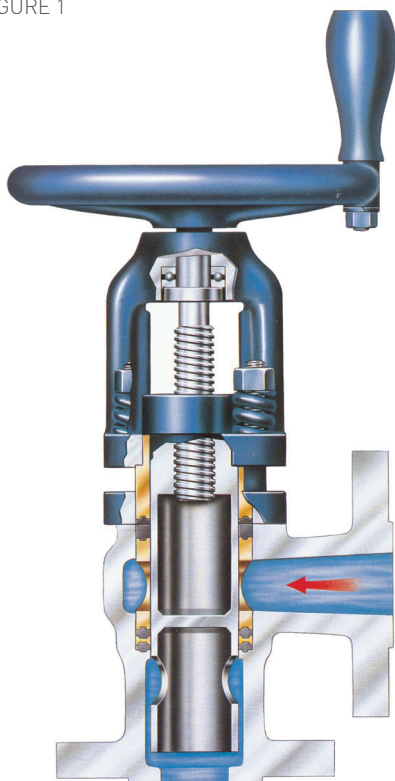


**YARWAY SEATLESS 3400 AND 3900 SERIES BLOW-OFF VALVES**  
 INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS

FIGURE 1



**INSTALLATION**

Tighten the yoke nuts half a turn prior to commissioning. If the packing leaks, tighten each yoke nut half a turn. Repeat this step until the leak is eliminated. All nuts must be at the same level and the springs should not be fully compressed.

**VALVE OPERATION**

Open the valve quickly and fully. Never use this valve to throttle the flow in the partly open condition as this will reduce the packing life. Close the valve in the same manner. Apply a hard turn at the end of the valve travel. This will assure that the plunger seats against the upper gland which, in turn, will recompress the packing rings.

In operating Yarway seatless valves in tandem, the valve next to the boiler should be used as the blowing valve, opened last and closed first. The outside or sealing valve should be opened first and closed last.

If a Yarway double tightening valve is used in tandem with a Yarway seatless valve, the double tightening valve is placed next to the boiler and is opened first and closed last. The Seatless or outside valve is the blowing valve and is opened last and closed first.

**PRINCIPLE OF OPERATION**

The Seatless blow-off valve is a manually operated sliding plunger type valve used primarily for boiler blow-off service where high temperature fluid, containing dirt, sediment and scale is encountered.

When the valve is open (Fig. 2) the controlled fluid passes through the ports in the plunger (9) and lower gland (6) and discharges to the valve outlet via the center of the plunger assembly. In the closed position, the shoulder of the plunger assembly contacts the upper gland (7). This feature provides additional loading from the handwheel to compress the packing rings (4) (5) and assure leak-tight shut-off. Any packing relaxation during service is accommodated by the heavy compression springs (14) which provide a constant packing load.

**WARNING**

*Hot discharge from this product may cause severe burns. Discharge must be piped away or directed so that persons in the vicinity are not endangered. This product must be isolated, vented and cool to the touch before repairing or inspecting.*

# YARWAY SEATLESS BLOW-OFF VALVES

## TYPE B AND TYPE C

### MAINTENANCE AND ADJUSTMENT

#### Packing ring adjustment

Yoke nuts [21] should be tightened at regular intervals. The yoke springs [14] will maintain a constant load on the packing. Packing rings will relax slightly during use and an adjustment may be required. To adjust the packing, back the plunger off slightly by turning the handwheel (do not allow flow to occur) and then tighten the yoke nuts. Approximately 1/4 to 1/2 turn should be sufficient. Reseat the plunger against the upper gland.

#### NOTE:

If the valve has not been operated for a long period, the packing nuts should be adjusted prior to blowing down the boiler.

#### Lubrication

A fitting [20] is provided on the yoke for lubricating the ball thrust bearing [11] and the stem collar. This fitting is compatible with an Alemite No. 7585 gun. A high temperature lithium grease equivalent to Texaco Regal AFB2 should be used to lubricate this area. Stem threads should be kept well lubricated. A good grade of antiseize compound similar to Never-Seez NS165 should be used. Both of these areas should be lubricated every six months.

#### Installation of packing rings

#### WARNING

*This procedure should not be attempted unless all pressure has been vented from the valve, and its connecting lines, and the temperature of the valve is at or near ambient.*

Remove the stopscrew [11] then remove the yoke nuts and springs. Turn the handwheel to open the valve. This will raise the plunger. Turn the handwheel to close the valve. This will raise the yoke. Turn the yoke so that the holes and studs are out of line and turn the handwheel to open the valve. The plunger is thus withdrawn from the valve.

Next, remove the glands and the old packing. This can be done by using a Yarway gland and packing puller (Fig. 3) in the following manner: Insert the tool until the pawls engage the ports in the lower gland. Tighten the nut on the top of the puller to draw out the lower gland, upper packing and upper gland. The lower packing can then be removed using a hook tool. Care should be exercised, however, so that the lower packing groove is not damaged. Install new packing rings, (Fig. 4 or 5) glands and stopscrew in the body and replace the yoke, with the plunger screwed all the way up on the stem, in place and using the yoke nuts pull down the yoke assembly. Next, place the springs under the nuts and adjust as previously described.

### PARTS LIST

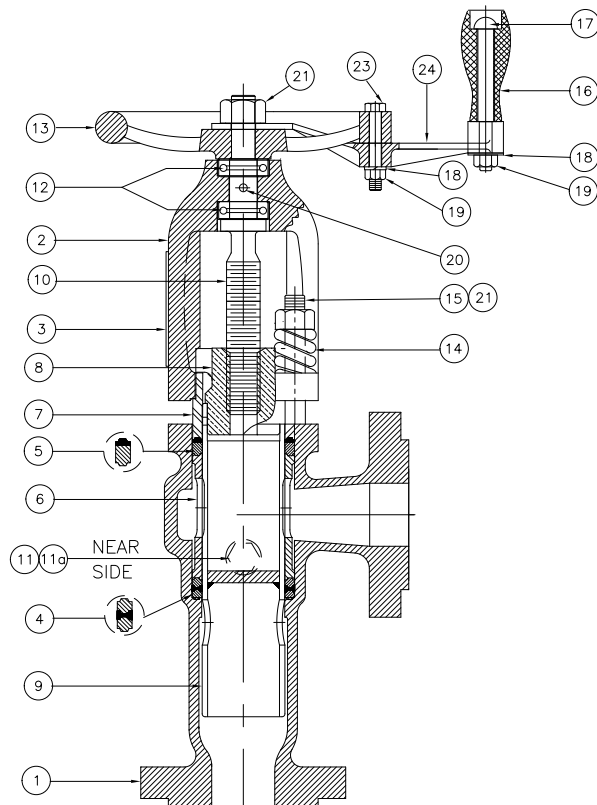
Item	Description
1	Body
2	Yoke
3	Nameplate
4	Lower packing set
5	Upper packing set
6	Lower gland
7	Upper gland
8	Plunger head
9	Plunger tube
10	Stem
11	Stop screw
11A	Gasket
12	Ball thrust bearing
13	Handwheel
14	Springs
15	Stud
16	Grip
17	Bolt
18	Lock washer
19	Hex nut
20	Lubrication fitting
21	Hex nut
23	Bolt
24	Extension lever
25	Bearing spacer
26	Roller washer

### PARTS ORDERING

Repair Kit (includes keys 4, 5, 6, 7, 10, 11, 11A, 12, 14, 15, 21, 25 and 26)

Size	Product Type	Part Number
1", 1-1/4" (DN 25, DN 32)	3482-R and 3484-R	YG963788-01A
	3486-R and 3488-R	YG963788-05A
1-1/2" (DN 40)	3482-R and 3484-R	YG963788-02
	3486-R and 3488-R	YG96378806A
	3910-R and 3912-R	YG96378809
2" (DN 50)	3482-R and 3484-R	YG963788-03A
	3486-R and 3488-R	YG963788-07A
	3910-R and 3912-R	
2-1/2" (DN 65)	3482-R and 3484-R	YG96378804A
	3486-R and 3488-R	YG96378808A
	3910-R and 3912-R	

FIGURE 2  
Seatless 3900 Series Blow-off Valve



# YARWAY SEATLESS BLOW-OFF VALVES

## TYPE B AND TYPE C

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### **NOTE:**

Any malfunction of this product must be reported to the service department. Repair made to the product by unauthorized personnel will void the warranty.

### **RIGHT TO KNOW LAWS AND OSHA STANDARD 29CFR (1910.1200)**

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Material Safety Data Sheets on the following Yarway products: Valves, Steam Traps and Strainers

The OSHA Hazard Communication Standard 29CFR 1910.1200, states that the standard does not apply to "articles." The standard defines an article as:

"A manufactured item formed to a specific shape or design for a particular use which does not release or otherwise expose an employee to a hazardous chemical under normal conditions of use."

The above named products fall within the definition of an "article", no Material Safety Data Sheets are available or are required. Our product is manufactured as an "end product." If the product is a weld end the following applies.

### **WARNING**

*Materials used in manufacture of Yarway products are considered in a stable condition when shipped. However, under certain conditions purchasers could create potential hazardous conditions by their future operations.*

### **CAUTION**

*Welding, cutting, burning, machining or grinding of this product can generate toxic dust and fumes of potentially hazardous ingredients. The dust or fumes can cause irritation of the respiratory tract, nose, throat, skin and eyes. It may cause temporary or permanent respiratory disease in a small percentage of exposed individuals. Use moderate ventilation when grinding or welding. Avoid breathing dust, fumes or mist. Avoid prolonged skin contact with dust or mist. Maintain dust levels below OSHA and ACGIH levels. Use protective devices. Wash hands thoroughly after contact with dust before eating or smoking.*

# YARWAY SEATLESS BLOW-OFF VALVES

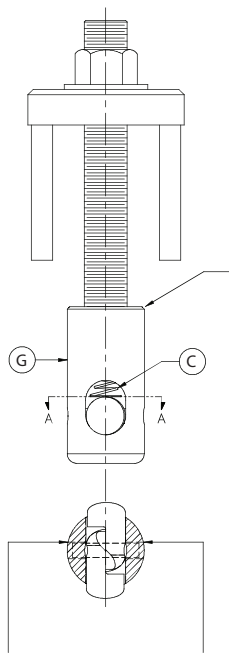
## TYPE B AND TYPE C

### GLAND AND PACKING PULLER TOOL ORDERING

Part Number	Description
YG946458	Packing puller w/box* (Contains Items A-F)
YG946459-01	1", 1 1/4" Head assembly (Contains Item G)
YG946459-02	1 1/2" Head assembly (Contains Item G)
YG946459-03	2" Head assembly (Contains Item G)
YG946459-04	2 1/2" Head assembly (Contains Item G)

### GLAND AND PACKING PULLER TOOL

Item	Description
A	Bridge plate assembly
B	Jack screw
C	Spring
D	Thrust washer
E	Nut 1 1/4" hex
F	Screw (spring mtg.)
G	Head Assembly



Note: chisel marks on head give indication of direction of pawls when inside valve body

Edge of hole peened to hold pin in place

FIGURE 3  
Seatless blow-off valve gland and packing assembly

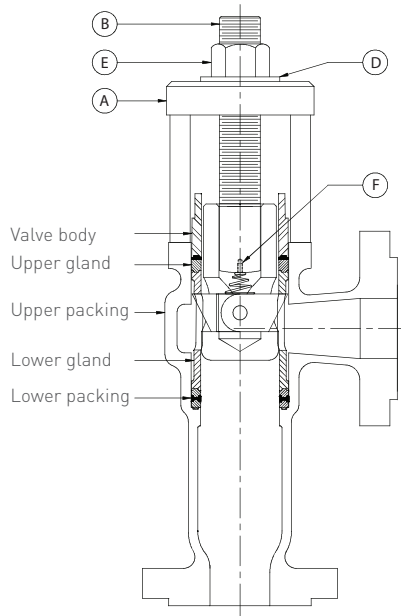


FIGURE 4  
Without support ring

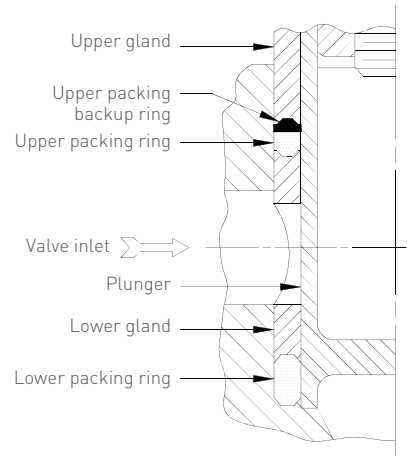
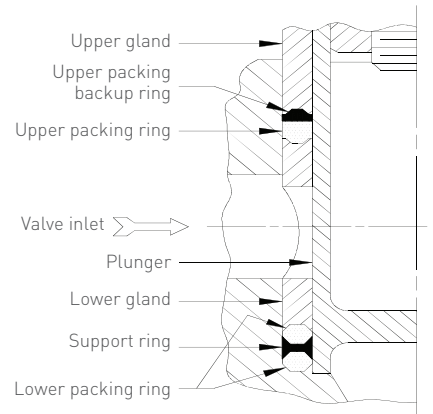


FIGURE 5  
With support ring



Head assembly fits all types of Yarway seatless valves in size specified

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