

■ **API 682 Seal Flush Plans - Quick Selector**

Plan	Arrangement	Typical Service	Watch For
11	Discharge recirculation through orifice to seal chamber	Default single-seal plan, clean services	Orifice plugging; verify flow at low dP
13	Seal chamber back to suction via orifice	Vertical pumps; self-venting	Reverse flow check; chamber pressure
21	Plan 11 + cooler	Hot services needing cooler seal faces	Cooler fouling raises face temp
23	Pumping ring circulates chamber fluid through cooler	Hot water/hydrocarbon; boiler feed	Pumping ring direction; vent at start-up
32	External clean flush injected to chamber	Dirty/abrasive process fluid	Flush source reliability and pressure
52	Unpressurized buffer fluid between dual seals	Emissions control; buffer < process P	Pot level rise = inboard seal leaking
53A/B/C	Pressurized barrier fluid (pot / bladder / piston)	Toxic or dirty service; barrier > process P	Barrier pressure margin; level trend
62	External quench (steam/water/N2) on atmospheric side	Coking or crystallizing fluids	Quench flow set correctly, drains clear
72/74/75/76	Containment seal plans with gas buffer/vent systems	Dual gas seals, emission capture	Vent line back-pressure; alarm settings

■ **Seal Failure Signals**

Signal	Likely Meaning
Barrier/buffer pot level rising	Inboard seal passing process fluid into pot
Pot level falling	Outboard seal leaking barrier to atmosphere, or into process (53)
Seal chamber temp climbing	Loss of flush flow, cooler fouled, faces running hot
Visible steady drip	Face damage/wear - plan replacement; check for dry-run event