OPERATING MANUAL

PRECISE PRESSURE CONTROLLER

MODEL NO. 3893-1D01

RUSKA INSTRUMENT CORPORATION
HOUSTON, TEXAS

PRECISE PRESSURE CONTROLLER

OPERATING INSTRUCTIONS

MODEL NO.	MAXIMUM WORKING PRESSURE
3891-801	1000 psi
3893-801	3000 psi
3898-801	10000 psi
3891-804	1000 psi

GENERAL

The Ruska® Precise Pressure Controller is a device designed to set pressures as precise as .00025 psi in closed gas systems at working pressures noted above.

Materials of the controller exposed to the gas media are: aluminum, stainless steel, Buna N, brass, and Teflon. Special materials can be ordered for severe corrosive service.

HOOKUP

This instrument contains three ports, all 1/8" NPT female. The pressure source is connected through a shut-off valve to the port marked "Inlet". A vent valve is connected to the port marked "Vent". The system pressure to be controlled is connected to the rear port on the end cap.

SETTING A PRESSURE

Close both inlet and vent valves, and pull out (to open) by-pass valve on top of controller. This will interconnect the system pressure with both sides of the adjusting piston. For maximum adjustment of pressure, back off the large adjusting knob, counterclockwise, until it stops.

Gradually open inlet valve, slowly bleeding gas into the system. When a pressure just below the desired final set point is reached, close inlet valve. If excess pressure is inadvertently introduced, bleed off through vent valve.

Close by-pass by pushing in small knob. Final adjustment is then made by turning large knob clockwise.

Venting of the system must always be done through the vent valve. Any other method can damage the piston.

AUTOMATIC EQUALIZING

If excess pressure builds up in the system on the inlet side of the piston, the by-pass valve will open to equalize pressure on both sides of the adjusting piston. Normally this will occur at

about 100 psid on the 1000 psi and the 3000 psi units, and at about 300 psid on the 15000 psi unit. If a larger or smaller differential is desired, adjust the slotted nuts located on each end of the push-pull stem of the by-pass valve. A special tool for this purpose is available as an accessory.

It is advisable to exercise the by-pass valve stem after prolonged periods of inactivity. This will prevent sticking, which could result in a larger required differential pressure for automatic equalizing.

MAINTENANCE

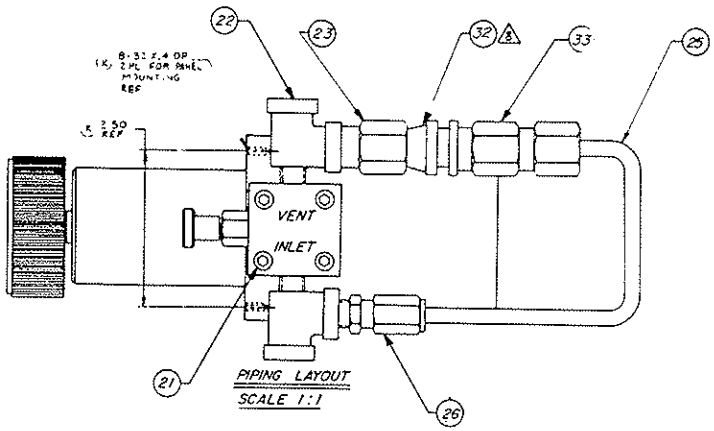
Because of the use of a special "O-Ring" lubricant, the Precise Pressure Controller requires little or no maintenance when used with clean gas. Overhaul can be accomplished in the field if necessary.

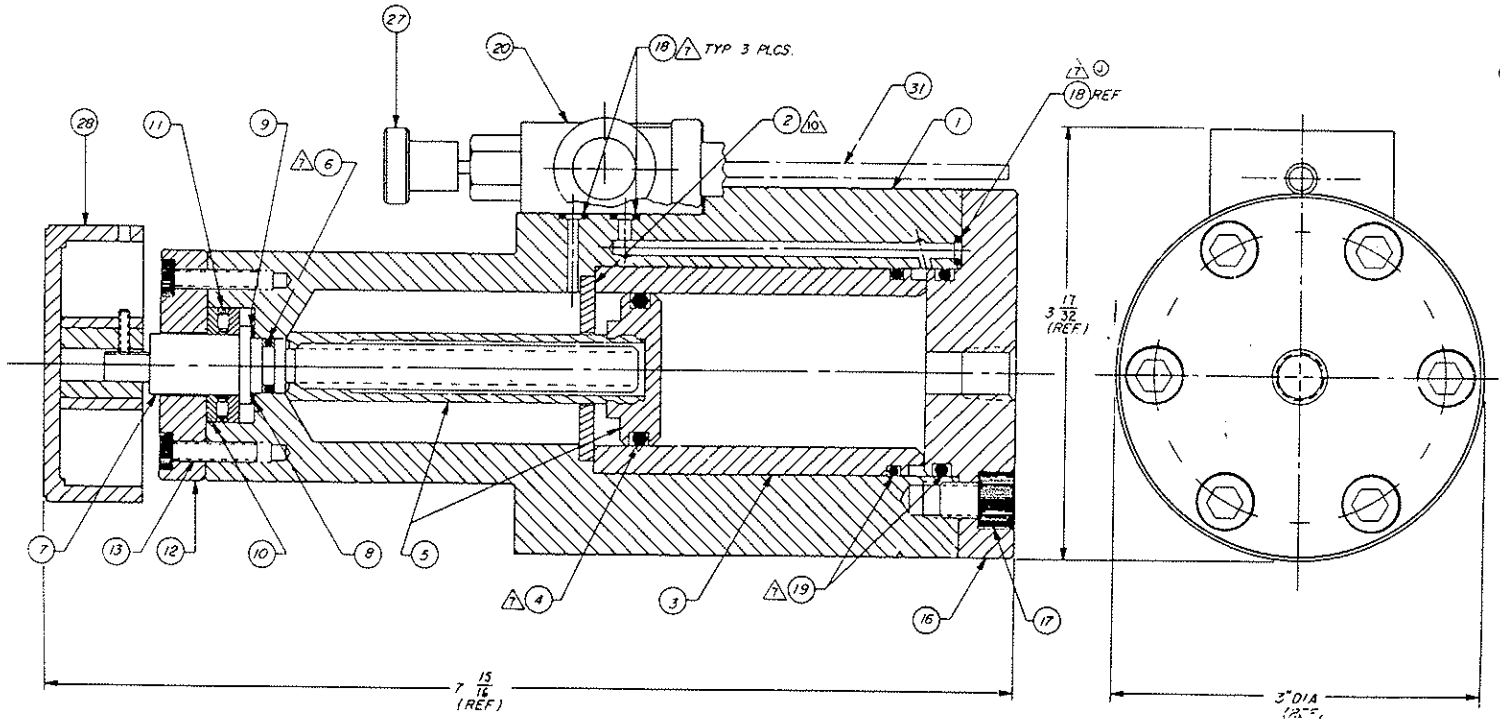
CAT. NO. 3893-801-40801 SERVICE KIT

NAME	QUANTITY	STOCK NO.
"O" Ring	2	54-704-013
"O" Ring	4	54-704-004
"O" Ring	2	54-704-005
"O" Ring	6	54-704-006
"O" Ring	4	54-704-011
"O" Ring	2	54-704-128
"O" Ring	2	54-704-214
Washer	2	3891-001-04
Back-Up Ring	4	54-266
Lubricant	1 oz. Tube	45-325
Adjusting Tool	1	3891-001-10

NOTES

1. ⓙ REMOVED
2. ⓙ REMOVED
3. ⓙ REMOVED
4. ⓙ REMOVED
5. ⓙ REMOVED
6. ⓙ REMOVED
7. USE DRI-LUBE MIXTURE & SPECIAL MOLY ON O-RINGS
8. ⓙ SET TO RELIEVE BETWEEN 110 & 140 PSI
9. FIT TO REMOVE END PLAY
10. STAKE IN 3 PLACES
11. TEST PER ER 244
12. ⓖ ⓙ REMOVED





REVISIONS		
A	DCN 00118	
B	DCN 001194	
C	ADDED	
D	REDRAWN	
E	ITEM 17 WAS 70-199-2108 ITEM 18 WAS 70-144-2108	
F	DCN 1534	
G	DCN 1933	
H	DCN 2256	
J	DCN 3005	
K	DCN 4176	

ⓙ	33	1	CONNECTOR, FEMALE	25-16	
ⓙ	32	1	VALVE, RELIEF	88-751	
	31	1	TOOL, VALVE ADJG.	3891-1-10	DWG SIZE A
ⓙ	30	AR	DRI LUBE	45-325	
ⓙ	29		REMOVED		
	28	1	KNOB	39-55	
	27	1	KNOB	3891 1-9	
	26	1	CONNECTOR, MALE	25-021	
	25	1	TUBING	86-833	
ⓙ	24		REMOVED		
	23	1	ADAPTER, RED.	25-105	
	22	2	TEE STREET	25-126	
	21	4	SCREW	70-145-2100	HHCS 8-32 X 1/8
	20	1	VALVE ASSY	3891-1-0	
	19	2	O-RING	54-704-128	
	18	3	O-RING	54-704-6	
	17	6	SCREW	70-200-2100	HHCS 5/16-18X3/4
	16	1	CAP, END	3891-1-2	DWG SIZE B
	15				
	14				
	13	4	SCREW	70-153-2101	HHCS 10-24X 1/2
	12	1	CAP, FRONT END	3891-803-11	DWG SIZE A
	11	1	BEARING	5-125	
	10	2	BEARING	5-187	
	9	1	SPACER, LAMINATED	75-219	
	8	1	BUSHING	3891-1-4	DWG SIZE A
	7	1	SPINDLE	3891-3-1	DWG SIZE B
	6	1	O-RING	54-704-11	
	5	1	PISTON	3891-3-5	DWG SIZE B
	4	1	O-RING	54-704-214	
	3	1	REDUCING, SLEEVE	3891-3-4	DWG SIZE B
	2	1	WASHER, ANTIROTATION	3891-1-3	DWG SIZE B
	1	1	BODY	3891-1-1	DWG SIZE B
ITEM	QTY	DESCRIPTION		DIC PART NUMBER	MATERIAL

BJF 7-28-80

RUSKA INSTRUMENT CORPORATION

PRECISE PRESSURE CONTROLLER 3000 PSI

D 3893-801