NIPPON VALVE CONTROLS, INC.

Instruction manual

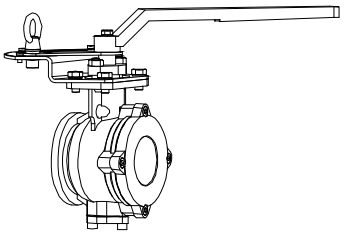
MA- SERIES Ball Valve GS

SP-1531

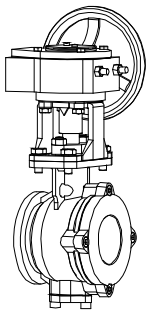
Please read this manual before installation and use.

GENERAL

This series is suitable for original or bypass valve in piping system.
The plate of position indicator is newly designed. It's very easy to recognize even from a distant place.
The position of manual handle can be changed, so this valve can be installed in any piping systems.



Lever



Gear

Manual operation

Lever

Gear

Valve

GS type For Wafer. (JIS 10K / 20K)

PRODUCT CODE

GS type	(V-port)	M	A	-	G	S	L	-	3	U	U	□	V	□	□	-	□	□
	(Full port)	M	A	-	G	S	□	-	3	U	U	□	-	□	□	-	□	□
	(Standard port)	M	A	-	G	S	□	-	3	U	U	□	R	□	□	-	□	□
		(1)			(2)		(3)	(4)	(5)	(6)	(7)	(8)		(9)			(10)		

(1) Actuator
MA-

(2) Valve
GS

(3) Manual operation
L : Lever
G : Gear

(4) Hyphen

(5) Connection
3 : JIS 20K

(6) Body material
U : SCS14A

(7) Ball material
U : SCS14A

(8) Seat material
G : R-PTFE
K : PEEK
I : API
C : R-PEEK
M : SUS316 + Stellite

(9) Size [mm]
ex. 25 A → 025

(10) Option
LA : Limit switch for OPEN / SHUT signal.

VALVES SPECIFICATIONS

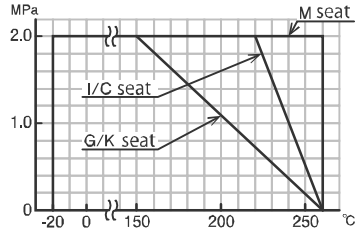
Water Oil Air, Gas Steam Chemicals Sea water Slurry Negative pressure

GS type

Valve type		GS		
Design		2-way, Wafer		
		V-port	Full port	Standard port
Connection		JIS Flanges 10K / 20K		
Fluid				
Max pressure		2 MPa		
Size [mm]		V015 to V032	015 to 080	R040 to R150
Material	Body	SCS14A		
	Ball	SCS14A (HCr plated)		
	Seat	R-PTFE PEEK API R-PEEK SUS316 + Stellite		
Stem seal	Packing	R-PTFE		

Note) API cannot be used with steam fluid.

PRESSURE & TEMPERATURE RATING

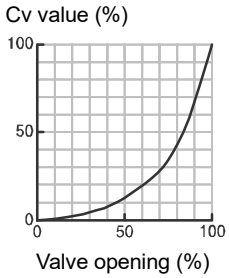


Note) • Option for use in fluid temperature more than 170 °C.
• We prefer to K seat depends on pressure or environmental conditions. Please consult us for your specifications.

SEAT LEAKAGE VOLUME (JIS B 2005-4)

	Seat material	Leakage rate	Remarks
G	R-PTFE	None	
K	PEEK		
I	API		
C	R-PEEK	10^{-4} × rated Cv value × 10^{-3} or less.	Class IV × 10^{-3} or less.
	R-PEEK (V-port)	10^{-4} × rated Cv value × 10^{-3} × 8 or less.	Class IV × 10^{-3} × 8 or less.
M	SUS316 + Stellite	10^{-4} × rated Cv value or less.	Class IV or less.
	SUS316 + Stellite (V-port)	10^{-4} × rated Cv value × 8 or less.	Class IV × 8 or less.

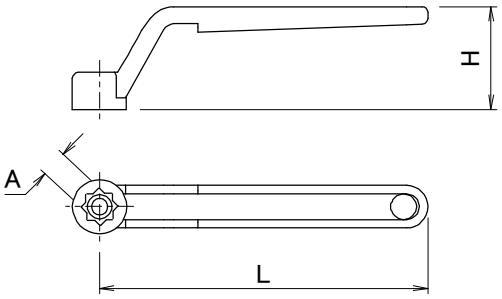
INHERENT FLOW CHARACTERISTIC



Range ability

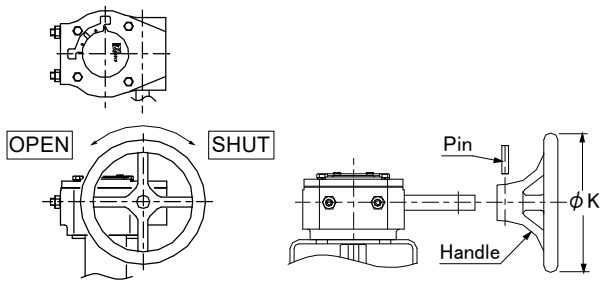
GS-3UU□ V 015 to 032	50:1	(V-port)
GS-3UU□ - 015 to 080	200:1	(Full port)
GS-3UU□ R 040 to 150	100:1	(Standard port)

MANUAL LEVER DIMENSIONS



Valve size [mm]			Lever [mm]			Hex bolt
			L	H	A	
V15 V20	15 20	-	115	36	9	M5×15
V25 V32	25 32	R40	145	46	11	
-	40 50	R50 R65	220	52	14	M6×15
-	65 80	R80 R100	320	55	17	M8×15
-	-	R125 R150	430	60	22	M10×20

GEAR DIMENSIONS



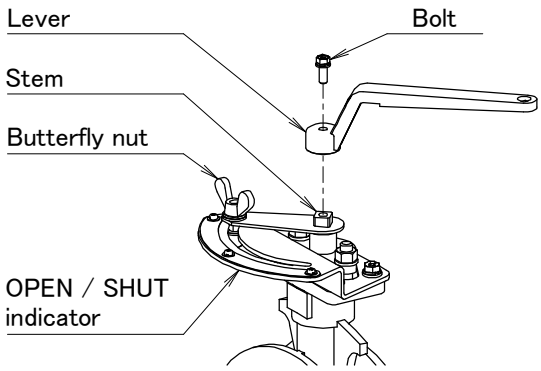
Valve size [mm]		ΦK [mm]	Actuator
65 80	R80 R100	150	MAG-F07
-	R125 R150	300	MAG-F10

HANDLING OF GEAR

- The handle wheel of the gear is removed and shipped.
- Insert the handle into the gear shaft.
- Insert a pin into the hole in the handle.

HANDLING OF MANUAL LEVER

- The lever handle is removed and shipped.
- The lever mounting direction can be changed in units of 45 degrees.
- Do not apply excessive torque to the lever.
- Do not strike or extend the lever with a tool.



INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS

HANDLING & STORAGE

①HANDLING

Do not drop or throw the product as it may break.

②STORAGE

- Store away from dust, moisture and direct sunlight. If possible, store in the original package.
- Do not remove a dust proof cap until the piping.

③CHECKING

- Check the product code before installation.
- Make sure that the bolts are not loose.

④HANDLING OF MANUAL OPERATION

- Be careful about temperature of a lever / handle part, when using it for the fluid of the high temperature or low.
- Avoid the operation with bare hands, and make a protective measure.
- For manual operation, loosen the butterfly nut before operating. After operation, tighten the butterfly nut to secure the position.

INSTALLATION

①PRECAUTIONS

- Flush the pipeline carefully before installing the valve. Foreign particles, such as sand or pieces of welding electrode, will damage the ball and seats.
- For valves with specified flow direction (GS) , check the arrows on the product before piping.

②PIPING FLANGES

- Gasket should be selected appropriately to suit the fluid, pressure and temperature.
  Use spring washer to prevent from decreasing surface pressure gasket when the temperature change happens frequently.
- Tighten all bolts using crossover method to load the joint evenly.
- Wafer type ball valve is put between two seats of flanged-end and tightened with long bolts. (GS)

③ENVIRONMENT

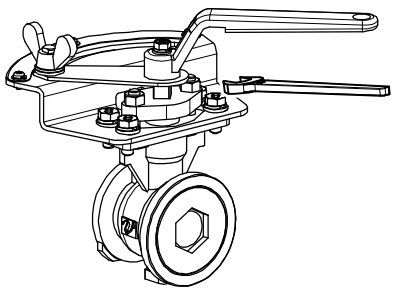
If there is a possibility that the fluid and drive part freeze, please take measures to prevent freezing.

④POSITIONING

Should be positioned through 90° upward from horizontal. Provide space around the product to allow manual operation, inspection and replacement work.

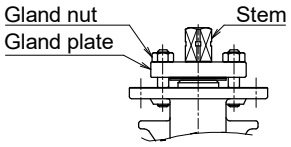
⑤CAUTIONS FOR MAINTENANCE

Do not keep warm for maintenance of the valve gland.



TIGHTEN THE GLAND NUTS

- Check that there is no leakage from the gland packing.
- If it leakage, tighten gland nuts by alternately. Do not over-tighten the gland nuts.



Valve size [mm]			Recommended torques [N·m]
V15 V20	15 20	-	2
V25 V32	25 32	R40	3.5
-	40 50	R50 R65	7
-	65 80	R80 R100	10
-	-	R125 R150	14

MAINTENANCE

Do the routine maintenance at least once in half a year.

Inspection items

- Confirm operation of opening and closing.
- Confirm whether screws are loose or not.
- Confirm the fluid temperature or pressure.
- Confirm the leak from valve stem.
- Confirm the bolt tightening torque.

TROUBLESHOOTING

Problem	Cause	Solution
Stop in the mid position.	• Biting of valve seat. • The scale has adhered to the valve ball.	Remove a foreign object.
Leakage from valve body	• Valve cap get loose. • Valve body is damaged.	Replace the valve.
Leakage from valve seat	Seat is worn or damaged.	Replace the valve. Replace the seat.
Leakage from valve stem	Stem packing is worn or distorted.	Replace the valve. Replace the packing.
Leakage from valve gland	Gland packing is worn or distorted.	Tighten the gland nut.
		Replace the gland packing.

For more information contact
NIPPON VALVE CONTROLS, INC. for consultation.

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