※-16A	HR3-BF※-16A
3	1,200	317.5	—	—	—	HR3-BG※-24	—				

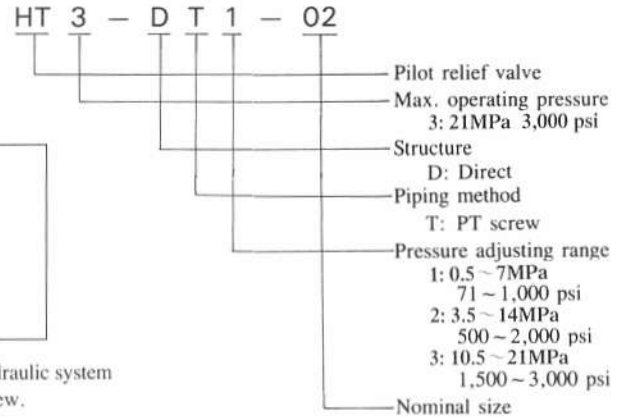
(Note) Sub-plate and piping flange should be separately ordered.

Pilot type relief valves (Series HT3)

Connected to the vent port of balancing piston type relief valve, this valve is used for remote control of the main circuit pressure, and also works as a direct type relief valve where the small amount of flow is permitted.



• Model coding

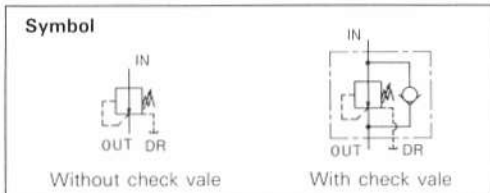


With its double safety structure, the pressure limiter type serves to protect hydraulic system from overpressure which might occur by turning pressure adjustment screw.

• Specifications

Pipe size	Rated flow		Max. operating pressure		Pressure adjusting range		Model
	ℓ/min	gpm	MPa	psi	MPa	psi	
1/4	1.5	0.4	21	3,000	0.5 ~ 7	71 ~ 1,000	HT3-DT1-02
					3.5 ~ 14	500 ~ 2,000	HT3-DT2-02
					10.5 ~ 21	1,500 ~ 3,000	HT3-DT3-02
					0.5 ~ 21	710 ~ 3,000	HT3-DT5-02

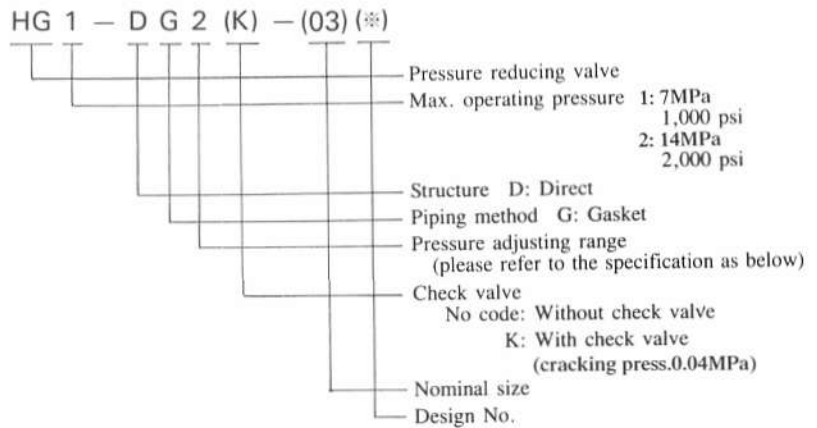
Direct type pressure reducing valves (Series HG※-D)



• Features

1. Pressure setting at low pressure range is possible. Stable set pressure can be obtained.
2. Direct type enables quick response and eliminates surge pressure.

• Model coding

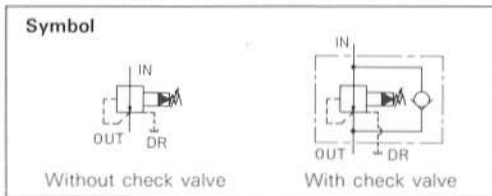


● Specifications

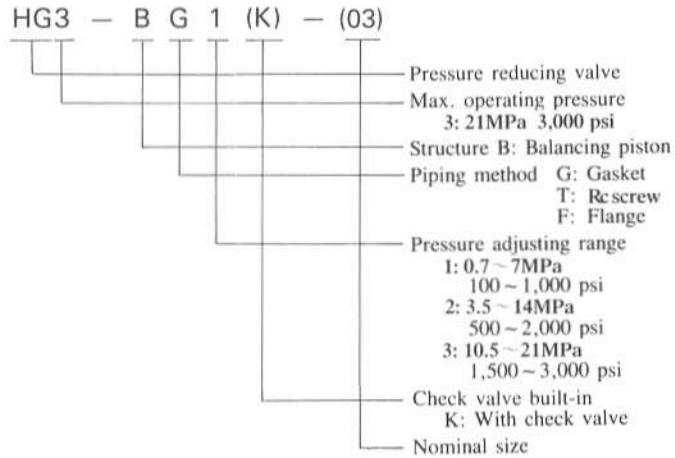
Pipe size	Rated flow		Max. operating pressure		Pressure adjusting range		Model	
	ℓ/min	gpm	MPa	psi	MPa	psi	w/o check valve	w/ check valve
1/4	5	1.3	14	2,000	0.3 ~ 0.85	43 ~ 121	HG2-DG1-02A	HG2-DG1K-02A
					0.5 ~ 1.75	71 ~ 250	HG2-DG2-02A	HG2-DG2K-02A
					0.85 ~ 3.5	121 ~ 500	HG2-DG3-02A	HG2-DG3K-02A
					1.75 ~ 7	250 ~ 1,000	HG2-DG4-02A	HG2-DG4K-02A
3/8	20	5.3	7	1,000	0.3 ~ 0.85	43 ~ 121	HG1-DG1-03	HG1-DG1K-03
	30	7.9			0.5 ~ 1.75	71 ~ 250	HG1-DG2-03	HG1-DG2K-03
					0.85 ~ 3.5	121 ~ 500	HG1-DG3-03	HG1-DG3K-03
3/4	50	13.2			0.3 ~ 0.85	43 ~ 121	HG1-DG1-06	HG1-DG1K-06
	75	19.8			0.5 ~ 1.75	71 ~ 250	HG1-DG2-06	HG1-DG2K-06
					0.85 ~ 3.5	121 ~ 500	HG1-DG3-06	HG1-DG3K-06
1-1/4	120	31.7			0.3 ~ 0.85	43 ~ 121	HG1-DG1-10	HG1-DG1K-10
	190	50.3			0.5 ~ 1.75	71 ~ 250	HG1-DG2-10	HG1-DG2K-10
					0.85 ~ 3.5	121 ~ 500	HG1-DG3-10	HG1-DG3K-10

(Note) Sub-plate and piping flange should be separately ordered.

Balancing piston type pressure reducing valves (Series HG3-B)



● Model coding



● Set pressure should be over 0.7MPa*—lower than that of the main circuit.

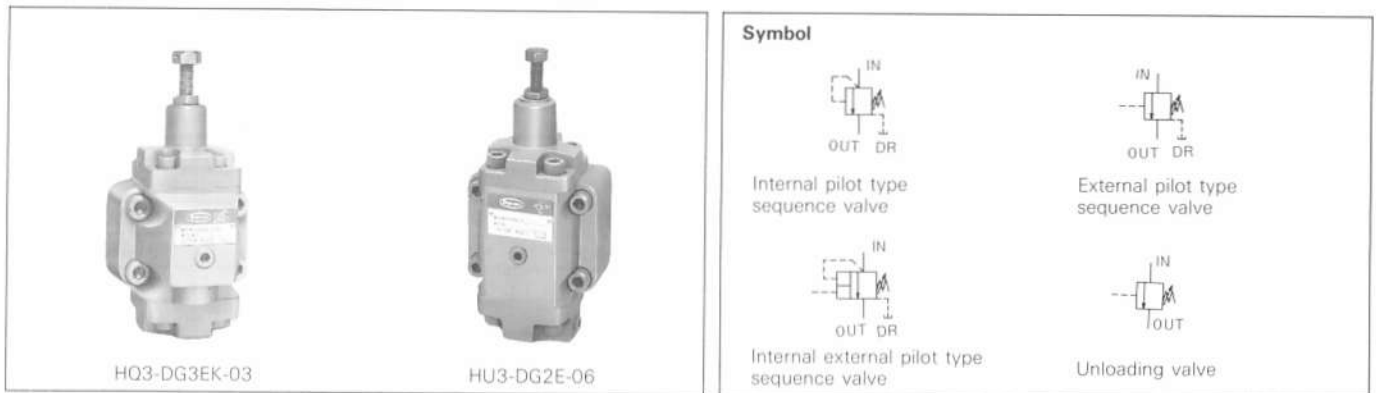
● Specifications

Pipe size	Rated flow		Max. operating pressure		Pressure adjusting range		Model		
	ℓ/min	gpm	MPa	psi	MPa	psi	Thread connection type	Gasket connection type	Flange connection type
3/8	35	9.3	21	3,000	0.7~21	100 ~ 3,000	HG3-BT ♂(K)-03	HG3-BG ♂(K)-03	—
1/2	40	10.6					—	—	HG3-BF ♂(K)-04
3/4	120	31.7					HG3-BT ♂(K)-06	HG3-BG ♂(K)-06	HG3-BF ♂(K)-06
1-1/4	320	84.6					HG3-BT ♂(K)-10	HG3-BG ♂(K)-10	HG3-BF ♂(K)-10

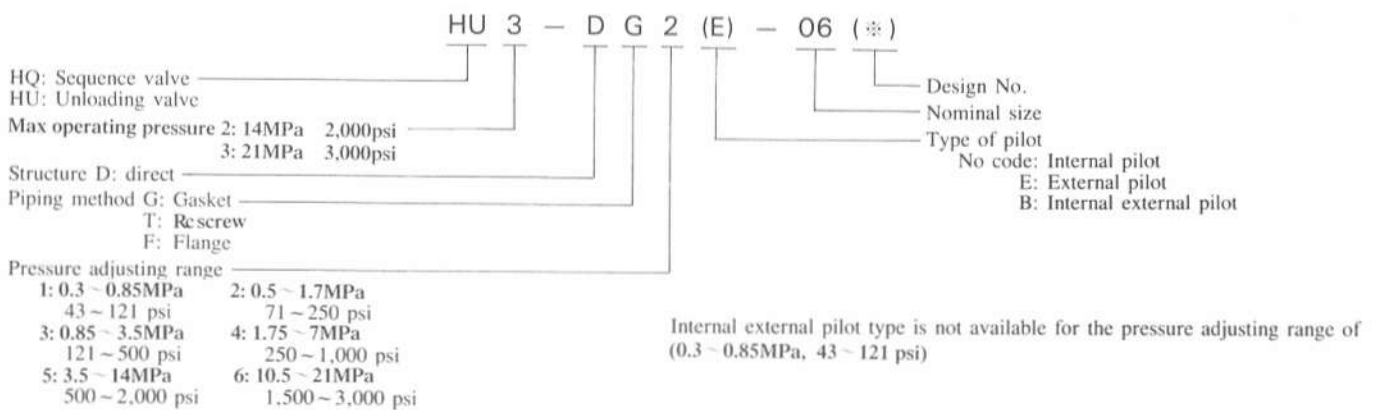
(Note) Sub-plate and piping flange should be separately ordered.

Sequence valves (Series HQ3) – Unloading valves (Series HU3)

Used for sequence control of hydraulic circuits or for unloading of pump pressure by controlling the pilot pressure, this valve can be either the sequence valve or unloading valve, depending on the assembly of its parts.



• Model coding



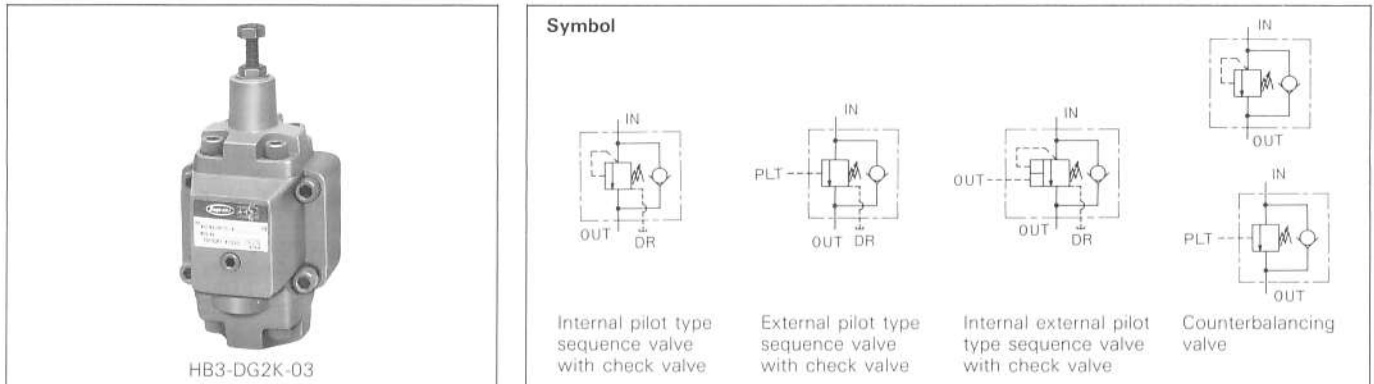
• Specifications

Type	Pipe size	Rated flow		Max. operating pressure		Pressure adjusting range		Model		
		ℓ/min	gpm	MPa	psi	MPa	psi	Thread connection type	Gasket connection type	Flange connection type
HQ2	1/4	5	1.3	14	2,000	0.3 ~ 14	43 ~ 2,000	—	HQ2-DG※(E)-02A	—
	3/8	35	9.3					HQ3-DT※(E/B)-03	HQ3-DG※(E/B)-03	—
	1/2	40	10.6					—	—	HQ3-DF※(E/B)-04
	3/4	120	31.7					HQ3-DT※(E/B)-06	HQ3-DG※(E/B)-06	HQ3-DF※(E/B)-06
HQ3	1-1/4	320	84.6	21	3,000	0.3 ~ 21	43 ~ 3,000	HQ3-DT※(E/B)-10	HQ3-DG※(E/B)-10	HQ3-DF※(E/B)-10
	2	500	132.3					—	HQ3-DG※(E/B)-16	—
	2-1/2	800	211.6					—	HQ3-DG※(E/B)-20	—
	3	1,200	317.5					—	HQ3-DG※(E/B)-24	—
	3/8	35	9.3					21	3,000	0.3 ~ 21
1/2	40	10.6	—	—	HU3-DF※E-04					
3/4	120	31.7	HU3-DT※E-06	HU3-DG※E-06	HU3-DF※E-06					
1-1/4	320	84.6	HU3-DT※E-10	HU3-DG※E-10	HU3-DF※E-10					

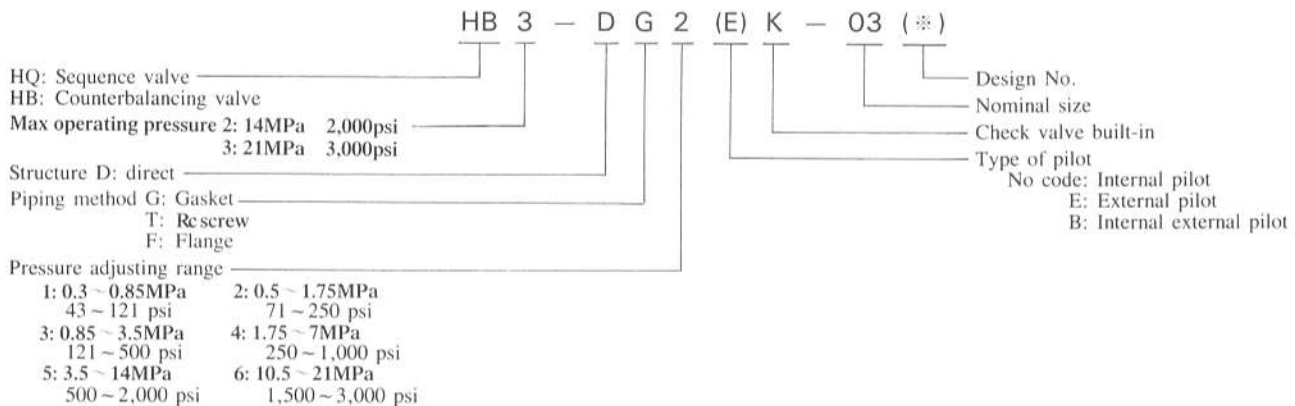
(Note) Sub-plate and piping flange should be separately ordered.

Sequence valves with check valves (Series HQ3) Counterbalancing valves (Series HB3)

Used for sequence control of hydraulic circuits or for counterbalancing load to prevent the pressure from falling, this valve can be either the sequence valve with check valve or counterbalancing valve depending on the assembly of its parts.



● Model coding



● Specifications

Type	Pipe size	Rated flow		Max. operating pressure		Pressure adjusting range		Model		
		ℓ/min	gpm	MPa	psi	MPa	psi	Thread connection type	Gasket connection type	Flange connection type
HQ2	1/4	5	1.3	14	2,000	0.3 ~ 14	43 ~ 2,000	—	HQ2-DG※(E)K-02A	—
HQ3	3/8	35	9.3	21	3,000	0.3 ~ 21	43 ~ 3,000	HQ3-DT※(E/B)K-03	HQ3-DG※(E/B)K-03	—
	1/2	40	10.6					—	—	HQ3-DF※(E/B)K-04
	3/4	120	31.7					HQ3-DT※(E/B)K-06	HQ3-DG※(E/B)K-06	HQ3-DF※(E/B)K-06
	1-1/4	320	84.6					HQ3-DT※(E/B)K-10	HQ3-DG※(E/B)K-10	HQ3-DF※(E/B)K-10
HB3	3/8	35	9.3	21	3,000	0.3 ~ 21	43 ~ 3,000	HB3-DT※(E)K-03	HB3-DG※(E)K-03	—
	1/2	40	10.6					—	—	HB3-DF※(E)K-04
	3/4	120	31.7					HB3-DT※(E)K-06	HB3-DG※(E)K-06	HB3-DF※(E)K-06
	1-1/4	320	84.6					HB3-DT※(E)K-10	HB3-DG※(E)K-10	HB3-DF※(E)K-10

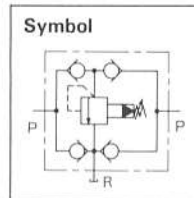
(Note) Sub-plate and piping flange should be separately ordered.

Brake valves (Series HR-HK)

Composed of a relief valve equipped with four check valves, this valve serves mainly for hydraulic motor circuit to prevent overloading in the acceleration and deceleration and negative pressure from generating in the circuit.



HR-HKG1-03

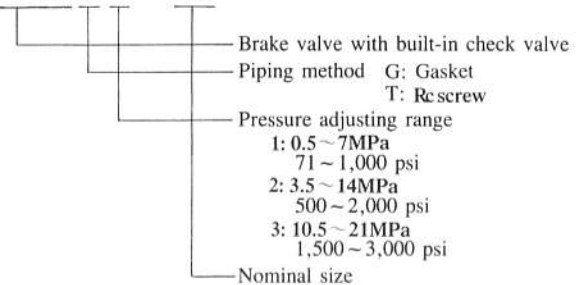


• Features

1. Braking in both directions is available with one valve.
2. Braking force can be adjusted by regulating the set pressure.

• Model coding

HR-HK G 1 - 03



• Specifications

Pipe size	Rated flow		Max. operating pressure		Pressure adjusting range		Model	
	ℓ/min	gpm	MPa	psi	MPa	psi	Thread connection type	Gasket connection type
3/8	40	10.6	21	3,000	0.5 ~ 21	71 ~ 3,000	HR-HKT *-03	HR-HKG *-03
3/4	120	31.7					HR-HKT *-06	HR-HKG *-06
1-1/4	320	84.6					HR-HKT *-10	HR-HKG *-10

(Note) Sub-plate should be separately ordered.

Balancing valves

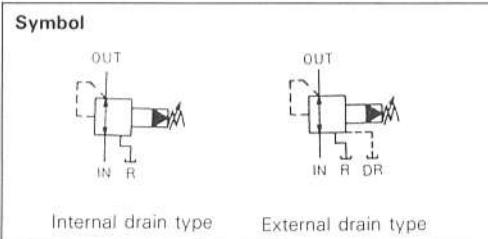
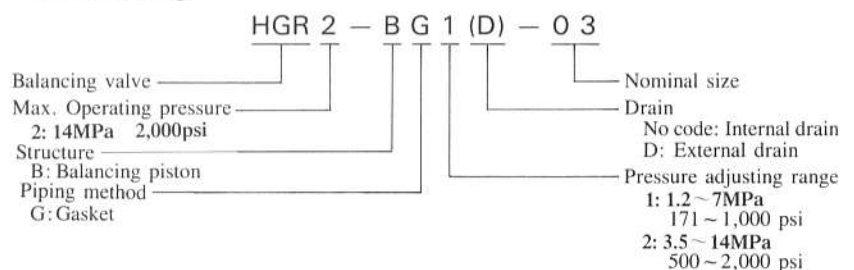


These balancing valves are a new type of combination pressure control valve capable of supplying the desired balance pressure in order to ensure smooth upper and lower drive for main shafts with large loads. The valve contains reducing valve, relief valve, and check valve functions, permitting control of circuit functions, and balance pressure can be adjusted to the desired value with a single knob.

• Features

1. Small mounting space for a more compact hydraulic system
 2. Single knob for easy pressure adjustment.
 3. Light weight and compact size.
- Available in two types — internal drain and external drain.
 - Sub-plate SHGR *- *- T3 should be separately ordered.

• Model coding



• Specifications

Pipe size	Rated flow		Max. flow		Max. operating pressure		Pressure adjusting range		Model	
	ℓ/min	gpm	ℓ/min	gpm	MPa	psi	MPa	psi	Internal drain type	External drain type
03	40	10.6	80	21.2	14	2,000	1.2 ~ 7	171 ~ 1,000	HGR2-BG1-03	HGR2-BG1D-03
							3.5 ~ 14	500 ~ 2,000	HGR2-BG2-03	HGR2-BG2D-03
06	120	31.5	190	50.3	14	2,000	1.2 ~ 7	171 ~ 1,000	HGR2-BG1-06	HGR2-BG1D-06
							3.5 ~ 14	500 ~ 2,000	HGR2-BG2-06	HGR2-BG2D-06