



## **OPERATING AND MAINTENANCE**

### **SERIES 2023 NO-FREEZE CONTROL VALVE**

#### **PREVENTIVE MAINTENANCE**

1. **Seat** - Check every six months if in normal service, i.e., no sander abrasive sand low pressure drop. If in severe service, i.e., high pressure drop and sanding condition, check every sixty days.
2. **Valve Plug** - Same as number one.
3. **Valve Stem O-Ring** - Check for wear every year.
4. **Actuator** - Check diaphragm once a year.
5. **General Maintenance** - When Diassembling any portion of valve always check o-ring for damage or wear before reassemble.
6. **Body** - Under normal conditions body should last years. However, under severe conditions, i.e., corrosion, sand and high pressure drop, valve life could be numbered in days only. Inspect the body every time the actuator is removed.

#### **APPLICATION**

The series 2023 is specially designed as a high pressure reverse seating dump valve for separate and other process vessels. The body screws directly into the vessel connection. This places the inner valve inside the vessel which allows any warm fluid present to retard freezing inside the valve body.

**Caution: Before disassembly or maintenance, all pressures in this device must be relieved. Failure to relieve pressures may result in personal injury or device damage. The resulting uncontrolled venting or spilling of line fluids may cause personal injury, loss of process control or environmental contamination.**

## TROUBLE DIAGNOSIS

Valve leaks when in the closed position	something under plug or valve plug and seat are worn	Remove valve from vessel, open valve with air pressure, inspect the seat and plug. By visual inspection you can see whether plug and seat are worn. Plug is usually the first to be replaced.
Diaphragm housing leaks air from breather plug.	Worn out diaphragm or diaphragm plates have worked loose and need tightening	Remove pressure from diaphragm housing and disassemble top. Replace diaphragm. If nuts that hold diaphragm plates are loose, tighten.
Valve leaks. Valve is normally closed. Seat and Plug O.K., spring O.K., nothing under plug.	Pressure drop too great across valve.	Check valve pressure drop table for limits on pressure drop.
Valve will not open. Flow over plug. Normally closed valve.	Pressure drop across valve seat too great.	Increase actuating air pressure to maximum of 35 PSI. If this will not let valve open, then valve orifice is too big. Smaller size plug is needed. Consult pressure drop table.

## **NORRISEAL**

A DOVER RESOURCES COMPANY

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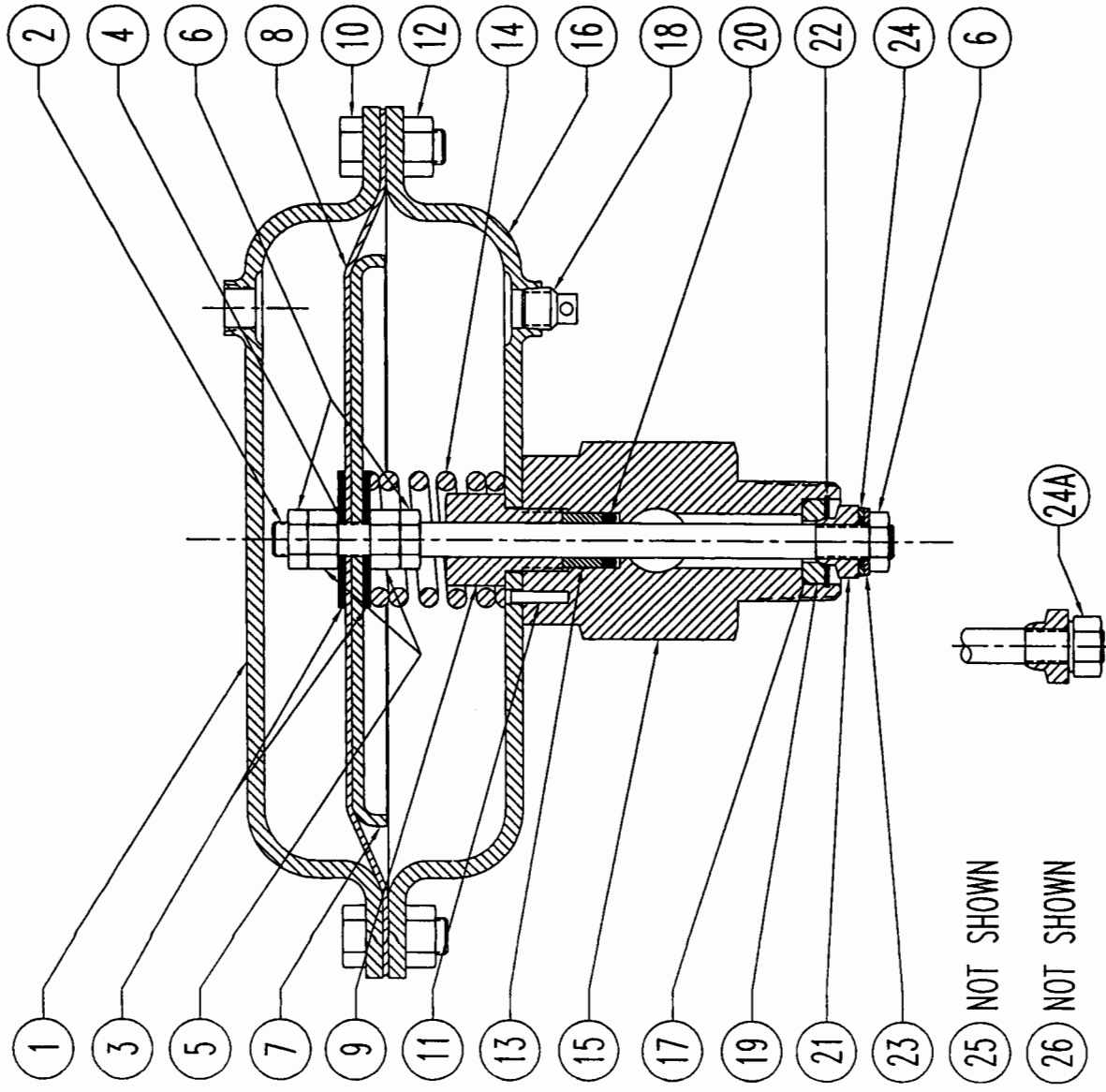
11122 WEST LITTLE YORK • HOUSTON, TEXAS 77040

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ITEM	DESCRIPTION	MATERIAL	STOCK NUMBER	QTY.
1	HOUSING DIFFERENTIAL UPPER SS	CARBON STEEL PAINTED	418394 2-2070-040	1
2	STEM VALVE .375	303 SST	413123 1-2200-004	1
3	WASHER 1.500 X .375	316 SST	416490 1-2200-148	1
4	O RING DIFFERENTIAL/WASHER	CARBON STEEL PAINTED	425096 1-2023-016	2
5	NUT HEX REGULAR 3/8-24	BUNA N	415104-011	1
6	NUT HEX REGULAR 3/8-24	WTRN	416592-011	1
7	PLATE DIFFERENTIAL .30 X 6.25	CARBON STEEL PAINTED	415862	2
8	DIFFERENTIAL ACTUATOR FLAT / 9.	CARBON STEEL PAINTED	416223	3
9	REINFORC O RING/LOWER HOUSING F/375 STEM	CARBON STEEL PAINTED	416770 1-2222-013	1
10	SCREEN CAP HEX 3/8-16 X .88	BUNA N/WALON	416248 1-2200-037	1
11	PIN ROLL .125 X .625	303 SST	426174 1-2023-024	1
12	NUT HEX REGULAR 3/8-16	CARBON STEEL PAINTED	416100	12
13	BEARING WHEEL F/204 O RING	420 SSI	415983	1
14	SPRING ACTUATOR BA 1.5 X 1.96 LG	CARBON STEEL PAINTED	415002	12
15	BODY 2023A ANGLE NPT 2250 WP	WTRN BERLON	411716 1-2275-010	1
16	HOUSING DIFFERENTIAL LOWER SS	CARBON STEEL PAINTED	416786 1-2222-015	1
17	O RING SEAL/BOODY	CARBON STEEL PAINTED	426151 1-2023-027	1
18	PLUG BREASHER .250 NPT L-WHT	CARBON STEEL PAINTED	426123 1-2023-025	1
19	SEAL VALVE	WTRN	425994-019	1
20	O RING STEM/BOODY	CARBON STEEL PAINTED	425995-019	1
21	PLUG VALVE	303 SST	416089 1-2020-657	1
22	PLUG VALVE	316 SST	413762 1-2023-003	1
23	PLUG VALVE	SOLID CARBIDE	413768 1-2023-007	1
24	PLUG VALVE	303 SST	425151 1-2023-012	1
25	PLUG VALVE	316 SST	413764 1-2023-005	1
26	PLUG VALVE	SOLID CARBIDE	413770 1-2023-009	1
27	PLUG VALVE	316 SST	425152 1-2023-014	1
28	PLUG VALVE	BUNA N	415882-204	1
29	PLUG VALVE	WTRN	415788-204	1
30	PLUG VALVE	303 SST	413761 1-2023-002	1
31	PLUG VALVE	316 SST	413766 1-2023-006	1
32	PLUG VALVE	17-4 SST	413941 1-2023-019	1
33	PLUG VALVE	440C SST	413942 1-2023-011	1
34	PLUG VALVE	303 SST	413763 1-2023-004	1
35	PLUG VALVE	316 SST	413769 1-2023-008	1
36	PLUG VALVE	17-4 SST	413945 1-2023-013	1
37	PLUG VALVE	440C SST	413771 1-2023-010	1
38	PLUG VALVE	RTRMR	425987	1
39	PLUG VALVE	303 SERIES SST	626101	1
40	PLUG VALVE	CARBON STEEL/INIBLE	625335	1
41	PLUG VALVE	CARBON STEEL/INIBON	626171	1
42	PLUG VALVE	CARBON STEEL/WALON	625986	1
43	PLUG VALVE	CARBON STEEL PAINTED	415247	2
44	PLUG VALVE	316 SST	416229 1-2200-084	1

PARTS LIST 2023A (.50 OR .75) X 1.00 NPT  
W/ NO. 98A REV. ACT.

DATE: 12-01-80  
DRAWN BY: PDS  
CHECK RELEASE NO. 17420  
DRAWING NO. 1-7023-26  
SHEET 1 OF 1



ALTERNATE THREAD SEAL  
ITEM 24A REPLACES ITEMS 6, 23 & 24.

25 NOT SHOWN  
26 NOT SHOWN