

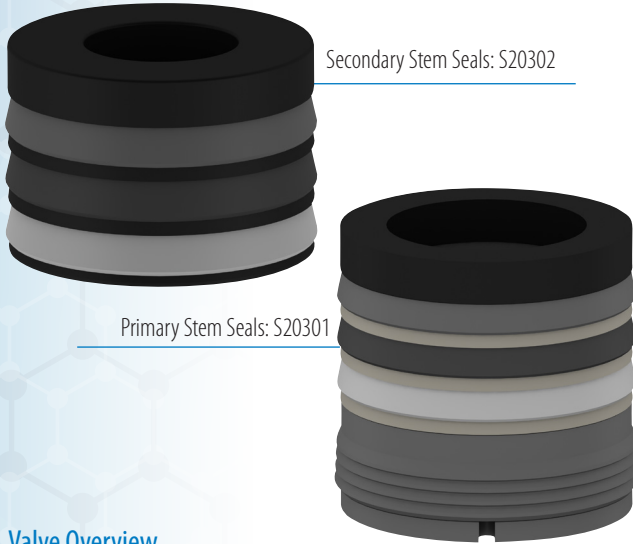
# API 6A PR2 20,000psi Subsea Slab Gate Valve



## Case studies

### EGC Seal Design

Dual barrier stem seals with pressure energized primary seals and secondary live loaded seals.



### Valve Overview

Valve Type	Subsea Slab Gate Valve
Stem diameter	20 mm (0.787 in)
Housing Diameter 1	29.5 mm (1.161 in)
Housing Diameter 2	40.0 mm (1.575 in)
Design Pressure	1380 bar (20,000 psi)
Max. Test Pressure	2069 bar (30,000 psi)
Min. Temperature	-18°C (0°F)
Max. Temperature	176°C (350°F)

### Testing Details and Results

#### Hydrostatic Pressure Test, Primary Stem Seal

- Media: Water
- Temperature: 24°C (75°F)
- Test Details: Pressurize the test fixture to 30,000 psig and dwell for 1 hour.
- Results: PASSED. No nitrogen bubbles observed during test.

#### Hydrostatic Pressure Test, Secondary Stem Seal

- Media: Water
- Temperature: 24°C (75°F)
- Test Details: Pressurize the test fixture to 30,000 psig and dwell for 1 hour.
- Results: PASSED. No nitrogen bubbles observed during test.

#### Static Gas Test, Primary Stem Seal

- Media: N<sub>2</sub>
- Temperature: 24°C (75°F)
- Test Details: Pressurize the test fixture to 20,000 psig and dwell for 1 hour.
- Results: PASSED. No nitrogen bubbles observed during test.

#### Static Gas Test, Secondary Stem Seal

- Media: N<sub>2</sub>
- Temperature: 24°C (75°F)
- Test Details: Pressurize the test fixture to 20,000 psig and dwell for 1 hour.
- Results: PASSED. No nitrogen bubbles observed during test.

#### Ambient Temperature Cycle Test

- Media: N<sub>2</sub>
- Temperature: 24°C (75°F)
- Number of cycles: 160
- Test Details: Pressurize the test fixture to 22,500 psig. Turn the valve stem one quarter turn clockwise and then back. Bleed pressure to 0 psig and dwell 5 minutes. Repeat for 160 cycles.
- Results: PASSED. No nitrogen bubbles observed during test.

#### Valve PR2 Validation

- Media: N<sub>2</sub>
- Temperature: -18°C & 177°C (0°F & 350°F)
- Number of cycles: 160
- Test Pressure: 20,000 psi
- Test Details: 3000m water depth hyperbaric test
- Results: PASSED. No nitrogen bubbles observed during all pressure tests.

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