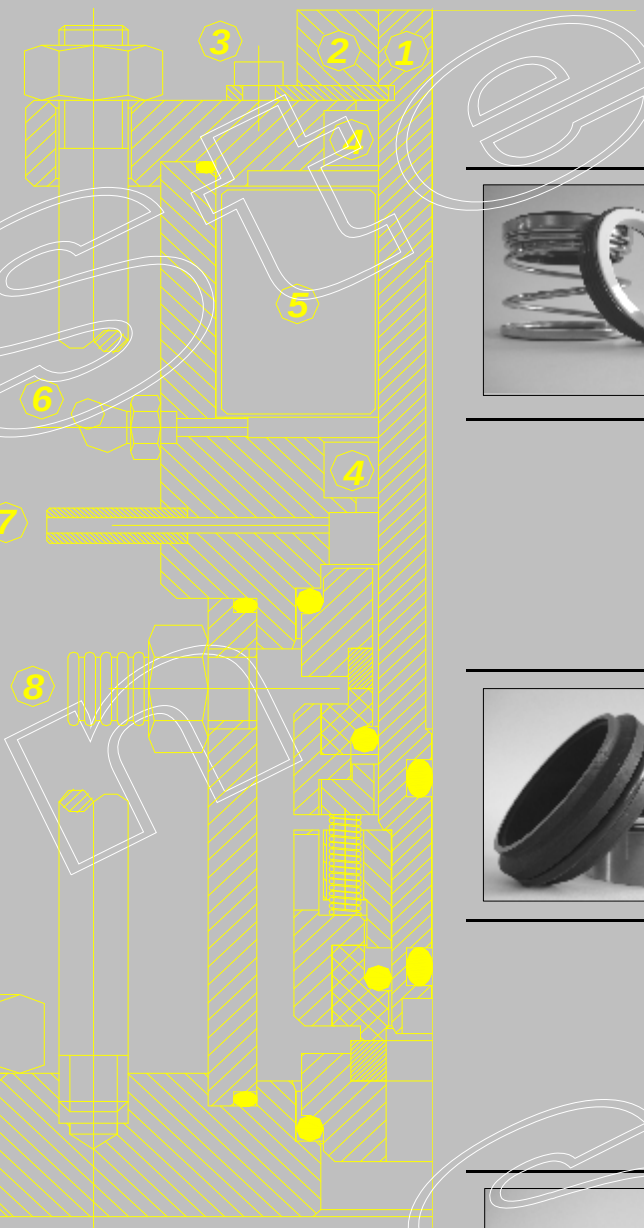
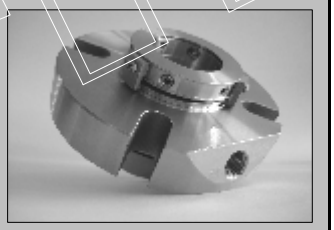
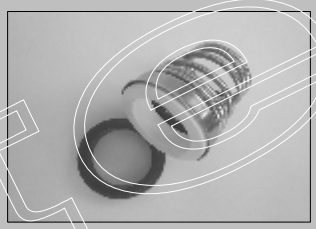
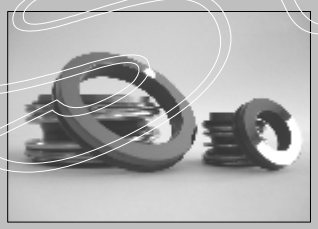
Stern

Mechanical Seals









Mechanical Seals
for Pumps, Agitators
Seal Supply Systems

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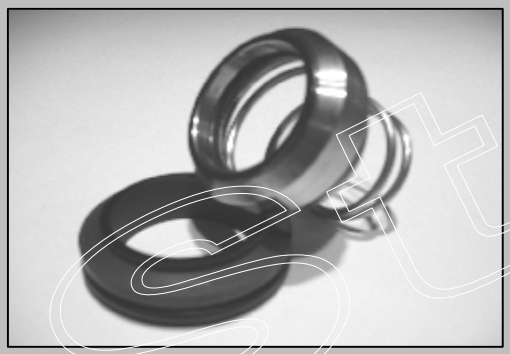
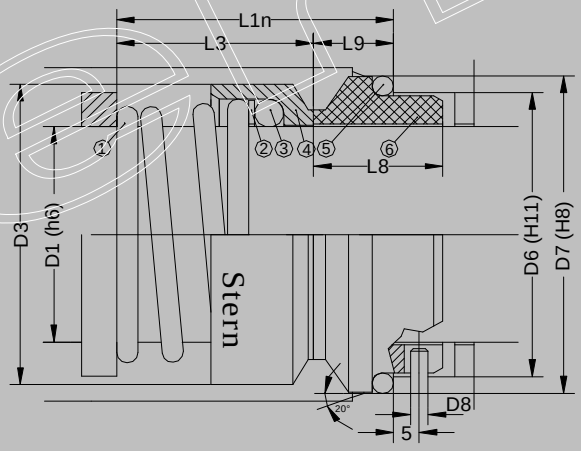
Stern

Mechanical Seals

St / 101



DIN 24960



Technical features

- Single seal
- Unbalanced
- Conical Spring
- Uni-directional

Operating limits

- d1 = 10 - 80 mm
- p1 = 1.0 Mpa (10 Bar)
- t = -40 +205 °C
- Vg = 10 m/s

Materials

- **Seal face:**
  Cr-Mo steel
- **Stationary seat:**
  Carbon graphite (resin impreg.)
- **Springs, face housing:**
  AISI 316, 316Ti
- **Secondary seals:**
  NBR, FPM, EPDM

Stationary seats

- G9, DIN 24960, G9 Short

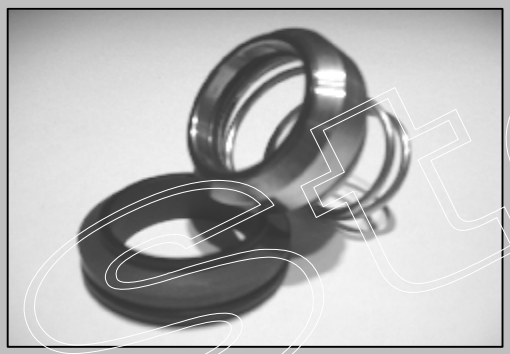
Item	Description	Item	Description
1	Spring	4	Seal face
2	Thrust ring	5	O´ring
3	O´ring	6	Stationary seat

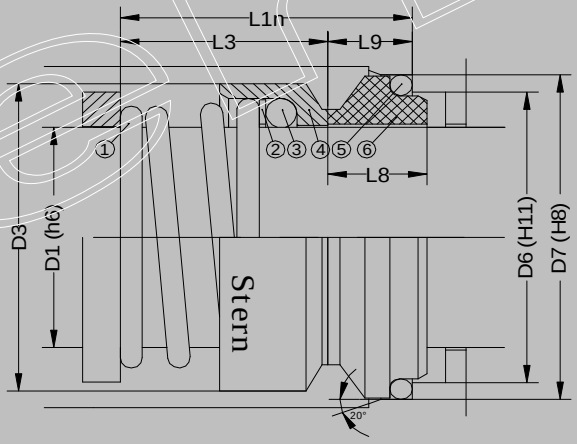
D1	D3	D6	D7	L1n	L3	L8	L9	D8
10	19	17	21	25,5	15,5	17,5	10	3
12	21	19	23	26	16	17,5	10	3
14	23	21	25	26,5	16,5	17,5	10	3
15	24	--	--	--	--	--	--	--
16	26	23	27	28	18	17,5	10	3
18	29	27	33	31	19,5	19,5	11,5	3
20	31	29	35	33,5	22	19,5	11,5	3
22	33	31	37	33	21,5	19,5	11,5	3
24	35	33	39	35	23,5	19,5	11,5	3
25	36	34	40	38	26,5	19,5	11,5	3
28	40	37	43	38	26,5	19,5	11,5	3
30	43	39	45	38	26,5	19,5	11,5	3
32	46	42	48	40	28,5	19,5	11,5	3
33	47	42	48	40	28,5	19,5	11,5	3
35	49	44	50	40	28,5	19,5	11,5	3
38	53	49	56	47,5	33,5	22	14	4
40	56	51	58	50	36	22	14	4
42	59	--	--	--	--	--	--	--
43	59	54	61	52,5	38,5	22	14	4
45	61	56	63	53,5	39,5	22	14	4
48	64	59	66	60	46	22	14	4
50	66	62	70	60	45	23	15	4
53	69	65	73	62	47	23	15	4
55	71	67	75	64	49	23	15	4
58	76	70	78	70	55	23	15	4
60	78	72	80	70	55	23	15	4
63	83	75	83	70	55	23	15	4
65	84	77	85	70	55	23	15	4
68	88	81	90	73	55	26	18	4
70	90	83	92	75	57	26	18	4
75	98	88	97	80	62	26	18	4
80	100	95	105	80	61,8	26,2	18,2	4

Stern

Mechanical Seals

St / 102





Technical features

- Single seal
- Unbalanced
- Conical Spring
- Uni-directional

Operating limits

- d1 = 10 - 80 mm
- p1 = 1.0 Mpa (10 Bar)
- t = -40 +205 °C
- Vg = 10 m/s

Materials

- **Seal face:**
  Cr-Mo steel
- **Stationary seat:**
  Carbon graphite (resin impreg.)
- **Springs, face housing:**
  AISI 316, 316Ti
- **Secondary seals:**
  NBR, FPM, EPDM

Stationary seats

- G13

Item	Description	Item	Description
1	Spring	4	Seal face
2	Thrust ring	5	O´ring
3	O´ring	6	Stationary seat

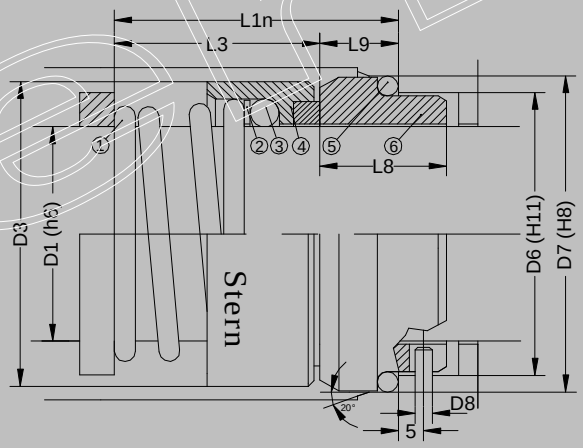
D1	D3	D6	D7	L1n	L3	L8	L9
10	19	15,5	19,2	22,6	15,5	9	7,1
12	21	17,5	21,6	23,6	16	10	7,6
14	23	20,5	24,6	24,1	16,5	10	7,6
15	24	20,5	24,6	--	--	11	8,6
16	26	22	28	27	18	11,5	9
18	29	24	30	29,5	19,5	12,5	10
20	31	29,5	35	31,5	22	12,5	9,5
22	33	29,5	35	31	21,5	12,5	9,5
24	35	32	38	33	23,5	12,5	9,5
25	36	32	38	36	26,5	12,5	9,5
28	40	36	42	37,5	26,5	14	11
30	43	39,2	45	37,5	26,5	14	11
32	46	42,2	48	39,5	28,5	14	11
33	47	44,2	50	--	28,5	--	--
35	49	46,2	52	40	28,5	14,5	11,5
38	53	49,2	55	45	33,5	14,5	11,5
40	56	52,2	58	47,5	36	14,5	11,5
42	59	53,3	62	52,3	38	17	14,3
43	59	53,3	62	--	38,5	--	--
45	61	55,3	64	53,8	39,5	17	14,3
48	64	59,7	68,4	60,3	46	17	14,3
50	66	60,8	69,3	59,3	45	17	14,3
53	69	63,8	72,3	--	47	--	--
55	71	66,5	75,4	64,3	49	18	15,3
58	76	69,5	78,4	70,3	55	18	15,3
60	78	71,5	80,4	70,3	55	18	15,3
63	83	74,5	83,4	--	55	--	--
65	84	76,5	85,4	70,3	55	18	15,3
68	88	82,7	91,5	71	55	19	16
70	90	83	92	72,3	57	18	15,3
75	98	90,2	99	77,3	62	18	15,3
80	100	95,2	104	78,1	61,8	19	16,3

Stern

Mechanical Seals

St / 103

DIN 24960



Technical features

- Single seal
- Unbalanced
- Conical Spring
- Uni-directional
- To DIN 24960

Operating limits

- d1 = 10 - 80 mm
- p1 = 1.0 Mpa (10 Bar)
- t = -40 +205 °C
- Vg = 10 m/s

Materials

- **Seal face:**
  Carbon graphite (resin impreg.)
- **Stationary seat:**
  Al-Oxide 99,5%, Tungsten Carbide
  Silicon Carbide, Special CrMo steel
- **Springs, face housing:**
  AISI 316, 316Ti
- **Secondary seals:**
  NBR, FPM, EPDM, FEP

Stationary seats

- G9, DIN 24960, G9 Short

Item	Description	Item	Description
1	Spring	4	Seal face
2	Thrust ring	5	O´ring
3	O´ring	6	Stationary seat

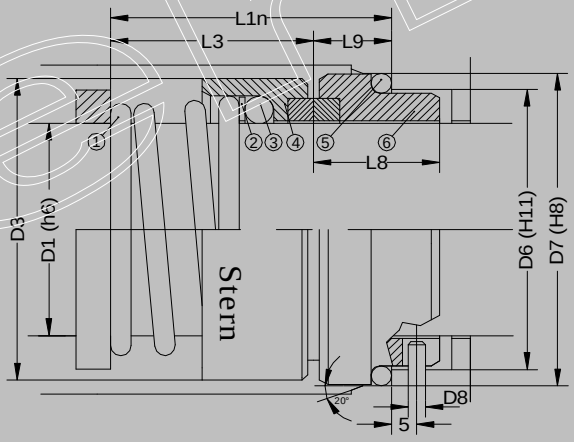
D1	D3	D6	D7	L1n	L3	L8	L9	D8
10	20	17	21	--	--	17,5	10	3
12	22	19	23	--	--	17,5	10	3
14	24	21	25	26,5	16,5	17,5	10	3
15	25	--	--	--	--	--	--	--
16	26	23	27	26,5	16,5	17,5	10	3
18	31	27	33	29,5	18	19,5	11,5	3
20	34	29	35	30,5	19	19,5	11,5	3
22	36	31	37	32	20,5	19,5	11,5	3
24	38	33	39	33,5	22	19,5	11,5	3
25	39	34	40	35	23,5	19,5	11,5	3
28	42	37	43	36	24,5	19,5	11,5	3
30	44	39	45	36	24,5	19,5	11,5	3
32	46	42	48	39,5	28	19,5	11,5	3
33	47	42	48	39,5	28	19,5	11,5	3
35	49	44	50	39,5	28	19,5	11,5	3
38	54	49	56	45	31	22	14	4
40	56	51	58	48	34	22	14	4
42	58	--	--	--	35	--	--	--
43	59	54	61	49	35	22	14	4
45	61	56	63	50,5	36,5	22	14	4
48	64	59	66	56	42	22	14	4
50	66	62	70	58	43	23	15	4
53	69	65	73	58	43	23	15	4
55	71	67	75	62	47	23	15	4
58	78	70	78	65	50	23	15	4
60	79	72	80	66	51	23	15	4
63	83	75	83	66	51	23	15	4
65	85	77	85	67	52	23	15	4
68	88	81	90	70,7	52,7	26	18	4
70	90	83	92	72	54	26	18	4
75	98	88	97	72	54	26	18	4
80	103	95	105	76,2	58	26,2	18,2	4

Stern

Mechanical Seals

St / 104

DIN 24960



Technical features

- Single seal
- Unbalanced
- Conical Spring
- Uni-directional
- To DIN 24960

Operating limits

- d1 = 10 - 80 mm
- p1 = 1.0 Mpa (10 Bar)
- t = -40 +205 °C
- Vg = 10 m/s

Materials

- **Seal face:**
  Tungsten Carbide, Silicon Carbide
- **Stationary seat:**
  Tungsten Carbide, Silicon Carbide
- **Springs, face housing:**
  AISI 316, 316Ti
- **Secondary seals:**
  NBR, FPM, EPDM, FEP

Stationary seats

- G9, DIN 24960, G9 Short

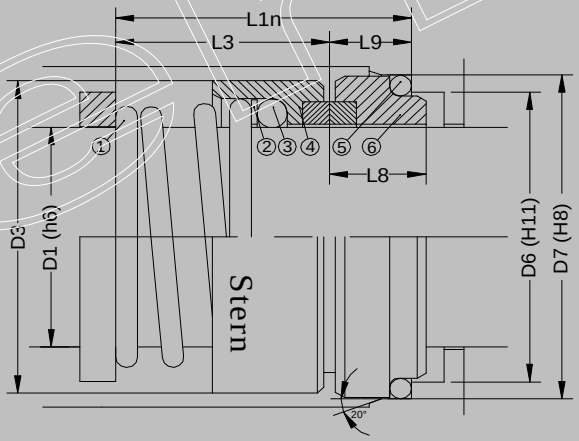
Item	Description	Item	Description
1	Spring	4	Seal face
2	Thrust ring	5	O´ring
3	O´ring	6	Stationary seat

D1	D3	D6	D7	L1n	L3	L8	L9	D8
10	20	17	21	--	--	17,5	10	3
12	22	19	23	--	--	17,5	10	3
14	24	21	25	26,5	16,5	17,5	10	3
15	25	--	--	--	--	--	--	--
16	26	23	27	26,5	16,5	17,5	10	3
18	31	27	33	29,5	18	19,5	11,5	3
20	34	29	35	30,5	19	19,5	11,5	3
22	36	31	37	32	20,5	19,5	11,5	3
24	38	33	39	33,5	22	19,5	11,5	3
25	39	34	40	35	23,5	19,5	11,5	3
28	42	37	43	36	24,5	19,5	11,5	3
30	44	39	45	36	24,5	19,5	11,5	3
32	46	42	48	39,5	28	19,5	11,5	3
33	47	42	48	39,5	28	19,5	11,5	3
35	49	44	50	39,5	28	19,5	11,5	3
38	54	49	56	45	31	22	14	4
40	56	51	58	48	34	22	14	4
42	58	--	--	--	35	--	--	--
43	59	54	61	49	35	22	14	4
45	61	56	63	50,5	36,5	22	14	4
48	64	59	66	56	42	22	14	4
50	66	62	70	58	43	23	15	4
53	69	65	73	58	43	23	15	4
55	71	67	75	62	47	23	15	4
58	78	70	78	65	50	23	15	4
60	79	72	80	66	51	23	15	4
63	83	75	83	66	51	23	15	4
65	85	77	85	67	52	23	15	4
68	88	81	90	70,7	52,7	26	18	4
70	90	83	92	72	54	26	18	4
75	98	88	97	72	54	26	18	4
80	103	95	105	76,2	58	26,2	18,2	4

Stern

Mechanical Seals

St / 105



Technical features

- Single seal
- Unbalanced
- Conical Spring
- Uni-directional

Operating limits

- d1 = 10 - 80 mm
- p1 = 1.0 Mpa (10 Bar)
- t = -40 +205 °C
- Vg = 10 m/s

Materials

- **Seal face:**
  Tungsten Carbide, Silicon Carbide
- **Stationary seat:**
  Tungsten Carbide, Silicon Carbide
- **Springs, face housing:**
  AISI 316, 316Ti
- **Secondary seals:**
  NBR, FPM, EPDM

Stationary seats

- G13

Item	Description	Item	Description
1	Spring	4	Seal face
2	Thrust ring	5	O´ring
3	O´ring	6	Stationary seat

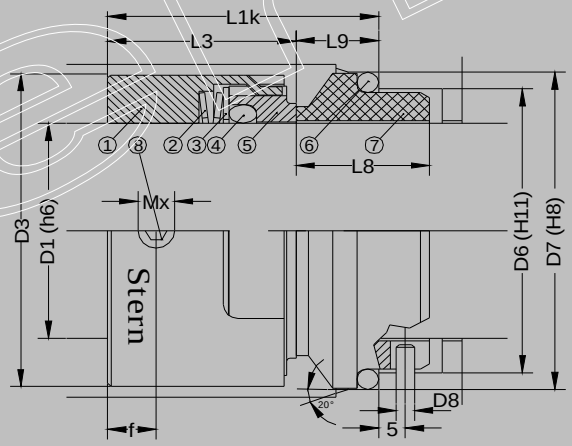
D1	D3	D6	D7	L1n	L3	L8	L9
10	20	15,5	19,2	--	--	9	7,1
12	22	17,5	21,6	--	--	10	7,6
14	24	20,5	24,6	24,1	16,5	10	7,6
15	25	20,5	24,6	--	--	11	8,6
16	26	22	28	25,5	16,5	11,5	9
18	31	24	30	28	18	12,5	10
20	34	29,5	35	28,5	19	12,5	9,5
22	36	29,5	35	30	20,5	12,5	9,5
24	38	32	38	31,5	22	12,5	9,5
25	39	32	38	33	23,5	12,5	9,5
28	42	36	42	35,5	24,5	14	11
30	44	39,2	45	35,5	24,5	14	11
32	46	42,2	48	39	28	14	11
33	47	--	--	--	28	--	--
35	49	46,2	52	39,5	28	14,5	11,5
38	54	49,2	55	42,5	31	14,5	11,5
40	56	52,2	58	45,5	34	14,5	11,5
42	58	53,3	62	49,3	35	17	14,3
43	59	--	--	--	35	--	--
45	61	55,3	64	50,8	36,5	17	14,3
48	64	59,7	68,4	56,3	42	17	14,3
50	66	60,8	69,3	57,3	43	17	14,3
53	69	--	--	--	43	--	--
55	71	66,5	75,4	62,3	47	18	15,3
58	78	69,5	78,4	65,3	50	18	15,3
60	79	71,5	80,4	66,3	51	18	15,3
63	83	--	--	--	51	--	--
65	85	76,5	85,4	67,3	52	18	15,3
68	88	82,7	91,5	68,7	52,7	19	16
70	90	83	92	69,3	54	18	15,3
75	98	90,2	99	69,3	54	18	15,3
80	103	95,2	104	74,3	58	19	16,3

Stern

Mechanical Seals

St / 201

DIN 24960



Technical features

- Single seal
- Unbalanced
- Wave spring
- Independent of direction of rotation
- To DIN 24960

Operating limits

- d1 = 14 - 100 mm
- p1 = 1.5 Mpa (15 Bar)
- t = -40 +205 °C
- Vg = 20 m/s

Materials

- **Seal face:**
  Cr-Mo steel, Al-Oxide 99,5%
  Tungsten Carbide, Silicon Carbide
- **Stationary seat:**
  Carbon graphite (resin impreg.)
  Tungsten Carbide, Silicon Carbide
- **Spring, face housing:**
  AISI 316, 316Ti
- **Secondary seals:**
  NBR, FPM, EPDM, FEP

Stationary seats

- G9, DIN 24960, G9 Short

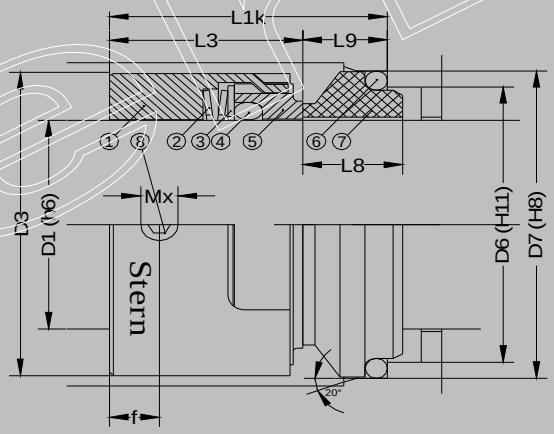
Item	Description	Item	Description
1	Drive collar	5	Seal face
2	Spring	6	O´ring
3	Thrust ring	7	Stationary seat
4	O´ring	8	Set screw

D1	D3	D6	D7	D8	L1k	L3	L8	L9	f	Mx
14	25	21	25	3	35	25	17,5	10	6	M5
16	27	23	27	3	35	25	17,5	10	6	M5
18	33	27	33	3	37,5	26	19,5	11,5	7	M5
20	35	29	35	3	37,5	26	19,5	11,5	7	M5
22	37	31	37	3	37,5	26	19,5	11,5	7	M5
24	39	33	39	3	40	28,5	19,5	11,5	8	M5
25	40	34	40	3	40	28,5	19,5	11,5	8	M5
28	43	37	43	3	42,5	31	19,5	11,5	8	M6
30	45	39	45	3	42,5	31	19,5	11,5	8	M6
32	47	42	48	3	42,5	31	19,5	11,5	8	M6
33	48	42	48	3	42,5	31	19,5	11,5	8	M6
35	50	44	50	3	42,5	31	19,5	11,5	8	M6
38	55	49	56	4	45	31	22	14	8	M6
40	57	51	58	4	45	31	22	14	8	M6
43	60	54	61	4	45	31	22	14	8	M6
45	62	56	63	4	45	31	22	14	8	M6
48	65	59	66	4	45	31	22	14	8	M6
50	67	62	70	4	47,5	32,5	23	15	8	M6
53	70	65	73	4	47,5	32,5	23	15	8	M6
55	72	67	75	4	47,5	32,5	23	15	8	M6
58	79	70	78	4	52,5	37,5	23	15	9	M8
60	81	72	80	4	52,5	37,5	23	15	9	M8
63	84	75	83	4	52,5	37,5	23	15	9	M8
65	86	77	85	4	52,5	37,5	23	15	9	M8
68	89	81	90	4	52,5	34,5	26	18	9	M8
70	91	83	92	4	60	42	26	18	9	M8
75	99	88	97	4	60	42	26	18	10	M8
80	104	95	105	4	60	41,8	26,2	18,2	10	M8
85	109	100	110	4	60	41,8	26,2	18,2	10	M8
90	114	105	115	4	65	46,8	26,2	18,2	10	M8
95	119	110	120	4	65	47,8	25,2	17,2	10	M8
100	124	115	125	4	65	47,8	25,2	17,2	10	M8

Stern

Mechanical Seals

St / 202



Technical features

- Single seal
- Unbalanced
- Wave spring
- Independent of direction of rotation

Operating limits

- d1 = 14 - 100 mm
- p1 = 1.5 Mpa (15 Bar)
- t = -40 +205 °C
- Vg = 20 m/s

Materials

- **Seal face:**
  Cr-Mo steel, Al-Oxide 99,5%
  Tungsten Carbide, Silicon Carbide
- **Stationary seat:**
  Carbon graphite (resin impreg.)
  Tungsten Carbide, Silicon Carbide
- **Spring, face housing:**
  AISI 316, 316Ti
- **Secondary seals:**
  NBR, FPM, EPDM

Stationary seats

- G13

Item	Description	Item	Description
1	Drive collar	5	Seal face
2	Spring	6	O´ring
3	Thrust ring	7	Stationary seat
4	O´ring	8	Set screw

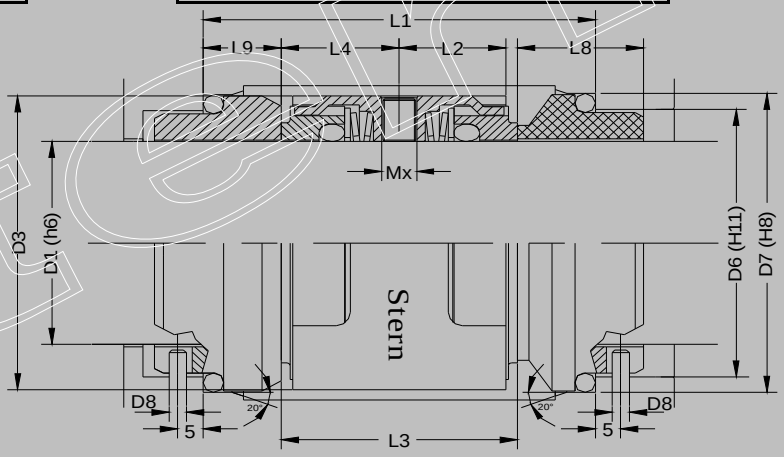
D1	D3	D6	D7	L1k	L3	L8	L9	f	Mx
14	25	20,5	24,6	32,6	25	10	7,6	6	M5
16	27	22	28	34	25	11,5	9	6	M5
18	33	24	30	36	26	12,5	10	7	M5
20	35	29,5	35	35,5	26	12,5	9,5	7	M5
22	37	29,5	35	35,5	26	12,5	9,5	7	M5
24	39	32	38	38	28,5	12,5	9,5	8	M5
25	40	32	38	38	28,5	12,5	9,5	8	M5
28	43	36	42	42	31	14	11	8	M6
30	45	39,2	45	42	31	14	11	8	M6
32	47	42,2	48	42	31	14	11	8	M6
33	48	44,2	50	--	31	--	--	8	M6
35	50	46,2	52	42,5	31	14,5	11,5	8	M6
38	55	49,2	55	42,5	31	14,5	11,5	8	M6
40	57	52,2	58	42,5	31	14,5	11,5	8	M6
43	60	53,3	62	--	31	--	--	8	M6
45	62	55,3	64	45,3	31	17	14,3	8	M6
48	65	59,7	68,4	45,3	31	17	14,3	8	M6
50	67	60,8	69,3	46,8	32,5	17	14,3	8	M6
53	70	63,8	72,3	--	32,5	--	--	8	M6
55	72	66,5	75,4	47,8	32,5	18	15,3	8	M6
58	79	69,5	78,4	52,8	37,5	18	15,3	9	M8
60	81	71,5	80,4	52,8	37,5	18	15,3	9	M8
63	84	74,5	83,4	--	37,5	--	--	9	M8
65	86	76,5	85,4	52,8	37,5	18	15,3	9	M8
68	89	82,7	91,5	50,5	34,5	19	16	9	M8
70	91	83	92	57,3	42	18	15,3	9	M8
75	99	90,2	99	57,3	42	18	15,3	10	M8
80	104	95,2	104	58,1	41,8	19	16,3	10	M8
85	109	100,2	109	58,1	41,8	19	16,3	10	M8
90	114	105,2	114	63,1	46,8	19	16,3	10	M8
95	119	111,6	120,3	65,1	47,8	20	17,3	10	M8
100	124	114,5	123,3	65,1	47,8	20	17,3	10	M8

Stern

Mechanical Seals

St / 201/D

DIN 24960



Technical features

- Double seal
- Unbalanced
- Wave spring
- Independent of direction of rotation
- To DIN 24960

Operating limits

- d1 = 14 - 100 mm
- p1 = 1.5 Mpa (15 Bar)
- t = -40 +205 °C
- Vg = 20 m/s

Materials

- **Seal face:**
  Cr-Mo steel, Al-Oxide 99,5%
  Tungsten Carbide, Silicon Carbide
- **Stationary seat:**
  Carbon graphite (resin impreg.)
  Tungsten Carbide, Silicon Carbide
- **Spring, face housing:**
  AISI 316, 316Ti
- **Secondary seals:**
  NBR, FPM, EPDM, FEP

Stationary seats

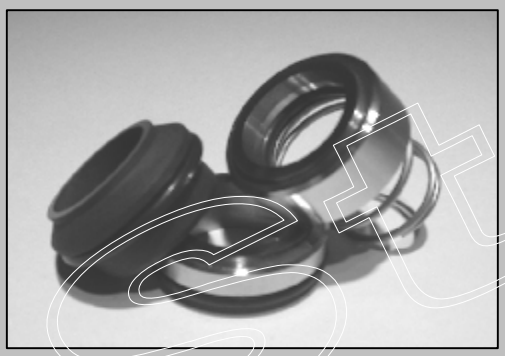
- G9, DIN 24960

D1	D3	D6	D7	D8	L1	L3	L4	L8	L9	L2	Mx
18	33	27	33	3	61	38	19	20	12	17	M5
20	35	29	35	3	61	38	19	20	12	17	M5
22	37	31	37	3	61	38	19	20	12	17	M5
24	39	33	39	3	61	38	19	20	12	17	M5
25	40	34	40	3	61	38	19	20	12	17	M5
28	43	37	43	3	62	39	20	20	12	18	M6
30	45	39	45	3	62	39	20	20	12	18	M6
32	47	42	48	3	62	39	20	20	12	18	M6
33	48	42	48	3	62	39	20	20	12	18	M6
35	50	44	50	3	62	39	20	20	12	18	M6
38	55	49	56	4	69	41	21	22	14	19	M6
40	57	51	58	4	70	42	21	22	14	19	M6
43	60	54	61	4	70	42	21	22	14	19	M6
45	62	56	63	4	70	42	21	22	14	19	M6
48	65	59	66	4	70	42	21	22	14	19	M6
50	67	62	70	4	73	43	22	23	15	20	M6
53	70	65	73	4	73	43	22	23	15	20	M6
55	72	67	75	4	73	43	22	23	15	20	M8
58	79	70	78	4	86	56	28	23	15	24	M8
60	81	72	80	4	86	56	28	23	15	24	M8
63	84	75	83	4	85	55	28	23	15	25	M8
65	86	77	85	4	85	55	28	23	15	25	M8
68	89	81	90	4	91	55	28	26	18	25	M8
70	91	83	92	4	92	56	28	26	18	24	M8
75	99	88	97	4	92	56	28	26	18	26	M8
80	104	95	105	4	93	56	28	26	18	26	M8
85	109	100	110	4	93	56	28	26	18	25	M8
90	114	105	115	4	93	56	28	26	18	26	M8
95	119	110	120	4	91	56	28	25	17	25	M8
100	124	115	125	4	91	56	28	25	17	25	M8

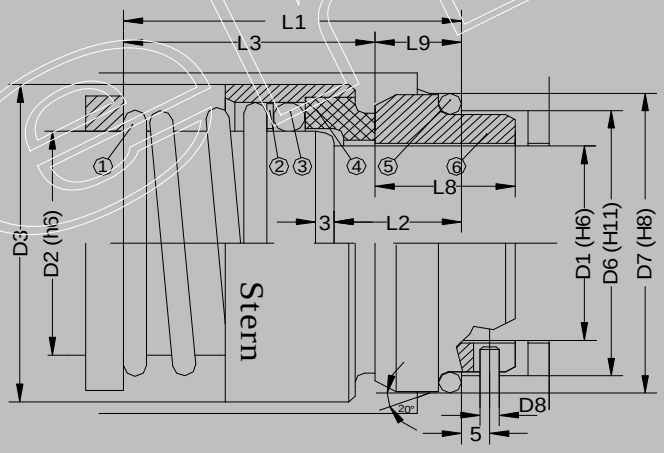
Stern

Mechanical Seals

St / 301



DIN 24960



Technical features

- Single seal
- Balanced
- Conical Spring
- Uni-directional
- To DIN 24960

Operating limits

- d1 = 10 - 80 mm
- p1 = 2.4 Mpa (24 Bar)
- t = -40 +205 °C
- Vg = 15 m/s

Materials

- **Seal face:**
  Carbon (resin impreg.), Silicon carbide
  Carbon (antimony impreg.)
- **Stationary seat:**
  Silicon carbide, Al-oxide 99,5%
  Carbon (resin impreg.), Cr-Mo steel
- **Springs, face housing:**
  AISI 316, 316Ti
- **Secondary seals:**
  NBR, FPM, EPDM

Stationary seats

- G9, DIN 24960

Item	Description	Item	Description
1	Spring	4	Seal face
2	Thrust ring	5	O´ring
3	O´ring	6	Stationary seat

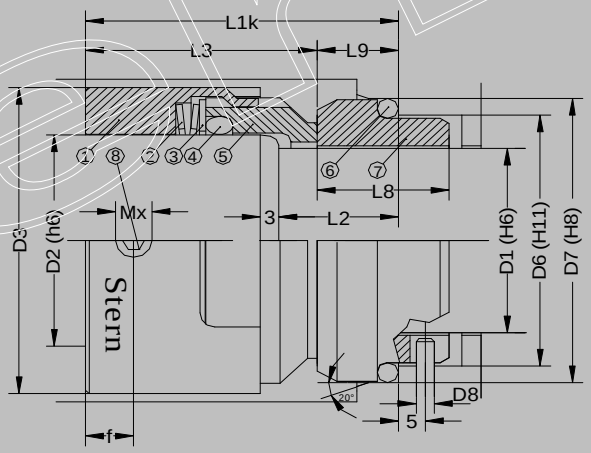
D1	D2	D3	D6	D7	D8	L1	L2	L3	L8	L9
10	14	24	17	21	3	35,5	18	25,5	17,5	10
12	16	26	19	23	3	36,5	18	26,5	17,5	10
14	18	31	21	25	3	39,5	18	29,5	17,5	10
16	20	34	23	27	3	41	18	31	17,5	10
18	22	36	27	33	3	44	20	32,5	19,5	11,5
20	24	38	29	35	3	44	20	32,5	19,5	11,5
22	26	40	31	37	3	44	20	32,5	19,5	11,5
24	28	42	33	39	3	44	20	32,5	19,5	11,5
25	30	44	34	40	3	45	20	33,5	19,5	11,5
28	33	47	37	43	3	47	20	35,5	19,5	11,5
30	35	49	39	45	3	47	20	35,5	19,5	11,5
32	38	54	42	48	3	51	20	39,5	19,5	11,5
33	38	54	42	48	3	51	20	39,5	19,5	11,5
35	40	56	44	50	3	55	20	43,5	19,5	11,5
38	43	59	49	56	4	60	23	46	22	14
40	45	61	51	58	4	62	23	48	22	14
43	48	64	54	61	4	65	23	51	22	14
45	50	66	56	63	4	69	23	55	22	14
48	53	69	59	66	4	69	23	55	22	14
50	55	71	62	70	4	73	25	58	23	15
53	58	78	65	73	4	75	25	60	23	15
55	60	79	67	75	4	75	25	60	23	15
58	63	83	70	78	4	75	25	60	23	15
60	65	85	72	80	4	75	25	60	23	15
63	68	88	75	83	4	75	25	60	23	15
65	70	90	77	85	4	76	25	61	23	15
70	75	98	83	92	4	81	28	63	26	18
75	80	103	88	97	4	86	28	68	26	18
80	85	109	95	105	4	86,2	28	68	26,2	18,2

Stern

Mechanical Seals

St / 401

DIN 24960



Technical features

- Single seal
- Balanced
- Single spring - Multi spring
- Independent of direction of rotation
- To DIN 24960

Operating limits

- d1 = 14 - 100 mm
- p1 = 2.4 Mpa (24 Bar)
- t = -40 +205 °C
- Vg = 20 m/s

Materials

- **Seal face:**
  Silicon carbide, Al-oxide 99,5%
  Cr-Mo steel
- **Stationary seat:**
  Silicon carbide, Carbon (resin impreg.)
  Carbon (antimony impreg.)
- **Springs, face housing:**
  AISI 316, 316Ti
- **Secondary seals:**
  NBR, FPM, EPDM

Stationary seats

- G9, DIN 24960

Item	Description	Item	Description
1	Drive collar	5	Seal face
2	Spring	6	O´ring
3	Thrust ring	7	Stationary seat
4	O´ring	8	Set screw

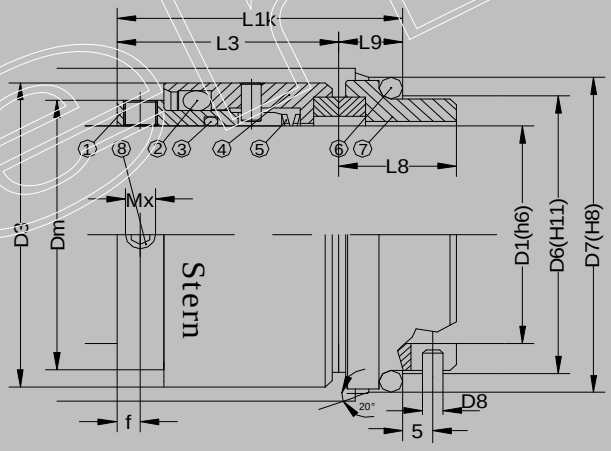
D1	D2	D3	D6	D7	D8	L1k	L2	L3	L8	L9	f	Mx
14	18	33	21	25	3	42,5	18	32,5	17,5	10	6	M5
16	20	35	23	27	3	42,5	18	32,5	17,5	10	6	M5
18	22	37	27	33	3	45	20	33,5	19,5	11,5	7	M5
20	24	39	29	35	3	45	20	33,5	19,5	11,5	5,5	M5
22	26	41	31	37	3	45	20	33,5	19,5	11,5	8	M5
24	28	43	33	39	3	47,5	20	36	19,5	11,5	5,5	M6
25	30	45	34	40	3	47,5	20	36	19,5	11,5	5,5	M6
28	33	48	37	43	3	50	20	38,5	19,5	11,5	8	M6
30	35	50	39	45	3	50	20	38,5	19,5	11,5	8	M6
32	38	55	42	48	3	50	20	38,5	19,5	11,5	8	M6
33	38	55	42	48	3	50	20	38,5	19,5	11,5	8	M6
35	40	57	44	50	3	50	20	38,5	19,5	11,5	8	M6
38	43	60	49	56	4	52,5	23	38,5	22	14	8	M6
40	45	62	51	58	4	52,5	23	38,5	22	14	8	M6
43	48	65	54	61	4	52,5	23	38,5	22	14	8	M6
45	50	67	56	63	4	52,5	23	38,5	22	14	8	M6
48	53	70	59	66	4	52,5	23	38,5	22	14	8	M6
50	55	72	62	70	4	57,5	25	42,5	23	15	8	M6
53	58	79	65	73	4	57,5	25	42,5	23	15	9	M8
55	60	81	67	75	4	57,5	25	42,5	23	15	9	M8
58	63	84	70	78	4	62,5	25	47,5	23	15	9	M8
60	65	86	72	80	4	62,5	25	47,5	23	15	9	M8
63	68	89	75	83	4	62,5	25	47,5	23	15	9	M8
65	70	91	77	85	4	62,5	25	47,5	23	15	9	M8
70	75	99	83	92	4	70	28	52	26	18	10	M8
75	80	104	88	97	4	70	28	52	26	18	10	M8
80	85	109	95	105	4	70	28	51,8	26,2	18,2	10	M8
85	90	114	100	110	4	75	28	56,8	26,2	18,2	10	M8
90	95	119	105	115	4	75	28	56,8	26,2	18,2	10	M8
95	100	124	110	120	4	75	28	57,8	25,2	17,2	10	M8
100	105	129	115	125	4	75	28	57,8	25,2	17,2	10	M8

Stern

Mechanical Seals

St / 501

DIN 24960



Technical features

- Single seal
- Balanced
- Single spring - Multi spring
- Independent of direction of rotation
- To DIN 24960

Operating limits

- d1 = 14 - 100 mm
- p1 = 2.4 Mpa (24 Bar)
- t = -40 +205 °C
- Vg = 20 m/s

Operating limits

- **Seal face:**
  Silicon carbide, Al-oxide 99,5%
  Cr-Mo steel
- **Stationary seat:**
  Silicon carbide, Carbon (resin impreg.)
  Carbon (antimony impreg.)
- **Springs, face housing:**
  AISI 316, 316Ti
- **Secondary seals:**
  NBR, FPM, EPDM

Stationary seats

- G46, DIN 24960

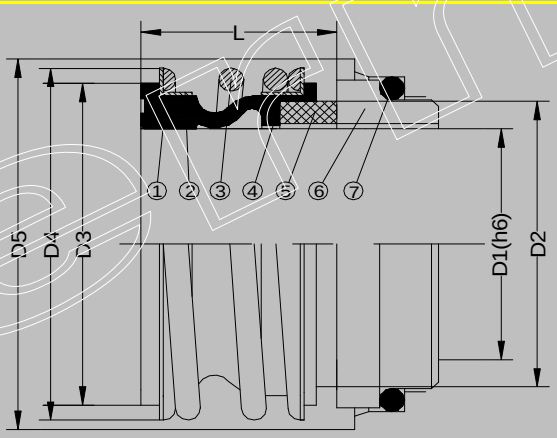
Item	Description	Item	Description
1	Drive collar	5	Spring
2	O´ring	6	O´ring
3	O´ring	7	Stationary seat
4	Seal face	8	Set screw

D1	D3	D6	D7	D8	Dm	L3	L8	L9	f	L1k	Mx
18	32	27	33	3	26	28,5	17	9	3	37,5	M4
20	34	29	35	3	28	28,5	17	9	3	37,5	M4
22	36	31	37	3	30	28,5	17	9	3	37,5	M4
24	38	33	39	3	32,5	31	17	9	3,5	40	M5
25	39	34	40	3	33,5	31	17	9	3,5	40	M5
28	42	37	43	3	36,5	33	18	9,5	3,5	42,5	M5
30	44	39	45	3	38,5	33	18	9,5	3,5	42,5	M5
32	47	42	48	3	41,5	33	18	9,5	3,5	42,5	M5
33	47	42	48	3	41,5	33	18	9,5	3,5	42,5	M5
35	49	44	50	3	43,5	33	18	9,5	3,5	42,5	M5
38	54	49	56	4	47,5	34,5	19	10,5	4	45	M5
40	56	51	58	4	49,5	34,5	19	10,5	4	45	M5
43	59	54	61	4	52,5	34,5	19	10,5	4	45	M5
45	61	56	63	4	54,5	34,5	19	10,5	4	45	M5
48	64	59	66	4	57,5	34,5	19	10,5	4	45	M5
50	66	62	70	4	59,5	35,5	20	12	4,5	47,5	M6
53	69	65	73	4	62,5	35,5	20	12	4,5	47,5	M6
55	71	67	75	4	64,5	35,5	20	12	4,5	47,5	M6
58	78	70	78	4	68,5	39,5	21	13	4,5	52,5	M6
60	80	72	80	4	70,5	39,5	21	13	4,5	52,5	M6
63	83	75	83	4	73,5	39,5	21	13	4,5	52,5	M6
65	85	77	85	4	75,5	39,5	21	13	4,5	52,5	M6
68	88	81	90	4	78,5	39	21	13,5	4,5	52,5	M6
70	90	83	92	4	80,5	46	22	14	5	60	M6
75	99	88	97	4	89	46	22	14	5,5	60	M8
80	104	95	105	4	94	46	22	14	5,5	60	M8
85	109	100	110	4	99	46	22	14	5,5	60	M8
90	114	105	115	4	104	49,5	23	15,5	5,5	65	M8
95	119	110	120	4	109	49,5	23	15,5	5,5	65	M8
100	124	115	125	4	114	49,5	23	15,5	5,5	65	M8

Stern

Mechanical Seals

St / 601



Technical features

- Single seal
- Unbalanced
- Independent of direction of rotation
- Elastomer belows

Operating limits

- d1 = 10 - 100 mm
- p1 = 1.2 Mpa (12 Bar)
- t = -20 +140 °C
- Vg = 10 m/s

Operating limits

- **Seal face:**
  Silicon carbide, Carbon (antimony impreg.)
  Cr-Mo steel, Carbon (resin impreg.)
  Tungsten Carbide
- **Stationary seat:**
  Silicon carbide, Carbon (resin impreg.)
  Carbon (antimony impreg.), Al-oxide 99,5%
  Tungsten Carbide
- **Spring:**
  AISI 316, 316Ti
- **Bellows:**
  NBR, FPM, EPDM

Stationary seats

- G4, G6, G9, G50, G60, G606

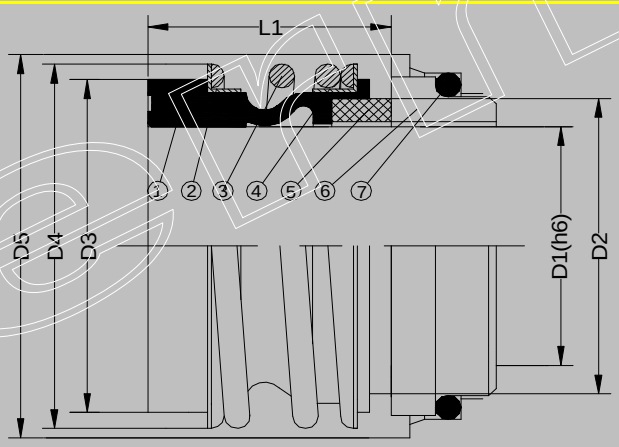
Item	Description	Item	Description
1	Bellow	4	Spring collar
2	Spring collar	5	Seal face
3	Spring	6	Stationary seat
		7	O´ring or cup

D1	D2	D3	D4	D5	L
10	15,7	20,5	22,5	24	14,5
12	17,7	22,5	25	26	15
14	19,7	26,5	28,5	30	17
15	20,8	26,5	28,5	30	17
16	21	26,5	28,5	30	17
18	23,7	29	32	33	19,5
20	26,7	33	37	38	21,5
22	27,7	33	37	38	21,5
24	31,2	38	42,5	44	22,5
25	31,2	38	42,5	44	23
28	35	44	49	50	26,5
30	37	44	49	50	26,5
32	40,2	46	53,5	55	27,5
33	40,2	46	53,5	55	27,5
35	43,2	50	57	59	28,5
38	46,2	53	59	61	30
40	48,8	55	62	64	30
42	51,8	58	65,5	67	30
43	51,8	58	65,5	67	30
45	53,8	60	68	70	30
48	56,8	63	70,5	74	30,5
50	58,8	65	74	77	30,5
53	62,2	70	78,5	81	33
55	64,2	72	81	83	35
58	67,2	75	85,5	88	37
60	70	79	88,5	91	38
65	75	84	93,5	96	40
68	78	88	96,5	100	40
70	80	90	99,5	103	40
75	85,5	95	107	110	40
80	90,5	100	112	116	40
85	96	107	120	124	41
90	102	114	127	131	45
95	107	119	132	136	46
100	112	124	137	140	47

Stern

Mechanical Seals

St / 602



Technical features

- Single seal
- Unbalanced
- Independent of direction of rotation
- Elastomer belows

Operating limits

- d1 = 10 - 100 mm
- p1 = 1.2 Mpa (12 Bar)
- t = -20 +140 °C
- Vg = 10 m/s

Operating limits

- **Seal face:**
  Silicon carbide, Carbon (antimony impreg.)
  Cr-Mo steel, Carbon (resin impreg.)
  Tungsten Carbide
- **Stationary seat:**
  Silicon carbide, Carbon (resin impreg.)
  Carbon (antimony impreg.), Al-oxide 99,5%
  Tungsten Carbide
- **Spring:**
  AISI 316, 316Ti
- **Bellows:**
  NBR, FPM, EPDM

Stationary seats

- G4, G6, G9, G50, G60, G606

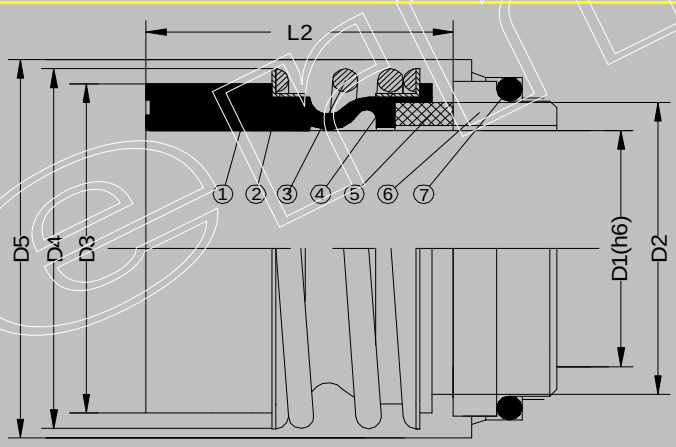
Item	Description	Item	Description
1	Bellow	4	Spring collar
2	Spring collar	5	Seal face
3	Spring	6	Stationary seat
		7	O´ring or cup

D1	D2	D3	D4	D5	L1
10	15,7	20,5	22,5	24	25,9
12	17,7	22,5	25	26	25,9
14	19,7	26,5	28,5	30	28,4
15	20,8	26,5	28,5	30	28,4
16	21	26,5	28,5	30	28,4
18	23,7	29	32	33	30
20	26,7	33	37	38	30
22	27,7	33	37	38	30
24	31,2	38	42,5	44	32,5
25	31,2	38	42,5	44	32,5
28	35	44	49	50	35
30	37	44	49	50	35
32	40,2	46	53,5	55	35
33	40,2	46	53,5	55	35
35	43,2	50	57	59	35
38	46,2	53	59	61	36
40	48,8	55	62	64	36
42	51,8	58	65,5	67	36
43	51,8	58	65,5	67	36
45	53,8	60	68	70	36
48	56,8	63	70,5	74	36
50	58,8	65	74	77	36
53	62,2	70	78,5	81	36,5
55	64,2	72	81	83	36,5
58	67,2	75	85,5	88	41,5
60	70	79	88,5	91	41,5
65	75	84	93,5	96	41,5
68	78	88	96,5	100	41,5
70	80	90	99,5	103	48,7
75	85,5	95	107	110	48,7
80	90,5	100	112	116	48
85	96	107	120	124	46
90	102	114	127	131	51
95	107	119	132	136	51
100	112	124	137	140	51

Stern

Mechanical Seals

St / 603



Technical features

- Single seal
- Unbalanced
- Independent of direction of rotation
- Elastomer belows

Operating limits

- d1 = 10 - 100 mm
- p1 = 1.2 Mpa (12 Bar)
- t = -20 +140 °C
- Vg = 10 m/s

Operating limits

- **Seal face:**
  Silicon carbide, Carbon (antimony impreg.)
  Cr-Mo steel, Carbon (resin impreg.)
  Tungsten Carbide
- **Stationary seat:**
  Silicon carbide, Carbon (resin impreg.)
  Carbon (antimony impreg.), Al-oxide 99,5%
  Tungsten Carbide
- **Spring:**
  AISI 316, 316Ti
- **Bellows:**
  NBR, FPM, EPDM

Stationary seats

- G4, G6, G9, G50, G60, G606

Item	Description	Item	Description
1	Bellow	4	Spring collar
2	Spring collar	5	Seal face
3	Spring	6	Stationary seat
		7	O´ring or cup

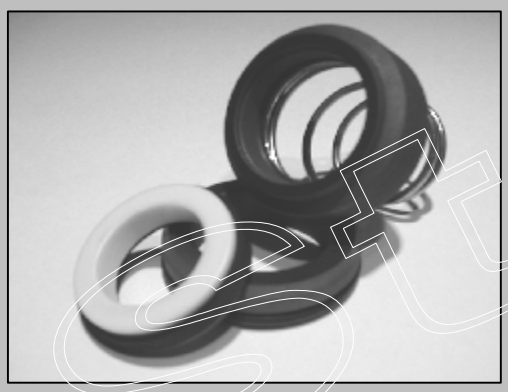
D1	D2	D3	D4	D5	L2
10	15,7	20,5	22,5	24	33,4
12	17,7	22,5	25	26	33,4
14	19,7	26,5	28,5	30	33,4
15	20,8	26,5	28,5	30	33,4
16	21	26,5	28,5	30	33,4
18	23,7	29	32	33	37,5
20	26,7	33	37	38	37,5
22	27,7	33	37	38	37,5
24	31,2	38	42,5	44	42,5
25	31,2	38	42,5	44	42,5
28	35	44	49	50	42,5
30	37	44	49	50	42,5
32	40,2	46	53,5	55	47,5
33	40,2	46	53,5	55	47,5
35	43,2	50	57	59	47,5
38	46,2	53	59	61	46
40	48,8	55	62	64	46
42	51,8	58	65,5	67	51
43	51,8	58	65,5	67	51
45	53,8	60	68	70	51
48	56,8	63	70,5	74	51
50	58,8	65	74	77	50,5
53	62,2	70	78,5	81	59
55	64,2	72	81	83	59
58	67,2	75	85,5	88	59
60	70	79	88,5	91	59
65	75	84	93,5	96	69
68	78	88	96,5	100	68,7
70	80	90	99,5	103	68,7
75	85,5	95	107	110	68,7
80	90,5	100	112	116	78
85	96	107	120	124	76
90	102	114	127	131	76
95	107	119	132	136	76
100	112	124	137	140	76

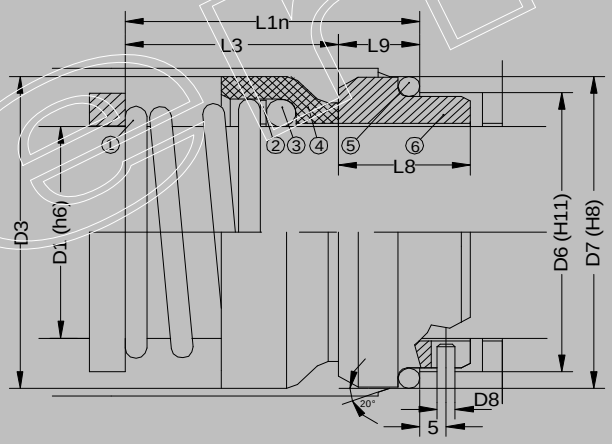
Stern

Mechanical Seals

St / 701

DIN 24960





Technical features

- Single seal
- Unbalanced
- Conical Spring
- Uni-directional
- To DIN 24960

Operating limits

- d1 = 10 - 38 mm
- p1 = 1.0 Mpa (10 Bar)
- t = -40 +205 °C
- Vg = 10 m/s

Materials

- **Seal face:**
  Carbon graphite (resin impreg.)
- **Stationary seat:**
  Silicon carbide, Al-oxide 99,5%
  Tungsten Carbide, Cr-Mo steel
- **Springs:**
  AISI 316, 316Ti
- **Secondary seals:**
  NBR, FPM, EPDM, FEP

Stationary seats

- G9, DIN 24960

Item	Description	Item	Description
1	Spring	4	Seal face
2	Thrust ring	5	O´ring
3	O´ring	6	Stationary seat

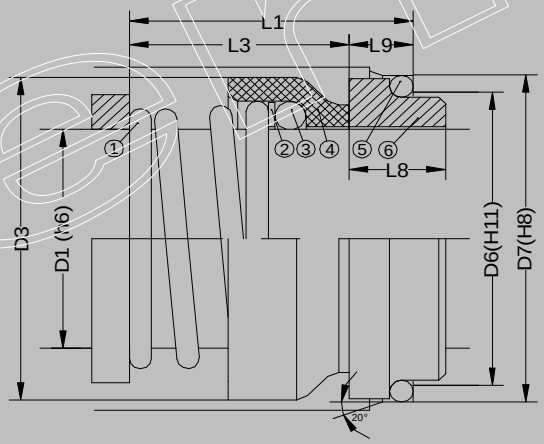
D1	D3	D6	D7	L1n	L3	L8	L9
10	20	17	21	28	18	18	10
12	22	19	23	28	18	18	10
14	25	21	25	28	18	18	10
15	27	--	--	--	--	--	--
16	27	23	27	30	20	18	10
18	30	27	33	32	21	20	12
20	32	29	35	34	22	20	12
22	35	31	37	35	24	20	12
24	38	33	39	37	25	20	12
25	40	34	40	38	27	20	12
28	43	37	43	38	27	20	12
30	47	--	--	--	--	--	12
32	48	--	--	--	--	--	12
35	53	--	--	--	--	--	12
38	56	--	--	--	--	--	14

Stern

Mechanical Seals

St / 702

DIN 24960



Technical features

- Single seal
- Unbalanced
- Conical Spring
- Uni-directional
- To DIN 24960

Operating limits

- d1 = 10 - 38 mm
- p1 = 1.0 Mpa (10 Bar)
- t = -40 +205 °C
- Vg = 10 m/s

Materials

- **Seal face:**
  Carbon graphite (resin impreg.)
- **Stationary seat:**
  Silicon carbide, Al-oxide 99,5%
  Tungsten Carbide, Cr-Mo steel
- **Springs:**
  AISI 316, 316Ti
- **Secondary seals:**
  NBR, FPM, EPDM, FEP

Stationary seats

- G6, DIN 24960

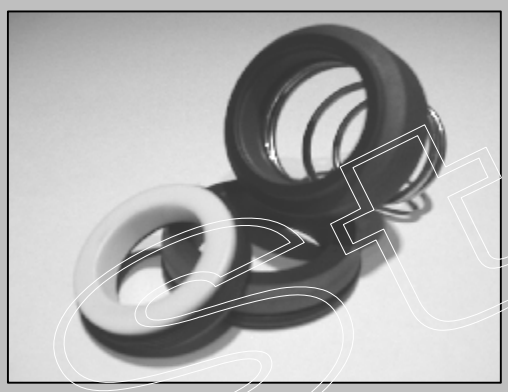
Item	Description	Item	Description
1	Spring	4	Seal face
2	Thrust ring	5	O´ring
3	O´ring	6	Stationary seat

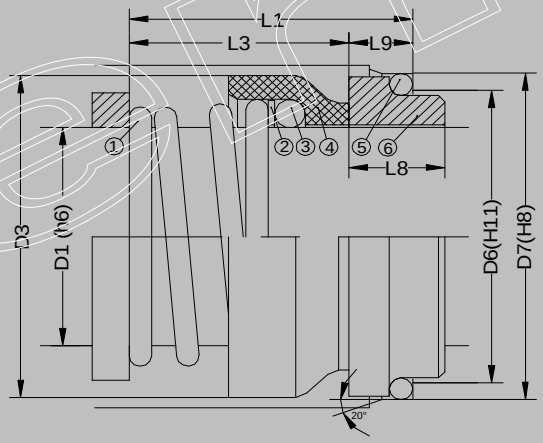
D1	D3	D6	D7	L1	L3	L8	L9
10	20	17	21	24	18	7,5	6,6
12	22	19	23	24	18	7,5	6,6
14	25	21	25	24	18	7,5	6,6
15	27	--	--	--	--	--	--
16	27	23	27	26	20	7,5	6,6
18	30	27	33	28	21	8,5	7,5
20	32	29	35	30	22	8,5	7,5
22	35	31	37	31	24	8,5	7,5
24	38	33	39	33	25	8,5	7,5
25	40	34	40	34	27	8,5	7,5
28	43	37	43	34	27	8,5	7,5
30	47	--	--	--	--	--	--
32	48	--	--	--	--	--	--
35	53	--	--	--	--	--	--
38	56	--	--	--	--	--	--

Stern

Mechanical Seals

St / 703





Technical features

- Single seal
- Unbalanced
- Conical Spring
- Uni-directional

Operating limits

- d1 = 10 - 38 mm
- p1 = 1.0 Mpa (10 Bar)
- t = -40 +205 °C
- Vg = 10 m/s

Materials

- **Seal face:**
  Carbon graphite (resin impreg.)
- **Stationary seat:**
  Silicon carbide, Al-oxide 99,5%
  Tungsten Carbide, Cr-Mo steel
- **Springs:**
  AISI 316, 316Ti
- **Secondary seals:**
  NBR, FPM, EPDM, FEP

Stationary seats

- G4

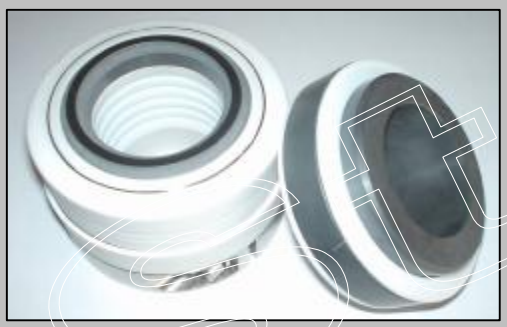
Item	Description	Item	Description
1	Spring	4	Seal face
2	Thrust ring	5	O´ring
3	O´ring	6	Stationary seat

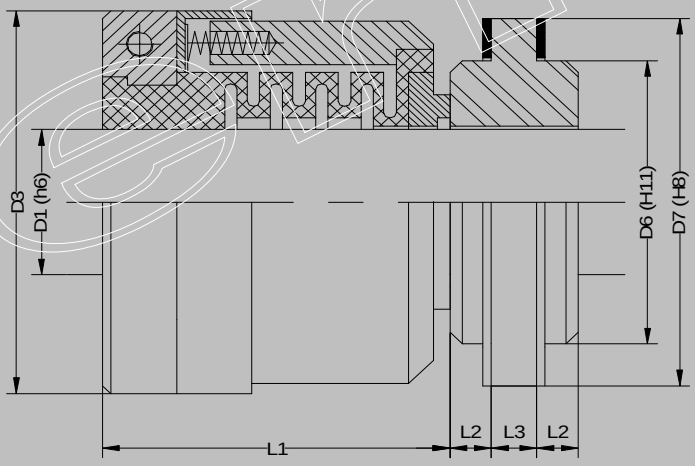
D1	D3	D6	D7	L1	L3	L8	L9
10	20	16	19	24	18	7,5	6,6
12	22	18	22	23	18	6,5	5,6
14	25	21	25	23	18	6,5	5,6
15	27	21	25	--	--	7,5	6,6
16	27	22	28	27	20	8,5	7,5
18	30	24	30	29	21	9	8
20	32	30	35	30	22	8,5	7,5
22	35	30	35	31	24	8,5	7,5
24	38	32	38	33	25	8,5	7,5
25	40	32	38	34	27	8,5	7,5
28	43	36	42	36	27	10	9
30	47	39	45	--	--	12	11
32	48	42	48	--	--	13	11
35	53	46	52	--	--	14	11
38	56	49	55	--	--	13	10

Stern

Mechanical Seals

St / 801





Technical features

- Single seal
- Multiple springs
- PTFE Bellow
- Bi-directional
- Externally mounted

Operating limits

- d1 = 25 - 65 mm
- p1 = 1.0 Mpa (10 Bar)
- t = -40 +120 °C
- Vg = 16 m/s

D1	D3	D6	D7	L1	L2	L3
25	60	47	60	44	8	11
28	67	53	65	44	8	11
30	67	53	65	44	8	11
35	72	57	70	44	7,5	11
40	78	62	76	44	7,5	11
45	84	70	80	48	8	11
50	88	72	85	48	8	11
55	93	77	90	48	8	11
60	98	82	95	52	8	11
65	103	87	100	52	8	11

Materials

- **Seal face:**
  Carbon graphite (resin impreg.). PTFE, Silicon Carbide
- **Stationary seat:**
  Silicon carbide, Al-oxide 99,5%
- **Springs, clamps:**
  AISI 316, 316Ti
- **Secondary seals, bellows:**
  PTFE
- **Collar:**
  Filled PTFE

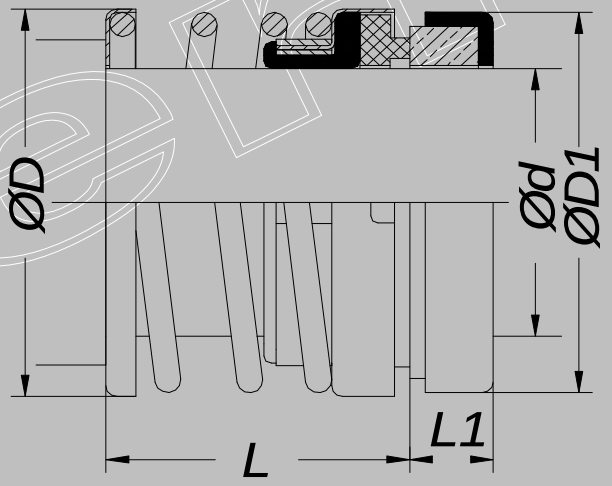
Stationary seats

- G42, G35

Stern

Mechanical Seals

St / 900



Technical features

- Single seal
- Single spring
- Bi-directional

Operating limits

- d1 = 10 - 75 mm / 3/8" - 3"
- p1 = 1.0 Mpa (10 Bar)
- t = -40 +180 °C
- Vg = 15 m/s

Materials

- **Seal face:**
  Carbon graphite (resin impreg.).Silicon Carbide
- **Stationary seat:**
  Silicon carbide, Al-oxide 99,5%
- **Springs, clamps:**
  AISI 316, 316Ti
- **Secondary seals, bellows:**
  P, E, V

Stationary seats

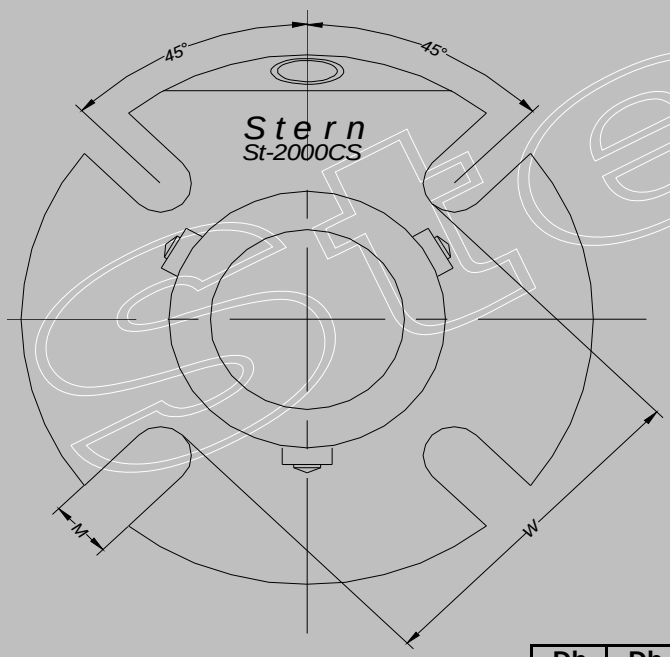
- DIN 24960 G50, US standard

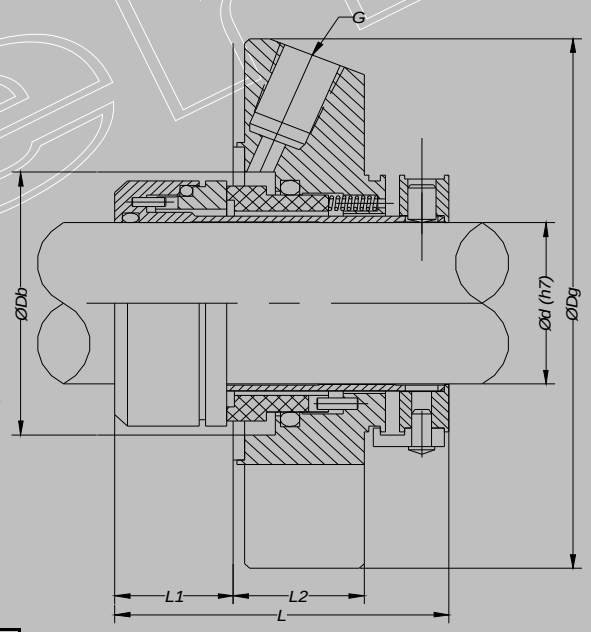
	mm	mm				
	d	d	D	D1	L 1	L
3/8"	9,5	10	22,5	22,2	8	20,6
1/2"	12,7	12	22,5	25,4	8	20,6
		14	27,0	31,7	10,3	22,2
5/8"	15,8	16	28,5	31,7	10,3	22,2
		18	30,5	34,9	10,3	22,2
3/4"	19,1	20	32,0	34,9	10,3	22,2
7/8"	22,2	22	34,0	38,1	10,3	23,8
		24	40,5	41,2	11,1	25,4
1"	25,4	25	40,5	41,2	11,1	25,4
1.1/8"	28,5	28	43,0	44,4	11,1	26,9
		30	45,5	47,6	11,1	26,9
1.1/4"	31,7	32	47,5	47,6	11,1	26,9
		33	50,5	50,8	11,1	28,5
1.3/8"	34,9	35	50,5	50,8	11,1	28,5
1.1/2"	38,1	38	54,5	53,9	11,1	28,5
		40	57,5	60,3	12,7	34,9
1.5/8"	41,2	42	63,0	60,3	12,7	34,9
		43	63,0	63,5	12,7	34,9
1.3/4"	44,4	45	63,0	63,5	12,7	34,9
1.7/8"	47,6	48	68,0	66,6	12,7	38,1
2"	50,8	50	68,0	69,8	12,7	38,1
		53	74,0	76,2	14,28	42,8
2.1/8"	53,9	55	74,0	76,2	14,28	42,8
2.1/4"	57,1	58	82,0	79,3	14,28	42,8
1.3/8"	60,3	60	82,0	82,5	14,28	46,02
2.1/2"	63,5	63	86,0	85,7	14,28	46,02
		65	86,0	85,7	15,9	49,2
2.5/8"	66,6	68	92,0	85,7	15,9	49,2
2.3/4"	69,8	70	92,0	88,9	15,9	49,2
3"	76,2	75	98,5	98,4	15,9	52,37

Stern

Mechanical Seals

St-2000 CS





Technical features

- Single Seal (Cartridge)
- Multiple springs
- Bi-directional

Operating limits

- d1 = 25 - 100 mm
- p1 = 2.0 Mpa (20 Bar)
- t = -40 +180 °C
- Vg = 16 m/s

Materials

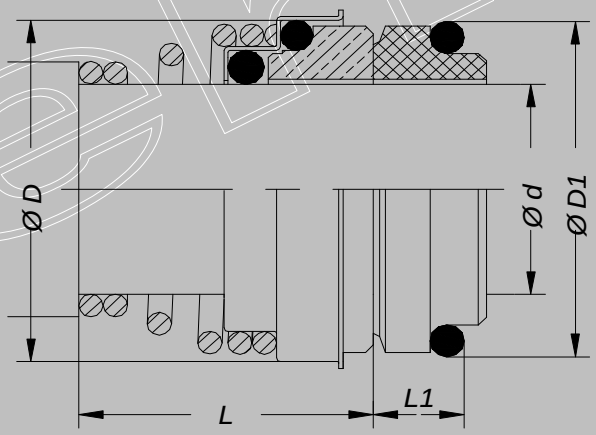
- **Seal face:**
  Silicon carbide, Tungsten carbide
  Carbon (antimony impreg.)
- **Stationary seat:**
- Silicon carbide, Tungsten carbide
  Carbon (antimony impreg.)
- **Springs, face housing:**
  AISI 316, 316Ti
- **Secondary seals:**
  NBR, FPM, EPDM, FEP

d	Db Min	Db Max	Dg	W	M	L1	L2	L	G
25	44	51	105	62	12,5				
28	47	52	105	62	12,5				
30	49	56	105	65	12,5				
32	51	57	110	67	12,5				1/4"
33	51	57	110	67	12,5				
35	54	62	115	70	12,5				
38	57	66	125	75	12,5				
40	59	68	125	75	14,7				
42	62	70	133	80	14,7				
43	62	71	133	80	14,7	25		68	
45	64	73	141	81	14,7		25,5		
48	67	75	141	84	14,7				
50	69	78	150	87	14,7				
53	73	87	150	97	17,5				
55	75	84	150	98	17,5				3/8"
60	79	91	157	102	17,5				
65	85	99	165	109	17,5				
70	95	108	180	126	17,5				
75	102	118	190	129	17,5				
80	108	124	195	135	17,5				
85	111	128	200	139	20,5	27		83	
90	118	135	205	145	20,5				
95	121	138	210	148	20,5				
100	127	144	218	154	20,5				

Stern

Mechanical Seals

St / 1000



Technical features

- Single seal
- Unbalanced
- Conical Spring

Operating limits

- d1 = 10 - 40mm
- p1 = 1.0 Mpa (10 Bar)
- t = -40 +120 °C
- Vg = 12 m/s

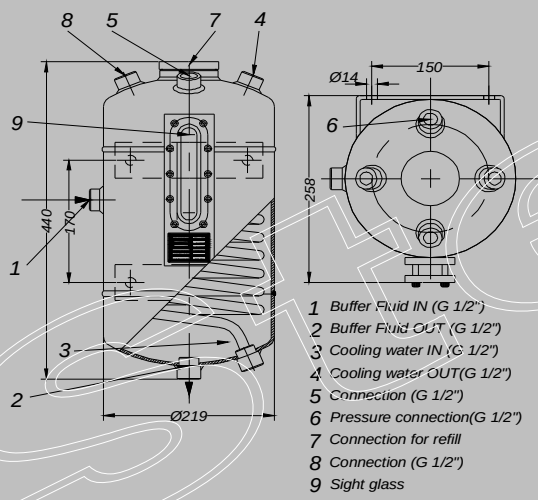
Materials

- **Seal face:**
  Al-oxide 99,5%
- **Stationary seat:**
  Carbon graphite (resin impreg.)
- **Springs:**
  AISI 316
- **Secondary seals:**
  NBR

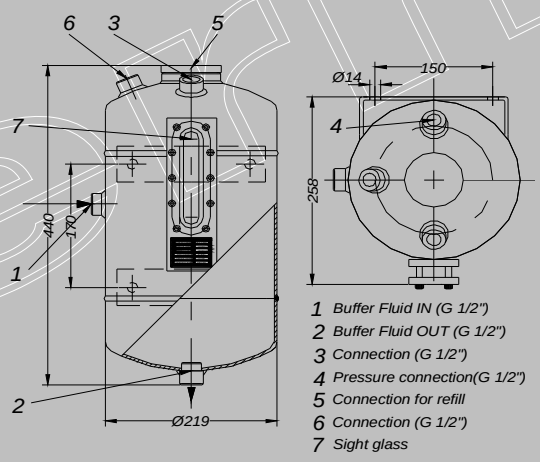
d	D	D1	L	L1
10	20	18,1	15	5,5
11	22	20,6	18	5,5
12	22	20,6	18	5,5
13	25	23,1	22	6
14	25	23,1	22	6
15	29	16,9	22	7
16	29	26,9	23	7
17	29	26,9	23	7
18	33	30,9	24	8
19	33	30,9	25	8
20	33	30,9	25	8
21	38	35,4	25	8
22	38	35,4	25	8
23	38	35,4	27	8
24	38	35,4	27	8
25	40	38,2	27	8,5
28	46	43,3	29	9
29	46	43,3	30	9
30	46	43,3	30	9
32	46	43,3	30	9
33	48	53,3	39	11,5
35	50	53,3	39	11,5
38	56	60,5	39	11,5
40	58	60,5	39	11,5

Stern

Mechanical Seals



1 Buffer Fluid IN (G 1/2")
2 Buffer Fluid OUT (G 1/2")
3 Cooling water IN (G 1/2")
4 Cooling water OUT(G 1/2")
5 Connection (G 1/2")
6 Pressure connection(G 1/2")
7 Connection for refill
8 Connection (G 1/2")
9 Sight glass



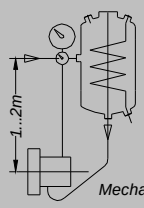
1 Buffer Fluid IN (G 1/2")
2 Buffer Fluid OUT (G 1/2")
3 Connection (G 1/2")
4 Pressure connection(G 1/2")
5 Connection for refill
6 Connection (G 1/2")
7 Sight glass

St-5000 / CC

With cooling coil

Technical features

- Thermosiphon vessel
- Storage, pressure maintenance and cooling of buffer fluid in a sealing circuit.
- Volume: 9 litres
- Connections: G/NPT 1/2



Mechanical Seal

St-5000

Without cooling coil

Operating limits

- Operating pressure: max. 15 bar
- Operating temperature: max. 200°C

Materials

- Stainless Steel (AISI 316)
- Valves: Stainless Steel (AISI 316)
- Sight-glass: Borosilicate
- Seals: EPDM-FPM-NBR-PTFE

St-6000

Technical features

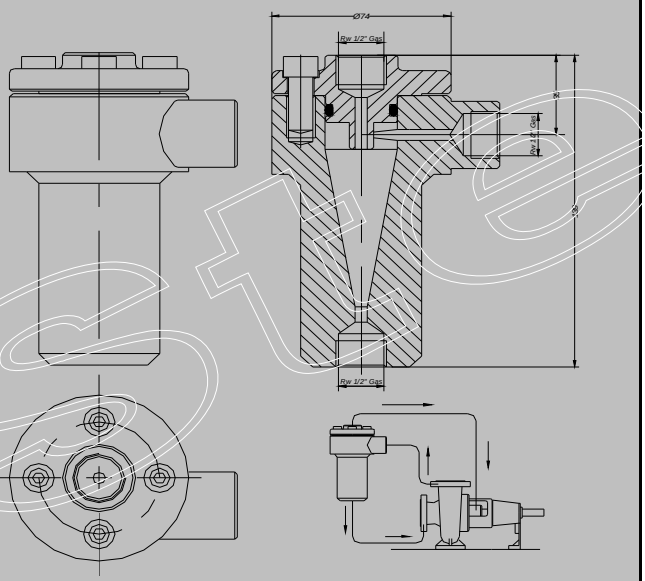
- Cyclone separator
- Connections: G/NPT 1/2

Operating limits

- Operating pressure: max. 30 bar
- Operating temperature: max. 120°C

Materials

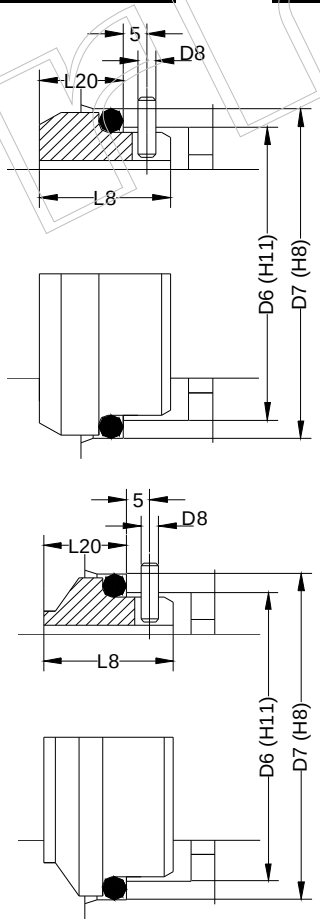
- Stainless Steel (AISI 316)
- O´ring: EPDM-FPM-NBR



Stationary Seats

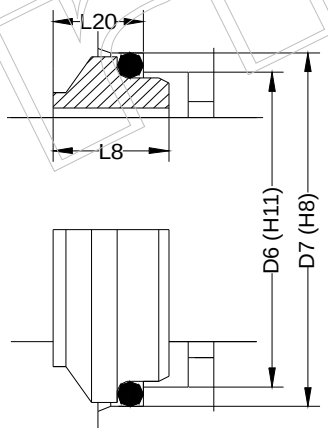
G9 **DIN 24960**

Shaft	D6	D7	D8	L8	L20
10	17	21	3	17,5	10
12	19	23	3	17,5	10
14	21	25	3	17,5	10
16	23	27	3	17,5	10
18	27	33	3	19,5	11,5
20	29	35	3	19,5	11,5
22	31	37	3	19,5	11,5
24	33	39	3	19,5	11,5
25	34	40	3	19,5	11,5
28	37	43	3	19,5	11,5
30	39	45	3	19,5	11,5
32	42	48	3	19,5	11,5
33	42	48	3	19,5	11,5
35	44	50	3	19,5	11,5
38	49	56	4	22	14
40	51	58	4	22	14
43	54	61	4	22	14
45	56	63	4	22	14
48	59	66	4	22	14
50	62	70	4	23	15
53	65	73	4	23	15
55	67	75	4	23	15
58	70	78	4	23	15
60	72	80	4	23	15
65	77	85	4	23	15
68	81	90	4	26	18
70	83	92	4	26	18
75	88	97	4	26	18
80	95	105	4	26,2	18,2
85	100	110	4	26,2	18,2
90	105	115	4	26,2	18,2
95	110	120	4	25,2	17,2
100	115	125	4	25,2	17,2



G9 **DIN 24960 (Short)**

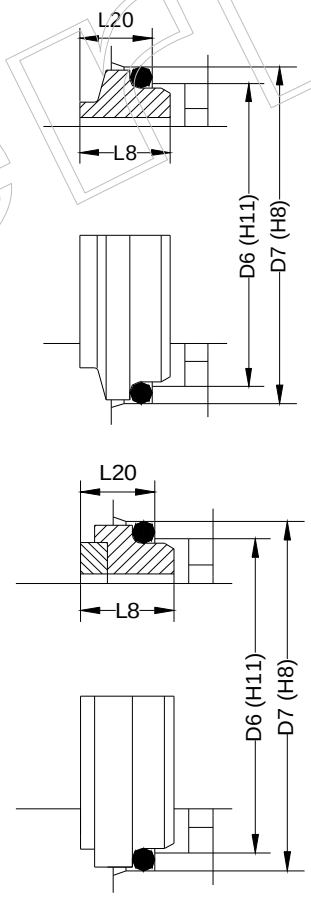
Shaft	D6	D7	L20	L8
16	23	27	8,6	10
18	27	33	10	11,5
20	29	35	10	11,5
22	31	37	10	11,5
24	33	39	10	11,5
25	34	40	10	11,5
28	37	43	10	11,5
30	39	45	10	11,5
32	42	48	10	11,5
33	42	48	10	11,5
35	44	50	10	11,5
38	49	56	11	12,5
40	51	58	11	12,5
43	54	61	11	12,5
45	56	63	11	12,5
48	59	66	11	12,5
50	62	70	13	14,5
53	65	73	13	14,5
55	67	75	13	14,5
58	70	78	13	14,5
60	72	80	13	14,5
65	77	85	13	14,5
68	81	90	15,3	16,5
70	83	92	15,3	16,5
75	88	97	15,3	16,5
80	95	105	15,7	17,5
85	100	110	15,7	17,5



Stationary Seats

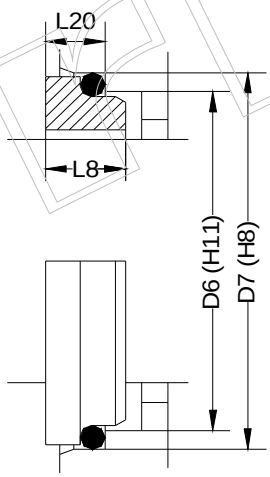
Shaft	D6	D7	L8	L20
10	15,5	19,2	9	7,1
12	17,5	21,6	10	7,6
14	20,5	24,6	10	7,6
16	22	28	11,5	9
18	24	30	12,5	10
20	29,5	35	12,5	9,5
22	29,5	35	12,5	9,5
24	32	38	12,5	9,5
25	32	38	12,5	9,5
28	36	42	14	11
30	39,2	45	14	11
32	42,2	48	14	11
33	44,2	50	14,5	11,5
35	46,2	52	14,5	11,5
38	49,2	55	14,5	11,5
40	52,2	58	14,5	11,5
43	53,3	62	17	14,3
45	55,3	64	17	14,3
48	59,7	68,4	17	14,3
50	80,8	69,3	17	14,3
53	63,8	72,3	17	14,3
55	66,5	75,4	18	15,3
58	69,5	78,4	18	15,3
60	71,5	80,4	18	15,3
65	76,5	85,4	18	15,3
68	82,7	91,5	19	16
70	83	92	18	15,3
75	90,2	99	18	15,3
80	95,2	104	19	16,3
85	100,2	109	19	16,3
90	105,2	114	19	16,3
95	111,6	120,3	20	17,3
100	114,5	123,3	20	17,3

G13



Shaft	D6	D7	L8	L20
16	22	28	8,5	7,5
18	24	30	9	8
20	29,5	35	8,5	7,5
22	29,5	35	8,5	7,5
24	32	38	8,5	7,5
25	32	38	8,5	7,5
28	36	42	10	9
30	39,2	45	11,5	10,5
32	42,2	48	11,5	10,5
33	44,2	50	12	11
35	46,2	52	12	11
38	49,2	55	11,3	10,3
40	52,2	58	11,8	10,8
43	53,3	62	13,2	12
45	55,3	64	12,8	11,6
48	59,7	68,4	12,8	11,6
50	60,8	69,3	12,8	11,6
53	63,8	72,3	13,5	12,3
55	66,5	75,4	14,5	13,3
58	69,5	78,4	14,5	13,3
60	71,5	80,4	14,5	13,3
65	76,5	85,4	14,2	13
68	82,7	91,5	14,9	13,7
70	83	92	14,2	13
75	90,2	99	15,2	14
80	95,2	104	16,2	15
85	100,2	109	16	14,8

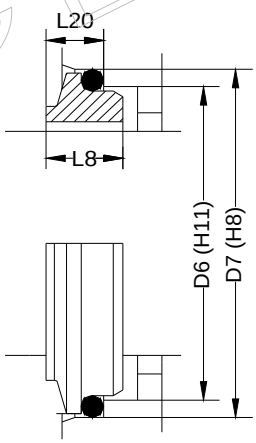
G4



Stationary Seats

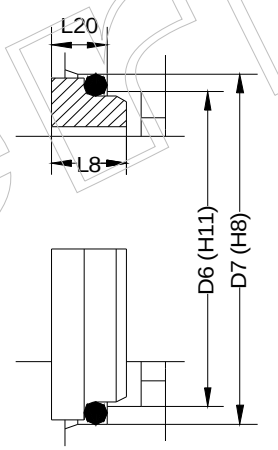
G606 **DIN 24960**

Shaft	D6	D7	L20	L8
10	17	21	6,6	7,5
12	19	23	6,6	7,5
14	21	25	6,6	7,5
16	23	27	6,6	7,5
18	27	33	7,5	8,5
20	29	35	7,5	8,5
22	31	37	7,5	8,5
24	33	39	7,5	8,5
25	34	40	7,5	8,5
28	37	43	7,5	8,5
30	39	45	7,5	8,5
32	42	48	7,5	8,5
33	42	48	7,5	8,5
35	44	50	7,5	8,5
38	49	56	9	10
40	51	58	9	10
43	54	61	9	10
45	56	63	9	10
48	59	66	9	10
50	62	70	9,5	10,5
53	65	73	11	12
55	67	75	11	12
58	70	78	11	12
60	72	80	11	12
65	77	85	11	12
68	81	90	11,3	12,5
70	83	92	11,3	12,5
75	88	97	11,3	12,5
80	95	105	12	13



G6 **DIN 24960**

Shaft	D6	D7	L20	L8
10	17	21	7,5	6,6
12	19	23	7,5	6,6
14	21	25	7,5	6,6
16	23	27	7,5	6,6
18	27	33	8,5	7,5
20	29	35	8,5	7,5
22	31	37	8,5	7,5
24	33	39	8,5	7,5
25	34	40	8,5	7,5
28	37	43	8,5	7,5
30	39	45	8,5	7,5
32	42	48	8,5	7,5
33	42	48	8,5	7,5
35	44	50	8,5	7,5
38	49	56	10	9
40	51	58	10	9
43	54	61	10	9
45	56	63	10	9
48	59	66	10	9
50	62	70	10,5	9,5
53	65	73	12	11
55	67	75	12	11
58	70	78	12	11
60	72	80	12	11
65	77	85	12	11
68	81	90	12,5	11,3
70	83	92	12,5	11,3
75	88	97	12,5	11,3
80	95	105	13	12

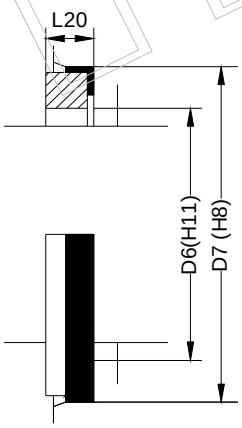


Stationary Seats

G50

Shaft	D6	D7	L20
10	11	24,6	7,5
12	13,5	27,8	7,5
14	17	30,95	9
15	17	30,95	9
16	17	30,95	9
18	20	34,15	9
19	20	34,15	9
20	21,5	35,7	9
22	21,5	37,3	9
24	23	40,5	9
25	26,5	40,5	9
28	29,5	46,65	10,5
30	32,5	50,8	10,5
32	32,5	50,8	10,5
33	32,5	54	10,5
35	36,5	54	10,5
38	39,5	57,15	10,5
40	42,5	60,35	10,5

Shaft	D6	D7	L20
42	46	63,5	10,5
43	46	63,5	10,5
45	46	63,5	10,5
48	49	66,7	10,5
50	52	69,85	12
53	55,5	73,05	12
55	58,5	76,2	12
58	61,5	79,4	12
60	61,5	79,4	12
63	66	82,5	14,5
65	68	92,1	14,5
68	71	95,25	14,5
70	71	95,25	14,5
75	77,5	101,6	14,5
80	84	114,3	18,5
85	87	117,5	18,5
90	93,5	123,85	18,5
95	96,5	127	18,5



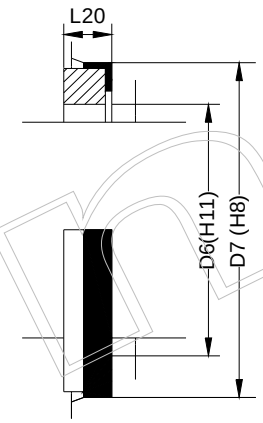
Stationary Seats

G60

DIN 24960

Shaft	D6	D7	L20
10	17	21	6,6
12	19	23	6,6
14	21	25	6,6
16	23	27	6,6
18	27	33	7,5
20	29	35	7,5
22	31	37	7,5
24	33	39	7,5
25	34	40	7,5
28	37	43	7,5
30	39	45	7,5
32	42	48	7,5
33	42	48	7,5
35	44	50	7,5
38	49	56	9
40	51	58	9

Shaft	D6	D7	L20
43	54	61	9
45	56	63	9
48	59	66	9
50	62	70	9,5
53	65	73	11
55	67	75	11
58	70	78	11
60	72	80	11
65	77	85	11
68	81	90	11,3
70	83	92	11,3
75	88	97	11,3
80	95	105	12
85	100	110	14
90	105	115	14
95	110	120	14



Stern

Mechanical Seals

Criteria for the identification of the seal size and material code

Example for standard single seal

Pos. 1	Pos. 2		Pos. 3	Pos. 4		Pos. 5	Pos. 6	Pos. 7	Pos. 8	Pos. 9
St/101	U	-	30	R	-	S	B	V	G	G

Pos.

1 Model — **St/101**
2 Unbalanced or balanced (**U** or **B**) — **U**
3 Nominal diameter of the shaft — **30mm**
4 Direction of rotation (with single spring) R or L — **R**

Pos. Materials used

5 Seal face — **S**
6 Stationary seat — **B**
7 Secondary seals — **V**
8 Spring — **G**
9 Other metal parts — **G**

MATERIAL CODES

Face Materials

Synthetic Carbon
A Carbon graphite, antimony impreg.
B Carbon graphite, resin impreg.

Metal
S Special CrMo-Steel

Carbides
U22 Tungsten Carbide
Q1 Silicon Carbide

Ceramic
V Al-Oxide 99.5%

Plastic
Y1 PTFE-glassfiber reinforced

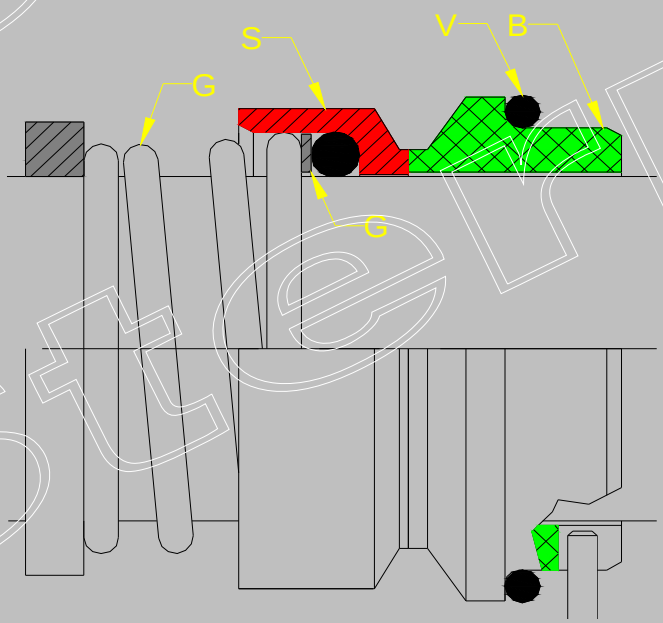
Secondary Seal Components

Elastomers, not wrapped
E Ethylene propylene rubber **(EPDM)**
P Nitrile-butadiene-rubber **(NBR)**
V Fluorcarbon rubber **(FPM)**
K Perfluorocarbon rubber **(Kalrez)**
S Silicone rubber **(MVQ)**
N Chloroprene rubber **(CR)**

Elastomers, wrapped
M1 **FPM**, double PTFE wrapped
M5 **FPM**, **FEP** wrapped

Construction Materials

G CrNiMo-Steel
F CrNi-Steel
M Hastelloy C-4



Mechanical seals according to DIN 24960 (Code system)

Single seal

Designation | **Description** | **Position** 1 2 3 4 5

N = standard type with l1n
K = short type with l1k
C = type C

U = no shaft step
B = with shaft step
C = 0

Nominal diameters **d1** and **d10** of the mechanical seal
Shaft/shaft sleeve diameters are always three-digit numbers beneath the stationary seat for types U and B

Direction of rotation of the mechanical seal

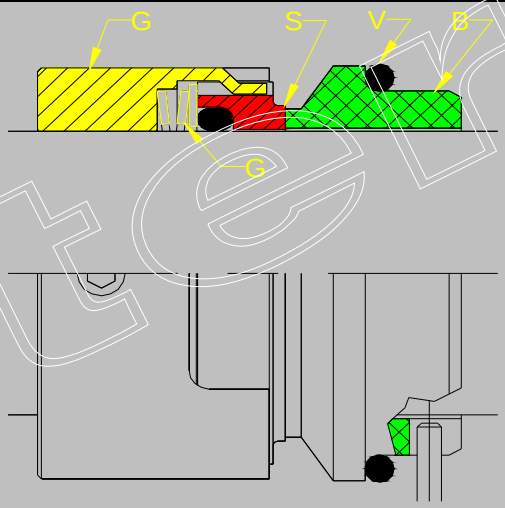
Type N and K (is also the spring winding direction)	Type C
R = clockwise: Looking from stationary seat toward the seal face with the seal face rotating in clockwise direction	Looking from the drive side with the shaft rotating in clockwise direction
L = anticlockwise: Looking from stationary seat toward the seal face with the seal face rotating in anticlockwise direction	Looking from the drive side with the shaft rotating in anticlockwise direction

S = independent of direction of rotation
Spring type (state single spring or multiple springs in your order)

Pinned stationary seat
0 = no torsion lock, without anti-rotation pin
1 = for type C
2 = with torsion lock, with anti-rotation pin

Materials (See the table)

1 Seal face
2 Stationary seat
3 Secondary seals
4 Spring
5 Other metal parts (except seal cover and shaft sleeve)



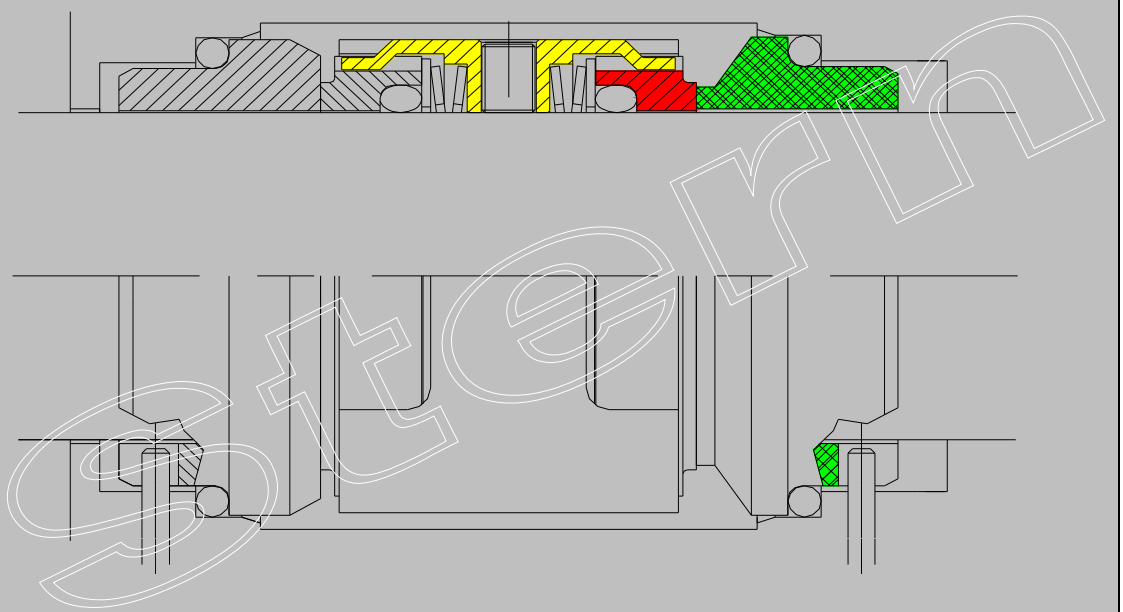
Mechanical seals according to DIN 24960 (Code system)

Double seal

Designation | **Description** | **Position** 1 2 3 4 5 1 2 3

- **U** = no shaft step / **B** = with shaft step / **C** = type C — on product side
- **U** = no shaft step / **B** = with shaft step / **C** = type C — on atmosphere side
- Nominal diameters **d1** and **d10** (always three-digit numbers)
- Direction of rotation (**see single seal**)
- Anti-rotation pin for stationary seat on the atmosphere and / or product side
  0 = without anti-rotation pin
  1 = with anti-rotation pin for stationary seat on atmosphere side
  2 = with anti-rotation pin for stationary seat on product side
  3 = with anti-rotation pin for stationary seat on the atmosphere and product sides
  4 = for type C
- Positive retention for stationary seat on the product side
  O = without anti-rotation pin
  D = with anti-rotation pin
  E = for type C
- **Materials** (See the table)

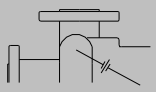
Position	
1	Seal face inboard
2	Stationary seat inboard
3	Secondary seals inboard
4	Secondary seals inboard
5	Others metal parts
1	Sliding face outboard
2	Stationary seat outboard
3	Secondary seals outboard



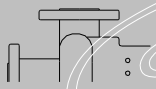
Stern

Mechanical Seals

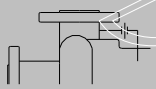
API 610



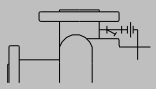
PLAN 1
Internal circulation from the pump discharge to the seal.



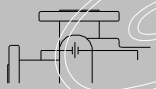
PLAN 2
Dead end seal chamber with no circulation.
Stuffing box cooling and a neck bush are necessary, unless otherwise specified.



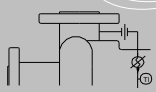
PLAN 11
Circulation from the pump case, through an orifice and to the seal.



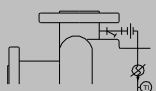
PLAN 12
Circulation from the pump case, through a strainer and an orifice to the seal.



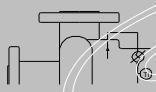
PLAN 13
Circulation from the seal chamber, through an orifice and back to pump suction.



PLAN 21
Circulation from the pump case, through an orifice and a cooler to the seal.

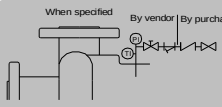


PLAN 22
Circulation from the pump case, through a strainer, an orifice and a cooler to the seal.

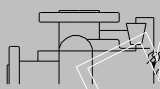


PLAN 23
Circulation by means of a pumping ring from the seal, through a cooler and back to the seal.

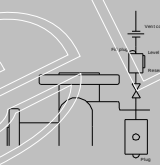
PLAN 31
Circulation from the pump case through a cyclone separator.



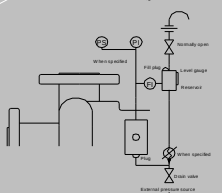
PLAN 32
Injection of clean fluid into the seal chamber from an external source.



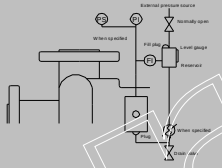
PLAN 41
Circulation from pump case through a cyclone separator, and clean fluid through a cooler to the seal.



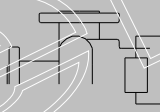
PLAN 51
Dead-end Quench
(Usually methanol)



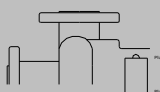
PLAN 52
Nonpressurized external fluid reservoir, thermosyphon or forced circulation. Typically used with tandem-seal arrangement.



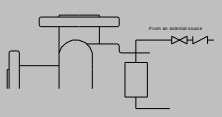
PLAN 53
Pressurized external fluid reservoir, thermosyphon or forced circulation. Typically used with double-seal arrangement.



PLAN 54
Circulation of clean fluid from an external system.



PLAN 61
Tapped connections for the purchaser´s use.



PLAN 62
External fluid quench
(Steam, gas, water, etc)

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Dyna Tech

Datos Generales

Fecha:

Cliente:		Ref.:			
Dirección		Localidad:		CP:	
Contacto:		Cargo:		Depto:	
Telefono:		Fax:		e-mail:	

Datos del equipo

Cantidad			si	no		si	no		si	no		si	no
		Horizontal			Vertical			Lateral			Otro		

Bomba		Marca		Giro	si	no		Existe	si	no			
Agitador		Modelo		Derecho				Calefacción					
Compresor		Número		Izquierdo				Enfriamiento					
Otro		Ubicación		RPM				Quench					
								Otro Plan					

Datos del Producto **Nota:** De ser posible adjuntar análisis del producto a sellar

Medio		Concentración		%	P H	

	si	no		si	no						
Limpio			Corrosivo			Viscosidad		Kg/ms	Punto de ebullición		°C
Sólidos			Tóxico			Densidad		Kg/m3	Punto de congelamiento		°C
Abrasivos			Cristalino			Temperatura		°C	Presión de vapor		Kg/cm2
						Ø Sólidos		mm			

Presión en la caja prensa		Kg/cm2	Presión de succión		Kg/cm2	Presión de descarga		Kg/cm2
Presión en la caja prensa		Lb/pulg2	Presión de succión		Lb/pulg2	Presión de descarga		Lb/pulg2

Dimensiones de la caja

Nota: De ser posible adjuntar croquis de la caja prensaestopas

	Dimensiones en mm			Dimensiones en Pulg		
a	Ø de Eje		mm	Ø de Eje		Pulg
b	Ø de Camisa		mm	Ø de Camisa		Pulg
c	Ø de Caja		mm	Ø de Caja		Pulg
d	Ø encastre		mm	Ø encastre		Pulg
e	Ø círc. Bulones		mm	Ø círc. Bulones		Pulg
f	Ø bulon y cant			Ø bulon y cant		
g	Prof. Caja		mm	Prof. Caja		Pulg
h	1ra Obstrucc		mm	1ra Obstrucc		Pulg
i	Prof. Encastre		mm	Prof. Encastre		Pulg

Se solicita sello	si	no
Simple		
Doble		
Cartucho Simple		
Cartucho Doble		
Fuelle		
Exterior		
c/Accesorios		
Balanceado		
No Balanceado		

Según API		no
6° Edición		
7° Edición		
8° Edición		
682		

Solicita Plan API	
¿Cuál?	

Sello recomendado		Plan API recomendado	

Simple		
Cara rotativa		
Cara estacionaria		
O´rings		
Partes metálicas		

Doble (Lado Producto y Lado Atmosférico)		
Cara rotativa		
Cara estacionaria		
O´rings		
Partes metálicas		

Doble (Lado Producto y Lado Atmosférico)		
Cara rotativa		
Cara estacionaria		
O´rings		
Partes metálicas		

Accesorios	

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