



Please read this manual before installation and use.

GENERAL

Wafer type butterfly damper. (manual operation)

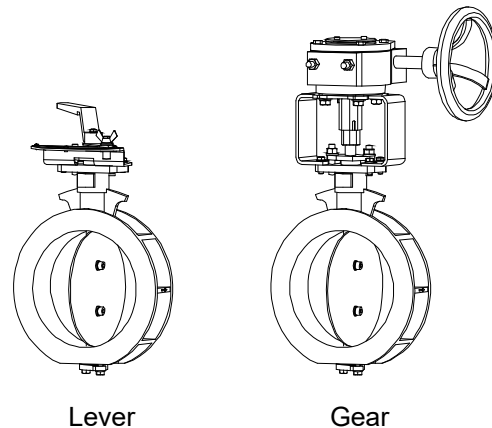
Manual operation

Lever

Gear

Damper

WT type With heat-resistant damper material this series can be used at fluid temperatures ranging from -40 °C to +550 (600) °C.





PRODUCT CODE

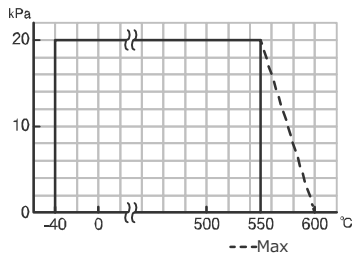
WT type	(Without seat)	MA - WT	□	-	2	T	G	0	-	□	-	□
	(With SUS316 seat)	MA - WT	□	-	2	T	G	S	-	□	-	□
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)		(10)
(1) Actuator	(5) Connection			(8) Seat material			(10) Option					
MA-	2 : JIS 5K			0 : (Zero) None			XM : Heat insulation					
(2) Damper	(6) Body material			S : SUS316								
WT	T : SCS13A			(9) Size [mm]								
(3) Manual operation	(7) Packing material			ex. 80 A → 080								
L : Lever	G : Expansion graphite											
G : Gear												
(4) Hyphen												

DAMPER SPECIFICATIONS

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

Damper type	WT (Without seat)		WT (With SUS316 seat)
Design	2-way, Wafer		2-way, Wafer
Connection	JIS Flanges 5K		JIS Flanges 5K
Fluid			
Max pressure	20 kPa		20 kPa
Size [mm]	040 to 250	300 to 400	040 to 400
Material	Body	SCS13A	
	Disc	SUS420J2	SUS420J1
	Seat	None	
Stem seal	Packing	Expansion graphite	

PRESSURE & TEMPERATURE RATING

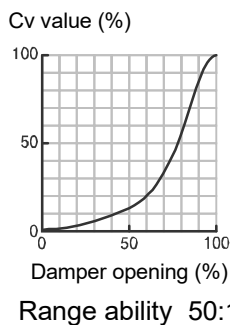


Temperature range : -40 to 600 °C

SEAT LEAKAGE VOLUME

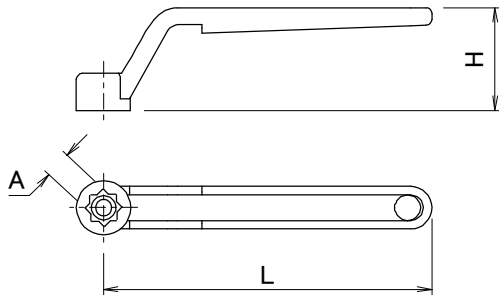
	Damper size [mm]	Remarks
WT-2TG0 (Without seat)	040 to 050	Less than 2 % of rated Cv.
	065 to 400	Less than 1 % of rated Cv.
WT-2TGS (With SUS316 seat)	040	Less than 1 % of rated Cv.
	050	Less than 0.5 % of rated Cv.
	065	Less than 0.2 % of rated Cv.
	080 to 400	Less than 0.1 % of rated Cv.

INHERENT FLOW CHARACTERISTIC



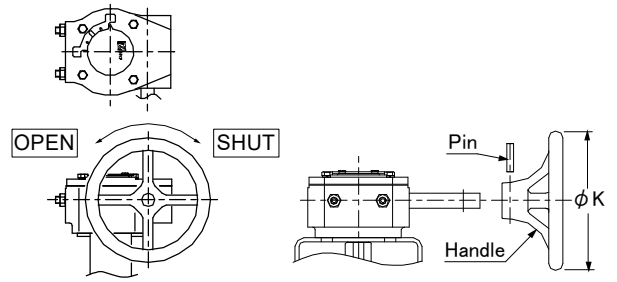
INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS

MANUAL LEVER DIMENSIONS



Damper size [mm]	Lever [mm]			Hex bolt
	L	H	A	
040 050 065 080 100 125	115	36	9	M5×15
150 200 250	145	46	11	M5×15
300	220	52	14	M6×15
350 400	320	55	17	M8×15

GEAR DIMENSIONS



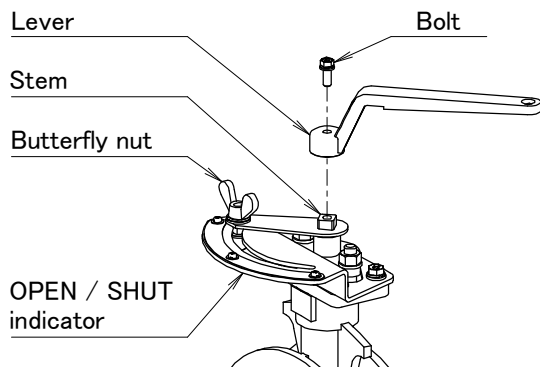
Damper size [mm]	ΦK [mm]	Actuator
040 050 065 080 100 125 150 200 250 300 350 400	150	MAG-F07

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.

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.



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 damper. Foreign particles, such as sand or pieces of welding electrode, will damage the disk and seats.
- For dampers with specified flow direction (WT), check the arrows on the product before piping.
- Damper is shipped closed. (allows quick piping.)
- Disc interference may also occur when damper is installed in pipeline with smaller than normal inside diameter such as thick wall pipe, or lining pipe. Suitable corrective measurement must be taken (taper boring the pipe or pipe liner, etc.)

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.
- Wafer type butterfly damper is put between two seats of flanged-end and tightened with long bolts.
- Before bolts are tightened, damper should be centered within the bolts to prevent possible disc interference or damage by contact with the pipe or flange.
- Tighten all bolts using crossover method to load the joint evenly.

③ENVIRONMENT

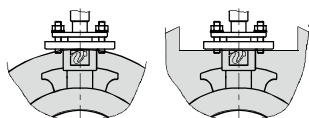
If there is a possibility that the fluid and drive part freeze, please take measures to prevent freezing.

④POSITIONING

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

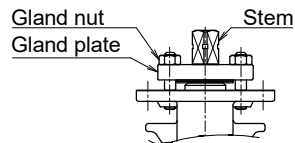
⑤INSULATION WORK

- For maintenance of gland packing, insulation should be below the ground part.
- The upper part of the ground plate part is a heat dissipation part, do not insulate it.



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.



Damper size [mm]	Recommended torques [N·m]
040 050 065	1
080 100 125	2
150 200 250 300	5
350 400	8

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 damper stem.
- Confirm the bolt tightening torque.

INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS**TROUBLESHOOTING**

Problem	Cause	Solution
Stop in the mid position.	There is a foreign object in the damper.	Remove a foreign object.
	Damper is distorted.	Replace the damper.
Leakage from damper 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.