

## **BRAY / McCANNALOK**

**41R High Performance Valves for the SUGAR INDUSTRY**



- Steam Valves for Evaporators
- Evaporator Steam and Escape Valves
- 100% Bi-directional Bubbletight
- Large Cv
- Easy Automation
- Award-winning Design
- Lighter Weight

# BRAY / McCANNALOK

## SERIES 41 R

### EVAPORATOR STEAM VALVE

#### Zero Leakage Butterfly Valves

- 100 PSI Rated
- Double Flanged Design
- -20°F to 500°F (-29°C to 260°C)
- Zero-Leakage, Bi-directional Shut-off to full rated Pressure



Bray Controls is proud to offer the Bray/McCannalok line of specially designed high performance butterfly valves for the Sugar Industry. These valves are structured to handle the low pressure steam of evaporators. This is also the same valve that for 30 years has proven to be the leader in double offset design for the process industry.

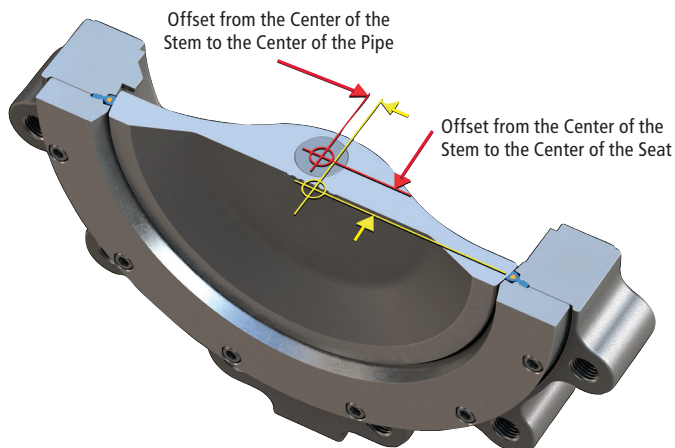
This valve incorporates the same proven design features of the standard Bray/McCannalok valve but in a lighter, more economical configuration specifically designed for the sugar industry steam services. It can be used along with the standard higher pressure Bray/McCannalok butterfly valves and shares the same spare parts, thereby reducing the need for special or different inventory.

*For over 30 years  
the reliability of the  
Bray/McCannalok  
has been conclusively  
proven, both in lab  
tests and thousands of  
field applications.*

The Bray/McCannalok's unique, patented design received Chemical Processing's Vaaler Award for Best Product shortly after it was introduced. The simple, innovative design offers rugged reliability and extremely easy maintenance in the field. Independent and internal tests have proven Bray/McCannalok's superior service life capability, with zero-leakage shut-off through over 100,000 cycles. The Bray/McCannalok valves can be easily automated with manual, pneumatic or electric actuators.

After a test of over 100,000 cycles at 720 psi, the seat remained in excellent condition, continuing to provide a bi-directional zero-leakage seal. Even after more than 878,000 cycles at 2 psi, the Bray/McCannalok High Performance Valve still sealed zero-leakage in both directions.

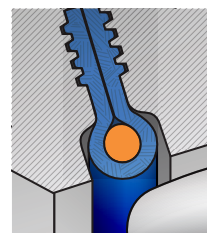
#### DOUBLE OFFSET STEM AND DISC DESIGN



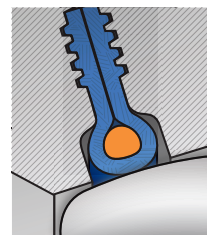
#### SEAT DESIGN: THE HEART OF THE BRAY/ McCANNALOK VALVE

The unique, two-part seat assembly consists of a resilient energizer which is totally encapsulated by the seat. The assembly is locked in the body recess by a full-faced seat retainer. This simple, reliable and proven combination results in many exclusive advantages including:

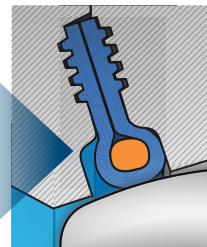
- The energizer is completely isolated from all contact with the line media by the seat.
- Serrations in the seat retainer and body recess secure the seat assembly in place regardless of disc position.
- The full-faced retainer is bolted to the body, locking the seat in the correct position. The seat is secured even without the mating flange.
- The closely confined and well supported seat is energized by the disc and line pressure. The higher the pressure, the tighter the seal. In low pressure and vacuum applications, the energized seat offers superior sealing and longer service life than many other designs.
- Line media is sealed to zero-leakage in both directions.
- The seat is self-adjusting for wear and temperature changes.
- Seat replacement is extremely easy. Just remove the seat retainer, rotate the disc into the closed position and place a new seat assembly in the machined recess of the body. This simple procedure will not disturb the disc or stem.



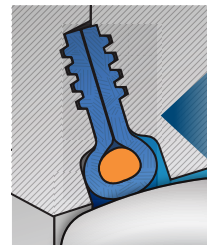
Seat non-compressed as disc approaches.



Disc in closed position; with no line pressure.



Disc in closed position; line pressure applied from the left.



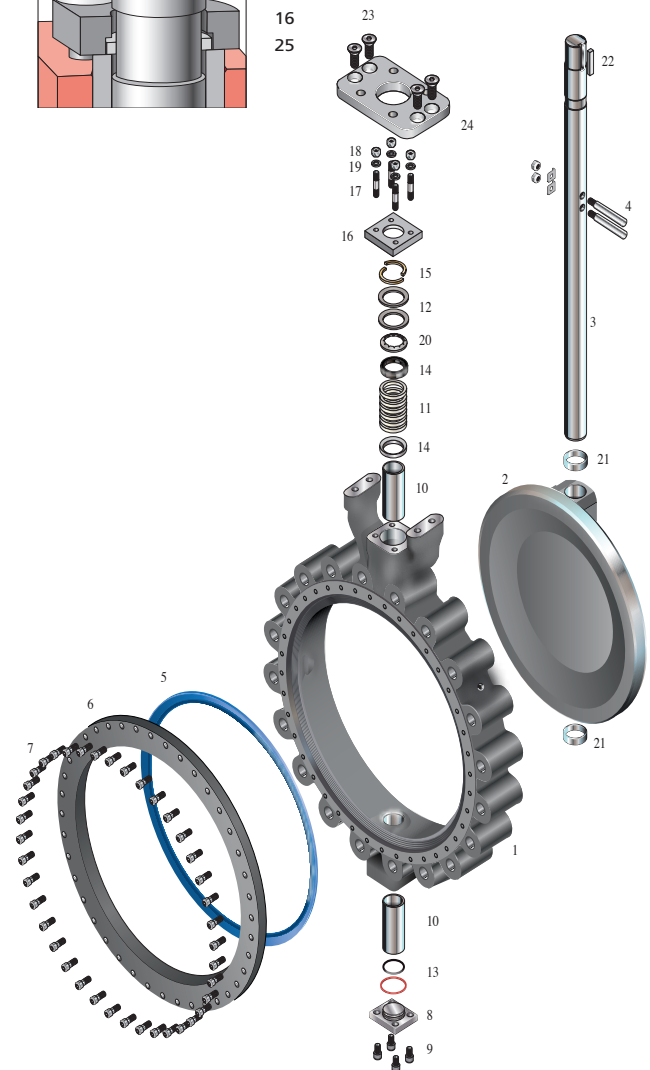
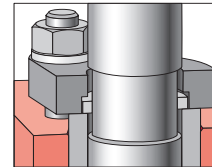
Disc in closed position; line pressure applied from the right.



## Materials of Construction

| ITEM | NAME                     | MATERIAL                                               |
|------|--------------------------|--------------------------------------------------------|
| 1    | Body                     | Phosphatized Ductile Iron<br>Phosphatized Carbon Steel |
| 2    | Disc                     | Carbon Steel with<br>Stainless Steel Edge              |
| 3    | Stem                     | 17-4 PH Stainless Steel                                |
| 4    | Heavy Duty<br>Coiled Pin | 420 Stainless Steel                                    |
| 5    | Seat                     | RPTFE♦                                                 |
| 6    | Seat Retainer            | Phosphatized Carbon Steel                              |
| 7    | Retainer Screws          | Carbon Steel                                           |
| 8    | Locating Plug            | Phosphatized Carbon Steel                              |
| 9    | Capscrews                | Carbon Steel                                           |
| 10   | Bearing                  | 316 Stainless Steel with TFE                           |
| 11   | Stem Seal Kit            | PTFE                                                   |
| 12   | Disc Spring              | 18-8 Stainless Steel                                   |
| 13   | O-Ring                   | PTFE                                                   |
| 14   | Gland Ring               | 316 Stainless Steel                                    |
| 15   | Split Ring               | 18-8 Stainless Steel                                   |
| 16   | Gland Retainer           | Phosphatized Carbon Steel                              |
| 17   | Stud                     | 316 Stainless Steel                                    |
| 18   | Nut                      | 18-8 Stainless Steel                                   |
| 19   | Lock Washer              | 18-8 Stainless Steel                                   |
| 20   | Grounding<br>Washer      | 18-8 Stainless Steel                                   |
| 21   | Disk Spacers             | 316 Stainless Steel                                    |
| 22   | Key                      | 18-8 Stainless Steel                                   |
| 23   | Capscrews                | Carbon Steel                                           |
| 24   | Mounting Plate           | Phosphatized Carbon Steel                              |
| 25   | Retaining Ring           | 18-8 Stainless Steel                                   |

BLOW-OUT PROOF STEM



♦ RTFE is supplied by Bray as RPTFE (reinforced polytetrafluoroethylene).

Other materials are available.  
Please consult Bray representative for your specific application.



THE HIGH PERFORMANCE COMPANY

## BRAY INTERNATIONAL PRIMARY SALES AND SERVICE LOCATIONS

USA  
Houston, Texas

AFRICA  
Johannesburg

BENELUX  
Heerhugowaard

BRAZIL  
Paulinia, Sao Paulo

CANADA  
Montreal

CHILE  
Santiago

CHINA  
Hangzhou, Zhejiang

COLOMBIA  
Bogotá

FRANCE  
Voiron

GERMANY  
Krefeld

INDIA  
Vadodara

ITALY  
Milano

MEXICO  
Zapopan, Jalisco

MIDDLE EAST  
Dubai

PACIFIC  
Melbourne, Australia

PERU  
Lima

POLAND  
Oświęcim

RUSSIA  
Moscow

SINGAPORE  
Ubi Techpark

SOUTH KOREA  
Seoul

SOUTHEAST ASIA  
Malaysia

UNITED KINGDOM  
Glasgow

### FLOW-TEK

USA  
Houston, Texas

BRAZIL  
Paulinia, Sao Paulo

CHINA  
Hangzhou, Zhejiang

### RITE CORPORATION

CANADA  
Montreal

### VALVTRONIC

ARGENTINA  
Buenos Aires

### AMRESIST

USA  
Houston, Texas

### BRAY/VAAS

INDIA  
Chennai

### KUGELHAHN MÜLLER

GERMANY  
Krefeld

## HEADQUARTERS

### Bray International, Inc.

13333 Westland East Blvd.

Houston, Texas 77041

Tel: 281.894.5454

bray.com

All statements, technical information, and recommendations in this bulletin are for general use only. Consult Bray representatives or factory for the specific requirements and material selection for your intended application. The right to change or modify product design or product without prior notice is reserved. Patents issued and applied for worldwide.

Bray® is a registered trademark of Bray International, Inc.

© 2017 Bray International. All rights reserved.

B-1052\_EL\_S41R\_01\_2018