

DISC TYPE STEAM TRAP

MIYAWAKI

S61N S62N

USER'S MANUAL

- 1. SYMBOL USED**
- 2. SAFETY INSTRUCTIONS**
- 3. SPECIFICATIONS**
- 4. NAMES OF
COMPONENTS AND PARTS**
- 5. INSTALLATION**
- 6. MAINTENANCE**
- 7. TROUBLESHOOTING**
- 8. LIMITED WARRANTY**
- 9. SERIAL NUMBER (S.No.) DESIGNATION**
- 10. GUIDANCE FOR READING SPECIAL PRODUCT NAME**

**Be sure to read this manual to learn the safe and proper operation of this product.
Store this manual carefully after use.**



To the owner

The S61N and S62N are carbon steel body thermodynamic disc trap with bimetal blow off valve and replaceable inner parts. The connections of S61N and S62N are screw threaded, flanged and socket welded. In order to get maximum benefit from this product, be sure to read this manual before installing it.

Maintenance

If this product functions or looks abnormal, take the necessary steps to correct it.

If it seemingly cannot be corrected, ask your MIYAWAKI dealer what to do and give him the following information.

- (1) Model
- (2) Serial (S)/No.
- (3) Detailed description of the abnormal condition

Supply Period for Maintenance Parts

We will continue to supply maintenance parts for this product for 5 years after we discontinue production of the primary product.

The supply of maintenance parts will, in principle, terminate at the end of the supply period stated above. However, even after the supply period has run out, it is possible to consult with us about the delivery time and prices for parts that are still in stock.

1 SYMBOLS USED

●SYMBOL INDICATION



(1) Safety-alert Symbol

This is the safety-alert symbol. When this symbol is on the machine or in this manual, be alert to the possibility of personal injury and carefully read the messages that follow.

(2) Signal words

The signal words "WARNING", "CAUTION" are used with the safety-alert symbol.



WARNING

"WARNING" denotes an extreme hazard which will likely result in death or serious personal injury if proper precautions are not taken.



CAUTION

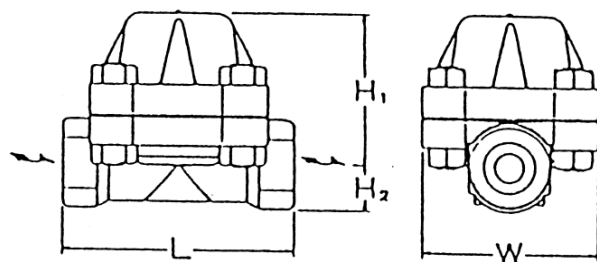
"CAUTION" denotes general precautions that may result in injury or damage to objects if proper precautions are not taken.

2 SAFETY INSTRUCTIONS

Observe the following instructions to insure safe operation. If you don't, you may be seriously injured and the product may be damaged.

- * Be sure not to use this product at a pressure higher than the specified maximum operating pressure (PMO) or at a temperature higher than the specified maximum operating temperature (TMO).
- * Pay very careful attention when working in hazardous environments such as:
There is a risk of explosion and the possibility of dangerous gasses leaking.
- * Always check whether the pipeline contains flammable, high pressure or high temperature materials before starting to work.
- * Make sure that isolation valves are installed on both the upstream and downstream lines.
- * Before installing the product, open the isolation valves, and the bypass valve, if one exists, to blow out any debris or dust inside the pipeline.
- * When installing the product, be sure to leave clearance for maintaining it.
- * When replacing parts, make sure the replacement parts are supplied by MIYAWAKI.

3 SPECIFICATIONS

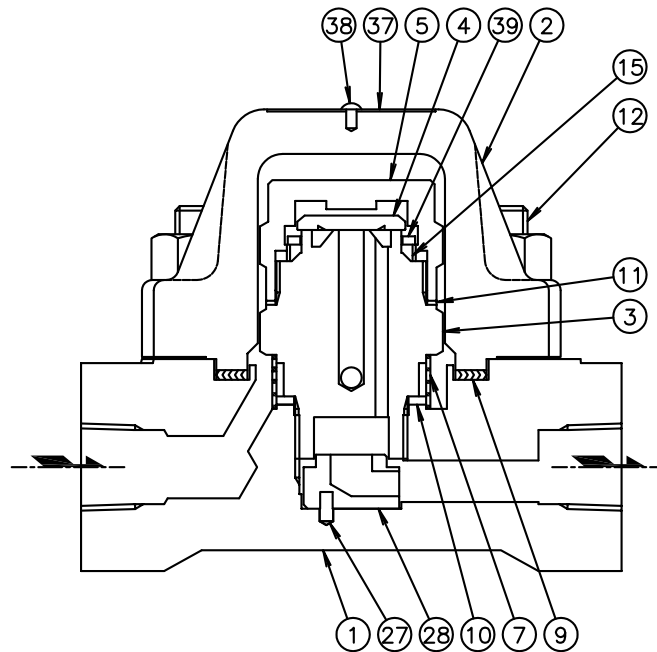


MODEL NO.	CONNECTIONS		BODY MATERIAL	OPERATING PRESS. Mpa (psig)	MAX. TEMP. °C (° F)	DIMENSION mm (inch)				WEIGHT kg (lb)
	TYPE	SIZE mm (inch)				L	H1	H2	W	
S61N	SCREWED	15, 20, 25 (1/2", 3/4", 1")	A105	0.3~6.5 (44~943)	425 (797)	130 (5.1)	90 (3.5)	25 (1)	100 (3.9)	5.7(12.6)
S61NF	FLANGED					※				※
S61NW	SOCKET WELD					130 (5.1)				5.7(12.6)
S62N	SCREWED	15, 20, 25 (1/2", 3/4", 1")	A182 F22	0.3~6.5 (44~943)	475 (887)	130 (5.1)	90 (3.5)	25 (1)	100 (3.9)	5.7(12.6)
S62NF	FLANGED					※				※
S62NW	SOCKET WELD					130 (5.1)				5.7(12.6)

※ S61NF S62NF Flange Type

FLANGE SPEC.		JIS 20K	JIS 30K	JIS 40K	JIS 63K	ASME/JPI 150lb	ASME/JPI 300lb	ASME/JPI 600lb	ASME/JPI 900lb	DIN PN63	DIN PN100
15mm (1/2")	mm(inch)	200(7.9)	200(7.9)	200(7.9)	220(8.7)	200(7.9)	200(7.9)	200(7.9)	220(8.7)	210(8.3)	210(8.3)
	kg(lb)	7.3(16.1)	8.4(18.5)	8.7(19.2)	9.6(21.2)	6.7(14.8)	7.2(15.9)	7.3(16.1)	9.6(21.2)	9.4(20.7)	9.4(20.7)
20A (3/4")	mm(inch)	210(8.3)	210(8.3)	210(8.3)	230(9.1)	210(8.3)	210(8.3)	210(8.3)	230(9.1)	230(9.1)	230(9.1)
	kg(lb)	7.7(17.0)	8.9(19.6)	9.2(20.3)	11.1(24.5)	7.7(17.0)	8.2(18.1)	8.5(18.7)	10.9(24.0)	11.4(25.1)	11.4(25.1)
25A (1")	mm(inch)	240(9.4)	240(9.4)	240(9.4)	240(9.4)	240(9.4)	240(9.4)	240(9.4)	240(9.4)	230(9.1)	230(9.1)
	kg(lb)	9.2(20.3)	10.1(22.3)	10.5(23.1)	12.1(26.7)	8.3(18.3)	9.4(20.7)	9.6(21.2)	13.3(29.3)	12.5(27.6)	12.5(27.6)

4 NAME OF THE COMPONENTS AND PARTS



- | | |
|------------|------------------|
| 1. Body | 11. Gasket |
| 2. Cover | 12. Bolt, Nut |
| 3. Seat | 15. Bi-Metal |
| 4. Disc | 27. Pin |
| 5. Cap | 28. Orifice |
| 7. Screen | 37. Name Plate |
| 9. Gasket | 38. Rivet |
| 10. Gasket | 39. Stopper Ring |

5 INSTALLATION



CAUTION

Before installing the product, open the isolation valves, and the bypass valve, if one exists, to blow out any debris or dust inside the pipeline.

- (1) Check the flow direction marked on the side of the body, and match with the arrow on the trap body.
- (2) The product can be installed in either a horizontal or a vertical line. In a horizontal installation, be sure to create a slight downhill gradient so that the condensate will flow in and out smoothly.
- (3) The product should be installed for easy maintenance check.
- (4) Open the isolation valve on the primary line slowly and make sure the product works normally.
- (5) In case of the secondary line is out in the air, do not put it into water.



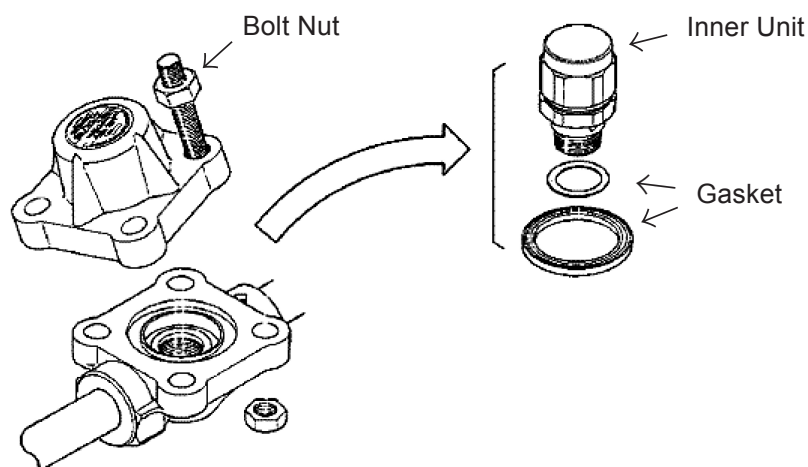
CAUTION

Installation instructions for welding :

When welding a socket weld type to the pipe, heat buildup that can damage internal parts of the trap must be avoided. After welding one side of the socket weld ends quickly, leave it to cool. After the trap's temperature has returned to normal, weld the other side quickly.

The body and cover of the type S62NW are made of A182 F22 (forged alloy steel). Please, make sure that the welding is performed according to the correct welding instructions.

In case of heat treatment after welding, to prevent damage of the internal parts by excessive heat, open the trap and remove the internal parts and gaskets from the body. After welding reinstall the parts to the trap.



6 MAINTENANCE



WARNING

When taking apart the trap from the line, close the both primary and secondary stop valve, and cool down the trap itself first to avoid the danger of steam and condensate blowout.

The performance of steam traps deteriorates over time due to wear, corrosion, or dirt accumulating around the valve seat. To keep steam systems and equipment working well, periodic maintenance of the steam traps is essential.

Tools for testing steam traps

In order to test steam traps, ultrasonic testers, sound detectors, and thermometers have been used for years. These tools are relatively easy to use and are useful for making rough estimates of the level of deterioration in a defective trap. However, to determine deterioration levels and steam losses quantitatively, special tools are required for testing steam traps.

Dr. Trap and Dr. Trap Jr. are testing equipment that were developed specifically for diagnosing steam traps and analyzing survey results automatically. Use these tools to avoid tiresome jobs on sites and save working time.

Working conditions of a steam trap

Steam trap failures can be classified as either 'Leaking' or 'Plugged'. The level of steam leaks is generally determined by the intensity of the ultrasonic vibration generated in the valve seat inside of a steam trap. The 'plugged' is diagnosed by measuring the surface temperature.

As the degree of plugging increases due to a buildup of dirt in the trap, it will finally become completely plugged.

Then the surface temperature will drop to around 40 degrees centigrade, or lower.

Repairs

When a trap fails, it is necessary to clean the internal parts and replace damaged parts. Take the failed trap apart following the steps below.

A. Take apart the body of the trap

(1) Remove the cover bolt & nut (12) by turning it counterclockwise.

(2) Remove the inner unit (seat (3), disc (4), cap (5), gasket(11), bi-metal (15), stopper ring (39)).

(3) Screen (7), gasket (9), (10), pin (27), and orifice (28) will come apart.

B. Cleaning, Checking, Repairing

(1) After parts are removed, clean and check (repair if needed) each parts.

(2) After cleaning, checking, and repairing (if needed), the trap, re-assemble the parts in reverse order.

C. Re-assemble the body

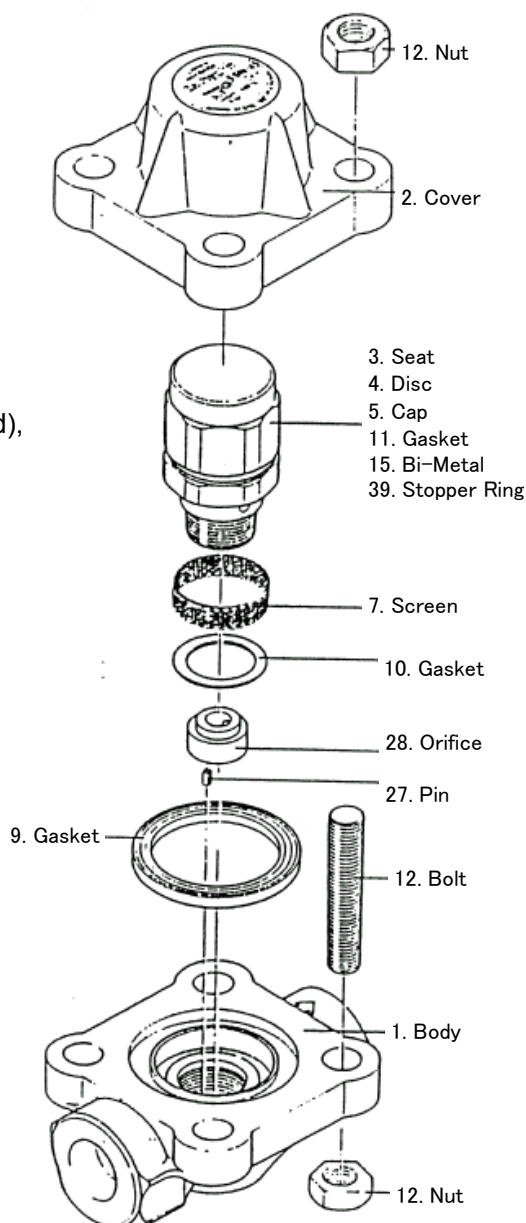
(1) Make sure not to forget to set the pin (27) in the right place.

(2) Replace the gasket (9), (10), (11) to new one.

(3) Tighten the cover bolt & nut (12) evenly.

(4) If disc (4) and/or seat (3) is worn or defected, replace the whole inner unit.

*The clamp torque of the screws will be as per the following chart.



Torque table 1

PARTS NO.	PARTS	SIZE	CLAMP TORQUE
12	Cover Nut	22mm (0.88inch)	98N · m
3	Seat	41mm (1.64 inch)	147N · m
5	Cap	41mm (1.64 inch)	147N · m

7 TROUBLESHOOTING

Problem	Possible Causes	Solution
Steam leaks or blows through	Stuck valve or dirt accumulated around the disc or valve seat.	Clean the disc and the seat.
	Damage, wear or corrosion of the disc.	Replace the inner unit. *
	Damage, wear or corrosion of the seat.	Replace the inner unit. *
	The gasket (10) is damaged.	Replace the gasket (10).
	The back pressure is too high. (The back pressure must be less than 50% of the inlet pressure.)	Replace the trap with an appropriate trap.
	Failure of mounting direction.	Check the flow direction marked on the side of the body, and match with the arrow on the trap body.
Steam leaks from the body	The gasket (9) is damaged.	Replace the gasket (9).
	The sealing surface on the body or cover is damaged.	Replace the damaged part.
	The bolt and nut is loose.	Tighten the bolt and nut.**
Insufficient condensate discharged, or no condensate discharged	The screen is clogged.	Clean the screen.
	Dirt has built up around the seat.	Clean the seat.
	Dirt has built up in the fluid path inside the body.	Clean the body.
	The bi-metal is damaged.	Replace the bimetal ring.
	The gasket (11) is damaged.	Replace the gasket (11).
	Insufficient condensate capacity.	Replace the trap with a larger capacity trap.

* Replace the body at the same time when the disc is replaced.

** See the torque table in Chapter 6.

8 LIMITED WARRANTY

Any trap that fails in normal operating conditions will be repaired free of charge.

WARRANTY TERM

The warranty period is 18 months after shipment or 12 months after installation, whichever occurs first.

WHAT THIS WARRANTY DOES NOT COVER

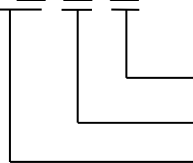
- (1) Damage caused by careless use or ignoring the warnings and cautions given in this manual.
- (2) Damage caused by severe shock or an impact which would not be experienced in normal operation.
- (3) Damage caused by unauthorized modifications or repairs.
- (4) Damage caused by fire, natural disasters, or acts of God.
- (5) Damage caused by inappropriate handling or installation in a way that violates the specifications.
- (6) Damage caused by equipment, apparatus or devices that are not provided by MIYAWAKI.
- (7) Damage caused by chlorine, or other materials that are corrosive to metals or hasten deterioration.
- (8) Damage caused by a part such as a gasket that is severely deteriorated.
- (9) Damage caused by accumulated dirt or debris on or around the seat.

WARRANTY SCOPE

In any event, the scope of the warranty is limited to compensation that does not exceed the purchase price of the product.

9 SERIAL NUMBER (S.No.) DESIGNATION

S.No.


 Represents the day.
 Represents the month.
 Represents the year. (last two digits of the year according to the Western calendar)

Month designation system

Symbol	Month	Symbol	Month	Symbol	Month	Symbol	Month
1	1	4	4	7	7	X	10
2	2	5	5	8	8	Y	11
3	3	6	6	9	9	Z	12

Day designation system

Symbol	Day	Symbol	Day	Symbol	Day	Symbol	Day
1	1	9	9	H	17	Q	25
2	2	A	10	J	18	R	26
3	3	B	11	K	19	S	27
4	4	C	12	L	20	T	28
5	5	D	13	M	21	U	29
6	6	E	14	N	22	V	30
7	7	F	15	O	23	W	31
8	8	G	16	P	24		

Example of serial number designation

1 7 1 1 → Jan 1, 2017

2 9 X M → Oct 21, 2029

10 GUIDANCE FOR READING SPECIAL PRODUCT NAME

○○○-○○-□

Special symbol:

**Symbol apply only to special product
(Please refer to table 1 for details)**

English letter after “-“

Model symbol:

Product model number

Table 1 Symbol description

Suffix	Special contents
A	Trap for high-pressure gas installed property (only for Gas Trap)
C	Blow valve attached
K	Change of gasket
L	Special face to face dimension
M	Change of parts material
P, T	Change of operating pressure, temperature, condensate capacity, etc
R	Change of screen mesh
V	Change of air vent
X	Other than mentioned above or complex of special contents above

-
- For any questions about the product that you purchased or about the details in this user's manual, please contact the following.
 - © 2017 MIYAWAKI INC.
This user's manual may not be reproduced or copied in whole or in part, without the written consent of MIYAWAKI INC.
 - Some special specifications of the product you have, may found to be different from the ones in the user's manual. If you have any question, please contact MIYAWAKI, our local authorized agent, or the place where you purchased.
-



MIYAWAKI INC.

INTERNATIONAL SALES DEPT.

2-1-30, Tagawakita, Yodogawa-ku, Osaka, 532-0021, Japan

Tel: +81-6-6302-5549

www.miyawaki.net e-mail: export@miyawaki-inc.co.jp

EU Importer and Authorized representative:



MIYAWAKI GmbH

Birnbaumsmühle 65, 15234 Frankfurt (Oder), Germany

Tel: +49-335-4007-0097

www.miyawaki.net e-mail: info@miyawaki.de

China Importer and Authorized representative:



MIYAWAKI WEST Co.,Ltd

Room 1705, No.1, Building, No.311, Yanxin Road, Huishan Economic Development Zone,
Wuxi, Jiangsu, China

Tel: +86-510-8359-5125

www.miyawaki-inc.com.cn e-mail: mywkwest@miyawaki-inc.com.cn

808081-03 2008

S61N/S62N