



682-53C Dual Seal Barrier Fluid System

API 682 4th Edition Compliant Plan 53C



Experience In Motion



Standardized and assembled to order for reduced lead times

The 682-53C dual seal barrier system is available as an assembled-to-order (ATO) product from key global production locations with standardized components and pre-engineered configurations and packages. ATO products benefit you with faster quotation, reduced lead times and lower costs.

Designed to meet the rigorous demands of the API market as well as the chemical market and other general industries, the 682-53C product family is optimized for flexibility, reliability and value.

The 682-53C barrier system will be supplied compliant to API 682 4th edition when the API-required instrumentation and features are selected. For general industry customers, the 682-53C series can be configured with more economical options.

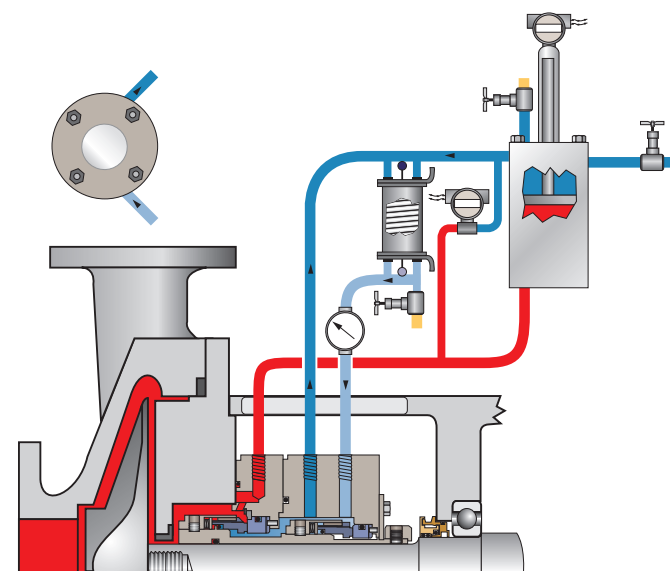
Standardized on reliability and safety

Dual mechanical seals provide superior reliability, safety and emissions control for pumps, improving plant operations and reducing maintenance.

A Plan 53 is used with dual pressurized (API Arrangement 3) mechanical seals to provide clean and cool barrier fluid to the mechanical seal faces. Plan 53C is used with clean process fluids and utilizes a piston accumulator to boost the pressure from an inlet line connected to the seal chamber to provide proper barrier pressure to the seal cooling loop. The piston accumulator provides pressure tracking capability, which is ideal for processes that have large variations in pump pressure during operation. The 682-53C can be configured with natural

convection seal cooler options, i.e., neither cooling water nor external utilities are required, making this plan ideal for remote services.

With many choices for capacity, instrumentation and construction, proper selection of a Plan 53C can be complex and lead to expensive solutions with long lead times. Flowserve's standard 682-53C pre-engineered packages provide a guide for competitive and fit-for-purpose options.



Plan 53C unit schematic



Flowserve offers a broad range of seal cooler options to meet performance and cost goals

Wet seal coolers

- **682H:** High-performance, all-316 stainless steel construction
- **682M:** Balanced performance and cost with 316 tubing and painted carbon steel shell
- **682L:** Cost-competitive solution for light-duty services with 316 tubing and 304 stainless steel shell
- **NX0750:** General industry design with 304 stainless steel tubing and painted carbon steel shell



Natural convection seal coolers

- **ANC 12S:** High-performance solution with all-316 tubing and fins
- **ANC 12P:** High-performance solution for higher-viscosity fluids with a parallel path configuration with all-316 tubing and fins
- **ANC 6S:** Cost-competitive solution for light-duty services with all-316 tubing and fins



Forced convection seal coolers

- **AFC:** High-performance solution with 316 tube and fins and all corrosion-resistant shell materials

Key standardized features and options

- All-tubing construction with user connection options: tubing union, NPT, CL 600 RFSW or CL 1500 RFSW
- API 682 4th edition compliant 1.5 gallon piston accumulator with boost ratio of 1:1.15 with FKM or FFKM gaskets
- Multiple pre-engineered seal coolers and instruments
- Stainless steel stand with multiple heights
- Pre-engineered accessories include low- and high-pressure hand pumps and/or a pressure relief valve

Custom Plan 53C units

Flowserve's standardized 682-53C seal system leverages our global supply resources and expertise to save considerable expenses and reduce lead times by 12 weeks or more. If our standardized components don't satisfy your preferences, Flowserve can still provide a fully customized Plan 53C to meet your exact specifications.





Example:

53CTNAG1M112HM0

53C Dual Seal Barrier Fluid System

T: FKM, A: FFKM

N: NPT, T: Tubing, A: CL 600 RFSW, B: CL 1500 RFSW

O: None, A: 682H, B: 682L, C: 682M, D: ANC06S, E: ANC12S, F: ANC12P,
G: AFC12PT000M1, I: AFC12PT000M2, H: NX075

G: Global (preferred), E: EMA, N: Americas, A: APAC

O: None, 1: E&H Hart PDIT, 2: E&H Fieldbus PDIT, 3: Rosemount 2051 Hart PDIT,
4: Rosemount 2051 Fieldbus PDIT, 5: Rosemount 3051 Hart PDIT, 6: Rosemount 3051 Fieldbus PDIT,
7: United Electric PSL Fall EX, 8: United Electric PSL Fall IA

O: None, L: 40 bar (600 psi), M: 100 bar (1,500 psi), H: 210 bar (3,000 psi)

O: None, 1: E&H Hart, 2: E&H Fieldbus, 3: Rosemount 2051 Hart, 4: Rosemount 2051 Fieldbus,
5: Rosemount 3051 Hart, 6: Rosemount 3051 Fieldbus

O: None, 1: Flowserve, 2: WIKA, 3: Magnetrol

O: None, 1: Rosemount LT, 2: WIKA LT, 3: Magentrol LT, 4: ABB LT, 5: WIKA LSL, 6: Magentrol LSL

O: None, H: 104 bar (1,500 psi) hand pump, L: 45 bar (650 psi) hand pump, V: Pressure relief valve,
B: H and V, 2: L and V

L: 300 to 450 mm (11.8 to 17.7 in.), M: 451 to 600 mm (17.7 to 23.6 in.), H: 601 to 750 mm (23.6 to 29.5 in.)

O: Standard, P: PED, U: U-stamp, C: CRN

Model	PA Elastomers	User Connections	Seal Cooler Model	Instrument Region	Pressure Instruments (Transmitter/Switch)	Pressure Indicator (PI)	Pressure Transmitter (PT)	Level Indicator (LI)	Level Instrumentation (Transmitter/Switch)	Options	Mounting Height (From Pump Centerline)	Certification
53C	T	N	A	G	1	M	1	1	2	H	M	0

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