



Seal Flush Details and Connections

The definition of 'flush' is to provide a liquid barrier or support to the selected seal arrangement. The characteristics of the pumped media and duty conditions will normally determine if a flush is necessary. When selecting a flushing liquid you must ensure that it is chemically compatible with the relevant materials of pump/seal construction and fully compatible with the pumped media. Consideration should be given to any temperature limitations that may apply to the flushing liquid to ensure that hazards are not created (i.e. explosion, fire, etc).

For SSP series pumps, seal flushing is available for both single and double mechanical seal arrangements.

Single Flushed Mechanical Seals

This seal arrangement is generally used for any of the following conditions:

- ?? Where the pumped media can coagulate, solidify or crystallise when in contact with the atmosphere.
- ?? When cooling of the seals is necessary dependent upon the pumped media temperature.

This seal arrangement used on externally mounted seals, requires the supply of liquid to the atmospheric side of the mechanical seal to flush the seal area. The flushing liquid is allowed to enter the seal housing at low pressure i.e. 0.5 bar (7 psi) max to act as a barrier.

Double Mechanical Seals

This seal arrangement is generally used with hostile media conditions such as high viscosity or where media is hazardous or toxic. The double flushed seal used on SSP series pumps is basically two single mechanical seals mounted 'back to back'. The seal in contact with the pumped media is referred to as the 'inboard seal' and the seal employed for the flushing liquid is referred to as the 'outboard seal'. A compatible flushing liquid is pressurised into the seal housing at a pressure of 1 bar minimum above the discharge pressure of the pump. This results in the interface film being the flushing liquid and not the pumped media.

Seal Flush Flow Rate - l/h (US gall/h)

Pump Models	Pump Operating Temperature		
	20°C (68°F)	100°C (212°F)	150°C (302°F)
S1, X1	25-30 (7-8)	25-30 (7-8)	25-30 (7-8)
S2, X2	25-30 (7-8)	25-30 (7-8)	25-30 (7-8)
S3, X3	25-30 (7-8)	30-35 (8-9)	45-50 (12-13)
S4, X4, D4	25-30 (7-8)	45-50 (12-13)	70-75 (18-20)
S5, X5, D5	25-30 (7-8)	65-70 (17-18)	100-105 (26-28)
S6, X6, D6	25-30 (7-8)	80-85 (21-22)	120-125 (32-33)
X7	25-30 (7-8)	95-100 (25-26)	135-140 (36-37)

The above recommendations are based upon the seal flushing liquid being water at ambient temperature, and apply to both single flushed and double mechanical seals. Seal flush flow rate is calculated based as per seal.

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The information contained herein is correct at the time of issue, but may be subject to change without prior notice



Seal Flush Connection Size

Pump Models	Size (in) – BSPT or NPT
S1, X1	1/8
S2, X2	1/8
S3, X3	1/8
S4, X4, D4	1/8
S5, X5, D5	1/4
S6, X6, D6	1/4
X7	1/4

Typical Flushing Pipework Layout

* Double mechanical seal only

