



### OVERVIEW

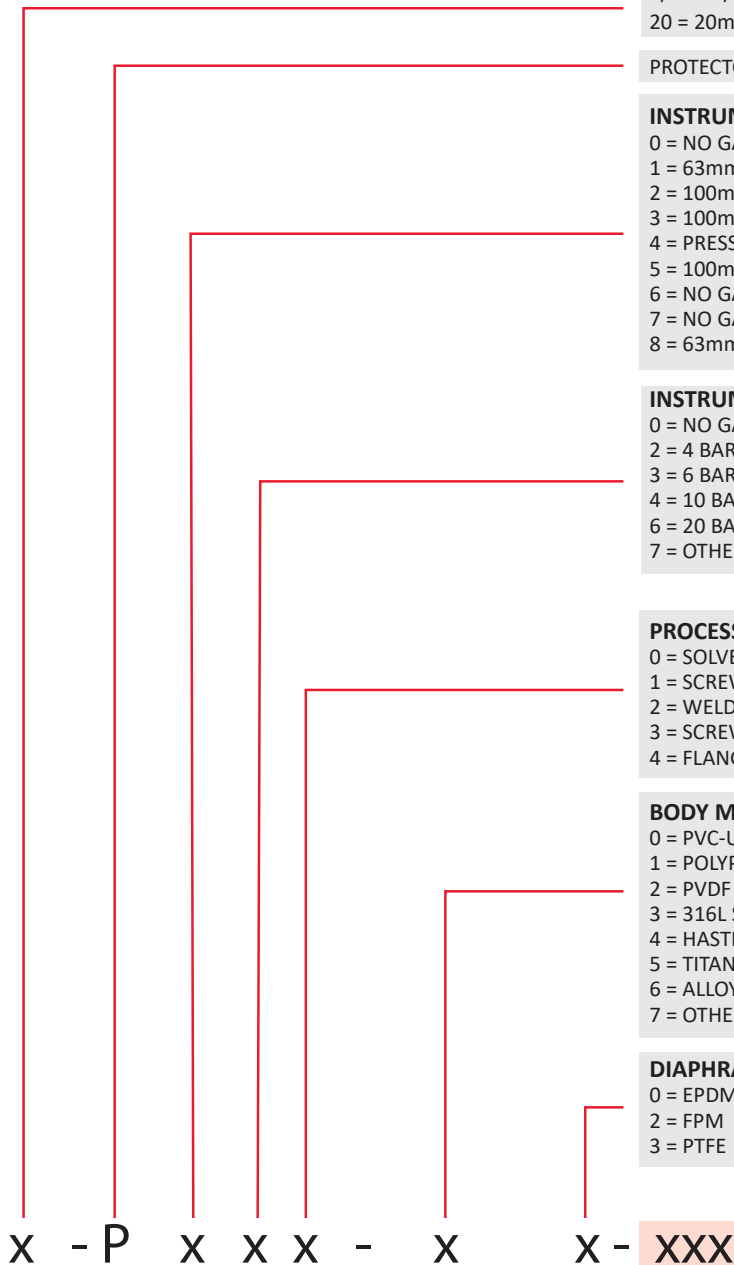
Prochem diaphragm seals (or gauge isolators) are designed to enable standard construction pressure gauges and switches to be used on process lines carrying corrosive chemicals, which would otherwise corrode or clog the sensing instruments. They operate by hydraulically isolating the pressure gauge or switch from the process stream via a diaphragm. The process fluid exerts a pressure on the diaphragm, which in turn transmits the pressure through to the sensing side of the seal which is solidly filled with water or silicon oil. This then transmits the pressure to the gauge or switch. Generally, a reduction in accuracy of approximately 0.5 -1% is experienced when using a diaphragm seal.

Note due to the memory of PTFE the gauge may not return to zero gauge pressure immediately.

### CHEMICAL DIAPHRAGM SEALS

These are designed to handle corrosive process fluids and are available in a wide range of engineering plastics and metals with a variety of elastomer diaphragm materials to suit most applications. The seals screw directly onto a tee branch or male nipple in the process line and are normally supplied complete with a standard 100mm gauge or a single pole switch. Alternative gauges/switches can be fitted as per data sheet. All gauges supplied are with dual scale in BarG and PSI and if required are available with calibration test certificates at extra cost. The seals can be supplied loose for on-site fitting but care is required to ensure that the units are correctly filled to eliminate reading inaccuracies. Normal operating temperature ranges from 1 to 60 degrees C. Please consult Prochem if outside this range.

# DIAPHRAGM SEAL DESIGNATIONS



**PROCESS CONNECTION SIZE**  
 1/2" = 1/2" BSP FEMALE [STANDARD]  
 20 = 20mm SOLVENT OR FUSION WELD UNION

**PROTECTOR DIAPHRAGM SEAL**

**INSTRUMENT FITTED**  
 0 = NO GAUGE [3/8" BSP FEMALE]  
 1 = 63mm StabilizR™ DRY GAUGE 1/4" MALE  
 2 = 100mm StabilizR™ SS DRY GAUGE 3/8" MALE  
 3 = 100mm SS GLYCERINE GAUGE 3/8" MALE  
 4 = PRESSURE SWITCH [SPECIFY]#  
 5 = 100mm SS GLY GAUGE MDP\*\* 3/8" MALE  
 6 = NO GAUGE [1/2" BSP FEMALE]  
 7 = NO GAUGE [1/4" BSP FEMALE]  
 8 = 63mm GLYCERINE GAUGE 1/4" MALE

**INSTRUMENT RANGE**  
 0 = NO GAUGE  
 2 = 4 BARG  
 3 = 6 BARG  
 4 = 10 BARG  
 6 = 20 BARG  
 7 = OTHER

**PROCESS CONNECTION TYPE**  
 0 = SOLVENT/FUSION/SOCKET WELD  
 1 = SCREWED [1/2" BSP FEMALE STANDARD]  
 2 = WELD UNION [1/2" or 20mm]  
 3 = SCREWED UNION [1/2" BSP FEMALE]  
 4 = FLANGED [SPECIFY FLG RATING]\*

**BODY MATERIAL**  
 0 = PVC-U  
 1 = POLYPROP  
 2 = PVDF  
 3 = 316L STAINLESS STEEL  
 4 = HASTELLOY C276  
 5 = TITANIUM GRADE 2  
 6 = ALLOY 20  
 7 = OTHER MATERIAL. [SPECIFY]

**DIAPHRAGM MATERIAL**  
 0 = EPDM  
 2 = FPM  
 3 = PTFE

<b>DIN</b> DIN Pressure Switch	<b>#</b>	<b>NPT</b> NPT Connections	<b>150</b> Ansi 150 lb Flange	<b>*</b>
<b>NC</b> Normally Closed Pressure Switch		<b>SO</b> Silicon Oil Filled	<b>300</b> Ansi 300 lb Flange	
<b>NO</b> Normally Open Pressure Switch			<b>PN16</b> EN1902-1 PN16, PN25, PN40 Flange	

StabilizR™ dampened movement minimizes effects of pulsation and vibration without liquid filling. Ideally suited for process, chemical and petroleum industry. Where chemical compatibility and contamination is a concern.

\*\*MDP = Maximum Drag Pointer

## EXAMPLE DIAPHRAGM SEALS

20-P242-00 – DIAHRAGM SEAL WITH PVC-U BODY, EPDM DIAPHRAGM C/W 100mm DIAMETER StabilizR™ DRY FILLED STAINLESS STEEL 0 – 10 BARG PRESSURE GAUGE. 20MM FEMALE SOLVENT WELD UNION END.

½"-P441-32-NC-150 – DIAHRAGM SEAL WITH 316L STAINLESS BODY, FPM DIAPHRAGM C/W NORMALLY CLOSED PRESSURE SWITCH 1 TO 10 BARG AND PROTECTIVE RUBBER BOOT. ½" RF ANSI 150 LB FLANGE PROCESS CONNECTION.

SUBJECT TO CHANGE WITHOUT NOTICE