

RELY ON EXCELLENCE

LNF992

API 682 4th edition | Mechanical seals | Balanced pusher seals



Features

- API 682 Category 2 and 3, Type A, Arrangement 3 seal
- Dual seal in face-to-back arrangement
- Gas-lubricated
- Balanced
- Cartridge unit
- Stationary multiple springs
- Independent of direction of rotation
- Solid seal faces

Advantages

- Non-contacting stationary spring unit design
- No process fluid penetration into the seal faces, no leakage to the atmospheric side
- Appropriate to slurry fluid
- Applicable inboard seal design for reverse and positive pressure
- Low power consumption

Operating range

Shaft diameter: $d_1 = 20 \dots 110 \text{ mm}$ (0.79" ... 4.33")

Pressure: $p = \text{vacuum} \dots 16 \text{ bar}$ (232 PSI)

Temperature: $t = -40 \text{ °C} \dots +160 \text{ °C}$ (-40 °F ... +320 °F)

Sliding velocity: $v_g = 23 \text{ m/s}$ (75 ft/s)

Materials

Seal rings: Silicon carbide SSiC (Q1),

High density carbon graphite

Mating rings: Silicon carbide SSiC (Q1)

Secondary seals: FKM (V)

Springs: Hastelloy® C-276 (M5)

Metal parts: CrNiMo steel 316 (G)

Standards and approvals

- API 682 / ISO 21049
- API 682 4th ed. Cat. 2/3 - 3NC-FB

Recommended applications

- Gases and liquids
- Hazardous media
- Environmental harmful media
- Monomers
- Chemical industry
- Petrochemical industry
- Oil and gas industry
- Refining technology
- CCUS
- Alternative fuels production
- API 610 / ISO 13709 pumps
- Process pumps

Recommended piping plans

Process side:

[API Plan 01](#)

[API Plan 02](#)

[API Plan 03](#)

[API Plan 11](#)

[API Plan 12](#)

[API Plan 21](#)

[API Plan 22](#)

[API Plan 31](#)

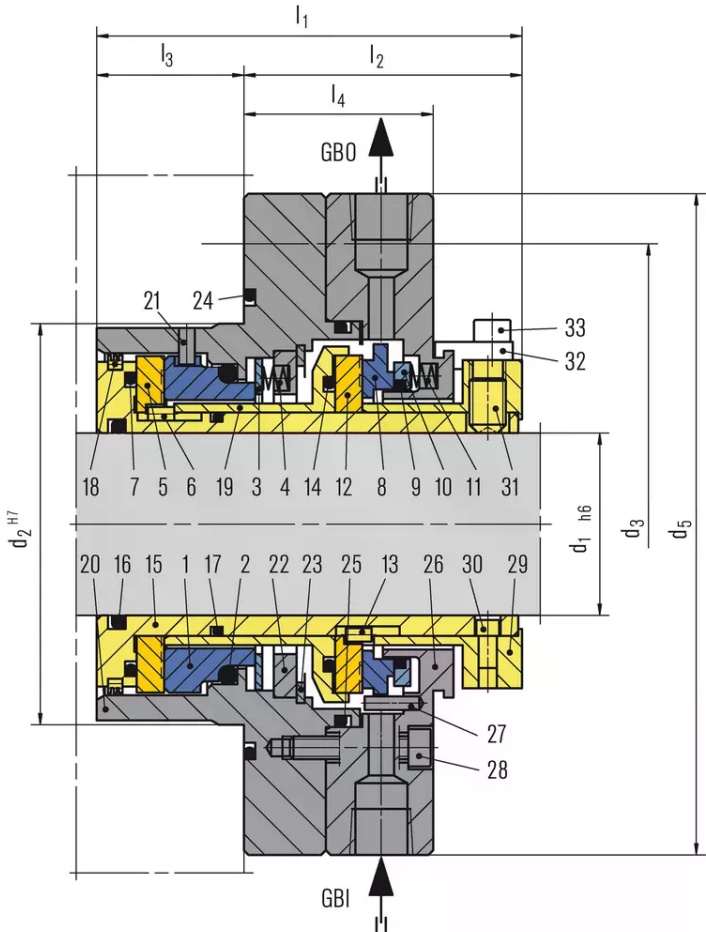
[API Plan 32](#)

[API Plan 41](#)

Between seals:

[API Plan 74](#)

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Item	Description
1,8	Seal ring
2, 7, 9, 14, 16, 17, 24, 25	O-Ring
3, 10	Thrust ring
4, 11	Spring
5, 12	Mating ring
6, 13, 21, 27, 30	Pin
15	Seal sleeve
18	Labyrinth
19	Adapter sleeve
20, 26	Gland plate
22	Adapter
23	Retaining ring
28, 33	HSH cap screw
29	Drive collar
31	Set screw
32	Setting device

GBO Gas barrier OUT
 GBI Gas barrier IN

Dimensions

API/d ₁	API/d ₂	API/d ₃	d ₅	l ₁	l ₂	l ₃	l ₄
30	80	115	138	87	49	38	31.5
40	90	125	148	93	52	41	32.5
50	100	140	168	97	54	43	34.5
60	120	160	188	97	54	43	34.5
70	130	170	198	97	54	43	34.5
80	140	180	208	99	56	43	34.5
90	160	205	248	99	56	43	34.5
100	170	215	258	99	56	43	34.5

Dimensions in millimeter