

# Model 100L

## Diaphragm Seals for Butt Welded In-Line Process Connections Standard Pressure Rating with Metal Lower Housing Complete with Clean-out Option

### Process Connection Sizes

1/4" through 1"

All Pipe Schedules per ASME/ANSI B36.10 or B36.19

### Maximum Working Pressure

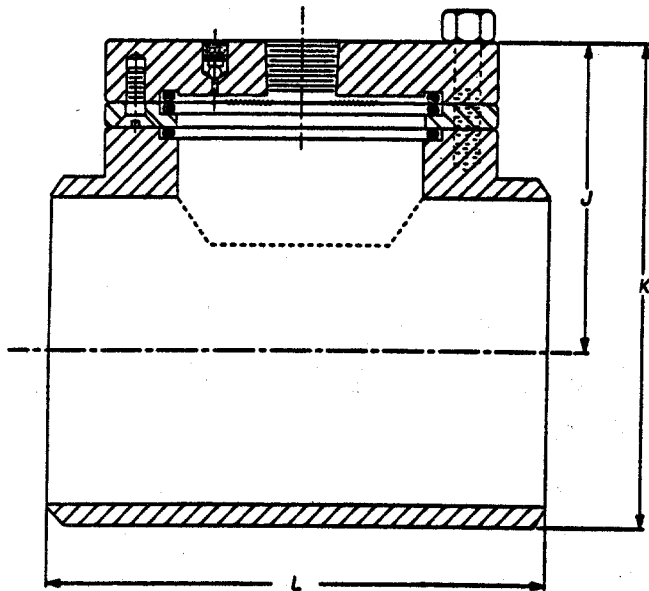
Conforms to Pipe Schedule Ratings as calculated by ASME B31.1 Equation "4" @ 100°F (38°C) (See Notes 3, 4, 5 and 8)

### Dimensional Data

#### Process Connection Size

	1/4"	1/2"	3/4"	1"
J	1.63 (41)	1.63 (41)	2.38 (60)	2.38 (60)
K	2.38 (60)	2.38 (60)	2.56 (65)	3.20 (84)
L(9)	5.00 (127)	5.00 (127)	5.00 (127)	5.00 (127)

( ) Dimensions in millimeters



### Standard Features and Options

This butt weld connection, in-line seal has a replaceable diaphragm clamped between o-rings. The 100L Series Seals are designed to utilize a diaphragm that is field replaceable. This configuration allows for the use of metal as well as elastomer diaphragm materials. The 100L Series Seals are utilized for applications that require a continuous flow of the process across the diaphragm to insure that pressure sensing is not inhibited by solids buildup. The 100L Series Seals utilize a "Clean-out" feature which is a separate diaphragm clamping ring that permits removal of the lower housing for welding of lower, inspection, or cleaning of the diaphragm without loss of fill fluid. The displacement capability of this series of diaphragm seal is 0.09 cubic inches. The Seal-off feature is optional.

### Offerings

**Lower Materials:** All metallic

**Upper Materials:** Carbon Steel or 316 Stainless Steel

**Diaphragm Materials:** All metallic and elastomers

**O-Rings:** Buna-N, Teflon, Viton

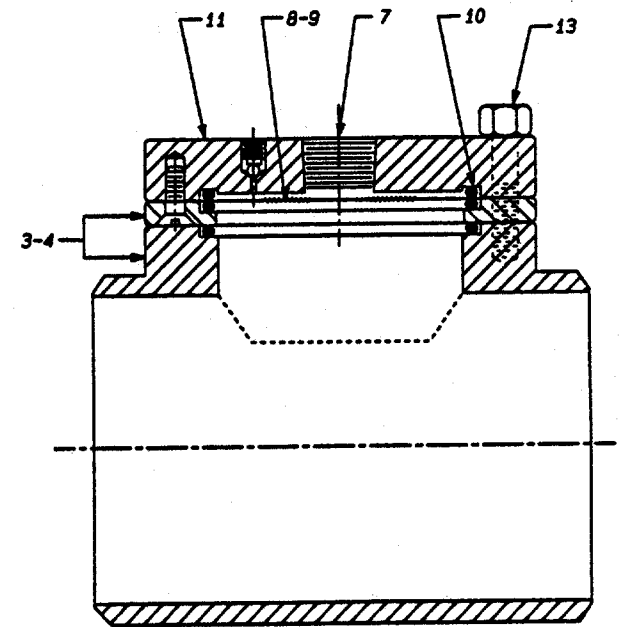
**Bolting:** Carbon Steel or 300 Series Stainless Steel (See Notes 3, 4, 5 and 8)

### CONTROL ENGINEERING DATA

ACS6 2 J 1 SL B C 0 C 0 N

- (15) FILL LIQUID  
N = (Standard)
- (14) TEFLON COATINGS (See Note 10)  
0 = None (Standard)  
A = Teflon Coated Diaphragm Only
- (13) BOLTING  
C = Carbon Steel Grade 5 (See Note 3)  
S = 300 Series Stainless Steel (See Note 4)  
H = 300 Series Stainless Steel (Hi-Strength) (See Note 5)
- (12) FUTURE OPTIONS  
0 = Not Applicable
- (11) UPPER HOUSING MATERIAL  
C = Carbon Steel (Standard)  
S = 316 Stainless Steel
- (10) O-RING MATERIAL  
B = Buna "N" (Standard)  
T = Teflon-Virgin (See Note 2)  
V = Viton
- (8-9) SEAL DIAPHRAGM MATERIAL  
BN = Buna "N"  
C2 = Carpenter 20 CB-3  
HB = Hastelloy B3  
HC = Hastelloy C-276  
I6 = Inconel 600  
KF = Kel-F  
M5 = Monel 400  
N2 = Nickel 200  
SL = 316L Stainless Steel (See Note 1)  
TA = Tantalum  
TI = Titanium - Grade 2  
TF = Teflon-Virgin  
VI = Viton
- (7) SEAL INSTRUMENT CONNECTION  
1 = 1/4" NPTF with bleed  
2 = 1/2" NPTF with bleed
- (6) SEAL PRESSURE (PIPE SCHEDULE) RATING @ 100°F (38°C) (See Notes 3, 4, 5 and 8)  
H = Schedule 5  
I = Schedule 10  
J = Schedule 40 (Standard)  
K = Schedule 80  
L = Schedule 160
- (5) SEAL PROCESS CONNECTION  
2 = 1/4"  
4 = 1/2"  
5 = 3/4"  
6 = 1"
- (3-4) LOWER HOUSING MATERIAL (WETTED) (See Note 6)  
C2 = Carpenter 20 CB-3  
CS = Carbon Steel  
HB = Hastelloy B3  
HC = Hastelloy C-276  
I6 = Inconel 600  
M4 = Monel 400  
N2 = Nickel 200  
S4 = 304 Stainless Steel  
S6 = 316 Stainless Steel  
SF = 304L Stainless Steel  
SL = 316L Stainless Steel  
TI = Titanium - Grade 4
- (1-2) DIAPHRAGM SEAL DESIGN  
AC = 100L - Butt Welded In-Line

CATALOG NUMBERS AS RECEIVED FOR THE 100L SERIES MUST CONTAIN FIFTEEN (15) CHARACTERS



### Notes:

1. Standard diaphragm material is 316L Stainless Steel for seals with lower housing manufactured of CS, S4, S6, SL and SF.
2. Teflon o-rings cannot be used on seals with pipe schedules greater than 40.
3. Using Grade 5 bolts will maintain the pressure rating calculated from the Pipe Schedule specified in Option 6.
4. When using 300 Series Stainless Steel bolts, the maximum pressure rating calculated will be reduced by 50% when the pipe schedule is greater than 40 as specified in Option 6.
5. Pipe schedules greater than 40 will be supplied with high-strength stainless steel bolting to maintain seal pressure rating when stainless steel bolts are required.
6. The clean-out ring is the same material as the lower housing.
7. N.A.C.E. - Non-welded diaphragm seals with 316 Stainless Steel, Hastelloy C-276 or Monel wetted materials of construction will meet the requirements of N.A.C.E. International Document MR-0175-1995.
8. Refer to Miscellaneous Data Section for ASME B31.1 Equation "4."
9. End-to-end dimension "L" conforms to ASME B16.9 straight tee dimensions for pipe sizes 2" and larger. For pipe sizes 1-1/2" and smaller, "L" dimension will be 5.00" (127 mm).
10. Teflon-S® Coating (FEP Grade).