

**“YOUR GUIDE TO THE WORLD-CLASS RANGE OF
CHEM-PROOF SEALS”**



Dry Running Seal

For Top Entry Agitators, Vessels and Mixers
Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series CPKS 901, CPKS 913



Standard Style

Face Materials

Carbon / Ceramic,
Silicon Carbide, Tungsten Carbide, Lecrolloy

Metal Parts

SS 316, SS 304, Carbon Steel, Hastelloy-B,
Hastelloy-C, Monel, Alloy - 20

Secondary Seals

LPKS 901 : PTFE, GFT
LPKS 913 : Inboard - PTFE, GFT
: Outboard - Elastomers

Applications

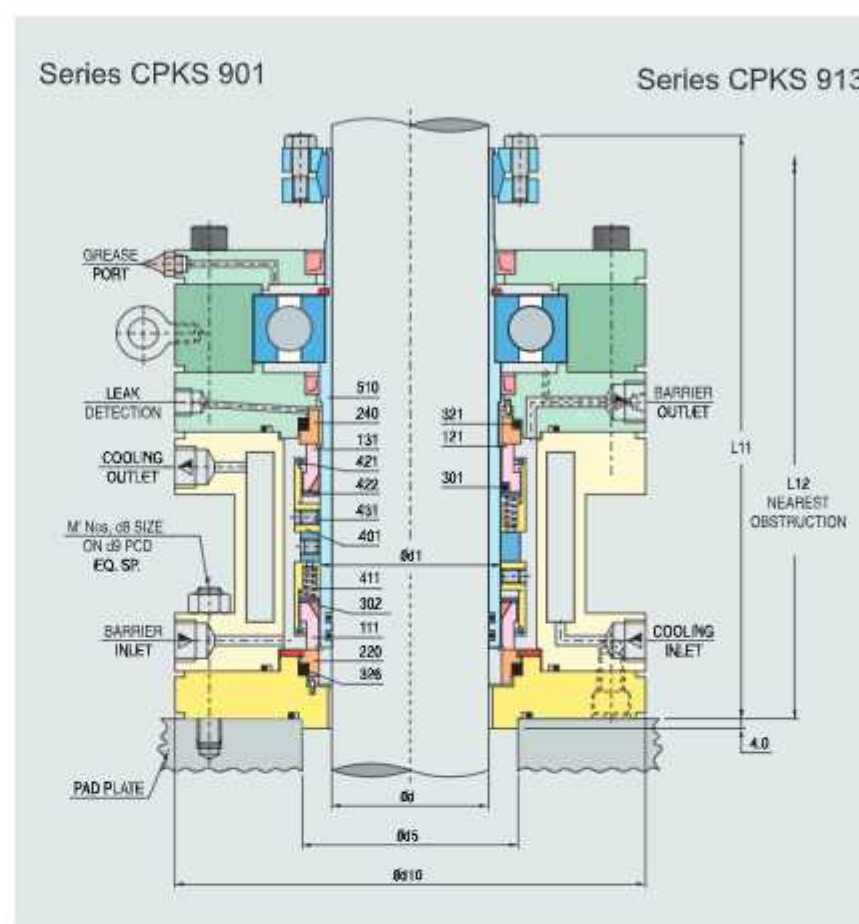
- Petrochemicals and its vapours
- General Chemicals and its vapours
- Light hydrocarbons and its vapours

Seal Characteristics

- Double Acting Back to Back Seals
- Unbalanced
- Cartridge Unit
- Independent of Direction of Rotation
- Operated with Pressurised Barrier Fluid

Operating Limits

Shaft Diameter d : 25 150mm*
Pressure p : Vacuum 10 bar (max)
Temperature t : Amb. 200°C (max)
Shaft speed n : 600 rpm. (max)
Barrier fluid pressure : Vessel pressure + 1.5 bar



Part No.	Description
111	Seal Ring
121	Seal Ring
131	Seal Ring
220	Mating Ring
240	Mating Ring
301	O-Ring
302	Wedge
321	O-Ring
326	M. R. Packing
401	Retainer
411	Spring
421	Snap Ring
422	Thrust Ring
431	Grub Screw
510	Sleeve

Shaft	SEAL SIZE		d5 ^{H12}	M,d8	d9	d10	d11	d12
d ^{g6}	d1 ^{h9}	d1 ^{h9}						
mm	inch	inch						
25.0	1.375	75.0	4, M10	130.0	150.0	240.0	280.0	
30.0	1.625	80.0	4, M10	135.0	155.0	240.0	280.0	
35.0	1.750	85.0	4, M10	140.0	160.0	240.0	280.0	
40.0	2.000	90.0	4, M10	145.0	165.0	246.0	290.0	
45.0	2.125	95.0	4, M10	155.0	175.0	246.0	290.0	
50.0	2.375	100.0	4, M10	155.0	175.0	246.0	290.0	
55.0	2.625	105.0	8, M12	175.0	200.0	280.0	320.0	
60.0	3.750	110.0	8, M12	180.0	205.0	280.0	320.0	
65.0	3.000	115.0	8, M12	185.0	210.0	280.0	320.0	
70.0	3.250	120.0	8, M12	190.0	215.0	285.0	325.0	
75.0	3.375	125.0	8, M12	195.0	220.0	285.0	325.0	
80.0	3.625	130.0	8, M12	200.0	225.0	285.0	325.0	

Shaft	SEAL SIZE		d5 ^{H12}	M,d8	d9	d10	d11	d12
d ^{g6}	d1 ^{h9}	d1 ^{h9}						
mm	inch	inch						
85.0	3.750	135.0	8, M16	220.0	250.0	290.0	330.0	
90.0	4.000	140.0	8, M16	225.0	255.0	305.0	345.0	
95.0	4.125	145.0	8, M16	245.0	275.0	350.0	390.0	
100.0	4.375	160.0	8, M16	250.0	280.0	350.0	390.0	
105.0	4.500	165.0	8, M16	255.0	285.0	350.0	390.0	
110.0	4.750	170.0	8, M16	260.0	290.0	355.0	395.0	
115.0	5.000	175.0	8, M16	265.0	300.0	355.0	395.0	
120.0	5.125	180.0	8, M16	270.0	300.0	355.0	395.0	
125.0	5.375	195.0	8, M16	275.0	320.0	355.0	395.0	
130.0	5.500	200.0	8, M16	280.0	320.0	380.0	420.0	
140.0	6.000	210.0	8, M16	295.0	345.0	385.0	425.0	
150.0	6.375	220.0	8, M16	300.0	365.0	385.0	425.0	

Series CPKS 901, CPKS 913, are factory assembled cartridge units used on mixture, agitators and reaction vessels. The seals are designed for handling serve services including products emitting toxic vaporous during reaction process. The design incorporates bearings located very close to the seal, this standard feature effectively arrests the shaft whip for smooth and trouble free operation enabling seal life. The cooling jacket also a standard feature, helps to maintain cool environment around the seal. Large clearance between rotating shaft/sleeve and mating ring permits higher deflection of the shaft, invariably associated with top entry agitators.

Double Mechanical Seal

For Top Entry Agitators, Vessels and Mixers
Double Acting, Independent of Direction of Rotation

Mechanical Seal

Series CPKS 903 & CPKS 925



Standard Style

Face Materials

Carbon / Ceramic,
Silicon Carbide, Tungsten Carbide, Lecrolloy

Metal Parts

SS 316, SS 304, Carbon Steel, Hastelloy-B,
Hastelloy-C, Monel, Alloy - 20

Secondary Seals

LPKS 903 : PTFE, GFT
LPKS 925 : Inboard - PTFE, GFT
: Outboard - Elastomers

Applications

- Petrochemicals and its vapours
- General Chemicals and its vapours
- Light hydrocarbons and its vapours

Seal Characteristics

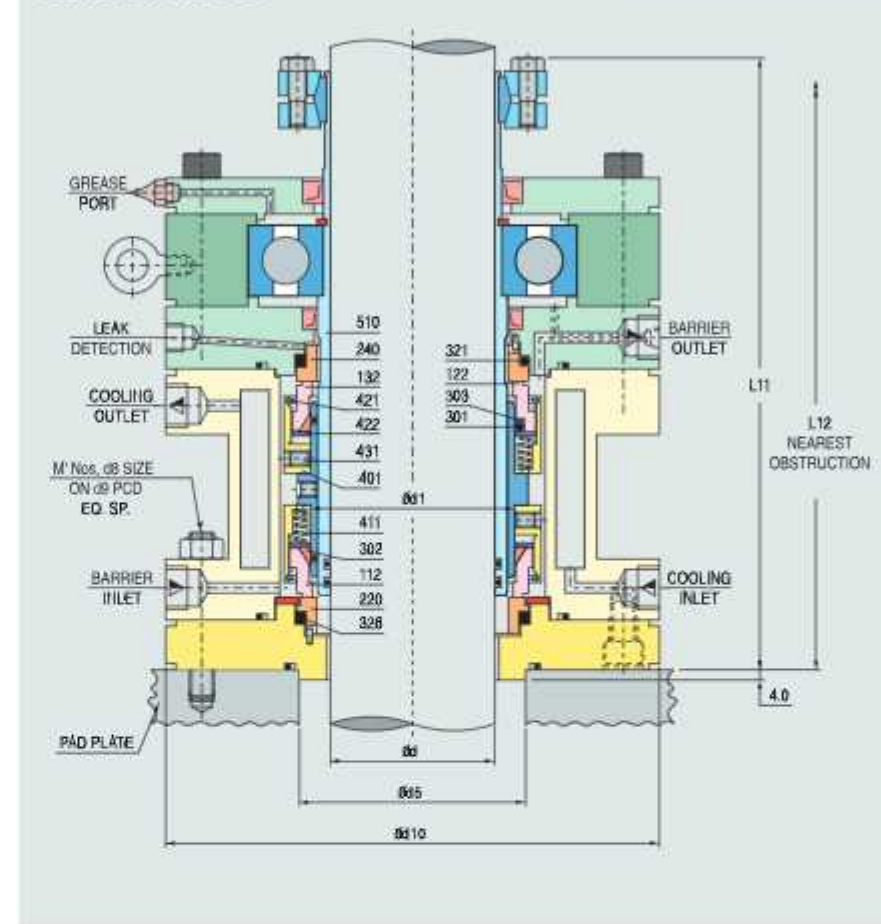
- Double acting Back to Back Seals
- Balanced
- Cartridge Unit
- Independent of Direction of Rotation
- Operated with Pressurised Barrier Fluid

Operating Limits

Shaft Diameter d : 25 150mm*
Pressure p : Vacuum 35 bar (max)
Temperature t : Amb. ... 200°C (max)
Shaft speed n : 600 rpm. (max)
Barrier fluid pressure : Vessel pressure + 1.5 bar

Series CPKS 903

Series CPKS 925



Part No.	Description
112	Seal Ring
122	Seal Ring
132	Seal Ring
220	Mating Ring
240	Mating Ring
301	O-Ring
302	Wedge
303	Back-up Ring
321	O-Ring
326	M. R. Packing
401	Retainer
411	Spring
421	Snap Ring
422	Thrust Ring
431	Grub Screw
510	Sleeve

Shaft d ^{g6}	SEAL SIZE d1 ^{+0.01} -0.05	d5 ^{H12}	M,d8	d9	d10	d11	d12
mm	inch						
25.0	1.625	75.0	4, M10	130.0	150.0	240.0	280.0
30.0	1.875	80.0	4, M10	135.0	155.0	240.0	280.0
35.0	2.000	85.0	4, M10	140.0	160.0	240.0	280.0
40.0	2.250	90.0	4, M10	145.0	165.0	246.0	290.0
45.0	2.500	95.0	4, M10	155.0	175.0	246.0	290.0
50.0	2.625	100.0	4, M10	155.0	175.0	246.0	290.0
55.0	2.875	105.0	8, M12	175.0	200.0	280.0	320.0
60.0	3.125	110.0	8, M12	180.0	205.0	280.0	320.0
65.0	3.375	115.0	8, M12	185.0	210.0	280.0	320.0
70.0	3.500	120.0	8, M12	190.0	215.0	285.0	325.0
75.0	3.750	125.0	8, M12	195.0	220.0	285.0	325.0
80.0	3.875	130.0	8, M12	200.0	225.0	285.0	325.0

Shaft d ^{g6}	SEAL SIZE d1 ^{+0.01} -0.05	d5 ^{H12}	M,d8	d9	d10	d11	d12
mm	inch						
85.0	4.250	135.0	8, M16	220.0	250.0	290.0	330.0
90.0	4.500	140.0	8, M16	225.0	255.0	305.0	345.0
95.0	4.875	145.0	8, M16	245.0	275.0	350.0	390.0
100.0	5.000	160.0	8, M16	250.0	280.0	350.0	390.0
105.0	5.250	165.0	8, M16	255.0	285.0	350.0	390.0
110.0	5.375	170.0	8, M16	260.0	290.0	355.0	395.0
115.0	5.625	175.0	8, M16	265.0	300.0	355.0	395.0
120.0	5.750	180.0	8, M16	270.0	300.0	355.0	395.0
125.0	6.000	195.0	8, M16	275.0	320.0	355.0	395.0
130.0	6.250	200.0	8, M16	280.0	320.0	380.0	420.0
140.0	6.625	210.0	8, M16	295.0	345.0	385.0	425.0
150.0	7.000	220.0	8, M16	300.0	365.0	385.0	425.0

Series CPKS 901, CPKS 913, are factory assembled cartridge units used on mixture, agitators and reaction vessels. The seals are designed for handling serve services including products emitting toxic vaporous during reaction process. The design incorporates bearings located very close to the seal, this standard feature effectively arrests the shaft whip for smooth and trouble free operation enabling seal life. The cooling jacket also a standard feature, helps to maintain cool environment around the seal. Large clearance between rotating shaft/sleeve and mating ring permits higher deflection of the shaft, invariably associated with top entry agitators.

Wet Running Seal

For Top Entry Glass Lined Agitators, Vessels and Mixers
Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series CPKG 908



Standard Style

Face Materials

Carbon, Silicon Carbide

Metals Parts :

Contact Parts** : SS 316, SS 304

Non Contact Parts : Carbon Steel

** NOTE : Higher Alloys on Request

Secondary Seals

FEP, KALREZ

Applications

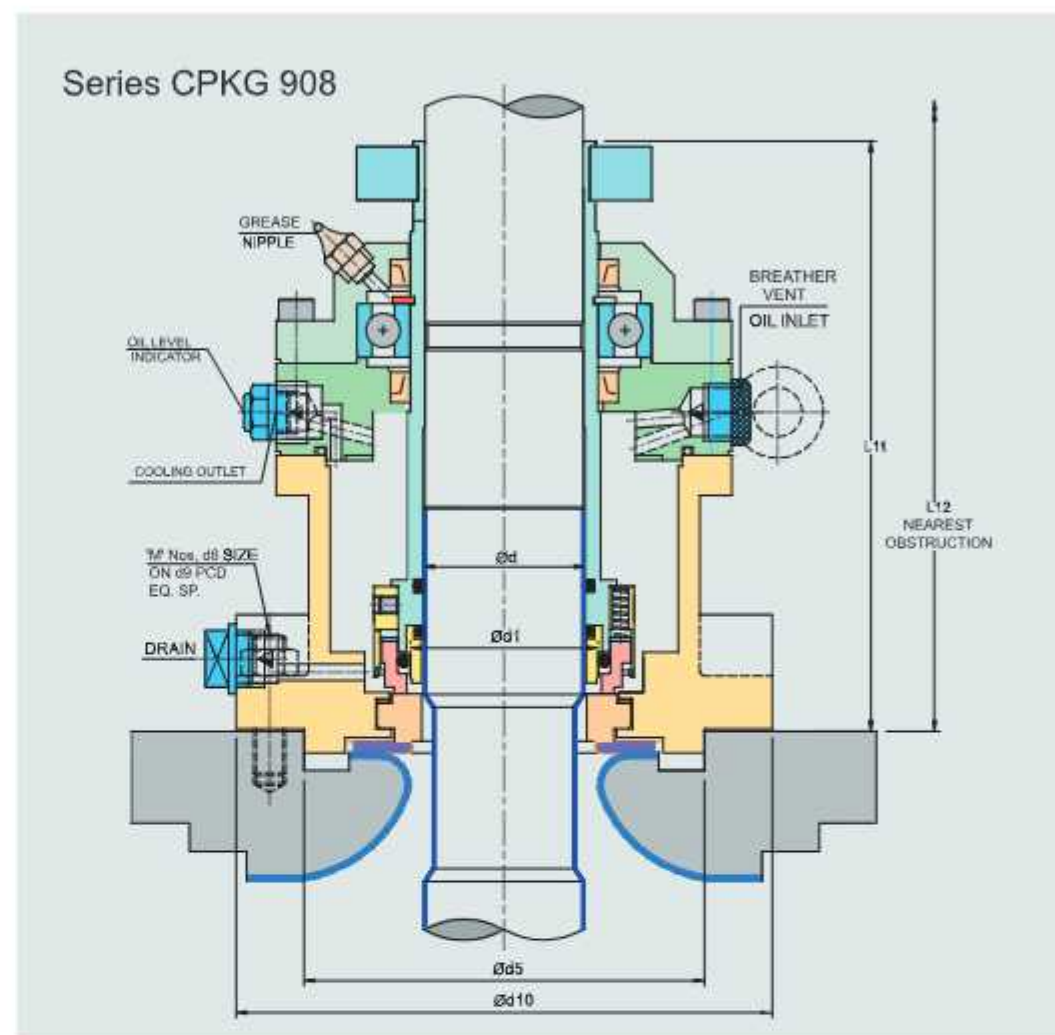
- Pharmaceutical
- General Chemicals and its vapours

Seal Characteristics

- Single Acting
- Reverse Balanced
- Outside Mounted
- Independent of Direction of Rotation
- With Bearing

Operating Limits

Shaft Diameter d : 50 160mm*
 Pressure p : vacuum 10 bar (max)
 Temperature t : Amb 180°C (max)
 Shaft speed n : 320 rpm. (max)



Series CPKG 908, are factory assembled cartridge units used on mixture, agitators and reaction vessels. The seals are designed for handling serve services including products emitting toxic vaporous during reaction process. The design incorporates bearings located very close to the seal, this standard feature effectively arrests the shaft whip for smooth and trouble free operation enabling seal life. The cooling jacket also a standard feature, helps to maintain cool environment around the seal. Large clearance between rotating shaft/sleeve and mating ring permits higher deflection of the shaft, invariably associated with top entry agitators.

Shaft d^{g5}	SEAL SIZE		$d5^{H12}$	M,d8	d9	d10	L11	L12
	$d1^{0/-0.002}$ inch	$d1^{0/-0.05}$ mm						
40.0	1.875	47.62	114.0	4,M16	145.0	175.0	200.0	245.0
50.0	2.250	51.15	126.0	8,M16	155.0	180.0	200.0	245.0
60.0	2.750	69.85	137.0	8,M16	170.0	200.0	210.0	270.0
65.0	2.875	73.02	137.0	8,M16	170.0	200.0	210.0	270.0
80.0	3.500	88.90	167.0	8,M16	200.0	230.0	230.0	290.0
95.0	4.375	111.12	203.0	8,M16	270.0	300.0	215.0	285.0
100.0	4.375	111.12	203.0	8,M16	270.0	300.0	215.0	285.0

Shaft d^{g6}	SEAL SIZE		$d5^{H12}$	M,d8	d9	d10	L11	L12
	$d1^{0/-0.002}$ inch	$d1^{0/-0.05}$ mm						
110.0	4.750	120.65	220.0	8, M20	295.0	330.0	230.0	290.0
120.0	5.125	130.17	220.0	8, M20	295.0	330.0	230.0	290.0
125.0	5.375	136.52	220.0	8, M20	295.0	330.0	230.0	290.0
130.0	5.500	139.70	220.0	8, M20	295.0	330.0	230.0	290.0
140.0	6.000	152.40	313.0	12, M20	350.0	385.0	235.0	290.0
150.0	6.375	161.92	313.0	12, M20	350.0	385.0	235.0	290.0
160.0	6.750	171.45	313.0	12, M20	350.0	385.0	235.0	290.0

Dry Running Seal

For Top Entry Agitators, Vessels and Mixers
Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series CPKS 901



Standard Style

Face Materials:
carbon, Silicon Carbide

Metals Parts:
Contact Parts** : SS 316, SS 304
Non Contact Parts : carbon Steel
** NOTE : Higher Alloys on Request

Secondary Seals:
PTFE, GFT

Applications

- Pharmaceutical
- General Chemicals and its vapours

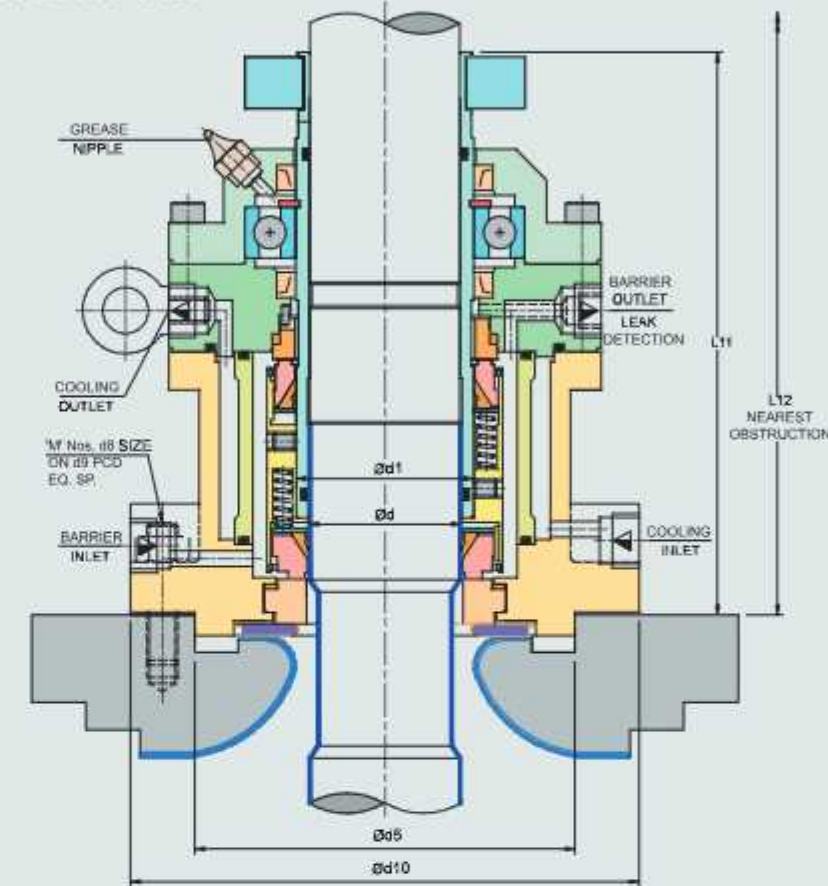
Seal Characteristics

- Double Acting Back to Back seals
- Unbalanced
- Cartridge Unit
- Independent of Direction of Rotation
- Operated with Pressurised Barrier Fluids

Operating Limits

Shaft Diameter d : 50 160m*
Pressure p : vacuum 10 bar (max)
Temperature t : Amb 200°C (max)
Shaft speed n : 600 rpm. (max)
Barrier fluid pressure : Vessel pressure + 1.5 bar

Series LPKG 901



Series CPKG 901, are factory assembled cartridge units used on mixture, agitators and reaction vessels. The seals are designed for handling serve services including products emitting toxic vaporous during reaction process. The design incorporates bearings located very close to the seal, this standard feature effectively arrests the shaft whip for smooth and trouble free operation enabling seal life. The cooling jacket also a standard feature, helps to maintain cool environment around the seal. Large clearance between rotating shaft/sleeve and mating ring permits higher deflection of the shaft, invariably associated with top entry agitators.

Shaft d ^{g6}	SEAL SIZE		d5 ^{H12}	M,d8	d9	d10	L11	L12
	d1 ⁰ -0.002 inch	d1 ⁰ -0.05 mm						
40.0	2.000	50.80	114.0	4,M16	145.0	175.0	200.0	245.0
50.0	2.375	60.32	126.0	8, M16	155.0	180.0	200.0	245.0
60.0	2.750	69.85	137.0	8,M16	170.0	200.0	210.0	270.0
65.0	3.000	76.20	137.0	8,M16	170.0	200.0	210.0	270.0
80.0	3.625	92.08	167.0	8,M16	200.0	230.0	230.0	290.0
95.0	4.375	111.12	203.0	8,M16	270.0	300.0	240.0	290.0
100.0	4.375	111.12	203.0	8, M16	270.0	300.0	240.0	290.0

Shaft d ^{g6}	SEAL SIZE		d5 ^{H12}	M,d8	d9	d10	L11	L12
	d1 ⁰ -0.002 inch	d1 ⁰ -0.05 mm						
110.0	4.750	120.65	220.0	8, M20	295.0	330.0	275.0	325.0
120.0	5.125	130.17	220.0	8,M20	295.0	330.0	275.0	325.0
125.0	5.500	139.70	220.0	8,M20	295.0	330.0	275.0	325.0
130.0	5.500	139.70	220.0	8,M20	295.0	330.0	275.0	325.0
140.0	6.000	152.40	313.0	12,M20	350.0	385.0	280.0	330.0
150.0	6.375	161.92	313.0	12,M20	350.0	385.0	280.0	330.0
160.0	6.750	171.45	313.0	12,M20	350.0	385.0	280.0	330.0

Dry Running Seal

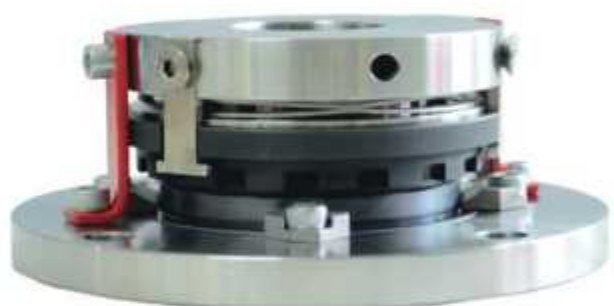
For Top Entry Agitators, Vessels and Mixers
Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series C88B2A/CG, Series CPW 881/CG



Series C88B2A/CG



Series CPW 881/CG

Standard Style

Face Materials
Carbon / Silicon Carbide

Metal Parts
SS 316, SS 304, Hastelloy - C,
Hastelloy - B, Monel, Alloy - 20

Secondary Seal
88B2A/CG : Elastomers, FEP - Multi Springs Seal
LPW 881/CG : Elastomers, FEP - Wave Spring Seal

Applications

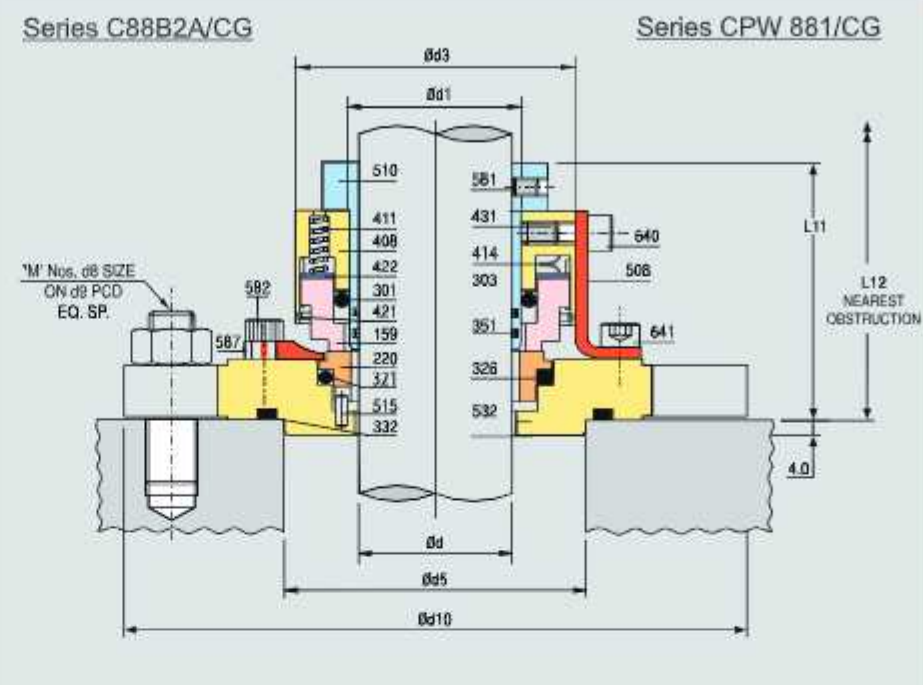
- Food Products
- Pharmaceutical Products

Seal Characteristics

- Single acting
- Reverse Balanced
- Outside Mounted
- Independent of Direction of Rotation
- Dry Running

Operating Limits

Shaft diameter d : 15 150mm*
Pressure p : Vacuum 10 bar (max)
Temperature t : Amb. 120°C (max)
Speed n : 320 rpm



Part No.	Description
159	Seal Ring
220	Mating Ring
301	O-Ring
303	Back-up Ring
321	O-Ring
326	Packing
332	Gasket
351	O-Ring
408	Retainer
411	Spring
414	Wave Spring
421	Snap Ring
422	Thrust Ring
431	Grub Screw
508	Location Plate
510	Sleeve
515	Pin
532	M. R. Housing
581	Grub Screw
582	Allen Screw
587	M. R. Clamp
640	Allen Screw
641	Allen Screw

Shaft d ⁹⁶	SEAL SIZE +0.00 d1 -0.05		d3	d5 ^{H12}	M,d8	d9	d10	L11	L12
	inch	mm							
15.0	1.000	25.40	47.5	40.0	4,M8	90.0	105.0	60.0	95.0
20.0	1.125	28.58	50.7	45.0	4,M8	95.0	110.0	60.0	95.0
25.0	1.375	34.92	58.4	50.0	4,M8	105.0	120.0	65.0	100.0
28.0	1.375	34.92	58.4	60.0	4,M10	115.0	135.0	65.0	100.0
30.0	1.500	38.10	61.6	60.0	4,M10	115.0	135.0	65.0	100.0
35.0	1.750	44.45	71.2	60.0	4,M10	120.0	140.0	80.0	115.0
40.0	2.000	50.80	77.5	70.0	4,M10	130.0	150.0	80.0	115.0
45.0	2.125	53.98	81.2	75.0	4,M10	130.0	150.0	80.0	115.0
50.0	2.375	60.32	87.6	80.0	4,M10	140.0	160.0	80.0	115.0
55.0	2.500	63.50	90.8	85.0	4,M10	145.0	165.0	80.0	115.0
60.0	2.750	69.85	97.1	90.0	4,M10	150.0	170.0	80.0	115.0
65.0	3.000	76.20	103.5	100.0	6,M10	160.0	180.0	80.0	115.0
70.0	3.125	79.38	106.6	105.0	6,M10	165.0	185.0	80.0	115.0
75.0	3.375	85.72	113.0	110.0	6,M10	170.0	190.0	80.0	115.0
80.0	3.500	88.90	116.2	120.0	6,M12	175.0	200.0	80.0	115.0
85.0	3.750	95.25	122.5	130.0	6,M12	185.0	210.0	80.0	115.0
90.0	4.000	101.60	128.9	140.0	8,M12	185.0	210.0	80.0	115.0
95.0	4.125	104.78	132.0	145.0	8,M12	195.0	220.0	85.0	120.0
100.0	4.375	111.12	141.1	145.0	8,M12	200.0	225.0	85.0	120.0
105.0	4.500	114.30	144.2	150.0	8,M12	210.0	235.0	85.0	120.0
110.0	4.750	120.65	152.0	160.0	8,M12	220.0	245.0	85.0	120.0
115.0	5.000	127.00	160.0	165.0	8,M12	225.0	250.0	85.0	120.0
120.0	5.125	130.18	162.0	170.0	8,M12	230.0	255.0	85.0	120.0
125.0	5.375	136.52	169.5	170.0	8,M12	235.0	260.0	85.0	120.0
130.0	5.500	139.70	170.0	175.0	8,M12	240.0	265.0	85.0	120.0
135.0	5.750	146.05	176.0	180.0	8,M12	245.0	270.0	90.0	125.0
140.0	6.000	152.40	183.0	185.0	8,M12	255.0	280.0	90.0	125.0
145.0	6.125	155.58	186.0	190.0	8,M12	260.0	285.0	90.0	125.0
150.0	6.375	161.92	192.0	195.0	8,M12	265.0	290.0	90.0	125.0

Series C88B2A/CG - multiple springs seal and series CPW 881/CG - Wave spring seal are factory assembled & dynamically tested seal for steel, glass lined and SS mixers, agitator & vessels. This is a multiple spring externally mounted, reverse balanced seal with O-ring as secondary sealing member. Various elastomers can be offered for wide service application. These seals are basically used on top entry agitators as dry running seals. When food products or pharmaceutical products are agitated in agitator, mixing of any other liquid will contaminate the product & affect its quality, hence these dry running seals are used. These seals don't require any external media for lubricating the faces, that is why they are known as dry running seals.

DIN 24960

Unbalanced seal

Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series CP73



Series CP73



Seal with cartridge construction

Standard Style

Face Materials

- Carbon / Lecrolloy
- Carbon / Ceramic
- Carbon / Silicon Carbide
- Silicon Carbide / Silicon Carbide

Metal Parts

SS 316, SS 304

Secondary Seal

Nitrile, Viton

Applications

- Water Pumps
- Submersible Pumps

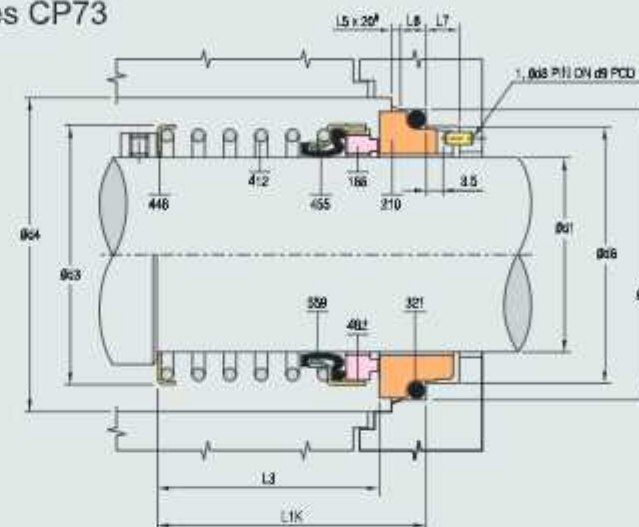
Seal Characteristics

- Single acting
- Unbalanced
- Single helical coil Spring
- Independent of Direction of Rotation
- Torque Transmission by Elastomer bellows
- To DIN 24960

Operating Limits

Shaft Diameter d1 : 10 100 mm
 Pressure p : 12 bar (max)
 Temperature t : -20 ... +180°C
 Velocity v : 10 m/sec

Series CP73



Part No.	Description
166	Seal Ring
210	Mating Ring
321	O - Ring
412	Spring
448	Spring Holder
455	Bellows
482	Retainer
559	Drive Ring

SEAL SIZE	d1	d3	d4	d6 ^{H11}	d7 ^{H8}	d8	d9	L3	L5	L6	L7	L1K ^{A05}
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
10.0	20.0	22.0	17.0	21.0	3.0	14.0	23.5	1.5	4.0	8.5	32.5	
12.0	22.0	24.0	19.0	23.0	3.0	16.0	23.5	1.5	4.0	8.5	32.5	
14.0	24.0	26.0	21.0	25.0	3.0	18.0	26.0	1.5	4.0	8.5	35.0	
16.0	26.0	28.0	23.0	27.0	3.0	20.0	26.0	1.5	4.0	8.5	35.0	
18.0	29.5	34.0	27.0	33.0	3.0	23.0	27.0	2.0	5.0	9.0	37.5	
20.0	31.5	36.0	29.0	35.0	3.0	25.0	27.0	2.0	5.0	9.0	37.5	
22.0	32.5	38.0	31.0	37.0	3.0	27.0	27.0	2.0	5.0	9.0	37.5	
24.0	36.0	40.0	33.0	39.0	3.0	29.0	29.5	2.0	5.0	9.0	40.0	
25.0	38.0	41.0	34.0	40.0	3.0	30.0	29.5	2.0	5.0	9.0	40.0	
28.0	40.0	44.0	37.0	43.0	3.0	33.0	32.0	2.0	5.0	9.0	42.5	
30.0	43.0	46.0	39.0	45.0	3.0	35.0	32.0	2.0	5.0	9.0	42.5	
32.0	45.0	48.0	42.0	48.0	3.0	38.0	32.0	2.0	5.0	9.0	42.5	
33.0	46.5	49.0	42.0	48.0	3.0	38.0	32.0	2.0	5.0	9.0	42.5	
35.0	48.5	51.0	44.0	50.0	3.0	40.0	32.0	2.0	5.0	9.0	42.5	
38.0	52.5	58.0	49.0	56.0	4.0	44.0	33.5	2.0	6.0	9.0	45.0	
40.0	56.0	60.0	51.0	58.0	4.0	46.0	33.5	2.0	6.0	9.0	45.0	
43.0	59.0	63.0	54.0	61.0	4.0	49.0	33.5	2.0	6.0	9.0	45.0	
45.0	61.0	65.0	56.0	63.0	4.0	51.0	33.5	2.0	6.0	9.0	45.0	
48.0	64.0	68.0	59.0	66.0	4.0	54.0	33.5	2.0	6.0	9.0	45.0	
50.0	66.0	70.0	62.0	70.0	4.0	57.0	34.0	2.5	6.0	9.0	47.5	
53.0	69.0	73.0	65.0	73.0	4.0	60.0	34.0	2.5	6.0	9.0	47.5	
55.0	71.0	75.0	67.0	75.0	4.0	62.0	34.0	2.5	6.0	9.0	47.5	
58.0	78.0	83.0	70.0	78.0	4.0	65.0	39.0	2.5	6.0	9.0	52.5	
60.0	80.0	85.0	72.0	80.0	4.0	67.0	39.0	2.5	6.0	9.0	52.5	
63.0	83.0	88.0	75.0	83.0	4.0	70.0	39.0	2.5	6.0	9.0	52.5	
65.0	85.0	90.0	77.0	85.0	4.0	72.0	39.0	2.5	6.0	9.0	52.5	
68.0	88.0	93.0	81.0	90.0	4.0	75.0	37.0	2.5	7.0	9.0	52.5	
70.0	90.0	95.0	83.0	92.0	4.0	77.0	44.5	2.5	7.0	9.0	60.0	
75.0	96.0	104.0	88.0	97.0	4.0	82.0	44.5	3.0	7.0	9.0	60.0	
80.0	102.0	109.0	95.0	105.0	4.0	88.0	44.0	3.0	7.0	9.0	60.0	
85.0	107.0	114.0	100.0	110.0	4.0	93.0	44.0	3.0	7.0	9.0	60.0	
90.0	112.0	119.0	105.0	115.0	4.0	98.0	49.0	3.0	7.0	9.0	65.0	
95.0	117.0	124.0	110.0	120.0	4.0	104.0	49.0	3.0	7.0	9.0	65.0	
100.0	124.0	129.0	115.0	125.0	4.0	108.0	49.0	3.0	7.0	9.0	65.0	

Series CP73 is single coil spring with elastomeric bellows, designed for wateroil and light duties. This seal has self aligning feature which compensate abnormal shaft end play and run out, which leads to improved service life. Elastomeric bellows protect shaft and sleeve from fretting. Drive to the seal faces is given through notches - provided on retainer. Seal can be repaired in field with minimum spares minimising the down time cost.

DIN 24960

Unbalanced seal
Single Acting, Independent of Direction of Rotation



Mechanical Seal

Series CN70U & CN75U



Series CN70U & CN75U



Seal with cartridge construction

Standard Style
Face Materials
Carbon, Ceramic,
Silicon Carbide, Tungsten Carbide, Lecrolloy

Metal Parts
SS 316, SS 304

Secondary Seal
N70U : Elastomers
N75U : PTFE, GFT

Applications

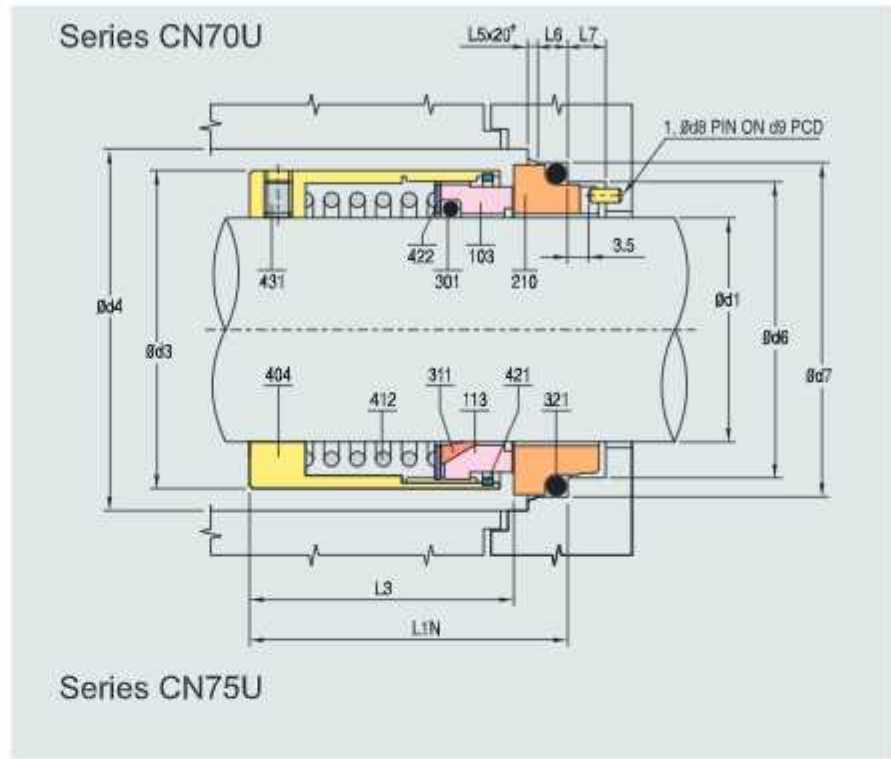
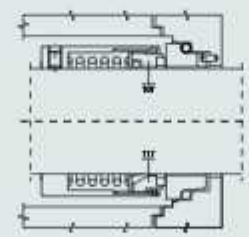
- Petrochemicals
- Petroleum refinery
- General chemicals
- Light hydrocarbons

Seal Characteristics

- Single acting
- Unbalanced
- Inside mounting
- Independent of direction of rotation
- To DIN 24960

Operating Limits
Shaft Diameter d1 : 14 100 mm
Pressure p : 10 bar (max)
Temperature t : -60 ... +220°C
Velocity v : 20 m/sec

Shrink Fit Arrangement
Temperature Limits:
SS 304 : 110°C
SS 316 : 110°C
Hastelloy-C : 175°C
Carpenter - 42 : 350°C



Part No.	Description
103	Seal Ring
113	Seal Ring
210	Mating Ring
301	O - Ring
311	Wedge
321	O - Ring
404	Retainer
412	Spring
421	Snap Ring
422	Thrust Ring
431	Grub Screw

SEAL SIZE	d1 ^{+0.00} / _{-0.00}	d3	d4	d6 ^{H11}	d7 ^{H8}	d8	d9	L3	L5	L6	L7	L1N ^{±0.5}
14.0	24.0	26.0	21.0	25.0	3.0	18.0	31.0	1.5	4.0	8.5	40.0	
16.0	26.0	28.0	23.0	27.0	3.0	20.0	31.0	1.5	4.0	8.5	40.0	
18.0	32.0	34.0	27.0	33.0	3.0	23.0	34.5	2.0	5.0	9.0	45.0	
20.0	34.0	36.0	29.0	35.0	3.0	25.0	34.5	2.0	5.0	9.0	45.0	
22.0	36.0	38.0	31.0	37.0	3.0	27.0	34.5	2.0	5.0	9.0	45.0	
24.0	38.0	40.0	33.0	39.0	3.0	29.0	39.5	2.0	5.0	9.0	50.0	
25.0	39.0	41.0	34.0	40.0	3.0	30.0	39.5	2.0	5.0	9.0	50.0	
28.0	42.0	44.0	37.0	43.0	3.0	33.0	39.5	2.0	5.0	9.0	50.0	
30.0	44.0	46.0	39.0	45.0	3.0	35.0	39.5	2.0	5.0	9.0	50.0	
32.0	46.0	48.0	42.0	48.0	3.0	38.0	44.5	2.0	5.0	9.0	55.0	
33.0	47.0	49.0	42.0	48.0	3.0	38.0	44.5	2.0	5.0	9.0	55.0	
35.0	49.0	51.0	44.0	50.0	3.0	40.0	44.5	2.0	5.0	9.0	55.0	
38.0	54.0	58.0	49.0	56.0	4.0	44.0	43.5	2.0	6.0	9.0	55.0	
40.0	56.0	60.0	51.0	58.0	4.0	46.0	43.5	2.0	6.0	9.0	55.0	
43.0	59.0	63.0	54.0	61.0	4.0	49.0	48.5	2.0	6.0	9.0	60.0	
45.0	61.0	65.0	56.0	63.0	4.0	51.0	48.5	2.0	6.0	9.0	60.0	
48.0	64.0	68.0	59.0	66.0	4.0	54.0	48.5	2.0	6.0	9.0	60.0	
50.0	66.0	70.0	62.0	70.0	4.0	57.0	46.5	2.5	6.0	9.0	60.0	
53.0	69.0	73.0	65.0	73.0	4.0	60.0	56.5	2.5	6.0	9.0	70.0	
55.0	71.0	75.0	67.0	75.0	4.0	62.0	56.5	2.5	6.0	9.0	70.0	
58.0	78.0	83.0	70.0	78.0	4.0	65.0	56.5	2.5	6.0	9.0	70.0	
60.0	80.0	85.0	72.0	80.0	4.0	67.0	56.5	2.5	6.0	9.0	70.0	
63.0	83.0	88.0	75.0	83.0	4.0	70.0	56.5	2.5	6.0	9.0	70.0	
65.0	85.0	90.0	77.0	85.0	4.0	72.0	66.5	2.5	6.0	9.0	80.0	
68.0	88.0	93.0	81.0	90.0	4.0	75.0	64.5	2.5	7.0	9.0	80.0	
70.0	90.0	95.0	83.0	92.0	4.0	77.0	64.5	2.5	7.0	9.0	80.0	
75.0	99.0	104.0	88.0	97.0	4.0	82.0	64.5	2.5	7.0	9.0	80.0	
80.0	104.0	109.0	95.0	105.0	4.0	88.0	74.0	3.0	7.0	9.0	90.0	
85.0	109.0	114.0	100.0	110.0	4.0	93.0	74.0	3.0	7.0	9.0	90.0	
90.0	114.0	119.0	105.0	115.0	4.0	98.0	74.0	3.0	7.0	9.0	90.0	
95.0	119.0	124.0	110.0	120.0	4.0	104.0	74.0	3.0	7.0	9.0	90.0	
100.0	124.0	129.0	115.0	125.0	4.0	108.0	74.0	3.0	7.0	9.0	90.0	

Series CN70U & CN75U are single helical coil spring seals developed for dirty media and clogging type applications. Torque transmission from retainer shell to seal ring is done through drive lugs. All components are held together by a snap ring which helps in easier installation and removal. As all parts are interchangeable, one can convert series CN70U & CN75U by changing only the seal ring and the secondary seal. This concept is ideal for stock rationalisation.

CHEM-PROOF

DIN 24960

Balanced seal

Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series CN70B & CN75B



Series CN70B & CN75B



Seal with cartridge construction

Standard Style

Face Materials

Carbon, Ceramic,
Silicon Carbide, Tungsten Carbide, Lecrolloy

Metal Parts

SS 316, SS 304

Secondary Seal

N70B : Elastomers
N75B : PTFE, GFT

Applications

- Petrochemicals
- Petroleum refinery
- General chemicals
- Light hydrocarbons

Seal Characteristics

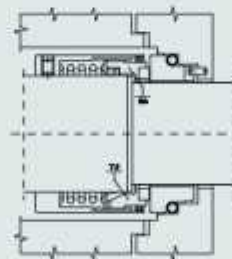
- Single acting
- Balanced
- Inside mounted
- Independent of direction of rotation
- To DIN 24960

Operating Limits

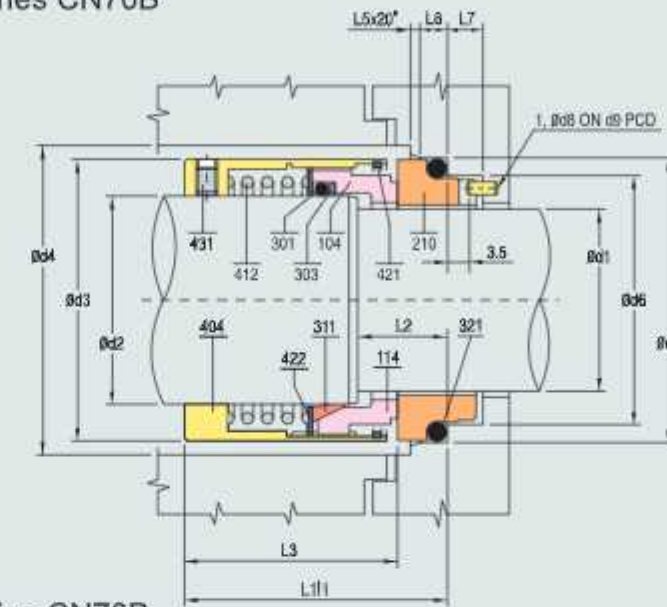
Shaft Diameter d_1 : 14 100 mm
Pressure p : 35 bar (max)
Temperature t : -60 ... +200°C
Velocity v : 20 m/sec

Shrink Fit Arrangement

Temperature Limits:
SS 304 : 110°C
SS 316 : 110°C
Hastelloy-C : 175°C
Carpenter - 42 : 350°C



Series CN70B



Series CN70B

Part No.	Description
104	Seal Ring
114	Seal Ring
210	Mating Ring
301	O-Ring
303	Back-up Ring
311	Wedge
321	O-Ring
404	Retainer
412	Spring
421	Snap Ring
422	Thrust Ring
431	Grub Screw

SEAL SIZE	$d_1^{+0.00/-0.01}$	$d_2^{h_6}$	d_3	d_4	d_6^{H11}	d_7^{H8}	d_8	d_9	L2	L3	L5	L6	L7	L1N ^{d0.3}
mm														
14.0	18.0	32.0	34.0	21.0	25.0	3.0	18.0	18.0	46.0	1.5	4.0	8.5	55.0	
16.0	20.0	34.0	36.0	23.0	27.0	3.0	20.0	18.0	46.0	1.5	4.0	8.5	55.0	
18.0	22.0	36.0	38.0	27.0	33.0	3.0	23.0	20.0	44.5	2.0	5.0	9.0	55.0	
20.0	24.0	38.0	40.0	29.0	35.0	3.0	25.0	20.0	49.5	2.0	5.0	9.0	60.0	
22.0	26.0	40.0	42.0	31.0	37.0	3.0	27.0	20.0	49.5	2.0	5.0	9.0	60.0	
24.0	28.0	42.0	44.0	33.0	39.0	3.0	29.0	20.0	49.5	2.0	5.0	9.0	60.0	
25.0	30.0	44.0	46.0	34.0	40.0	3.0	30.0	20.0	49.5	2.0	5.0	9.0	60.0	
28.0	33.0	47.0	49.0	37.0	43.0	3.0	33.0	20.0	54.5	2.0	5.0	9.0	65.0	
30.0	35.0	49.0	51.0	39.0	45.0	3.0	35.0	20.0	54.5	2.0	5.0	9.0	65.0	
32.0	38.0	54.0	58.0	42.0	48.0	3.0	38.0	20.0	54.5	2.0	5.0	9.0	65.0	
33.0	38.0	54.0	58.0	42.0	48.0	3.0	38.0	20.0	54.5	2.0	5.0	9.0	65.0	
35.0	40.0	56.0	60.0	44.0	50.0	3.0	40.0	20.0	54.5	2.0	5.0	9.0	65.0	
38.0	43.0	59.0	63.0	49.0	56.0	4.0	44.0	23.0	63.5	2.0	6.0	9.0	75.0	
40.0	45.0	61.0	65.0	51.0	58.0	4.0	46.0	23.0	63.5	2.0	6.0	9.0	75.0	
43.0	48.0	64.0	68.0	54.0	61.0	4.0	49.0	23.0	63.5	2.0	6.0	9.0	75.0	
45.0	50.0	66.0	70.0	56.0	63.0	4.0	51.0	23.0	63.5	2.0	6.0	9.0	75.0	
48.0	53.0	69.0	73.0	59.0	66.0	4.0	54.0	23.0	73.5	2.0	6.0	9.0	85.0	
50.0	55.0	71.0	75.0	62.0	70.0	4.0	57.0	25.0	71.5	2.5	6.0	9.0	85.0	
53.0	58.0	78.0	83.0	65.0	73.0	4.0	60.0	25.0	71.5	2.5	6.0	9.0	85.0	
55.0	60.0	80.0	85.0	67.0	75.0	4.0	62.0	25.0	71.5	2.5	6.0	9.0	85.0	
58.0	63.0	83.0	88.0	70.0	78.0	4.0	65.0	25.0	71.5	2.5	6.0	9.0	85.0	
60.0	65.0	85.0	90.0	72.0	80.0	4.0	67.0	25.0	81.5	2.5	6.0	9.0	95.0	
63.0	68.0	88.0	93.0	75.0	83.0	4.0	70.0	25.0	81.5	2.5	6.0	9.0	95.0	
65.0	70.0	90.0	95.0	77.0	85.0	4.0	72.0	25.0	81.5	2.5	6.0	9.0	95.0	
70.0	75.0	99.0	104.0	83.0	92.0	4.0	77.0	28.0	79.5	2.5	7.0	9.0	95.0	
75.0	80.0	104.0	109.0	88.0	97.0	4.0	82.0	28.0	89.0	2.5	7.0	9.0	105.0	
80.0	85.0	109.0	114.0	95.0	105.0	4.0	88.0	28.0	89.0	3.0	7.0	9.0	105.0	
85.0	90.0	114.0	119.0	100.0	110.0	4.0	93.0	28.0	89.0	3.0	7.0	9.0	105.0	
90.0	95.0	119.0	124.0	105.0	115.0	4.0	98.0	28.0	89.0	3.0	7.0	9.0	105.0	
95.0	100.0	124.0	129.0	110.0	120.0	4.0	104.0	28.0	89.0	3.0	7.0	9.0	105.0	
100.0	105.0	129.0	134.0	115.0	125.0	4.0	108.0	28.0	89.0	3.0	7.0	9.0	105.0	

Series CN70B & CN75B are single helical coil spring seals developed for dirty media and clogging type applications. Torque transmission from retainer shell to seal ring is done through drive lugs. All components are held together by a snap ring which helps in easier installation and removal. As all parts are interchangeable, one can convert series CN70B & CN75B by changing only the seal ring and the secondary seal. This concept is ideal for stock rationalisation.

DIN 24960

Balanced seal

Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series CN80B & CN85B



Series CN80B & CN85B



Seal with cartridge construction

Standard Style

Face Materials

Carbon, Ceramic,
Silicon Carbide, Tungsten Carbide, Lecrolloy.

Metal Parts

SS 316, SS304,
Hastelloy-C, Monel, Alloy - 20

Secondary Seal

N80B : Elastomers
N85B : PTFE, GFT

Applications

- Petrochemicals
- Petroleum refinery
- General chemicals
- Light hydrocarbons

Seal Characteristics

- Single acting
- Balanced
- Inside mounted
- Independent of direction of rotation
- To DIN 24960

Operating Limits

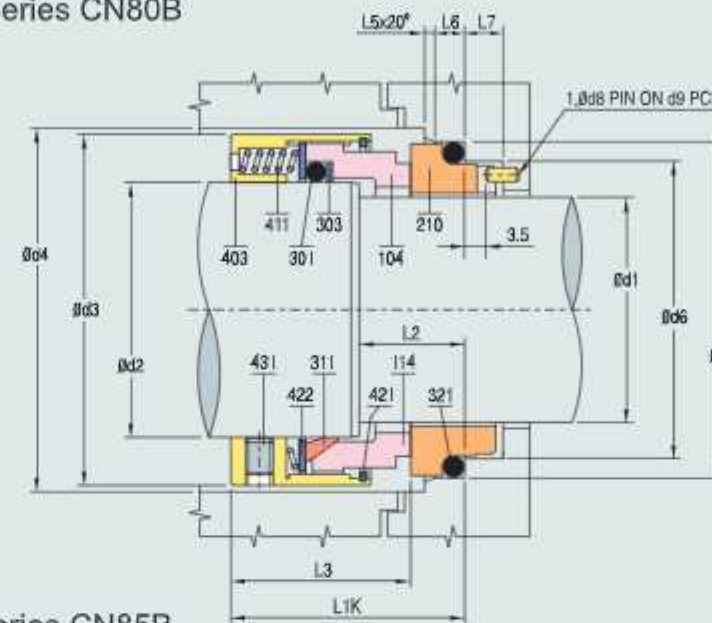
Shaft Diameter d_1 : 14 100 mm
Pressure p : 35 bar (max)
Temperature t : -60 ... +200°C
Velocity v : 20 m/sec

Shrink Fit Arrangement

Temperature Limits:
SS 304 110°C
SS 316 110°C
Hastelloy-C 175°C
Carpenter - 42 350°C



Series CN80B



Series CN85B

Part No. Description

104	Seal Ring
114	Seal Ring
210	Mating Ring
301	O-Ring
303	Back-up Ring
311	Wedge
321	O-Ring
403	Retainer
411	Spring
421	Snap Ring
422	Thrust Ring
431	Grub Screw

SEAL SIZE d1 ^{h6} mm	d2 ^{h6}	d3	d4	d6 ^{h11}	d7 ^{h6}	d8	d9	L2	L3	L5	L6	L7	L1K ^{±0.5}
14.0	18.0	32.0	34.0	21.0	25.0	3.0	18.0	18.0	33.5	1.5	4.0	8.5	42.5
16.0	20.0	34.0	36.0	23.0	27.0	3.0	20.0	18.0	33.5	1.5	4.0	8.5	42.5
18.0	22.0	36.0	38.0	27.0	33.0	3.0	23.0	20.0	34.5	2.0	5.0	9.0	45.0
20.0	24.0	38.0	40.0	29.0	35.0	3.0	25.0	20.0	34.5	2.0	5.0	9.0	45.0
22.0	26.0	40.0	42.0	31.0	37.0	3.0	27.0	20.0	34.5	2.0	5.0	9.0	45.0
24.0	28.0	42.0	44.0	33.0	39.0	3.0	29.0	20.0	37.0	2.0	5.0	9.0	47.5
25.0	30.0	44.0	46.0	34.0	40.0	3.0	30.0	20.0	37.0	2.0	5.0	9.0	47.5
28.0	33.0	47.0	49.0	37.0	43.0	3.0	33.0	20.0	39.5	2.0	5.0	9.0	50.0
30.0	35.0	49.0	51.0	39.0	45.0	3.0	35.0	20.0	39.5	2.0	5.0	9.0	50.0
32.0	38.0	54.0	58.0	42.0	48.0	3.0	38.0	20.0	39.5	2.0	5.0	9.0	50.0
33.0	38.0	54.0	58.0	42.0	48.0	3.0	38.0	20.0	39.5	2.0	5.0	9.0	50.0
35.0	40.0	56.0	60.0	44.0	50.0	3.0	40.0	20.0	39.5	2.0	5.0	9.0	50.0
38.0	43.0	59.0	63.0	49.0	56.0	4.0	44.0	23.0	41.0	2.0	6.0	9.0	52.5
40.0	45.0	61.0	65.0	51.0	58.0	4.0	46.0	23.0	41.0	2.0	6.0	9.0	52.5
43.0	48.0	64.0	68.0	54.0	61.0	4.0	49.0	23.0	41.0	2.0	6.0	9.0	52.5
45.0	50.0	66.0	70.0	56.0	63.0	4.0	51.0	23.0	41.0	2.0	6.0	9.0	52.5
48.0	53.0	69.0	73.0	59.0	66.0	4.0	54.0	23.0	41.0	2.0	6.0	9.0	52.5
50.0	55.0	71.0	75.0	62.0	70.0	4.0	57.0	25.0	44.0	2.5	6.0	9.0	57.5
53.0	58.0	78.0	83.0	65.0	73.0	4.0	60.0	25.0	44.0	2.5	6.0	9.0	57.5
55.0	60.0	80.0	85.0	67.0	75.0	4.0	62.0	25.0	44.0	2.5	6.0	9.0	57.5
58.0	63.0	83.0	88.0	70.0	78.0	4.0	65.0	25.0	49.0	2.5	6.0	9.0	62.5
60.0	65.0	85.0	90.0	72.0	80.0	4.0	67.0	25.0	49.0	2.5	6.0	9.0	62.5
63.0	68.0	88.0	93.0	75.0	83.0	4.0	70.0	25.0	49.0	2.5	6.0	9.0	62.5
65.0	70.0	90.0	95.0	77.0	85.0	4.0	72.0	25.0	49.0	2.5	6.0	9.0	62.5
70.0	75.0	99.0	104.0	83.0	92.0	4.0	77.0	28.0	54.5	2.5	7.0	9.0	70.0
75.0	80.0	104.0	109.0	88.0	97.0	4.0	82.0	28.0	54.5	2.5	7.0	9.0	70.0
80.0	85.0	109.0	114.0	95.0	105.0	4.0	88.0	28.0	54.0	3.0	7.0	9.0	70.0
85.0	90.0	114.0	119.0	100.0	110.0	4.0	93.0	28.0	59.0	3.0	7.0	9.0	75.0
90.0	95.0	119.0	124.0	105.0	115.0	4.0	98.0	28.0	59.0	3.0	7.0	9.0	75.0
95.0	100.0	124.0	129.0	110.0	120.0	4.0	104.0	28.0	59.0	3.0	7.0	9.0	75.0
100.0	105.0	129.0	134.0	115.0	125.0	4.0	108.0	28.0	59.0	3.0	7.0	9.0	75.0

Series CN80B & CN85B are single helical coil spring seals developed for dirty media and clogging type applications. Torque transmission from retainer shell to seal ring is done through drive lugs. All components are held together by a snap ring which helps in easier installation and removal. As all parts are interchangeable, one can convert series CN80B & CN85B by changing only the seal ring and the secondary seal. This concept is ideal for stock rationalisation.

DIN 24960

Unbalanced seal

Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series CN80U & CN85U



Series CN80U & CN85U



Seal with cartridge construction

Standard Style

Face Materials

Carbon, Ceramic,
Silicon Carbide, Tungsten Carbide, Lecrolloy

Metal Parts

SS 316, SS 304,
Hastelloy-C, Monel, Alloy - 20

Secondary Seal

N80U : Elastomers
N85U : PTFE, GFT

Applications

- Petrochemicals
- Petroleum refinery
- General chemicals
- Light hydrocarbons

Seal Characteristics

- Single acting
- Unbalanced
- Inside mounted
- Independent of direction of rotation
- To DIN 24960

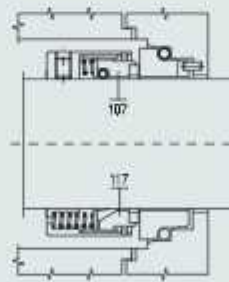
Operating Limits

Shaft Diameter d1 : 14 100 mm
Pressure p : 10 bar (max)
Temperature t : -60 ... +200°C
Velocity v : 20 m/sec

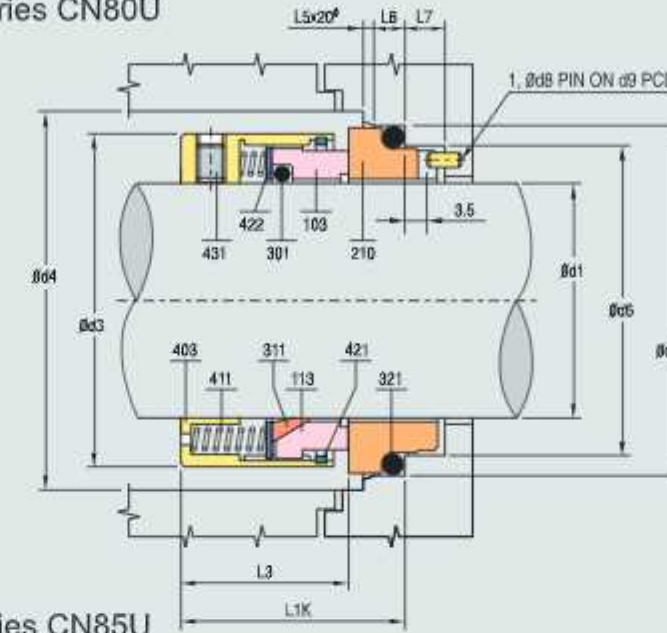
Shrink Fit Arrangement

Temperature Limits:

SS 304 110°C
SS 316 110°C
Hastelloy-C 175°C
Carpenter - 42 350°C



Series CN80U



Series CN85U

Part No.	Description
103	Seal Ring
113	Seal Ring
210	Mating Ring
301	O-Ring
311	Wedge
321	O-Ring
403	Retainer
411	Spring
421	Snap Ring
422	Thrust Ring
431	Grub Screw

SEAL SIZE	d1	d3	d4	d6 ^{H14}	d7 ^{H8}	d8	d9	L3	L5	L6	L7	L1K ^{+0.5}
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
14.0	24.0	26.0	21.0	25.0	3.0	18.0	26.0	1.5	4.0	8.5	35.0	
16.0	26.0	28.0	23.0	27.0	3.0	20.0	26.0	1.5	4.0	8.5	35.0	
18.0	32.0	34.0	27.0	33.0	3.0	23.0	27.0	2.0	5.0	9.0	37.5	
20.0	34.0	36.0	29.0	35.0	3.0	25.0	27.0	2.0	5.0	9.0	37.5	
22.0	36.0	38.0	31.0	37.0	3.0	27.0	27.0	2.0	5.0	9.0	37.5	
24.0	38.0	40.0	33.0	39.0	3.0	29.0	29.5	2.0	5.0	9.0	40.0	
25.0	39.0	41.0	34.0	40.0	3.0	30.0	29.5	2.0	5.0	9.0	40.0	
28.0	42.0	44.0	37.0	43.0	3.0	33.0	32.0	2.0	5.0	9.0	42.5	
30.0	44.0	46.0	39.0	45.0	3.0	35.0	32.0	2.0	5.0	9.0	42.5	
32.0	46.0	48.0	42.0	48.0	3.0	38.0	32.0	2.0	5.0	9.0	42.5	
33.0	47.0	49.0	42.0	48.0	3.0	38.0	32.0	2.0	5.0	9.0	42.5	
35.0	49.0	51.0	44.0	50.0	3.0	40.0	32.0	2.0	5.0	9.0	42.5	
38.0	54.0	58.0	49.0	56.0	4.0	44.0	33.5	2.0	6.0	9.0	45.0	
40.0	56.0	60.0	51.0	58.0	4.0	46.0	33.5	2.0	6.0	9.0	45.0	
43.0	59.0	63.0	54.0	61.0	4.0	49.0	33.5	2.0	6.0	9.0	45.0	
45.0	61.0	65.0	56.0	63.0	4.0	51.0	33.5	2.0	6.0	9.0	45.0	
48.0	64.0	68.0	59.0	66.0	4.0	54.0	33.5	2.0	6.0	9.0	45.0	
50.0	66.0	70.0	62.0	70.0	4.0	57.0	34.0	2.5	6.0	9.0	47.5	
53.0	69.0	73.0	65.0	73.0	4.0	60.0	34.0	2.5	6.0	9.0	47.5	
55.0	71.0	75.0	67.0	75.0	4.0	62.0	34.0	2.5	6.0	9.0	47.5	
58.0	78.0	83.0	70.0	78.0	4.0	65.0	39.0	2.5	6.0	9.0	52.5	
60.0	80.0	85.0	72.0	80.0	4.0	67.0	39.0	2.5	6.0	9.0	52.5	
63.0	83.0	88.0	75.0	83.0	4.0	70.0	39.0	2.5	6.0	9.0	52.5	
65.0	85.0	90.0	77.0	85.0	4.0	72.0	39.0	2.5	6.0	9.0	52.5	
68.0	88.0	93.0	81.0	90.0	4.0	75.0	37.0	2.5	7.0	9.0	52.5	
70.0	90.0	95.0	83.0	92.0	4.0	77.0	44.5	2.5	7.0	9.0	60.0	
75.0	99.0	104.0	88.0	97.0	4.0	82.0	44.5	2.5	7.0	9.0	60.0	
80.0	104.0	109.0	95.0	105.0	4.0	88.0	44.0	3.0	7.0	9.0	60.0	
85.0	109.0	114.0	100.0	110.0	4.0	93.0	44.0	3.0	7.0	9.0	60.0	
90.0	114.0	119.0	105.0	115.0	4.0	98.0	49.0	3.0	7.0	9.0	65.0	
95.0	119.0	124.0	110.0	120.0	4.0	104.0	49.0	3.0	7.0	9.0	65.0	
100.0	124.0	129.0	115.0	125.0	4.0	108.0	49.0	3.0	7.0	9.0	65.0	

Series CN80U & CN85U are single helical coil spring seals developed for dirty media and clogging type applications. Torque transmission from retainer shell to seal ring is done through drive lugs. All components are held together by a snap ring which helps in easier installation and removal. As all parts are interchangeable, one can convert series CN80U & CN85U by changing only the seal ring and the secondary seal. This concept is ideal for stock rationalisation.

DIN 24960

Balanced seal

Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series CN110U & CN115U



Series CN110U & CN115U



Seal with cartridge construction

Standard Style

Face Materials

Carbon, Ceramic, Stellite,
Silicon Carbide, Tungsten Carbide, Lecrolloy

Metal Parts

SS 316, SS 304

Secondary Seal

N110U : Elastomers

N115U : PTFE, GFT

Applications

- Light Abrasive handling pumps
- Light Sewage handling pumps
- High viscosity handling pumps
- General & light chemicals
- Hydrocarbons

Seal Characteristics

- Single acting
- Unbalanced
- Inside mounted
- Independent of direction of rotation
- Wave Spring loaded
- To DIN 24960

Operating Limits

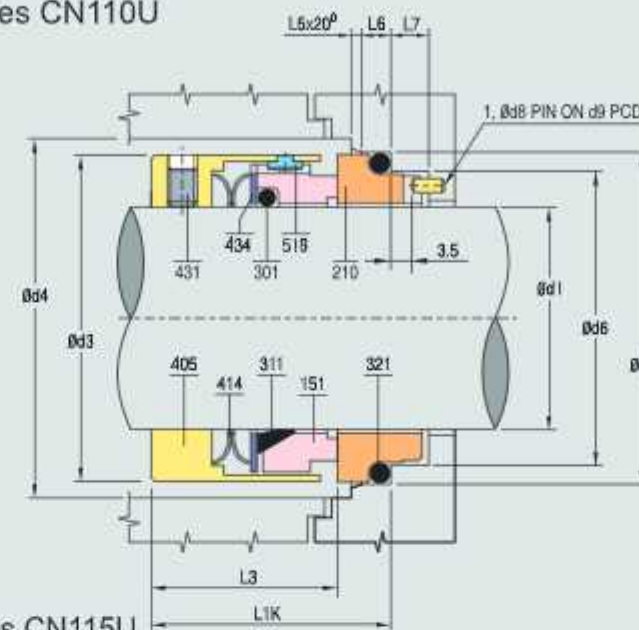
Shaft Diameter d1 : 14 100 mm

Pressure p : 10 bar (max)

Temperature t : -45 ... +200°C

Velocity v : 20 m/sec

Series CN110U



Series CN115U

Part No.	Description
151	Seal Ring
210	Mating Ring
301	O-Ring
311	Wedge
321	O-Ring
405	Retainer
414	Wave Spring
431	Grub Screw
434	Thrust Ring
518	Drive Pin

SEAL SIZE d1	d3	d4	d6 ^{+H11}	d7 ^{+H8}	d8	d9	L3	L5	L6	L7	L1K ^{+H1}
14.0	24.0	26.0	21.0	25.0	3.0	18.0	26.0	1.5	4.0	8.5	35.0
16.0	26.0	28.0	23.0	27.0	3.0	20.0	26.0	1.5	4.0	8.5	35.0
18.0	32.0	34.0	27.0	33.0	3.0	23.0	27.0	2.0	5.0	9.0	37.5
20.0	34.0	36.0	29.0	35.0	3.0	25.0	27.0	2.0	5.0	9.0	37.5
22.0	36.0	38.0	31.0	37.0	3.0	27.0	27.0	2.0	5.0	9.0	37.5
24.0	38.0	40.0	33.0	39.0	3.0	29.0	29.5	2.0	5.0	9.0	40.0
25.0	39.0	41.0	34.0	40.0	3.0	30.0	29.5	2.0	5.0	9.0	40.0
28.0	42.0	44.0	37.0	43.0	3.0	33.0	32.0	2.0	5.0	9.0	42.5
30.0	44.0	46.0	39.0	45.0	3.0	35.0	32.0	2.0	5.0	9.0	42.5
32.0	46.0	48.0	42.0	48.0	3.0	38.0	32.0	2.0	5.0	9.0	42.5
33.0	47.0	49.0	42.0	48.0	3.0	38.0	32.0	2.0	5.0	9.0	42.5
35.0	49.0	51.0	44.0	50.0	3.0	40.0	32.0	2.0	5.0	9.0	42.5
38.0	54.0	58.0	49.0	56.0	4.0	44.0	33.5	2.0	6.0	9.0	45.0
40.0	56.0	60.0	51.0	58.0	4.0	46.0	33.5	2.0	6.0	9.0	45.0
43.0	59.0	63.0	54.0	61.0	4.0	49.0	33.5	2.0	6.0	9.0	45.0
45.0	61.0	65.0	56.0	63.0	4.0	51.0	33.5	2.0	6.0	9.0	45.0
48.0	64.0	68.0	59.0	66.0	4.0	54.0	33.5	2.0	6.0	9.0	45.0
50.0	66.0	70.0	62.0	70.0	4.0	57.0	34.0	2.5	6.0	9.0	47.5
53.0	69.0	73.0	65.0	73.0	4.0	60.0	34.0	2.5	6.0	9.0	47.5
55.0	71.0	75.0	67.0	75.0	4.0	62.0	34.0	2.5	6.0	9.0	47.5
58.0	78.0	83.0	70.0	78.0	4.0	65.0	39.0	2.5	6.0	9.0	52.5
60.0	80.0	85.0	72.0	80.0	4.0	67.0	39.0	2.5	6.0	9.0	52.5
63.0	83.0	88.0	75.0	83.0	4.0	70.0	39.0	2.5	6.0	9.0	52.5
65.0	85.0	90.0	77.0	85.0	4.0	72.0	39.0	2.5	6.0	9.0	52.5
68.0	88.0	93.0	81.0	90.0	4.0	75.0	37.0	2.5	7.0	9.0	52.5
70.0	90.0	95.0	83.0	92.0	4.0	77.0	44.5	2.5	7.0	9.0	60.0
75.0	99.0	104.0	88.0	97.0	4.0	82.0	44.5	2.5	7.0	9.0	60.0
80.0	104.0	109.0	95.0	105.0	4.0	88.0	44.0	3.0	7.0	9.0	60.0
85.0	109.0	114.0	100.0	110.0	4.0	93.0	44.0	3.0	7.0	9.0	60.0
90.0	114.0	119.0	105.0	115.0	4.0	98.0	49.0	3.0	7.0	9.0	65.0
95.0	119.0	124.0	110.0	120.0	4.0	104.0	49.0	3.0	7.0	9.0	65.0
100.0	124.0	129.0	115.0	125.0	4.0	108.0	49.0	3.0	7.0	9.0	65.0

Series CN110U & CN115U are single helical coil spring seals developed for dirty media and clogging type applications. Torque transmission from retainer shell to seal ring is done through drive lugs. All components are held together by a snap ring which helps in easier installation and removal. As all parts are interchangeable, one can convert series CN110U & CN115U by changing only the seal ring and the secondary seal. This concept is ideal for stock rationalisation.

DIN 24960

Metal bellow seals,
Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series CN40 & CN45



Series CN40 & CN45



Seal with cartridge construction

Standard Style

Face Materials

Carbon, Silicon Carbide, Tungsten Carbide

Metal Parts

Series N40 : SS 316, SS 304, Carpenter 42
Series N45 : Hastelloy-C

Welded Bellows

Series N40 : AM 350
Series N45 : Hastelloy-C

Secondary Seal

Elastomers, PTFE, GFT

Applications

- Chemicals
- Petrochemicals
- Refinery
- Corrosive chemicals

Seal Characteristics

- Single acting
- Inherently balanced
- Inside mounted
- Independent of direction of rotation
- Welded Metal Bellows
- To DIN 24960

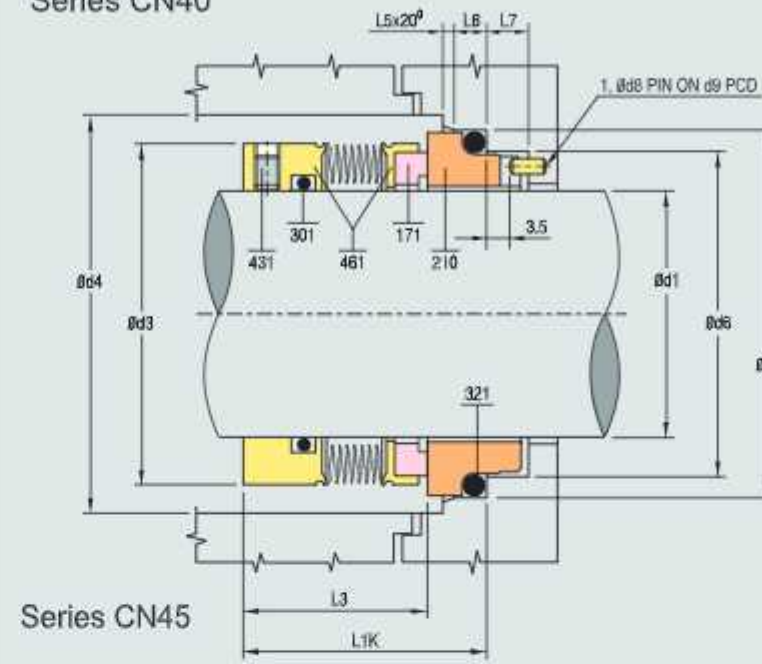
Operating Limits

Shaft Diameter d1 : 20 100 mm
Pressure p : 20 bar (max)
Temperature t : -20 ... +200°C
Velocity v : 20 m/sec

Shrink Fit Arrangement*

Temperature Limits:
SS 304 : 110°C
SS 316 : 110°C
Hastelloy-C : 175°C
Carpenter - 42 : 350°C

Series CN40



Series CN45

Part No.	Description
171 + 461	Seal face shrink-fitted with Metal bellows
210	Mating Ring
301	O-Ring
321	O-Ring
431	Grub Screw

SEAL SIZE d1 ^{+0.09} mm	d3	d4	d6 ^{H11}	d7 ^{H8}	d8	d9	L3	L5	L6	L7	L1K ^{H8S}
20.0	33.5*	36.0	29.0	35.0	3.0	25.0	27.0	2.0	5.0	9.0	37.5
22.0	38.0*	42.0*	31.0	37.0	3.0	27.0	27.0	2.0	5.0	9.0	37.5
24.0	38.0*	40.0	33.0	39.0	3.0	29.0	29.5	2.0	5.0	9.0	40.0
25.0	39.7*	42.0*	34.0	40.0	3.0	30.0	29.5	2.0	5.0	9.0	40.0
28.0	42.9*	46.0*	37.0	43.0	3.0	33.0	32.0	2.0	5.0	9.0	42.5
30.0	46.0*	48.0*	39.0	45.0	3.0	35.0	32.0	2.0	5.0	9.0	42.5
32.0	46.0*	48.0	42.0	48.0	3.0	38.0	32.0	2.0	5.0	9.0	42.5
33.0	49.4*	51.0*	42.0	48.0	3.0	38.0	32.0	2.0	5.0	9.0	42.5
35.0	49.4*	51.0	44.0	50.0	3.0	40.0	32.0	2.0	5.0	9.0	42.5
38.0	52.5	58.0	49.0	56.0	4.0	44.0	33.5	2.0	6.0	9.0	45.0
40.0	55.5	60.0	51.0	58.0	4.0	46.0	33.5	2.0	6.0	9.0	45.0
43.0	59.0	63.0	54.0	61.0	4.0	49.0	33.5	2.0	6.0	9.0	45.0
45.0	59.0	65.0	56.0	63.0	4.0	51.0	33.5	2.0	6.0	9.0	45.0
48.0	62.0	68.0	59.0	66.0	4.0	54.0	33.5	2.0	6.0	9.0	45.0
50.0	65.0	70.0	62.0	70.0	4.0	57.0	34.0	2.5	6.0	9.0	47.5
53.0	68.5	73.0	65.0	73.0	4.0	60.0	34.0	2.5	6.0	9.0	47.5
55.0	71.5	75.0	67.0	75.0	4.0	62.0	34.0	2.5	6.0	9.0	47.5
58.0	75.0	83.0	70.0	78.0	4.0	65.0	39.0	2.5	6.0	9.0	52.5
60.0	75.0	85.0	72.0	80.0	4.0	67.0	39.0	2.5	6.0	9.0	52.5
63.0	81.0	88.0	75.0	83.0	4.0	70.0	39.0	2.5	6.0	9.0	52.5
65.0	84.0	90.0	77.0	85.0	4.0	72.0	39.0	2.5	6.0	9.0	52.5
68.0	87.5	93.0	81.0	90.0	4.0	75.0	37.0	2.5	7.0	9.0	52.5
70.0	87.5	95.0	83.0	92.0	4.0	77.0	44.5	2.5	7.0	9.0	60.0
75.0	95.5	104.0	88.0	97.0	4.0	82.0	44.5	2.5	7.0	9.0	60.0
80.0	102.0	109.0	95.0	105.0	4.0	88.0	44.0	3.0	7.0	9.0	60.0
85.0	105.0	114.0	100.0	110.0	4.0	93.0	44.0	3.0	7.0	9.0	60.0
90.0	108.0	119.0	105.0	115.0	4.0	98.0	49.0	3.0	7.0	9.0	65.0
95.0	114.5	124.0	110.0	120.0	4.0	104.0	49.0	3.0	7.0	9.0	65.0
100.0	121.0	129.0	115.0	125.0	4.0	108.0	49.0	3.0	7.0	9.0	65.0

*Seal OD d3 is not as per DIN 24960.

Series CN40 & CN45 are welded metal bellow seals used in chemical, petrochemical and refinery process pumps for moderate temperature/pressure application and for process services requiring corrosion resistance. These bellow seals are constructed by welding a series of diaphragms together at the edges to form a bellows unit. The bellows unit eliminates the need for springs, dynamic secondary seal and provides flexibility to the seal face in addition to compensating for seal face wear.

Balanced Seal

High Pressure, Heavy duty Seal,
Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series C900B/CG



Series C900B/CG

Standard Style

Face Materials

Carbon / Silicon Carbide
Carbon / Tungsten Carbide
Silicon Carbide / Silicon Carbide

Metal Parts

SS 316, SS 304, Hastelloy-C,
Titanium, Alloy-20, Monel

Secondary Seal

Elastomers

Applications

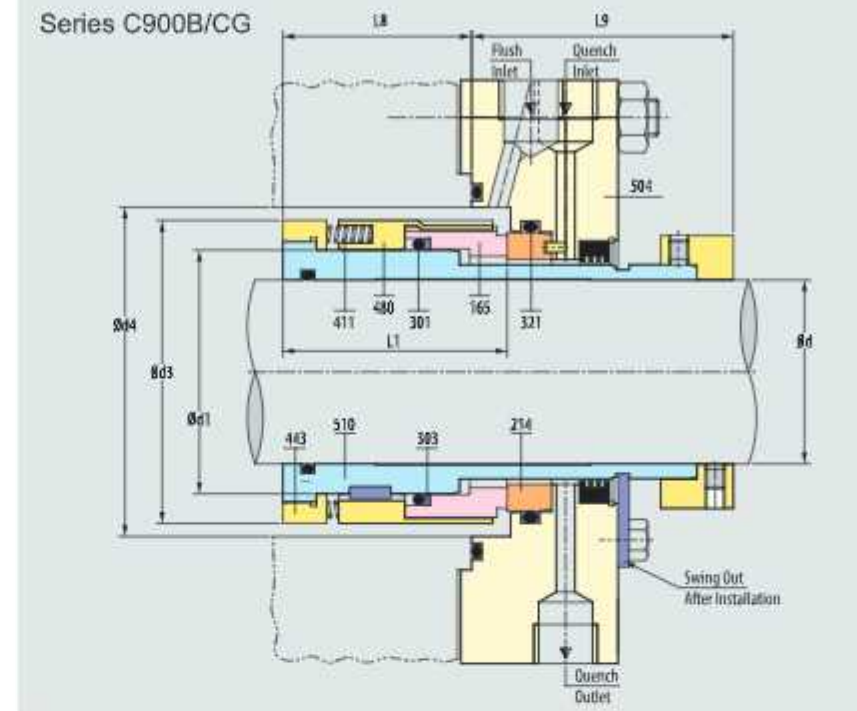
- Oil Pipeline Pumps
- Boiler Feed Water Pumps

Seal Characteristics

- Single acting
- Balanced
- Inside mounted
- Independent of direction of rotation
- Multiple springs design
- Sturdy drive mechanism

Operating Limits

Shaft diameter d1 : 25.4 114.3 mm
Pressure p : 25.....150 bar
Temperature t : -40.....180°C
Velocity v : 20 m/sec



Part No.	Description
165	Seal Ring
214	Mating Ring
301	O - Ring
303	Back-up Ring
321	O - Ring
411	Spring
443	Spring holder
480	Retainer
504	Gland
510	Sleeve

Shaft d	SEAL SIZE d1		d3	d4	L1	L8	L9
	Inch	mm					
25.40	1.437	36.50	54.0	58.0	59.5	48.0	75.0
28.58	1.625	41.28	57.5	61.5	59.5	48.0	75.0
31.75	1.750	44.45	60.5	64.5	59.5	48.0	75.0
34.92	1.875	47.62	63.5	67.5	59.5	48.0	75.0
38.10	2.000	50.80	67.0	71.0	59.5	48.0	75.0
41.28	2.125	53.98	70.0	74.0	59.5	48.0	75.0
44.45	2.250	57.15	73.0	77.0	59.5	48.0	75.0
47.62	2.375	60.32	76.5	80.5	59.5	50.0	75.0
50.80	2.500	63.50	79.5	83.5	59.5	50.0	75.0
53.98	2.625	66.68	86.0	90.0	64.5	53.0	79.0
57.15	2.750	69.85	89.0	93.0	64.5	53.0	79.0
60.32	2.875	73.02	92.5	96.5	64.5	53.0	79.0
63.50	3.000	76.20	95.5	99.5	64.5	53.0	79.0
66.68	3.125	79.38	98.5	102.5	64.5	53.0	79.0
69.85	3.250	82.55	102.0	106.0	64.5	53.0	79.0
73.02	3.375	85.72	105.0	109.0	64.5	56.0	79.0
76.20	3.500	88.90	108.0	112.0	64.5	56.0	90.0
79.37	3.875	98.42	116.0	120.0	69.5	56.0	90.0
82.55	4.000	101.60	119.0	123.0	69.5	56.0	90.0
85.72	4.125	104.78	122.5	126.5	69.5	56.0	90.0
88.90	4.250	107.95	125.5	130.5	69.5	56.0	90.0
92.07	4.375	111.13	129.0	134.0	69.5	56.0	90.0
95.25	4.500	114.30	132.0	137.0	69.5	56.0	90.0
98.42	4.625	117.48	135.0	140.0	69.5	56.0	90.0
101.60	4.750	120.65	138.5	143.5	69.5	56.0	90.0
104.77	4.875	123.83	146.5	151.5	74.0	60.5	90.0
107.95	5.000	127.00	149.5	154.5	74.0	60.5	90.0
111.12	5.125	130.18	152.5	157.5	74.0	60.5	90.0
114.30	5.250	133.35	156.0	161.0	74.0	60.5	90.0

Series C900B/CG is specially designed cartridge seal for pumps handling oil, water and other fluids which are being pumped at very high pressure. These seals are widely used on pipe & Boiler feed water pumps. Very sturdy design and drive arrangement makes the seal suitable for very high pressure. This being multiple spring seal, it provides uniform face loading.

Catridge Heavy Duty Balanced Seal

Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series CPM 900/CG



Series CPM 900/CG

Standard Style

Face Materials

Silicon Carbide / Silicon Carbide
Tungsten Carbide / Silicon Carbide

Metal Parts

SS 316, SS 304, Hastelloy-C,
Monel, Alloy - 20

Secondary Seal

Elastomers, FEP

Applications

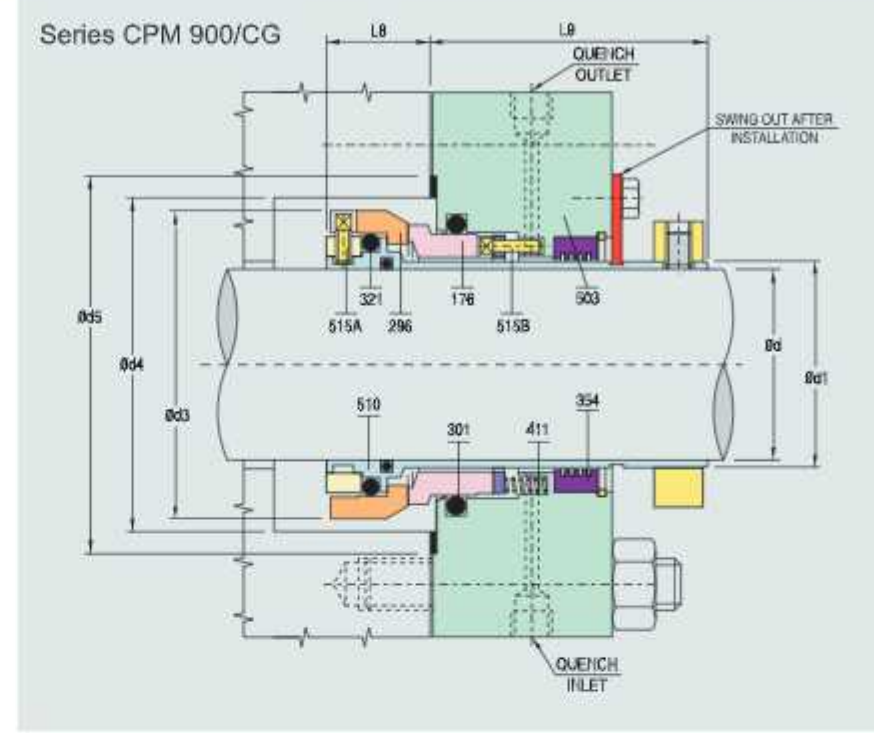
- Ash slurry Pumps
- Clinker Grinders
- Pulp Pumps
- Sludge Pumps
- Syrup Pumps
- Slurry Pumps

Seal Characteristics

- Single acting
- Balanced
- Inside mounted
- Independent of direction of rotation
- Cartridge unit

Operating Limits

Shaft diameter d1 : 17 100 mm
Pressure p : 25 bar (max)
Temperature t : -20 ... +180°C
Velocity v : 20 m/sec



Part No.	Description
176	Seal Ring
296	Mating Ring
301	O-Ring
321	O-Ring
354	Throttle Bush
411	Spring
503	Gland
510	Sleeve
515A	Drive Pin
515B	Lock Pin

Shaft +0.00 d -0.05	SEAL SIZE +0.00 d1 -0.03		d3	d4	d5	L8	L9
	inch	mm					
17-18	0.875	22.22	43.0	49.0	60.0	38.5	58.0
18-20	1.000	25.40	46.0	52.0	60.0	38.5	58.0
20-23	1.125	28.58	49.0	55.0	65.0	38.5	58.0
23-26	1.250	31.75	52.0	58.0	70.0	38.5	58.0
26-30	1.375	34.92	56.0	62.0	70.0	38.5	58.0
30-33	1.500	38.10	60.0	66.0	75.0	38.5	58.0
33-35	1.625	41.28	63.0	69.0	80.0	38.5	58.0
35-38	1.750	44.45	66.0	72.0	80.0	38.5	58.0
38-43	1.875	47.62	73.0	79.0	90.0	38.5	58.0
43-46	2.000	50.80	76.0	82.0	90.0	38.5	58.0
46-49	2.125	53.98	79.0	85.0	95.0	38.5	63.0
49-51	2.250	57.15	82.0	88.0	100.0	38.5	63.0
51-54	2.375	60.32	86.0	92.0	100.0	40.5	63.0
54-56	2.500	63.50	89.0	95.0	105.0	40.5	63.0
56-59	2.625	66.68	92.0	98.0	110.0	40.5	63.0
59-62	2.625	66.68	95.0	101.0	110.0	40.5	63.0
62-65	2.750	69.85	98.0	104.0	115.0	40.5	63.0
65-68	2.875	73.02	102.0	108.0	120.0	40.5	65.0
68-71	3.000	76.20	105.0	111.0	120.0	40.5	65.0
71-75	3.125	79.38	109.0	115.0	125.0	40.5	65.0
75-78	3.250	82.55	112.0	118.0	130.0	40.5	65.0
78-81	3.375	85.72	115.0	121.0	130.0	40.5	65.0
81-84	3.500	88.90	118.0	124.0	135.0	40.5	65.0
84-87	3.625	92.08	121.0	127.0	135.0	40.5	65.0
87-90	3.750	95.25	124.0	130.0	140.0	40.5	65.0
90-93	3.875	98.42	127.0	133.0	140.0	40.5	65.0
93-97	4.000	101.60	131.0	137.0	145.0	40.5	65.0
97-100	4.125	104.78	134.0	140.0	150.0	40.5	65.0

Series CPM 900 is a cartridge construction multiple spring heavy duty balanced seal specially developed for equipments handling slurries, sludges, syrups and other fluids that polymerizes or solidify with the changes in temperature. The springs are isolated from the fluid being sealed by dynamic O-ring, which enhances the seal life

Seal requires tightening of studs, nuts and detaching of location plates before starting the equipment. No dimensional measurement to be done at site. Even non-ski I led person can install the seal.

Compact Cartridge Balanced Seal

Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series C90C35/CG



Series C90C35/CG

Standard Style

Face Materials

Carbon / Silicon Carbide
Silicon Carbide / Silicon Carbide
Tungsten Carbide / Silicon Carbide

Metal Parts

SS 316, SS 304, Hastelloy-C,
Monel, Alloy - 20

Secondary Seal

Elastomers, FEP

Applications

- Pulp Pumps
- Sludge Pumps
- Syrup Pumps
- Slurry Pumps

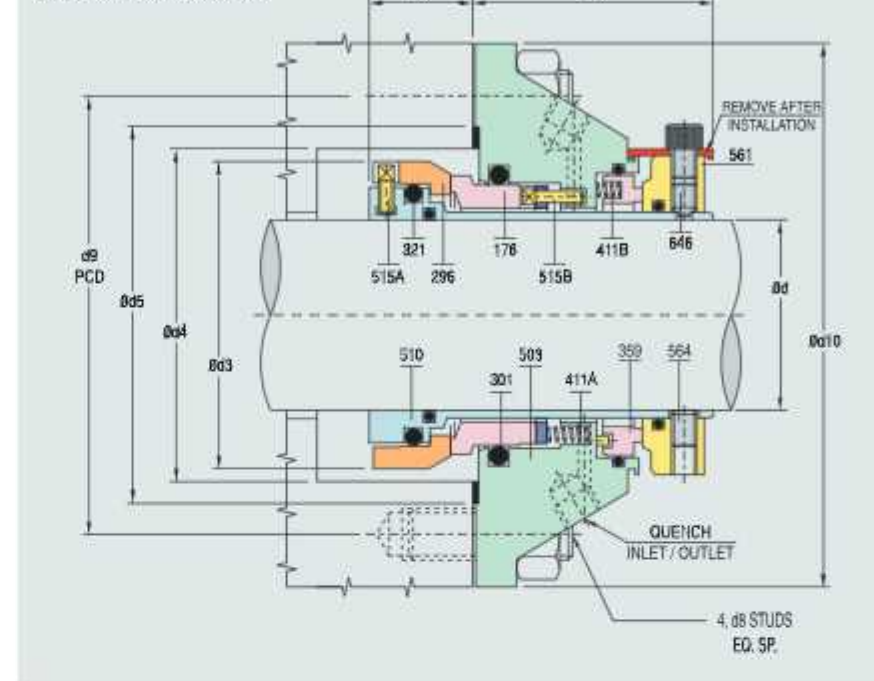
Seal Characteristics

- Single acting
- Balanced
- Inside mounted
- Independent of direction of rotation
- Compact cartridge unit

Operating Limits

Shaft diameter d1 : 0.75" 3.0"
Pressure p : 18 bar (max)
Temperature t : -20 ... +180°C
Velocity v : 20 m/sec

Series C90C35/CG



Part No.	Description
176	Seal Ring
296	Mating Ring
301	O-Ring
321	O-Ring
359	Floating Throttle Bush
411A	Spring
411B	Spring
503	Gland
510	Sleeve
515A	Drive Pin
515B	Lock Pin
561	Drive Collar
564	Grub Screw
646	Dog Screw

SEAL SIZE +0.00 d1 -0.05		d3 ^{-0.2}	d4	d5	d8 ^{+0.3}	d9	d10 ^{+1.0}	L8 ^{+0.5}	L9 ^{+0.5}
inch	mm								
0.750	19.05	40.5	44.0	55.0	M10	73.0	95.0	20.5	47.5
0.875	22.23	43.5	47.0	55.0	M10	73.0	95.0	20.5	47.5
1.000	25.40	47.5	51.0	60.0	M10	73.0	100.0	20.5	47.5
1.125	28.58	48.5	52.0	65.0	M10	80.0	100.0	20.5	47.5
1.250	31.75	52.0	56.0	65.0	M10	80.0	100.0	20.5	47.5
1.375	34.92	57.0	61.0	70.0	M10	95.0	117.0	21.5	49.5
1.500	38.10	60.0	64.0	75.0	M12	95.0	120.0	21.5	49.5
1.625	41.28	63.0	67.0	75.0	M12	95.0	120.0	21.5	49.5
1.750	44.45	66.0	70.0	80.0	M12	100.0	125.0	21.5	49.5
1.875	47.62	70.0	74.0	85.0	M14	110.0	135.0	21.5	49.5
2.000	50.80	73.0	77.0	85.0	M14	110.0	135.0	21.5	49.5
2.125	53.98	78.5	82.5	90.0	M14	115.0	140.0	21.5	51.0
2.250	57.15	81.5	85.5	95.0	M14	115.0	140.0	22.5	51.0
2.375	60.32	85.0	89.0	100.0	M14	120.0	150.0	22.5	51.0
2.500	63.50	88.0	92.0	100.0	M14	120.0	155.0	22.5	51.0
2.625	66.68	91.5	96.0	105.0	M14	127.0	155.0	22.5	51.0
2.750	69.85	95.0	99.0	110.0	M14	130.0	160.0	22.5	52.5
2.875	73.02	98.5	103.0	115.0	M14	135.0	160.0	22.5	52.5
3.000	76.20	101.0	105.0	115.0	M14	135.0	160.0	22.5	52.5

Series C90B35/CG is a cartridge construction multiple spring balanced seal specially developed for equipments handling slurries, sludges, syrups and other fluids that polymerizes or solidify with the changes in temperature. The springs are isolated from the fluid being sealed by dynamic O-ring, which enhances the seal life

Seal requires tightening of studs, nuts and detaching of location plates before starting the equipment. No dimensional measurement to be done at site. Even non-skilled person can install the seal.

Compact Cartridge Balanced Seal

Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series CPM 935/CG



Series CPM 935/CG

Standard Style

Face Materials

Carbon / Silicon Carbide
Silicon Carbide / Silicon Carbide
Tungsten Carbide / Silicon Carbide

Metal Parts

SS 316, SS 304, Hastelloy-C,
Monel, Alloy - 20

Secondary Seal

Elastomers, FEP

Applications

- Food
- Chemical
- Mining
- Water Treatment
- Media Containing Slurry

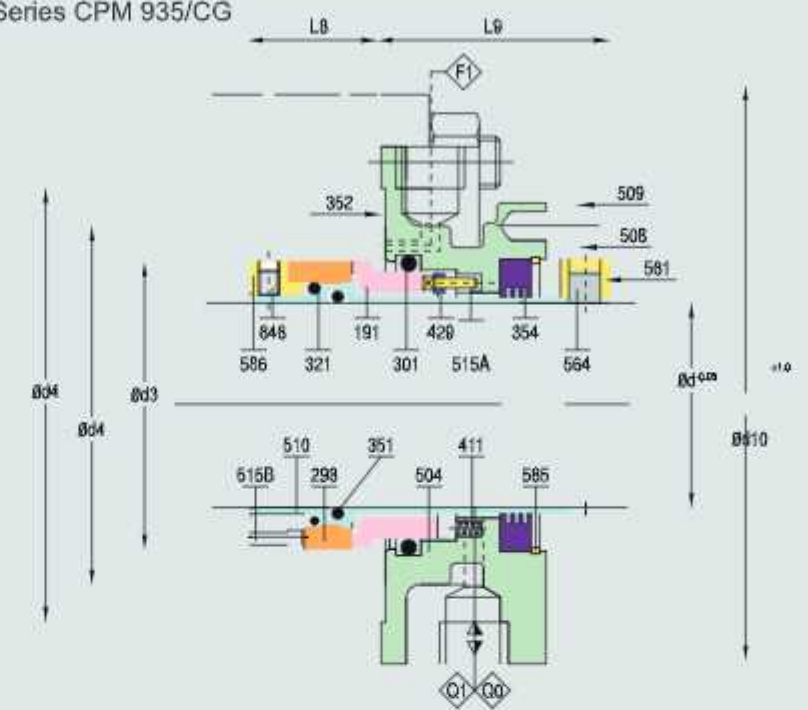
Seal Characteristics

- Single acting
- Balanced
- Inside mounted
- Independent of direction of rotation
- Compact cartridge unit

Operating Limits

Shaft diameter d1 : 0.875" 3.0"
Pressure p : 18 bar (max)
Temperature t : -20 ... +180°C
Velocity v : 20 m/sec

Series CPM 935/CG



Part No.	Description
191	Seal Ring
298	Mating Ring
301	O-Ring
321	O-Ring
351	O-Ring
352	Plain Gasket
354	Fixed Throttle Bush
411	Spring
429	Thrust Ring
504	Gland
508	Location Plate
509	Hex Screw
510	Sleeve
515A	Lock Pin
515B	Lock Pin
561	Drive Collar
564	Grub Screw
585	Snap Ring
586	Spacer
646	Dog Screw

SEAL SIZE		d3 ^{+0.2}	d4	d5	d8	d9	d10	L8	L9
d1 ^{+0.00} -0.05	d1								
inch	mm								
0.875	22.23	38.6	41.6	55.0	12.0	61.0	95.0	20.5	47.5
1.00	25.40	41.9	44.9	60.0	12.0	61.0	100.0	20.5	47.5
1.125	28.58	44.9	47.9	65.0	12.0	68.0	100.0	20.5	47.5
1.250	31.75	48.0	51.0	65.0	12.0	68.0	100.0	20.5	47.5
1.375	34.92	51.5	54.5	70.0	12.0	83.0	117.0	21.5	49.5
1.500	38.10	54.2	57.2	75.0	14.0	81.0	120.0	21.5	49.5
1.625	41.28	57.7	60.7	75.0	14.0	81.0	120.0	21.5	49.5
1.750	44.45	61.2	64.2	80.0	14.0	86.0	125.0	21.5	49.5
1.875	47.62	64.6	67.6	85.0	16.0	94.0	135.0	21.5	49.5
2.000	50.80	68.0	71.0	85.0	16.0	94.0	135.0	21.5	49.5
2.125	53.98	74.5	77.5	90.0	16.0	99.0	140.0	21.5	51.0
2.250	57.15	77.7	81.7	95.0	16.0	99.0	140.0	22.5	51.0
2.375	60.32	81.0	84.0	100.0	16.0	104.0	150.0	22.5	51.0
2.500	63.50	84.0	87.0	100.0	16.0	104.0	155.0	22.5	51.0
2.625	66.68	87.3	90.3	105.0	16.0	111.0	155.0	22.5	51.0
2.750	69.85	91.0	94.0	110.0	16.0	114.0	160.0	22.5	52.5
2.875	73.02	93.6	96.6	115.0	16.0	119.0	160.0	22.5	52.5
3.000	76.20	96.8	99.8	115.0	16.0	119.0	160.0	22.5	52.5

Series CPM 935/CG is a cartridge construction multiple spring balanced seal specially developed for equipments handling clean media as well as slurries, sludges, syrups and other fluids that polymerizes or solidify with the changes in temperature. The springs are isolated from the fluid being sealed by dynamic O-ring, which enhances the seal life. The assembly can be accommodated in almost all stuffing boxes of different pumps.

Seal requires tightening of studs, nuts and detaching of location plates before starting the equipment. No dimensional measurement to be done at site. Even non-skilled person can install the seal.

Metal Bellow Seal

Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series C40, C45



Series C40, C45



Seal with cartridge construction

Standard Style

Face Materials:
Carbon / Silicon Carbide
Carbon / Tungsten Carbide
Silicon Carbide / Tungsten Carbide

Metal Parts
Series 40 : SS 316, SS 304
Series 45 : Hastelloy-C

Welded Bellows
Series 40 : AM 350
Series 45 : Hastelloy-C

Secondary Seal
Elastomers, PTFE, GFT

Applications

- Chemicals
- Petrochemicals
- Refinery
- Corrosive chemicals

Seal Characteristics

- Single acting
- Inherently Balanced
- Inside Mounted
- Independent of direction of rotation
- Welded Metal Bellows

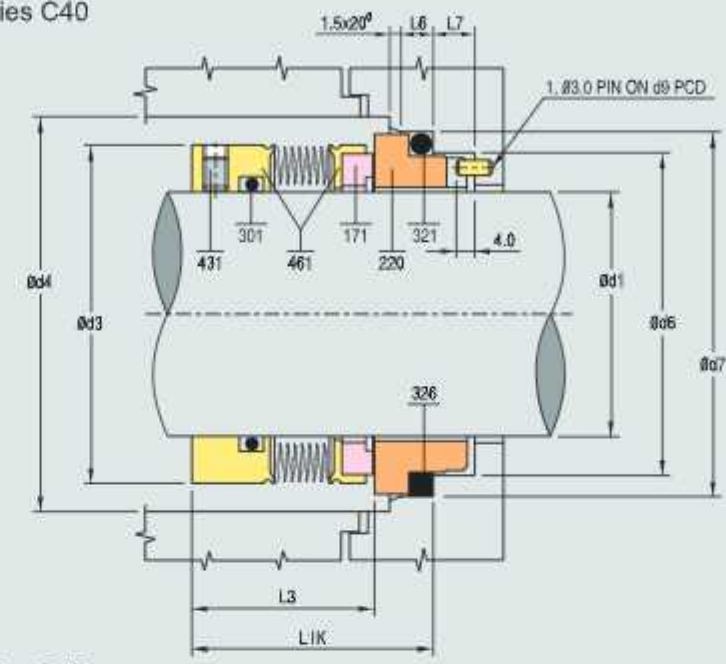
Operating Limits

Shaft Diameter d1 : 0.75" 4.0"
Pressure p : 18 bar (max)
Temperature t : -20 ... + 175°C
Velocity v : 20 m/sec

Shrink Fit Arrangement*

Temperature Limits:
SS 304 110°C
SS 316 110°C
Hastelloy-C 175°C
Carpenter - 42 350°C

Series C40



Series C45

Part No.	Description
171 + 461	Seal face shrink fitted with Metal bellows
220	Mating Ring
301	O-Ring
321	O-Ring
326	Mating Ring Packing
431	Grub Screw

SEAL SIZE		d3	d4	d6 ^{+0.1}	d7 ^{+0.05}	d9	L3 ^{+0.5}	L6	L7	L1K
inch	mm									
0.750	19.05	33.5	36.5	29.07	34.57	25.4	27.5	4.6	5.6	34.5
0.875	22.22	38.0	41.0	32.25	37.75	28.6	27.5	4.6	5.6	34.5
1.000	25.40	39.7	43.0	35.35	40.85	31.6	30.0	4.6	5.6	37.0
1.125	28.58	42.9	46.0	38.52	44.02	34.6	32.5	4.6	5.6	39.5
1.250	31.75	46.0	49.0	41.70	47.20	38.0	32.5	4.6	5.6	39.5
1.375	34.92	49.4	52.5	44.84	50.37	41.2	32.5	4.6	5.6	39.5
1.500	38.10	52.5	55.5	48.05	53.55	44.4	34.0	4.6	5.6	41.0
1.625	41.28	55.5	58.5	54.40	59.90	50.6	34.0	5.0	5.8	42.4
1.750	44.45	59.0	62.0	60.75	66.25	57.0	34.0	5.0	5.8	42.4
1.875	47.62	62.0	65.0	63.92	69.42	61.0	34.0	5.0	5.8	42.4
2.000	50.80	65.0	68.0	63.92	69.42	61.0	34.5	5.0	5.8	42.9
2.125	53.98	68.5	71.5	73.45	78.95	70.2	34.5	5.5	6.6	43.7
2.250	57.15	75.0	78.0	76.62	82.12	72.8	39.5	5.5	6.6	48.7
2.375	60.32	75.0	78.0	76.62	82.12	72.8	39.5	5.5	6.6	48.7
2.500	63.50	81.0	84.0	79.80	85.30	76.0	39.5	5.5	6.6	48.7
2.625	66.68	84.0	87.0	79.80	85.30	76.0	39.5	5.5	7.4	49.5
2.750	69.85	87.5	90.5	82.97	88.47	79.2	45.0	5.5	7.4	55.0
2.875	73.02	92.0	95.0	86.22	91.72	81.5	45.0	5.5	7.4	55.0
3.000	76.20	95.5	98.5	89.04	97.60	85.4	45.0	7.5	5.5	56.3
3.125	79.38	102.0	105.0	95.39	103.95	91.8	44.5	7.5	5.5	56.3
3.250	82.55	102.0	105.0	95.39	103.95	91.8	44.5	7.5	5.5	56.3
3.375	85.72	105.0	108.0	98.57	107.13	95.0	44.5	7.5	5.5	56.3
3.500	88.90	108.0	111.0	102.10	110.66	100.50	49.5	7.5	5.5	61.3
3.625	92.08	110.0	113.0	104.92	113.48	100.50	49.5	7.5	6.0	62.4
3.750	95.25	114.5	117.5	108.09	116.65	104.60	49.5	7.5	6.0	62.4
3.875	98.42	118.0	121.0	111.62	120.18	107.00	48.5	7.5	6.0	61.4
4.000	101.60	121.0	124.0	114.44	123.00	110.80	48.5	7.5	6.0	61.4

Series 40 & 45 are welded metal bellow seals used in chemical, petrochemical and refinery process pumps for moderate temperature/pressure application and for process services requiring corrosion resistance. These bellow seals are constructed by welding a series of diaphragms together at edges to form a bellows unit. These bellows unit eliminates the needs for springs, dynamic secondary seal and provides flexibility to the seal face in addition to compensating for seal face wear.

Metal Bellow Seal

Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series C60L, C65L



Series C60L



Series C65L

Cartridge version

Standard Style

Face Materials
Carbon, Silicon Carbide, Tungsten Carbide

Metal Parts
SS 316, Carpenter - 42

Welded Bellows
AM 350

Secondary Seal
Grafoil

Applications

- Petrochemicals
- Petroleum refinery
- Refinery

Seal Characteristics

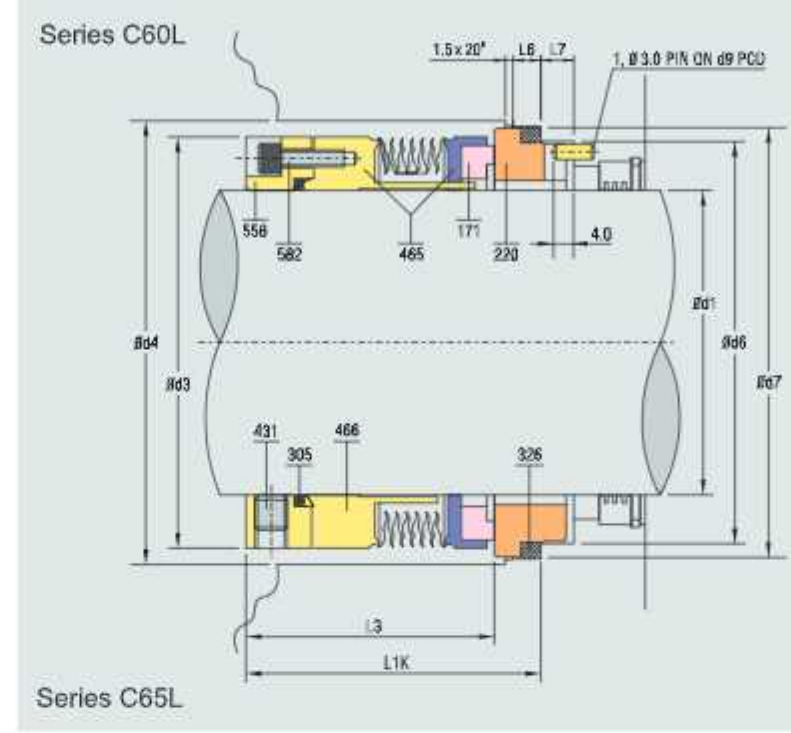
- Single acting
- Inherently Balanced
- Inside Mounted
- Independent of direction of rotation
- Welded Metal Bellows

Operating Limits

Shaft diameter d1 : 0.75" 0.4"
 Pressure p : 20 bar (max)
 Temperature t : -20.....+350°C
 Velocity v : 20 m/sec

Shrink Fit Arrangement*

Temperature Limits:
 SS 304 110°C
 SS 316 110°C
 Hastelloy-C 175°C
 Carpenter - 42 350°C



Part No.	Description
171 + 465	Seal face shrink fitted with Metal bellows
220	Mating Ring
305	Packing
326	M. Ring Packing
431	Grub Screw
466	Rear Collar
558	Pusher
582	Allen Screw

SEAL SIZE		d3	d4	d6 ^{+0.1 -0.05}	d7 ^{+0.05}	d9	L3 ^{+0.5}	L6	L7	L1K
d1 ^{+0.00 -0.03}	mm									
0.750	19.05	34.9	38.0	29.07	34.57	25.4	37.5	4.6	5.6	44.5
0.875	22.22	38.1	42.0	32.25	37.75	28.6	37.5	4.6	5.6	44.5
1.000	25.40	41.3	44.5	35.35	40.85	31.6	37.5	4.6	5.6	44.5
1.125	28.58	44.0	47.0	38.52	44.02	34.6	37.5	4.6	5.6	44.5
1.250	31.75	49.5	52.5	41.70	47.20	38.0	41.3	4.6	5.6	48.3
1.375	34.92	54.0	57.0	44.84	50.37	41.2	46.0	4.6	5.6	53.0
1.500	38.10	57.0	60.0	48.05	53.55	44.4	46.0	4.6	5.6	53.0
1.625	41.28	60.0	64.0	54.40	59.90	50.6	46.0	5.0	5.8	54.4
1.750	44.45	62.5	66.5	60.75	66.25	57.0	46.0	5.0	5.8	54.4
1.875	47.62	67.0	71.0	63.92	69.42	61.0	46.0	5.0	5.8	54.4
2.000	50.80	69.5	73.5	63.92	69.42	61.0	47.6	5.0	5.8	56.0
2.125	53.98	72.5	76.5	73.45	78.95	70.2	47.6	5.5	6.6	56.8
2.250	57.15	76.0	80.0	76.62	82.12	72.8	49.2	5.5	6.6	58.4
2.375	60.32	81.5	85.5	76.62	82.12	72.8	49.2	5.5	6.6	58.4
2.500	63.50	85.5	89.5	79.80	85.30	76.0	49.2	5.5	6.6	58.4
2.625	66.68	89.0	93.0	79.80	85.30	76.0	51.0	5.5	7.4	61.0
2.750	69.85	92.0	96.0	82.97	88.47	79.2	51.0	5.5	7.4	61.0
2.875	73.02	95.5	99.5	86.22	91.72	81.5	51.0	5.5	7.4	61.0
3.000	76.20	99.0	103.0	89.04	97.60	85.4	51.0	7.5	5.5	62.8
3.125	79.38	101.5	105.5	95.39	103.95	91.8	51.0	7.5	5.5	62.8
3.250	82.55	105.0	109.0	95.39	103.95	91.8	51.0	7.5	5.5	62.8
3.375	85.72	108.0	112.0	98.57	107.13	95.0	51.0	7.5	5.5	62.8
3.500	88.90	111.0	115.0	102.10	110.66	98.5	51.0	7.5	5.5	62.8
3.625	92.08	114.5	119.5	104.92	113.48	100.50	51.0	7.5	6.0	63.9
3.750	95.25	117.5	122.5	108.09	116.65	104.60	51.0	7.5	6.0	63.9
3.875	98.42	120.5	125.5	111.62	120.18	107.00	51.0	7.5	6.0	63.9
4.000	101.60	124.0	129.0	114.44	123.00	110.80	51.0	7.5	6.0	63.9

Series 60L is welded metal bellow seal used in process pumps for high temperature and moderate pressure application in chemical, petrochemical plants and refineries. The bellow is constructed by welding a series of diaphragms together at the edges. The bellows units eliminates the need for springs, dynamics secondary seals and provides flexibility to the seal face wear. Drive to te seal ring is given by strong drive lungs, which also protects bellows from damage.

Series C65L is welded stationary bellow used for high temperature, viscous fluids and moderate pressure application in Petrochemical plants, Petroleum refineries, Edible oil refiners etc.

Unbalanced Seal

Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series C110U, C115U



Series C110U, C115U



Seal with cartridge construction

Standard Style

Face Materials

Carbon, Ceramic, Stellite,
Silicon Carbide, Tungsten Carbide, Lecrolloy

Metal Parts

SS 316, SS 304

Secondary Seal

110U : Elastomers
115U : PTFE, GFT

Applications

- Light Abrasive slurry
- Light Sewage water
- High viscosity fluid
- General & light chemicals
- Hydrocarbons

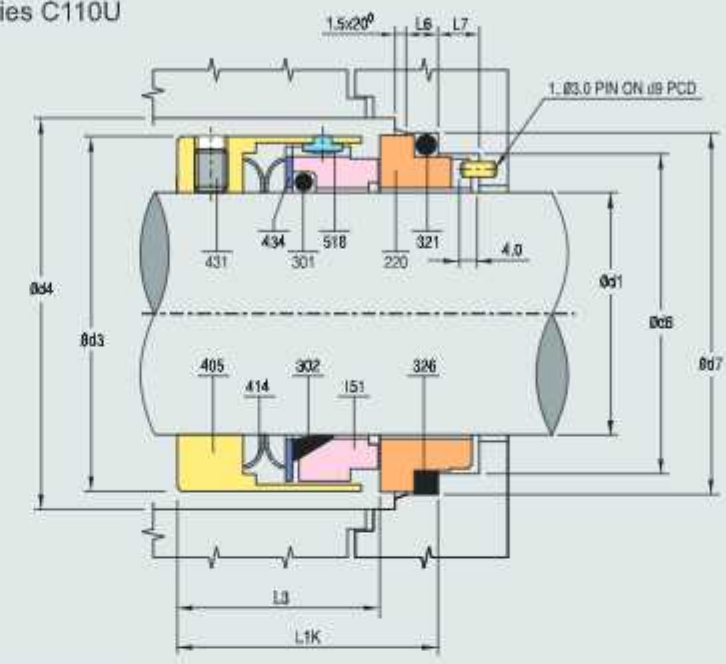
Seal Characteristics

- Single acting
- Unbalanced
- Inside mounted
- Independent of direction of rotation
- Wave spring loaded

Operating Limits

Shaft Diameter d_1 : 0.75" 4.0"
 Pressure p : 10 bar (max)
 Temperature t : -45 ... +180°C
 Velocity v : 20 m/sec

Series C110U



Series C115U

Part No.	Description
151	Seal Ring
220	Mating Ring
301	O - Ring
302	Wedge
321	O - Ring
326	M.Ring Packing
405	Retainer
414	Wave Spring
431	Grub Screw
434	Thrust Ring
518	Drive Pin

SEAL SIZE		d3	d4	d6 ^{+0.1}	d7 ^{+0.05}	d9	L3 ^{+0.5}	L6	L7	L1K
inch	mm									
0.750	19.05	34.0	38.0	29.07	34.57	25.4	26.0	4.6	5.6	33.0
0.875	22.22	37.5	41.5	32.25	37.75	28.6	26.0	4.6	5.6	33.0
1.000	25.40	40.5	44.5	35.35	40.85	31.6	28.5	4.6	5.6	35.5
1.125	28.58	43.5	47.5	38.52	44.02	34.6	28.5	4.6	5.6	38.0
1.250	31.75	47.0	51.0	41.70	47.20	38.0	28.5	4.6	5.6	38.0
1.375	34.92	50.0	54.0	44.80	50.37	41.2	28.5	4.6	5.6	38.0
1.500	38.10	55.0	59.0	48.05	53.55	44.4	31.0	4.6	5.6	38.0
1.625	41.28	58.5	62.5	54.40	59.90	50.6	31.0	5.0	5.8	39.4
1.750	44.45	61.5	65.5	60.75	66.25	57.0	31.0	5.0	5.8	39.4
1.875	47.62	65.0	69.0	63.92	69.42	61.0	31.0	5.0	5.8	39.4
2.000	50.80	68.0	72.0	63.92	69.42	61.0	32.5	5.0	5.8	40.9
2.125	53.98	71.0	75.0	73.45	78.95	70.2	32.5	5.5	6.6	41.7
2.250	57.15	78.0	82.0	76.62	82.12	72.8	37.5	5.5	6.6	46.7
2.375	60.32	81.5	85.5	76.62	82.12	72.8	37.5	5.5	6.6	46.7
2.500	63.50	84.5	88.5	79.80	85.30	76.0	37.5	5.5	6.6	46.7
2.625	66.68	87.5	91.5	79.80	85.30	76.0	37.5	5.5	7.4	47.5
2.750	69.85	91.0	95.0	82.97	88.47	79.2	42.0	5.5	7.4	52.0
2.875	73.02	97.0	101.0	86.22	91.72	81.5	42.0	5.5	7.4	52.0
3.000	76.20	100.0	104.0	89.04	97.60	85.4	42.0	7.5	5.5	53.6
3.125	79.38	104.0	108.0	95.39	103.95	91.8	41.8	7.5	5.5	53.6
3.250	82.55	106.5	110.5	95.39	103.95	91.8	41.8	7.5	5.5	53.6
3.375	85.72	110.0	114.0	98.57	107.13	95.0	41.8	7.5	5.5	53.6
3.500	88.90	113.0	117.0	102.10	110.66	98.5	46.8	7.5	5.5	53.6
3.625	92.08	116.0	120.0	104.92	113.48	100.5	46.8	7.5	6.0	59.7
3.750	95.25	119.5	123.5	108.09	116.65	104.6	47.8	7.5	6.0	60.7
3.875	98.42	112.5	116.5	111.62	120.18	107.0	47.8	7.5	6.0	60.7
4.000	101.60	125.5	129.5	114.44	123.00	110.8	47.8	7.5	6.0	60.7

Series C110U & C115U are single wave spring seals suitable for most general application. Major advantage of these seals is due to use of single wave spring. It is of compact design with reduced axial length. These seals can also be used in dirty application as spring clogging does not occur. Torque transmission from retainer shell to seal ring is through drive pin.

PTFE Bellow Seal

Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series C20M, C20R



Standard Style

Face Materials

- 20M : GFT / Ceramic
- LPT 20R : GFT / Ceramic
- Silicon Carbide / Ceramic
- Carbon / Ceramic
- Silicon Carbide / Silicon Carbide

Metal Parts

SS 316, SS 304, Hastelloy-C

Springs

Hastelloy-C

Secondary Seal

PTFE Bellows

Applications

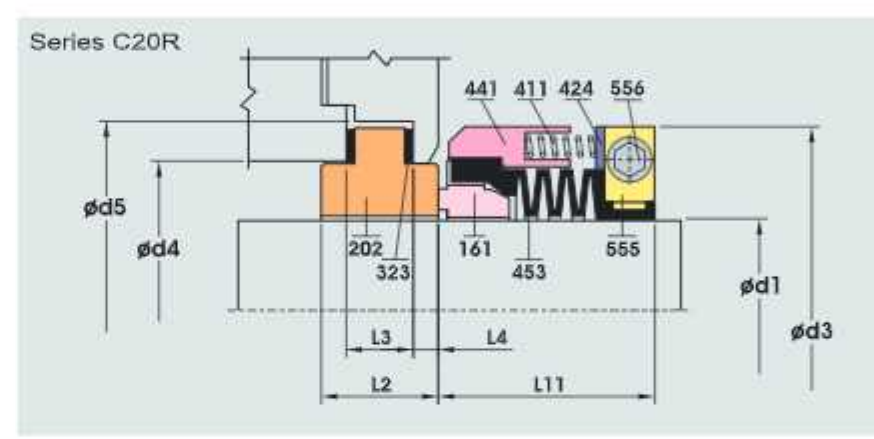
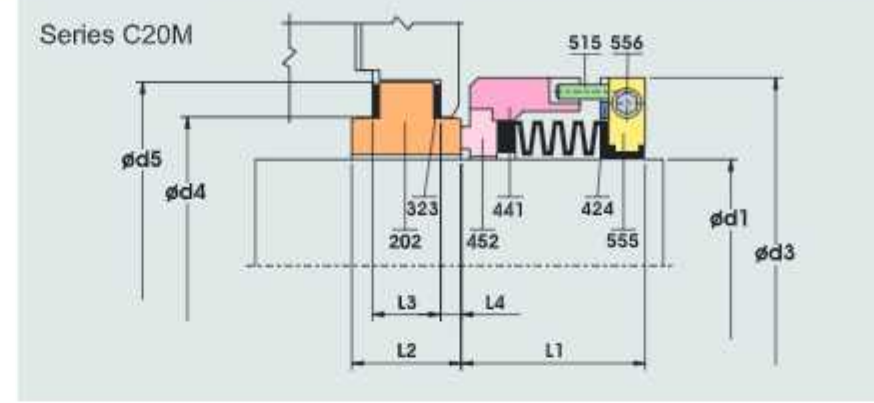
- Extremely corrosive services

Seal Characteristics

- Single acting
- Outside mounted
- Independent of direction of rotation

Operating Limits

- Shaft Diameter d1 : 0.75" 4.0"
- Pressure p : 6 bar (max)
- Temperature t : -45 +120°C
- Velocity v : 20 m/sec



Part No.	Description
161	Seal Ring
202	Mating Ring
323	Gasket
411	Spring
424	Thrust Ring
441	Spring Holder
452	Bellows
453	Bellows
515	Drive Pin
555	Clamp Ring
556	Allen Screw

SEAL SIZE		d3	d4 ^{HS}	d5	L1 ^{ABS}	L2	L3	L4	L11 ^{ABS}
d1 ^{+0.00}	d1 ^{-0.05}								
Inch	mm								
0.750	19.05	52.4	33.50	43.0	22.2	20.7	12.7	4.0	33.0
0.875	22.22	55.2	36.50	46.5	22.2	20.7	12.7	4.0	33.0
1.000	25.40	57.2	39.50	49.5	25.4	20.7	12.7	4.0	33.0
1.125	28.58	60.3	43.00	54.5	27.0	20.7	12.7	4.0	35.0
1.250	31.75	66.7	46.00	56.0	27.0	20.7	12.7	4.0	36.0
1.375	34.92	69.9	49.00	63.0	28.6	22.3	12.7	4.8	38.5
1.500	38.10	73.0	52.50	65.5	28.6	22.3	12.7	4.8	39.0
1.625	41.28	76.2	60.00	73.5	34.9	22.3	12.7	4.8	38.5
1.750	44.45	79.4	61.00	76.0	34.9	22.3	12.7	4.8	38.5
1.875	47.62	85.7	66.50	79.5	34.9	22.3	12.7	4.8	38.5
2.000	50.80	88.9	70.00	86.0	34.9	25.5	15.9	4.8	38.5
2.125	53.98	92.1	75.00	91.0	42.9	25.5	15.9	4.8	42.8
2.250	57.15	95.3	75.00	91.0	42.9	25.5	15.9	4.8	42.8
2.375	60.32	98.4	79.50	95.5	42.9	25.5	15.9	4.8	42.8
2.500	63.50	101.6	83.00	98.5	42.9	25.5	15.9	4.8	42.8
2.625	66.68	104.8	85.50	102.0	42.9	25.5	15.9	4.8	42.8
2.750	69.85	108.0	89.00	105.0	42.9	25.5	15.9	4.8	42.8
2.875	73.02	111.1	92.00	108.5	42.9	25.5	15.9	4.8	42.8
3.000	76.20	114.3	95.50	111.5	42.9	25.5	15.9	4.8	42.8
3.125	79.38	123.8	98.50	114.5	42.9	25.5	15.9	4.8	42.8
3.250	82.55	127.0	101.50	118.0	42.9	25.5	15.9	4.8	42.8
3.375	85.72	130.2	105.00	121.0	42.9	25.5	15.9	4.8	42.8
3.500	88.90	133.4	108.00	124.0	42.9	25.5	15.9	4.8	53.0
3.625	92.08	136.5	111.00	127.5	42.9	25.5	15.9	4.8	53.0
3.750	95.25	139.7	114.50	130.5	42.9	25.5	15.9	4.8	56.0
3.875	98.42	142.9	117.50	133.5	42.9	25.5	15.9	4.8	56.0
4.000	101.60	146.1	120.50	137.0	42.9	25.5	15.9	4.8	56.0

Series C20M & C20R are designed for extremely corrosive chemicals, including concentrated acids, salts, strong oxidising & reducing agents, and chemically active organic compounds. All components which come in contact with the liquid being sealed are made of chemically inert material. Metallic components, clamping ring and springs are located outside the media.

Series C20M: In this seal series Glass filled PTFE face is composite moulded with highly flexible PTFE bellows.
Series C20R: This seal is designed with replaceable sealing faces and is positively driven by integral lugs on bellows. These lugs impart smooth drive to the face. Replacement of faces can be done easily.

Unbalanced Seal

Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series C90U & C95U, Series CPW 901 & CPW 951



Series C90U, Series C95U



Series CPW 901, Series CPW 951

Standard Style

Face Materials
Carbon, Ceramic,
Silicon Carbide, Tungsten Carbide, Lecrolloy

Metal Parts
SS 316, SS 304, Hastelloy-C,
Monel, Alloy - 20

Secondary Seal
90U : Elastomers } Multi Springs Seals
95U : PTFE, GFT }
LPW 901 : Elastomers } Wave Spring Seals
LPW 951 : PTFE, GFT }

Applications

- Petrochemicals
- Petroleum refinery
- General chemicals
- Light hydrocarbons

Seal Characteristics

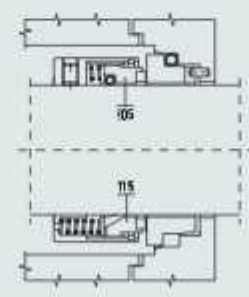
- Single acting
- Unbalanced
- Inside mounted
- Independent of direction of rotation

Operating Limits

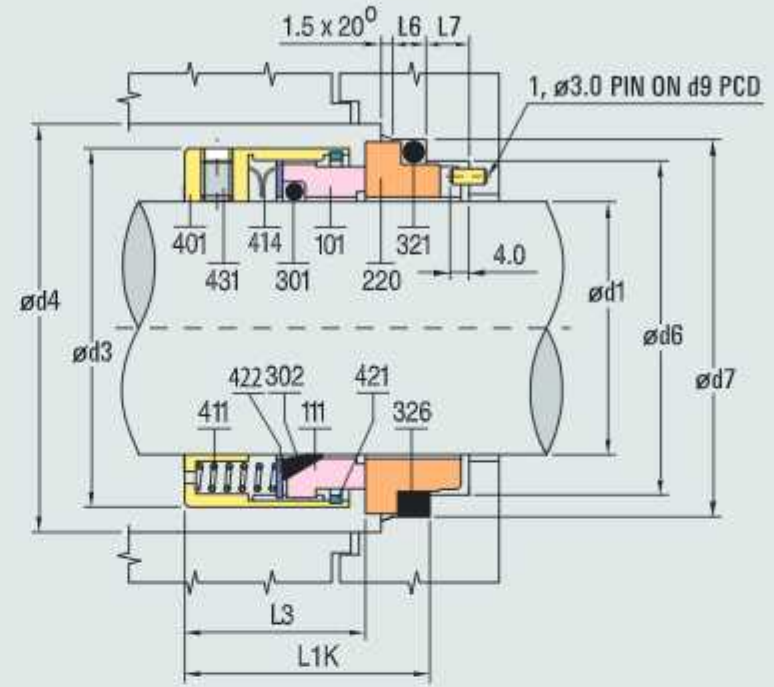
Shaft diameter d1 : 0.625" 4.0"
Pressure p : 10 bar (max)
Temperature t : - 60 ... +200°C
Velocity v : 20 m/sec

Shrink Fit Arrangement

Temperature Limits:
SS 304 110°C
SS 316 110°C
Hastelloy-C 175°C
Carpenter - 42 350°C



Series C90U, Series CPW 901



Series C95U, Series CPW 951

Part No.	Description
101	Seal Ring
105	Seal Ring
111	Seal Ring
115	Seal Ring
220	Mating Ring
301	O - Ring
302	Wedge
321	O - Ring
326	M. Ring Packing
401	Retainer
411	Spring
414	Wave Spring
421	Snap Ring
422	Thrust Ring
431	Grub Screw

SEAL SIZE		d3	d4	d6 ^{+0.1} _{-0.05}	d7 ^{+0.05}	d9	L3 ^{+0.5}	L6	L7	L1K
d1 ^{+0.05} _{-0.05}	mm									
0.625	15.87	31.0	34.0	22.72	28.22	19.0	19.1	4.6	5.6	26.1
0.750	19.05	34.0	37.0	25.90	31.40	22.2	19.1	4.6	5.6	26.1
0.875	22.22	37.3	40.5	29.07	34.57	25.4	22.2	4.6	5.6	29.2
1.000	25.40	40.8	44.0	32.25	37.75	28.6	22.2	4.6	5.6	29.2
1.125	28.58	43.3	46.5	32.25	37.75	28.6	22.2	4.6	5.6	29.2
1.250	31.75	48.3	51.5	35.35	40.85	31.6	25.4	4.6	5.6	32.4
1.375	34.92	51.4	54.5	38.52	44.02	34.6	27.0	4.6	5.6	34.0
1.500	38.10	54.8	58.0	41.70	47.20	38.0	27.0	4.6	5.6	34.0
1.625	41.28	60.3	64.0	44.84	50.37	41.2	28.6	4.6	5.6	35.6
1.750	44.45	64.1	67.0	48.05	53.55	44.4	28.6	4.6	5.6	35.6
1.875	47.62	67.3	70.5	54.40	59.90	50.6	34.9	5.0	5.8	43.3
2.000	50.80	70.3	73.5	60.75	66.25	57.0	34.9	5.0	5.8	43.3
2.125	53.98	76.8	80.0	63.92	69.42	61.0	34.9	5.0	5.8	43.3
2.250	57.15	79.3	82.5	63.92	69.42	61.0	34.9	5.0	5.8	43.3
2.375	60.32	83.0	86.0	73.45	78.95	70.2	42.9	5.5	6.6	52.1
2.500	63.50	86.3	89.5	76.62	82.12	72.8	42.9	5.5	6.6	52.1
2.625	66.68	89.6	92.5	76.62	82.12	72.8	42.9	5.5	6.6	52.1
2.750	69.85	92.9	96.0	79.80	85.30	76.0	42.9	5.5	6.6	52.1
2.875	73.02	96.0	99.0	79.80	85.30	76.0	42.9	5.5	7.4	52.9
3.000	76.20	97.3	100.5	82.97	88.47	79.2	42.9	5.5	7.4	52.9
3.125	79.38	101.3	104.5	86.22	91.72	81.5	42.9	5.5	7.4	52.9
3.250	82.55	105.3	108.5	89.04	97.60	85.4	42.9	7.5	5.5	54.7
3.375	85.72	108.3	111.5	95.39	103.95	91.8	42.9	7.5	5.5	54.7
3.500	88.90	112.0	115.0	95.39	103.95	91.8	42.9	7.5	5.5	54.7
3.625	92.08	114.0	117.0	98.57	107.13	95.0	42.9	7.5	5.5	54.7
3.750	95.25	118.2	121.5	102.10	110.66	98.5	42.9	7.5	5.5	54.7
3.875	98.42	121.0	124.0	104.92	113.48	100.5	42.9	7.5	6.0	55.8
4.000	101.6	124.8	128.0	108.09	116.65	104.6	42.9	7.5	6.0	55.8

Series C90U/C95U multi spring and CPW 901 / CPW 951 wave spring units developed for universal application. Their compact design permits their use in all types of centrifugal pumps. Torque transmission from retainer shell to sealing is done through drive lugs. All components are held together by a snap ring which helps in easier installation and removal. As all parts are interchangeable, one can convert series C90U & C95U by changing only the seal ring and the secondary seal. This concept is ideal for stock rationalisation.

Reverse Balanced Seal

Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series C88B2, CPW 821

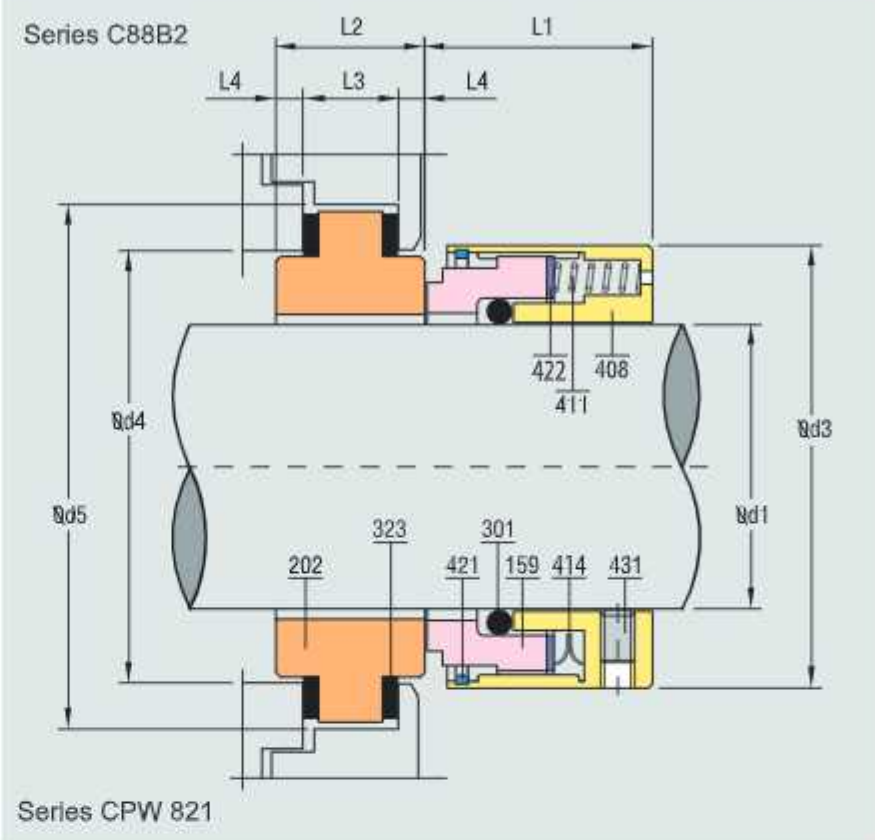


Series C88B2



Series CPW 821

- Standard Style**
- Face Materials**
Carbon, Ceramic, Silicon Carbide, Tungsten Carbide.
- Metal Parts**
SS 316, SS 304 Hastelloy-C, Monel, Alloy - 20
- Secondary Seal**
88B2 : Elastomers, FEP - Multi Springs Seal
LPW 821 : Elastomers, FEP - Wave Spring Seal
- Applications**
- Corrosive Chemicals
 - Hydrocarbons
 - General & Light Chemicals
- Seal Characteristics**
- Single acting
 - Reverse Balanced
 - Outside mounted
 - Independent of direction of rotation
- Operating Limits**
- Shaft Diameter d1 : 0.75" 4.0"
Pressure p : 25 bar (max)
Temperature t : -45 ... +180°C
Velocity v : 20 m/sec



Part No.	Description
159	Seal Ring
202	Mating Ring
301	O - Ring
323	Gasket
408	Retainer
411	Spring
414	Wave Spring
421	Snap Ring
422	Thrust Ring
431	Grub Screw

SEAL SIZE		d3	d4 ^{H8}	d5	L1 ^{SP5}	L2	L3	L4
inch	mm							
0.750	19.05	41.2	33.5	43.0	30.0	20.7	12.7	4.0
0.875	22.22	44.3	36.5	46.5	30.0	20.7	12.7	4.0
1.000	25.40	47.5	39.5	49.5	30.0	20.7	12.7	4.0
1.125	28.58	50.7	43.0	55.0	30.0	20.7	12.7	4.0
1.250	31.75	53.8	46.0	56.0	30.0	20.7	12.7	4.0
1.375	34.92	58.4	49.0	63.5	30.0	22.3	12.7	4.8
1.500	38.10	61.6	52.5	65.5	30.0	22.3	12.7	4.8
1.625	41.28	64.8	60.0	73.5	30.0	22.3	12.7	4.8
1.750	44.45	71.2	61.0	76.5	40.0	22.3	12.7	4.8
1.875	47.62	74.3	66.5	79.5	40.0	22.3	12.7	4.8
2.000	50.80	77.5	70.0	86.0	40.0	25.5	15.9	4.8
2.125	53.98	81.2	75.0	91.0	40.0	25.5	15.9	4.8
2.250	57.15	84.4	75.0	91.0	40.0	25.5	15.9	4.8
2.375	60.32	87.6	79.5	95.5	40.0	25.5	15.9	4.8
2.500	63.50	90.8	83.0	98.5	40.0	25.5	15.9	4.8
2.625	66.68	93.9	85.5	102.0	40.0	25.5	15.9	4.8
2.750	69.85	97.1	89.0	105.0	40.0	25.5	15.9	4.8
2.875	73.02	100.3	92.0	108.5	40.0	25.5	15.9	4.8
3.000	76.20	103.5	95.5	111.5	40.0	25.5	15.9	4.8
3.125	79.38	106.6	98.5	114.5	40.0	25.5	15.9	4.8
3.250	82.55	109.8	101.5	118.0	40.0	25.5	15.9	4.8
3.375	85.72	113.0	105.0	121.0	40.0	25.5	15.9	4.8
3.500	88.90	116.2	108.0	124.0	40.0	25.5	15.9	4.8
3.625	92.08	119.3	111.0	127.5	40.0	25.5	15.9	4.8
3.750	95.25	122.5	114.5	130.5	40.0	25.5	15.9	4.8
3.875	98.42	125.7	117.5	133.5	40.0	25.5	15.9	4.8
4.000	101.60	128.9	120.5	137.0	40.0	25.5	15.9	4.8

Series 8882 is multiple springs externally mounted reverse balanced seal with O-ring as secondary sealing member. Various seal face materials and elastomers can be offered for wide service application. This seal can also be used for corrosive services as the metallic components do not come in contact with liquid to be sealed. This seal can also install in double back to back arrangement as a internal seal. Even if barrier fluid pressure gose down this seal will not allow process fluid to mix with barrier fluid, Hence it is called reverse balanced seal.

Balanced Seal

Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series C82, C82/CG



Series C82, C82/CG



Seal with cartridge construction

Standard Style

Face Materials
Carbon / Silicon Carbide
Silicon Carbide / Silicon Carbide
Tungsten Carbide / Silicon Carbide

Metal Parts
SS 316, SS 304, Hastelloy-C

Secondary Seal
Elastomers, FEP

Applications

- Food Industry
- Chemical Industry
- Mining Industry
- Water Treatment
- Media Containing Slurry

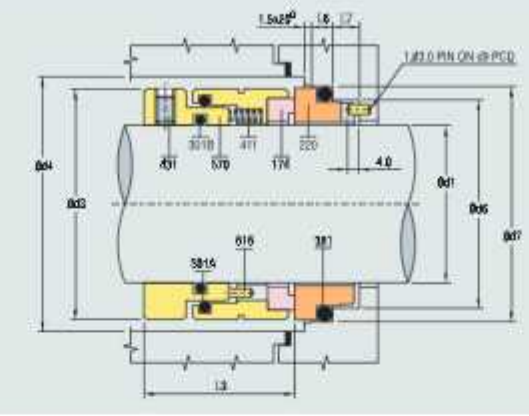
Seal Characteristics

- Single Acting
- Balanced
- Independent of direction of rotation
- Springs are Outside Media
- Stable Drive-pins / Lugs
- No Shaft Fretting

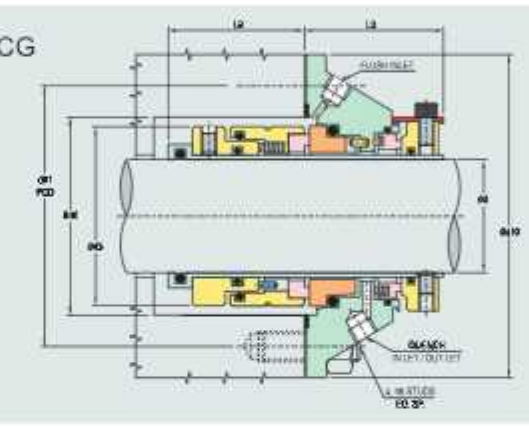
Operating Limits

Shaft Diameter d : 14 95 mm
Pressure p : 25 bar (max)
Temperature t : -20...180°C
Velocity v : 20 m/sec

Series C82



Series C82/CG



Part No.	Description
174	Seal Ring
220	Mating Ring
301A	O - Ring
301B	O - Ring
321	O - Ring
411	Spring
431	Grub Screw
515	Drive Pin
570	Drive Collar

SHAFT $d^{+0.01}$	SHAFT $d1^{+0.01}$	d3	d4	$d6^{+0.1/0.0}$	$d7^{+0.01}$	d8	d9	d91	d10	$L3^{+0.01}$	L6	L7	L8	L9
14.0	20.0	32.0	36.0	32.25	37.75	M10	28.6	67.0	90.0	27.5	4.6	5.6	32.0	55.0
16.0	22.0	34.0	38.0	32.25	37.75	M10	28.6	67.0	90.0	27.5	4.6	5.6	32.0	55.0
18.0	24.0	36.0	40.0	35.35	40.85	M10	31.6	67.0	90.0	30.0	4.6	5.6	32.0	55.0
20.0	25.0	38.0	40.0	35.35	40.85	M10	31.6	67.0	90.0	30.0	4.6	5.6	32.0	55.0
22.0	28.0	40.0	44.0	38.52	44.02	M10	34.6	67.0	90.0	32.5	4.6	5.6	32.0	55.0
25.0	30.0	44.0	46.0	41.70	47.20	M10	38.0	73.0	105.0	32.5	4.6	5.6	35.0	55.0
27.0	32.0	46.0	48.0	41.70	47.20	M10	38.0	73.0	105.0	32.5	4.6	5.6	35.0	55.0
28.0	33.0	47.0	49.0	44.84	50.37	M10	41.2	73.0	105.0	32.5	4.6	5.6	37.0	55.0
30.0	35.0	49.0	51.0	44.84	50.37	M10	41.2	73.0	105.0	32.5	4.6	5.6	37.0	55.0
33.0	38.0	54.0	58.0	48.05	53.55	M10	44.4	85.0	115.0	34.0	4.6	5.6	37.0	55.0
35.0	40.0	56.0	60.0	54.40	59.90	M10	50.6	85.0	115.0	34.0	5.0	5.8	38.0	55.0
38.0	43.0	59.0	63.0	57.57	63.07	M12	53.8	95.0	125.0	34.0	5.0	5.8	34.5	61.0
40.0	45.0	61.0	65.0	60.75	66.25	M12	57.0	95.0	125.0	34.0	5.0	5.8	34.5	61.0
43.0	48.0	64.0	68.0	63.92	69.42	M12	61.0	95.0	125.0	34.0	5.0	5.8	34.5	61.0
45.0	50.0	66.0	70.0	63.92	69.42	M12	61.0	95.0	125.0	34.5	5.0	5.8	34.5	61.0
48.0	53.0	69.0	73.0	70.27	75.77	M14	66.6	106.0	135.0	34.5	5.5	6.6	35.5	61.0
50.0	55.0	71.0	75.0	73.45	78.95	M14	70.2	106.0	135.0	34.5	5.5	6.6	41.0	61.0
53.0	58.0	78.0	83.0	76.62	82.12	M14	72.8	114.0	140.0	39.5	5.5	6.6	41.0	61.0
55.0	60.0	80.0	85.0	76.62	82.12	M14	72.8	114.0	140.0	39.5	5.5	6.6	41.0	61.0
58.0	63.0	83.0	88.0	79.80	85.30	M14	76.0	114.0	140.0	39.5	5.5	6.6	46.0	61.0
60.0	65.0	85.0	90.0	79.80	85.30	M14	76.80	114.0	140.0	39.5	5.5	7.4	47.5	61.0
63.0	68.0	88.0	93.0	82.97	88.47	M14	79.2	127.0	155.0	45.0	5.5	7.4	42.5	66.0
65.0	70.0	90.0	95.0	82.97	88.47	M14	79.2	127.0	155.0	45.0	5.5	7.4	42.5	66.0
70.0	75.0	99.0	104.0	89.04	97.6	M14	85.4	127.0	155.0	45.0	7.5	5.5	47.5	66.0
75.0	80.0	104.0	109.0	95.39	103.95	M14	91.8	137.0	160.0	45.0	7.5	5.5	47.5	66.0
80.0	85.0	109.0	114.0	98.57	107.13	M14	95.0	137.0	160.0	49.5	7.5	5.5	47.5	66.0
85.0	90.0	114.0	119.0	104.92	113.48	M14	101.4	146.0	176.0	49.5	7.5	6.0	54.0	66.0
90.0	95.0	119.0	124.0	108.09	116.65	M14	104.6	146.0	176.0	49.5	7.5	6.0	54.0	66.0
95.0	100.0	124.0	129.0	114.44	123.00	M14	110.8	153.0	190.0	49.5	7.5	6.0	54.0	66.0

Series C82 : This is a multiple springs units specially developed for slurry application. The springs are protected from media by means of dynamic O-ring. Although being a balance seal no need to maintain step sleeve. The sleeve of unbalanced seal can be used for this series without modification. Torque transmission to the seal ring is given by strong multiple drive pins/lugs.

Series C82/CG : This is cartridge construction factory assembled slide on unit. it requires tightening of stuffing box studs, nuts and detaching of locatration plate before starting the equipment, No dimensional measurement are to be done at site. it can be installed by even a no skill person.

Balanced Seal

Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series C90B & C95B, Series CPW 902 & CPW 952



Series C90B, Series C95B



Series CPW902, Series CPW 952

Standard Style

Face Materials

Carbon, Ceramic,
Silicon Carbide, Tungsten Carbide, Lecrolloy

Metal Parts

SS 316, SS 304, Hastelloy-C,
Monel, Alloy - 20

Secondary Seal

90B : Elastomers } Multi Springs Seals
95B : PTFE, GFT }
LPW 902 : Elastomers } Wave Spring Seals
LPW 952 : PTFE, GFT }

Applications

- Petrochemicals
- Petroleum refinery
- General chemicals
- Light hydrocarbons

Seal Characteristics

- Single acting
- Balanced
- Inside mounted
- Independent of direction of rotation

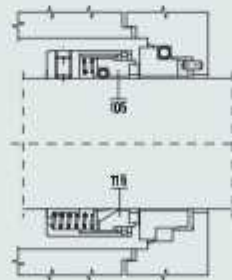
Operating Limits

Shaft diameter d1 : 0.625" 4.0"
Pressure p : 35 bar (max)
Temperature t : - 60 ... +200°C
Velocity v : 20 m/sec

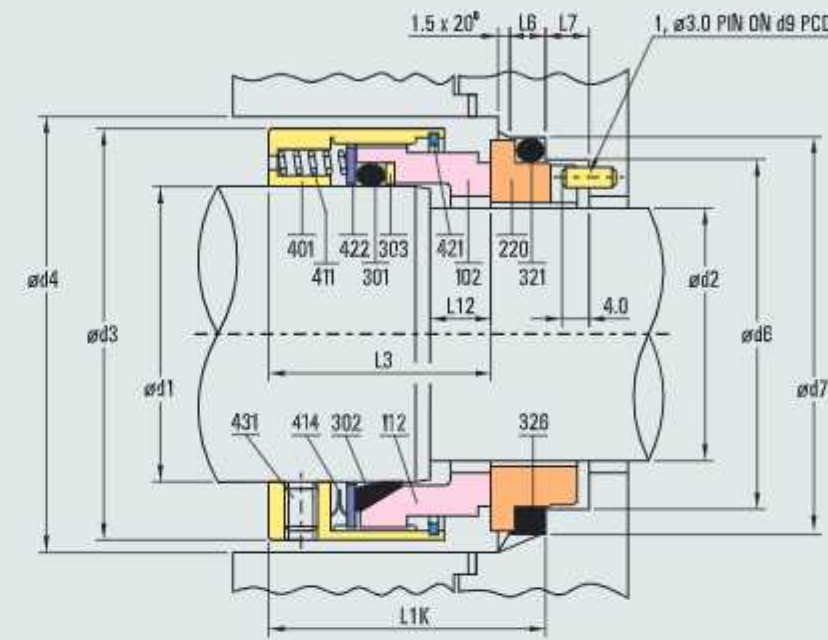
Shrink Fit Arrangement

Temperature Limits:

SS 304 110°C
SS 316 110°C
Hastelloy-C 175°C
Carpenter - 42 350°C



Series C90B, Series CPW 902



Series C95B, Series CPW 952

Part No.	Description
102	Seal Ring
106	Seal Ring
112	Seal Ring
116	Seal Ring
220	Mating Ring
301	O - Ring
302	Wedge
303	Back-up Ring
321	O - Ring
326	M. Ring Packing
401	Retainer
411	Spring
414	Wave Spring
421	Snap Ring
422	Thrust Ring
431	Grub Screw

SEAL SIZE		d2	d3	d4	d6	d7	d9	L3	L6	L7	L12	L1K
d1	d1											
Inch	mm											
0.625	15.87	12.70	31.0	34.0	22.72	28.22	19.0	28.6	4.6	5.6	6.0	35.6
0.750	19.05	15.88	34.0	37.0	25.90	31.40	22.2	30.2	4.6	5.6	6.0	37.2
0.875	22.22	19.05	37.3	40.5	29.07	34.57	25.4	30.2	4.6	5.6	7.9	37.2
1.000	25.40	22.22	40.8	44.0	32.25	37.75	28.6	33.3	4.6	5.6	8.7	40.3
1.125	28.58	25.40	43.3	46.5	35.35	40.85	31.6	35.0	4.6	5.6	8.7	42.0
1.250	31.75	28.58	48.3	51.5	38.52	44.02	34.6	35.0	4.6	5.6	8.7	42.0
1.375	34.92	28.58	51.4	54.5	38.52	44.02	34.6	36.5	4.6	5.6	8.7	43.5
1.500	38.10	31.75	54.8	58.0	41.70	47.20	38.0	36.5	4.6	5.6	8.7	43.5
1.625	41.28	34.92	60.3	64.0	44.84	50.37	41.2	44.5	4.6	5.6	11.0	51.5
1.750	44.45	38.10	64.1	67.0	48.05	53.55	44.4	44.5	4.6	5.6	11.0	51.5
1.875	47.62	41.28	67.3	70.5	54.40	59.90	50.6	44.5	5.0	5.8	11.0	52.9
2.000	50.80	44.45	70.3	73.5	60.75	66.25	57.0	44.5	5.0	5.8	11.0	52.9
2.125	53.98	47.62	76.8	80.0	63.92	69.42	61.0	52.5	5.0	5.8	12.7	60.9
2.250	57.15	50.80	79.3	82.5	63.92	69.42	61.0	52.5	5.0	5.8	12.7	60.9
2.375	60.32	53.98	83.0	86.0	73.45	78.95	70.2	52.5	5.5	6.6	12.7	61.7
2.500	63.50	57.15	86.3	89.5	76.62	82.12	72.8	52.5	5.5	6.6	12.7	61.7
2.625	66.68	60.32	89.6	92.5	76.62	82.12	72.8	52.5	5.5	6.6	12.7	61.7
2.750	69.85	63.50	92.9	96.0	79.80	85.30	76.0	52.5	5.5	6.6	12.7	61.7
2.875	73.02	66.68	96.0	99.0	79.80	85.30	76.0	52.5	5.5	7.4	12.7	62.5
3.000	76.20	69.85	97.3	100.5	82.97	88.47	79.2	52.5	5.5	7.4	12.7	62.5
3.125	79.38	73.02	101.3	104.5	86.22	91.72	81.5	52.5	5.5	7.4	14.3	62.5
3.250	82.55	76.20	105.3	108.5	89.04	97.60	85.4	52.5	7.5	5.5	14.3	64.3
3.375	85.72	79.38	108.3	111.5	95.39	103.95	91.8	52.5	7.5	5.5	14.3	64.3
3.500	88.90	82.55	112.0	115.0	95.39	103.95	91.8	52.5	7.5	5.5	14.3	64.3
3.625	92.08	85.72	114.0	117.0	98.57	107.13	95.0	52.5	7.5	5.5	14.3	64.3
3.750	95.25	88.90	118.2	121.5	102.10	110.66	98.5	52.5	7.5	5.5	14.3	64.3
3.875	98.42	92.08	121.0	124.0	104.92	113.48	100.5	52.5	7.5	6.0	14.3	65.4
4.000	101.60	95.25	124.8	128.0	108.09	116.65	104.6	52.5	7.5	6.0	14.3	65.4

Series C90B/C95B multi spring and CPW 902 / CPW 952 wave spring units developed for universal application. Their compact design permits their use in all types of centrifugal pumps. Torque transmission from retainer shell to sealing is done through drive lugs. All components are held together by a snap ring which helps in easier installation and removal. As all parts are interchangeable, one can convert series C90U & C95U by changing only the seal ring and the secondary seal. This concept is ideal for stock rationalisation.

Unbalanced Seal

Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series C80U & C85U, Series CPW 801 & CPW 851



Series C80U, Series C85U



Series CPW 801, Series CPW 851

Standard Style

Face Materials
Carbon, Ceramic,
Silicon Carbide, Tungsten Carbide, Lecrolloy

Metal Parts
SS 316, SS 304, Hastelloy-C,
Monel, Alloy - 20

Secondary Seal
80U : Elastomers } Multi Springs Seals
85U : PTFE, GFT }
LPW 801 : Elastomers } Wave Spring Seals
LPW 851 : PTFE, GFT }

Applications

- Petrochemicals
- Petroleum refinery
- General chemicals
- Light hydrocarbons

Seal Characteristics

- Single acting
- Unbalanced
- Inside mounted
- Independent of direction of rotation

Operating Limits

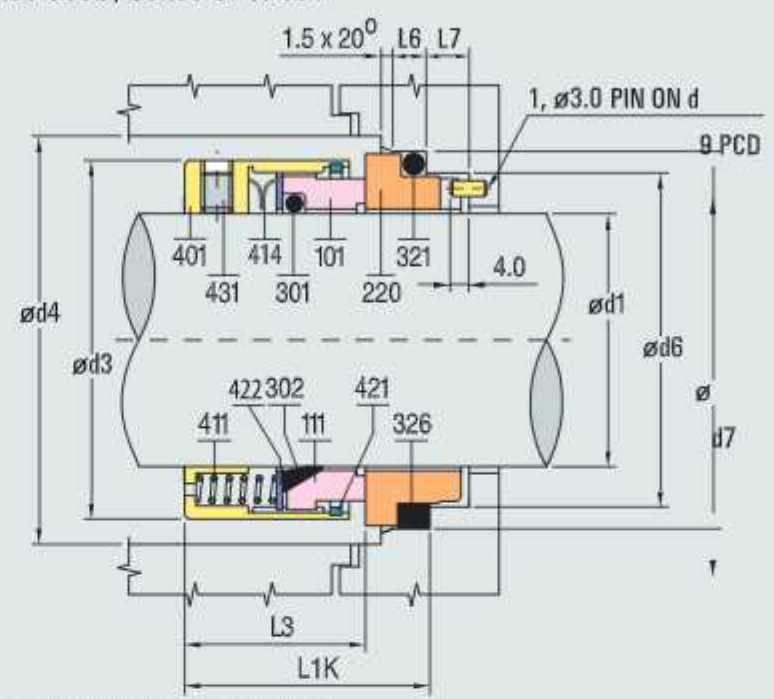
Shaft diameter d1 : 0.5" 4.0"
Pressure p : 10 bar (max)
Temperature t : - 60 ... +200°C
Velocity v : 20 m/sec

Shrink Fit Arrangement

Temperature Limits:
SS 304 110°C
SS 316 110°C
Hastelloy-C 175°C
Carpenter - 42 350°C



Series C85U, Series CPW 801



Series C85U, Series CPW 851

Part No.	Description
101	Seal Ring
105	Seal Ring
111	Seal Ring
115	Seal Ring
220	Mating Ring
301	O - Ring
302	Wedge
321	O - Ring
326	M. Ring Packing
401	Retainer
411	Spring
414	Wave Spring
421	Snap Ring
422	Thrust Ring
431	Grub Screw

SEAL SIZE		d3	d4	d6 ^{+0.1} _{-0.0}	d7 ^{+0.003}	d9	L3 ^{+0.03}	L6	L7	L1K
d1 ^{+0.00} _{-0.05}										
0.500	12.70	23.8	25.8	22.72	28.22	19.0	19.1	4.6	5.6	26.1
0.625	15.87	27.0	29.0	25.90	31.40	22.2	19.1	4.6	5.6	26.1
0.750	19.05	30.5	32.5	29.07	34.57	25.4	22.2	4.6	5.6	29.2
0.875	22.22	33.6	35.6	32.25	37.75	28.6	22.2	4.6	5.6	29.2
1.000	25.40	36.8	38.8	35.35	40.85	31.6	25.4	4.6	5.6	32.4
1.125	28.58	40.0	43.0	38.52	44.02	34.6	27.0	4.6	5.6	34.0
1.250	31.75	43.2	46.2	41.70	47.20	38.0	27.0	4.6	5.6	34.0
1.375	34.92	49.5	52.5	44.84	50.37	41.2	28.6	4.6	5.6	35.6
1.500	38.10	52.7	55.7	48.05	53.55	44.4	28.6	4.6	5.6	35.6
1.625	41.28	57.4	60.4	54.40	59.90	50.6	34.9	5.0	5.8	43.3
1.750	44.45	59.2	62.2	60.75	66.25	57.0	34.9	5.0	5.8	43.3
1.875	47.62	62.5	65.5	63.92	69.42	61.0	34.9	5.0	5.8	43.3
2.000	50.80	66.5	69.5	63.92	69.42	61.0	34.9	5.0	5.8	43.3
2.125	53.98	71.5	74.5	73.45	78.95	70.2	42.9	5.5	6.6	52.1
2.250	57.15	73.5	76.5	76.62	82.12	72.8	42.9	5.5	6.6	52.1
2.375	60.32	76.6	79.6	76.62	82.12	72.8	42.9	5.5	6.6	52.1
2.500	63.50	79.7	82.7	79.80	85.30	76.0	42.9	5.5	6.6	52.1
2.625	66.68	83.0	86.0	79.80	85.30	76.0	42.9	5.5	7.4	52.9
2.750	69.85	86.1	89.1	82.97	88.47	79.2	42.9	5.5	7.4	52.9
2.875	73.02	89.3	92.3	86.22	91.72	81.5	42.9	5.5	7.4	52.9
3.000	76.20	92.5	95.5	89.04	97.60	85.4	42.9	7.5	5.5	54.7
3.125	79.38	95.6	98.6	95.39	103.95	91.8	42.9	7.5	5.5	54.7
3.250	82.55	98.8	101.8	95.39	103.95	91.8	42.9	7.5	5.5	54.7
3.375	85.72	101.9	104.9	98.57	107.13	95.0	42.9	7.5	5.5	54.7
3.500	88.90	105.1	108.1	102.10	110.66	98.5	42.9	7.5	5.5	54.7
3.625	92.08	108.3	111.3	104.92	113.48	100.5	42.9	7.5	6.0	55.8
3.750	95.25	111.5	114.5	108.09	116.65	104.6	42.9	7.5	6.0	55.8
3.875	98.42	114.6	117.6	111.62	120.18	107.0	42.9	7.5	6.0	55.8
4.000	101.60	118.5	121.5	114.44	123.00	110.8	42.9	7.5	6.0	55.8

Series C80U & C85U are multiple spring and CPW801/CPW851 wave spring units developed for universal application. Their compact design permits their use in all types of centrifugal pumps. Torque transmission from retainer shell to seal ring is done through drive lugs. All components are held together by a snap ring which helps in easier installation and removal. As all parts are interchangeable, one can convert series C80U to C85U by changing only the seal ring and the secondary seal. This concept is ideal for stock rationalisation.

Balanced Seal

Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series C80B & C85B, Series CPW 802 & CPW 852



Series C80B, Series C85B



Series CPW 802, Series CPW 852

Standard Style

Face Materials
Carbon, Ceramic,
Silicon Carbide, Tungsten Carbide, Lecrolloy

Metal Parts
SS 316, SS 304, Hastelloy-C,
Monel, Alloy - 20

Secondary Seal
80B : Elastomers } Multi Springs Seals
85B : PTFE, GFT }
LPW 802 : Elastomers } Wave Spring Seals
LPW 852 : PTFE, GFT }

Applications

- Petrochemicals
- Petroleum refinery
- General chemicals
- Light hydrocarbons

Seal Characteristics

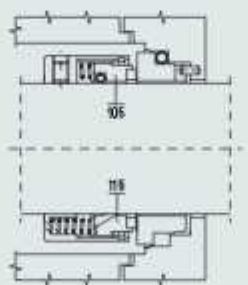
- Single acting
- Balanced
- Inside mounted
- Independent of direction of rotation

Operating Limits

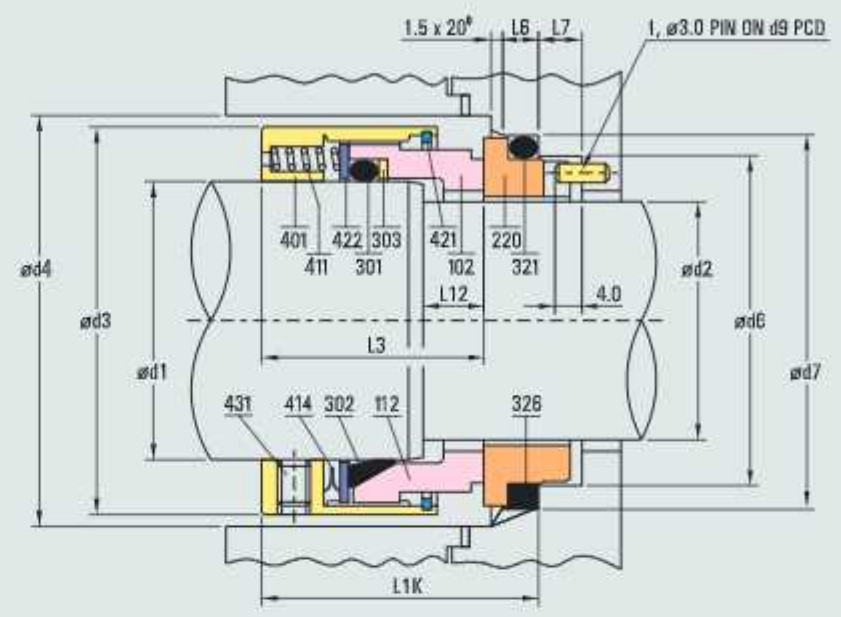
Shaft diameter d1 : 0.625" 4.0"
Pressure p : 35 bar (max)
Temperature t : -60 ... +200°C
Velocity v : 20 m/sec

Shrink Fit Arrangement

Temperature Limits:
SS 304 110°C
SS 316 110°C
Hastelloy-C 175°C
Carpenter - 42 350°C



Series C80B, Series CPW 802



Series C85B, Series CPW 852

Part No.	Description
102	Seal Ring
106	Seal Ring
112	Seal Ring
116	Seal Ring
220	Mating Ring
301	O - Ring
302	Wedge
303	Back-up Ring
321	O - Ring
326	M. Ring Packing
401	Retainer
411	Spring
414	Wave Spring
421	Snap Ring
422	Thrust Ring
431	Grub Screw

SEAL SIZE		d2	d3	d4	d6	d7	d9	L3	L6	L7	L12	L1K
d1	d2											
inch	mm											
0.625	15.87	12.70	27.0	29.0	22.72	28.22	19.0	28.6	4.6	5.6	6.0	35.6
0.750	19.05	15.88	30.5	32.5	25.90	31.40	22.2	30.2	4.6	5.6	6.0	37.2
0.875	22.22	19.05	33.5	35.5	29.07	34.57	25.4	30.2	4.6	5.6	7.9	37.2
1.000	25.40	22.22	36.7	38.7	32.25	37.75	28.6	33.3	4.6	5.6	8.7	40.3
1.125	28.58	25.40	40.0	43.0	35.35	40.85	31.6	35.0	4.6	5.6	8.7	42.0
1.250	31.75	28.58	43.2	46.2	38.52	44.02	34.6	35.0	4.6	5.6	8.7	42.0
1.375	34.92	28.58	49.5	52.5	38.52	44.02	34.6	36.5	4.6	5.6	8.7	43.5
1.500	38.10	31.75	52.7	55.7	41.70	47.20	38.0	36.5	4.6	5.6	8.7	43.5
1.625	41.28	34.92	57.4	60.2	44.84	50.37	41.2	44.5	4.6	5.6	11.0	51.5
1.750	44.45	38.10	59.2	62.2	48.05	53.55	44.4	44.5	4.6	5.6	11.0	51.5
1.875	47.62	41.28	62.5	65.5	54.40	59.90	50.6	44.5	5.0	5.8	11.0	52.9
2.000	50.80	44.45	66.5	69.5	60.75	66.25	57.0	44.5	5.0	5.8	11.0	52.9
2.125	53.98	47.62	71.5	74.5	63.92	69.42	61.0	52.5	5.0	5.8	12.7	60.9
2.250	57.15	50.80	73.5	76.5	63.92	69.42	61.0	52.5	5.0	5.8	12.7	60.9
2.375	60.32	53.98	76.6	79.6	73.45	78.95	70.2	52.5	5.5	6.6	12.7	61.7
2.500	63.50	57.15	79.7	82.7	76.62	82.12	72.8	52.5	5.5	6.6	12.7	61.7
2.625	66.68	60.32	83.0	86.0	76.62	82.12	72.8	52.5	5.5	6.6	12.7	61.7
2.750	69.85	63.50	86.1	89.1	79.80	85.30	76.0	52.5	5.5	6.6	12.7	61.7
2.875	73.02	66.68	89.3	92.3	79.80	85.30	76.0	52.5	5.5	7.4	12.7	62.5
3.000	76.20	69.85	92.5	95.5	82.97	88.47	79.2	52.5	5.5	7.4	12.7	62.5
3.125	79.38	73.02	95.6	98.6	86.22	91.72	81.5	52.5	5.5	7.4	14.3	62.5
3.250	82.55	76.20	98.8	101.8	89.04	97.60	85.4	52.5	7.5	5.5	14.3	64.3
3.375	85.72	79.38	101.9	104.9	95.39	103.95	91.8	52.5	7.5	5.5	14.3	64.3
3.500	88.90	82.55	105.1	108.1	95.39	103.95	91.8	52.5	7.5	5.5	14.3	64.3
3.625	92.08	85.72	108.3	111.3	98.57	107.13	95.0	52.5	7.5	5.5	14.3	64.3
3.750	95.25	88.90	111.5	114.5	102.10	110.66	98.5	52.5	7.5	5.5	14.3	64.3
3.875	98.42	92.08	114.6	117.6	104.92	113.48	100.5	52.5	7.5	6.0	14.3	65.4
4.000	101.60	95.25	118.5	121.5	108.09	116.65	104.6	52.5	7.5	6.0	14.3	65.4

Series C80B & C85B are multiple spring and CPW802/CPW852 wave spring units developed for universal application. Their compact design permits their use in all types of centrifugal pumps. Torque transmission from retainer shell to seal ring is done through drive lugs. All components are held together by a snap ring which helps in easier installation and removal. As all parts are interchangeable, one can convert series C80B to C85B by changing only the seal ring and the secondary seal. This concept is ideal for stock rationalisation.

Unbalanced Seal

Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series CPS 150 & CPS 155



Series CPS 150 & CPS 155

Standard Style

Face Materials

Carbon, Ceramic,
Silicon Carbide, Tungsten Carbide, Lecrolloy

Metal Parts

SS 316, SS 304

Secondary Seal

LPS 150 : PTFE, GFT
LPS 155 : Elastomers

Applications

- Crystallizing Slurry
- Suspended Solids Slurry
- Saturated Chemical Slurry
- General Chemicals Slurry

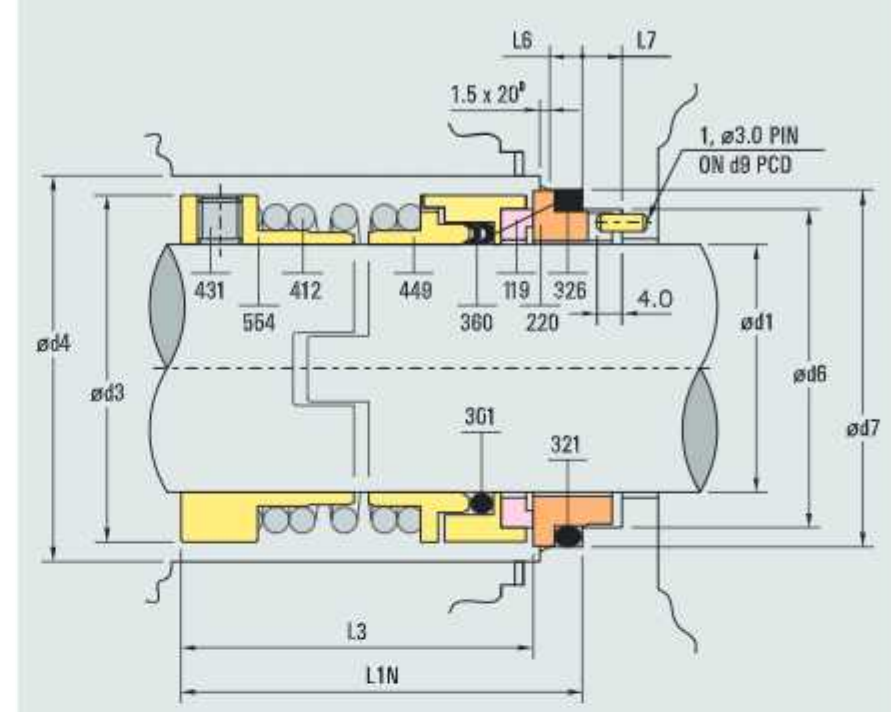
Seal Characteristics

- Single acting
- Unbalanced
- Inside Mounted
- Independent of direction of rotation
- Universal chemical compatibility due to PTFE elastomer

Operating Limits

Shaft Diameter d1 : 0.875" 3.5"
Pressure p : 14 bar (max)
Temperature t : -23 ... +200°C
Velocity v : 20 m/sec

Series CPS 150



Series CPS 155

Part No.	Description
119	Seal Ring
220	Mating Ring
301	O - Ring
321	O - Ring
326	M. Ring Packing
360	V - Packing
412	Spring
431	Grub Screw
449	Spring Holder
554	Drive Coller

SEAL SIZE		d3	d4	d6 ^{+0.1/0.0}	d7 ^{+0.05}	d9	L3 ^{+0.5}	L6	L7	L1N
d1 ^{-0.05}										
inch	mm									
0.875	22.22	37.0	40.0	32.25	37.75	28.6	48.0	4.6	5.6	55.0
1.000	25.40	40.0	43.0	35.35	40.85	31.6	48.0	4.6	5.6	55.0
1.125	28.58	43.0	46.0	38.52	44.02	34.6	49.0	4.6	5.6	56.0
1.250	31.75	47.5	50.5	41.70	47.2	38.0	52.0	4.6	5.6	59.0
1.375	34.92	49.0	52.0	44.84	50.37	41.2	55.0	4.6	5.6	62.0
1.500	38.10	53.0	56.0	48.05	53.55	44.4	55.0	4.6	5.6	62.0
1.625	41.28	55.0	59.0	54.40	59.90	50.6	55.0	5.0	5.8	63.4
1.750	44.45	59.0	63.0	60.75	66.25	57.0	55.0	5.0	5.8	63.4
1.875	47.62	63.5	67.5	63.92	69.42	61.0	64.0	5.0	5.8	72.4
2.000	50.80	66.2	70.0	63.92	69.42	61.0	67.0	5.0	5.8	75.4
2.125	53.98	72.0	76.0	73.45	78.95	70.2	72.0	5.5	6.6	81.2
2.250	57.15	76.0	79.5	76.62	82.12	72.8	72.0	5.5	6.6	81.2
2.375	60.32	80.0	84.0	76.62	82.12	72.8	75.7	5.5	6.6	84.9
2.500	63.50	83.5	87.5	79.80	85.30	76.0	75.7	5.5	6.6	84.9
2.625	66.68	88.0	92.0	79.80	85.30	76.0	75.7	5.5	7.4	85.7
2.750	69.85	91.5	95.5	82.97	88.47	79.2	75.7	5.5	7.4	85.7
2.875	73.02	96.0	100.0	86.22	91.72	81.5	79.0	5.5	7.4	89.0
3.000	76.20	100.0	104.0	89.04	97.60	85.4	79.0	7.5	5.5	90.8
3.125	79.38	103.0	107.0	95.39	103.95	91.8	79.0	7.5	5.5	90.8
3.250	82.55	106.5	110.5	95.39	103.95	91.8	79.0	7.5	5.5	90.8
3.375	85.72	110.0	114.0	98.57	107.13	95.0	79.0	7.5	5.5	90.8
3.500	88.90	113.0	117.0	102.10	110.66	98.5	79.0	7.5	5.5	90.8

Series CPS 150 & cps 155 are helical spring, bi-directional seals developed for dirty media and clogging type applications. Torque transmission from drive collar to spring holder and seal rings is done through sturdy drive lugs. The PTFE double V-packings are spring energised to give perfect dynamic sealing. As all parts are interchangeable, one can convert series CPS155 to CPS 150 by changing only the secondary seal. This concept is ideal for stock rationalisation.

Unbalanced seal

Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series C70U & C75U



Series C70U & C75U



Seal with cartridge construction

Standard Style

Face Materials

Carbon, Ceramic, Silicon Carbide, Tungsten Carbide, Lecrolloy

Metal Parts

SS 316, SS 304

Secondary Seal

70U : Elastomers
75U : PTFE, GFT

Applications

- Petrochemicals
- Petroleum Refinery
- General Chemicals
- Light Hydrocarbons

Seal Characteristics

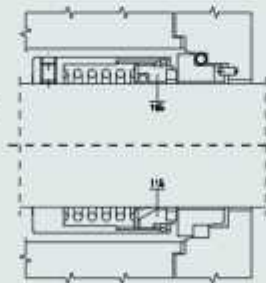
- Single acting
- Unbalanced
- Inside mounted
- Independent of direction of rotation

Operating Limits

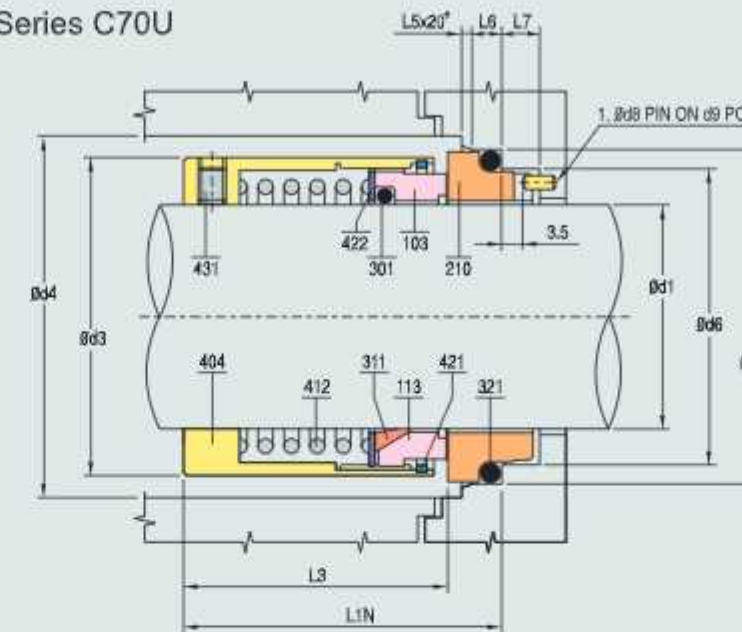
Shaft Diameter d_1 : 0.5" 4.0"
Pressure p : 10 bar (max)
Temperature t : -60 ... +200°C
Velocity v : 20 m/sec

Shrink Fit Arrangement

Temperature Limits:
SS 304 110°C
SS 316 110°C
Hastelloy-C 175°C
Carpenter - 42 350°C



Series C70U



Series C75U

Part No.	Description
101	Seal Ring
105	Seal Ring
111	Seal Ring
115	Seal Ring
220	Mating Ring
301	O - Ring
302	Wedge
321	O - Ring
326	M. Ring Packing
402	Retainer
412	Spring
421	Snap Ring
422	Thrust Ring
431	Grub Screw

SEAL SIZE		d3	d4	d6 ^{+0.1} _{-0.05}	d7 ^{+0.05}	d9	L3 ^{+0.1}	L6	L7	L1N
d1	d1									
0.500	12.70	23.8	25.8	22.72	28.22	19.0	32.0	4.6	5.6	39.0
0.625	15.87	27.0	29.0	25.90	31.40	22.2	32.0	4.6	5.6	39.0
0.750	19.05	30.5	32.5	29.07	34.57	25.4	35.4	4.6	5.6	42.4
0.875	22.22	33.6	35.6	32.25	37.75	28.6	35.4	4.6	5.6	42.4
1.000	25.40	36.8	38.8	35.35	40.85	31.6	41.0	4.6	5.6	48.0
1.125	28.58	40.0	43.0	38.52	44.02	34.6	42.8	4.6	5.6	49.8
1.250	31.75	43.2	46.2	41.70	47.20	38.0	42.8	4.6	5.6	49.8
1.375	34.92	49.5	52.5	44.84	50.37	41.2	50.8	4.6	5.6	57.8
1.500	38.10	52.7	55.7	48.05	53.55	44.4	50.8	4.6	5.6	57.8
1.625	41.28	57.4	60.4	54.40	59.90	50.6	55.6	5.0	5.8	64.0
1.750	44.45	59.2	62.2	60.75	66.25	57.0	55.6	5.0	5.8	64.0
1.875	47.62	62.5	65.5	63.92	69.42	61.0	55.6	5.0	5.8	64.0
2.000	50.80	66.5	69.5	63.92	69.42	61.0	55.6	5.0	5.8	64.0
2.125	53.98	71.5	74.5	73.45	78.95	70.2	66.7	5.5	6.6	75.9
2.250	57.15	73.5	76.5	76.62	82.12	72.8	66.7	5.5	6.6	75.9
2.375	60.32	76.6	79.6	76.62	82.12	72.8	66.7	5.5	6.6	75.9
2.500	63.50	79.7	82.7	79.80	85.30	76.0	66.7	5.5	6.6	75.9
2.625	66.68	83.0	86.0	79.80	85.30	76.0	66.7	5.5	7.4	76.7
2.750	69.85	86.1	89.1	82.97	88.47	79.2	66.7	5.5	7.4	76.7
2.875	73.02	89.3	92.3	86.22	91.72	81.5	66.7	5.5	7.4	76.7
3.000	76.20	92.5	95.5	89.04	97.60	85.4	66.7	7.5	5.5	78.5
3.125	79.38	95.6	98.6	95.39	103.95	91.8	66.7	7.5	5.5	78.5
3.250	82.55	98.8	101.8	95.39	103.95	91.8	66.7	7.5	5.5	78.5
3.375	85.72	101.9	104.9	98.57	107.13	95.0	66.7	7.5	5.5	78.5
3.500	88.90	105.1	108.1	102.10	110.66	98.5	66.7	7.5	5.5	78.5
3.625	92.08	108.3	111.3	104.92	113.48	100.5	66.7	7.5	6.0	79.6
3.750	95.25	111.5	114.5	108.09	116.65	104.6	66.7	7.5	6.0	79.6
3.875	98.42	114.6	117.6	111.62	120.18	107.0	66.7	7.5	6.0	79.6
4.000	101.60	118.5	121.5	114.44	123.00	110.8	66.7	7.5	6.0	79.6

Series C70U & C75U are single helical coil spring seals developed for dirty media and clogging type applications. Torque transmission from retainer shell to seal ring is done through drive lugs. All components are held together by a snap ring which helps in easier installation and removal. As all parts are interchangeable, one can convert series C70U & C75U by changing only the seal ring and the secondary seal. This concept is ideal for stock rationalisation.

Balanced Seal

Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series C70B & C75B



Series C70B & C75B



Seal with cartridge construction

Standard Style

Face Materials:
Carbon, Ceramic,
Silicon Carbide, Tungsten Carbide, Lecrolloy.

Metal Parts

SS 316, SS 304

Secondary Seal

70B: Elastomers
75B: PTFE, GFT

Applications

- Petrochemicals
- Petroleum refinery
- General chemicals
- Light hydrocarbons

Seal Characteristics

- Single acting
- Balanced
- Inside mounted
- Independent of direction of rotation

Operating Limits

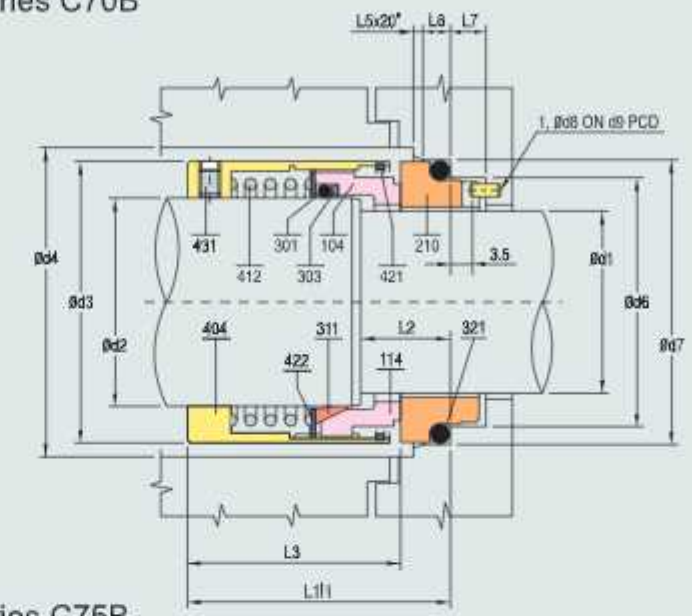
Shaft Diameter d1 : 0.625" 4.0"
Pressure p : 35 bar (max)
Temperature t : -60.....+200°C
Velocity v : 20 m/sec

Shrink Fit Arrangement

Temperature Limits:
SS 304 110°C
SS 316 110°C
Hastelloy-C 175°C
Carpenter - 42 350°C



Series C70B



Series C75B

Part No.	Description
102	Seal Ring
106	Seal Ring
112	Seal Ring
116	Seal Ring
220	Mating Ring
301	O - Ring
302	Wedge
303	Back-up Ring
321	O - Ring
326	M. Ring Packing
402	Retainer
412	Spring
421	Snap Ring
422	Thrust Ring
431	Grub Screw

SEAL SIZE		d2	d3	d4	d6	d7	d9	L3	L6	L7	L12	L1N
d1	d1											
inch	mm											
0.625	15.87	12.70	27.0	29.0	22.72	28.22	19.0	40.0	4.6	5.6	6.0	47.0
0.750	19.05	15.88	30.5	32.5	25.90	31.40	22.2	43.4	4.6	5.6	6.0	50.4
0.875	22.22	19.05	33.5	35.5	29.07	34.57	25.4	43.4	4.6	5.6	7.9	50.4
1.000	25.40	22.22	36.7	38.7	32.25	37.75	28.6	49.5	4.6	5.6	8.7	56.5
1.125	28.58	25.40	40.0	43.0	35.35	40.85	31.6	51.3	4.6	5.6	8.7	58.3
1.250	31.75	28.58	43.2	46.2	38.52	44.02	34.6	51.3	4.6	5.6	8.7	58.3
1.375	34.92	28.58	49.5	52.5	38.52	44.02	34.6	59.4	4.6	5.6	8.7	66.4
1.500	38.10	31.75	52.7	55.7	41.70	47.20	38.0	59.4	4.6	5.6	8.7	66.4
1.625	41.28	34.92	57.4	60.4	44.84	50.37	41.2	66.5	4.6	5.6	11.0	73.5
1.750	44.45	38.10	59.2	62.2	48.05	53.55	44.4	66.5	4.6	5.6	11.0	73.5
1.875	47.62	41.28	62.5	65.5	54.40	59.90	50.6	66.5	5.0	5.8	11.0	74.9
2.000	50.80	44.45	66.5	69.5	60.75	66.25	57.0	66.5	5.0	5.8	11.0	74.9
2.125	53.98	47.62	71.5	74.5	63.92	69.42	61.0	76.3	5.0	5.8	12.7	84.7
2.250	57.15	50.80	73.5	76.5	63.92	69.42	61.0	76.3	5.0	5.8	12.7	84.7
2.375	60.32	53.98	76.6	79.6	73.45	78.95	70.2	76.3	5.5	6.6	12.7	85.5
2.500	63.50	57.15	79.7	82.7	76.62	82.12	72.8	76.3	5.5	6.6	12.7	85.5
2.625	66.68	60.32	83.0	86.0	76.62	82.12	72.8	76.3	5.5	6.6	12.7	85.5
2.750	69.85	63.50	86.1	89.1	79.80	85.30	76.0	76.3	5.5	6.6	12.7	85.5
2.875	73.02	66.68	89.3	92.3	79.80	85.30	76.0	76.3	5.5	7.4	12.7	86.3
3.000	76.20	69.85	92.5	95.5	82.97	88.47	79.2	76.3	5.5	7.4	12.7	86.3
3.125	79.38	73.02	95.6	98.6	86.22	91.72	81.5	76.3	5.5	7.4	14.3	86.3
3.250	82.55	76.20	98.8	101.8	89.04	97.60	85.4	76.3	7.5	5.5	14.3	88.1
3.375	85.72	79.38	101.9	104.9	95.39	103.95	91.8	76.3	7.5	5.5	14.3	88.1
3.500	88.90	82.55	105.1	108.1	95.39	103.95	91.8	76.3	7.5	5.5	14.3	88.1
3.625	92.08	85.72	108.3	111.3	98.57	107.13	95.0	76.3	7.5	5.5	14.3	88.1
3.750	95.25	88.90	111.5	114.5	102.10	110.66	98.5	76.3	7.5	5.5	14.3	88.1
3.875	98.42	92.08	114.6	117.6	104.92	113.48	100.5	76.3	7.5	6.0	14.3	89.2
4.000	101.60	95.25	118.5	121.5	108.09	116.65	104.6	76.3	7.5	6.0	14.3	89.2

Series C70B & C75B are single helical coil spring seals developed for dirty media and clogging type applications. Torque transmission from retainer shell to seal ring is done through drive lugs. All components are held together by a snap ring which helps in easier installation and removal. As all parts are interchangeable, one can convert series C70B & C75B by changing only the seal ring and the secondary seal. This concept is ideal for stock rationalisation.

Unbalanced seal

Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series CPR100

Standard Style

Face Materials

Silicon Carbide / Silicon Carbide
Carbon / Silicon Carbide
Carbon / Lecrolloy
Carbon / Ceramic

Metal Parts

SS 316, SS 304

Secondary Seal

Nitrile, Viton

Applications

- Water pumps
- Submersible pump
- Sewage pump

Seal Characteristics

- Single acting
- Unbalanced
- Single helical coil Spring
- Independent of direction of rotation
- Torque transmission by spring holder

Operating Limits

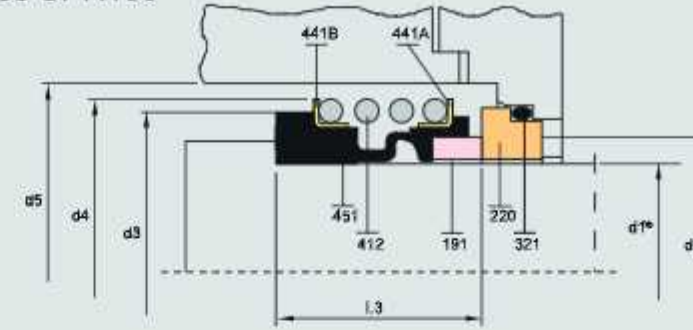
Shaft Diameter d1 : 10 100mm
Pressure p : 12 bar (max)
Temperature t : -20 ... +180°C
Velocity v : 20 m/sec



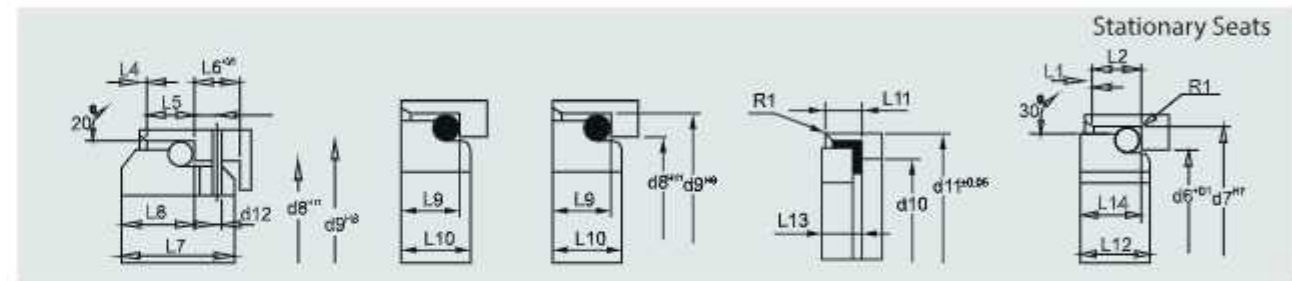
Series CPR100

Series CPR 100 is single coil spring rubber bellow seal used for water and oil containing soft slurries. This seal is mainly used in waste water treatment plant i.e. for sewage application. Seal has self aligning feature which compensates abnormal shaft end play & run-out, which leads to improved service life. Elastomeric bellow protect shaft I sleeve from fretting. Drive to the seal faces is given through coil spring and spring holders. Due to single coil spring, seal will not get clogged in effluent containing particles.

Series CPR100



Part No.	Description
191	Seal Ring
220	Mating Ring
321	O - Ring
412	Spring
441A	Spring Holder
441B	Spring Holder
451	Bellow



d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d12	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14	R1	
10	15.7	20.5	22.5	24	15.5	19.2	17	21	11.0	24.60	3	1.2	3.8	14.5	1.5	4	8.5	17.5	10.0	6.6	7.5	7.5	7.5	9.0	6.6	1.2	
12	17.7	22.5	25.0	26	17.5	21.6	19	23	13.5	27.8	3	1.2	3.8	15.0	1.5	4	8.5	17.5	10.0	6.6	7.5	7.5	6.5	9.0	5.6	1.2	
14	19.7	26.5	28.5	30	20.5	24.6	21	25	17.0	30.95	3	1.2	3.8	17.0	1.5	4	8.5	17.5	10.0	6.6	7.5	9.0	6.5	10.5	5.6	1.2	
15	20.8	26.5	28.5	30	20.5	24.6	-	-	17.0	30.95	-	1.2	3.8	17.0	-	-	-	-	-	-	-	-	9.0	7.5	10.5	6.6	1.2
16	21.0	26.5	28.5	30	22.0	28.0	23	27	17.0	30.95	3	1.5	5.0	17.0	1.5	4	8.5	17.5	10.0	6.6	7.5	9.0	8.5	10.5	7.5	1.5	
18	23.7	29.0	32.0	33	24.0	30.0	27	33	20.0	34.15	3	1.5	5.0	19.5	2.0	5	9.0	19.5	11.5	7.5	8.5	9.0	9.0	10.5	8.0	1.5	
19	26.7	33.0	37.0	38	-	-	-	-	20.0	34.15	-	-	-	21.5	-	-	-	-	-	-	-	-	9.0	-	10.5	-	-
20	26.7	33.0	37.0	38	39.5	35.0	29	35	21.5	35.70	3	1.5	5.0	21.5	2.0	5	9.0	19.5	11.5	7.5	8.5	9.0	8.5	10.5	7.5	1.5	
22	27.7	33.0	37.0	38	39.5	35.0	31	37	23.0	37.30	3	1.5	5.0	21.5	2.0	5	9.0	19.5	11.5	7.5	8.5	9.0	8.5	10.5	7.5	1.5	
24	31.2	38.0	42.5	44	32.0	38.0	33	39	26.5	10.50	3	1.5	5.0	22.5	2.0	5	9.0	19.5	11.5	7.5	8.5	9.0	8.5	10.5	7.5	1.5	
25	31.2	38.0	42.5	44	32.0	38.0	34	40	26.5	40.50	3	1.5	5.0	23.0	2.0	5	9.0	19.5	11.5	7.5	8.5	9.0	8.5	10.5	7.5	1.5	
28	35.0	44.0	49.0	50	36.0	42.0	37	43	29.5	47.65	3	1.5	5.0	26.5	2.0	5	9.0	19.5	11.5	7.5	8.5	10.5	10.5	12.0	9.0	1.5	
30	37.0	44.0	49.9	50	39.2	45.0	39	45	32.5	50.80	3	1.5	5.0	26.5	2.0	5	9.0	19.5	11.5	7.5	8.5	10.5	11.5	12.0	10.5	1.5	
32	40.2	46.0	53.5	55	42.2	48.0	42	48	32.2	50.80	3	1.5	5.0	27.5	2.0	5	9.0	19.5	11.5	7.5	8.5	10.5	11.5	12.0	10.5	1.5	
33	40.2	46.0	53.5	55	44.2	50.0	42	48	36.5	54.00	3	1.5	5.0	27.5	2.0	5	9.0	19.5	11.5	7.5	8.5	10.5	11.5	12.0	10.5	1.5	
35	43.2	50.0	57.0	59	46.2	52.0	44	50	36.5	54.00	3	1.5	5.0	28.5	2.0	5	9.0	19.5	11.5	7.5	8.5	10.5	12.0	12.0	11.0	1.5	
38	46.2	53.0	59.0	61	49.2	55.0	49	56	39.5	57.15	4	1.5	5.0	30.0	2.0	6	9.0	22.0	14.0	9.0	10.0	10.5	11.3	12.0	10.3	1.5	
40	48.8	55.0	62.0	64	52.2	58.0	51	58	42.5	60.35	4	1.5	5.0	30.0	2.0	6	9.0	22.0	14.0	9.0	10.0	10.5	11.8	12.0	10.8	1.5	
42	51.8	58.0	65.5	67	-	-	-	-	46.0	63.50	-	2.0	6.0	30.0	-	-	9.0	-	-	-	-	-	10.5	13.2	12.0	12.0	2.5
43	51.8	58.0	65.5	67	53.3	62.0	54	61	46.0	63.50	4	2.0	6.0	30.0	2.0	6	9.0	22.0	14.0	9.0	10.0	10.5	13.2	12.0	12.0	2.5	
45	53.8	60.0	68.0	70	55.0	64.0	56	63	46.0	63.50	4	2.0	6.0	30.0	2.0	6	9.0	22.0	14.0	9.0	10.0	10.5	12.8	12.0	11.6	2.5	
48	56.8	63.0	70.5	74	59.7	68.4	59	66	49.0	66.70	4	2.0	6.0	30.0	2.0	6	9.0	22.0	14.0	9.0	10.0	10.5	12.8	12.0	11.6	2.5	
50	58.8	65.0	74.0	77	60.8	69.3	62	70	52.0	69.85	4	2.0	6.0	30.5	2.5	6	9.0	23.0	15.0	9.5	10.5	12.0	12.8	13.5	11.6	2.5	
53	62.2	70.0	78.5	81	63.8	72.3	65	73	55.5	73.05	4	2.0	6.0	33.0	2.5	6	9.0	23.0	15.0	11.0	12.0	12.0	13.5	13.5	12.3	2.5	
55	64.2	72.0	81.0	83	66.5	75.4	67	75	58.5	76.20	4	2.0	6.0	35.0	2.5	6	9.0	23.0	15.0	11.0	12.0	12.0	14.5	13.5	13.3	2.5	
58	67.2	75.0	85.5	88	69.5	78.4	70	78	61.5	79.40	4	2.0	6.0	37.0	2.5	6	9.0	23.0	15.0	11.0	12.0	12.0	14.5	13.5	13.3	2.5	
60	70.0	79.0	88.5	91	71.5	80.4	72	80	61.5	79.40	4	2.0	6.0	38.0	2.5	6	9.0	23.0	15.0	11.0	12.0	12.0	14.5	13.5	13.3	2.5	
65	75.0	84.0	93.5	96	76.5	85.4	77	85	68.0	92.10	4	2.0	6.0	40.0	2.5	6	9.0	23.0	15.0	11.0	12.0	14.5	14.2	16.0	13.0	2.5	
68	78.0	88.0	96.5	100	82.7	91.5	81	90	71.0	95.25	4	2.0	6.0	40.0	2.5	7	9.0	26.0	18.0	11.3	12.5	14.5	14.9	16.0	13.7	2.5	
70	80.0	90.0	99.5	103	83.0	92.0	83	92	71.0	95.25	4	2.0	6.0	40.0	2.5	7	9.0	26.0	18.0	11.3	12.5	14.5	14.2	16.0	13.0	2.5	
75	85.5	95.0	107.0	110	90.2	99.0	88	97	77.5	101.60	4	2.0	6.0	40.0	2.5	7	9.0	26.0	18.0	11.3	12.5	14.5	15.2	16.0	14.0	2.5	
80	90.5	100.0	112.0	116	95.2	104.0	95	105	84.0	114.30	4	2.0	6.0	40.0	3.0	7	9.0	26.2	18.2	12.0	13.0	18.5	16.2	20.0	15.0	2.5	
85	96.0	107.0	120.0	124	11.2	109.0	100	110	87.0	117.50	4	2.0	6.0	41.0	3.0	7	9.0	26.2	18.2	14.0	15.0	18.5	16.0	20.0	14.8	2.5	
90	102.0	114.0	127.0	131	105.2	114.0	105	115	93.5	123.85	4	2.0	6.0	45.0	3.0	7	9.0	26.2	18.2	14.0	15.0	18.5	16.0	20.0	14.8	2.5	
95	107.0	119.0	132.0	136	111.6	120.3	110	120	96.5	127.00	4	2.0	6.0	46.0	3.0	7	9.0	25.0	17.2	14.0	15.0	18.5	17.0	20.0	15.8	2.5	
100	112.0	124.0	137.0	140	114.5	123.3	115	125	103.0	133.35	4	2.0	6.0	47.0	3.0	7	9.0	25.0	17.2	14.0	15.0	18.5	17.0	20.0	15.8	2.5	

Unbalanced Seal

Single Acting, Independent of Direction of Rotation

Mechanical Seal

Series C2U



Series C2U

Standard Style

Face Materials:

Carbon, Ceramic,
Tungsten Carbide, Silicon Carbide, Lecrolloy

Metal Parts

SS 316, SS 304

Secondary Seal

Elastomers, PTFE

Applications

- Water Pumps
- Circulation Pumps for central heating
- Chemical Process Pumps
- Sewage & Submersible pumps

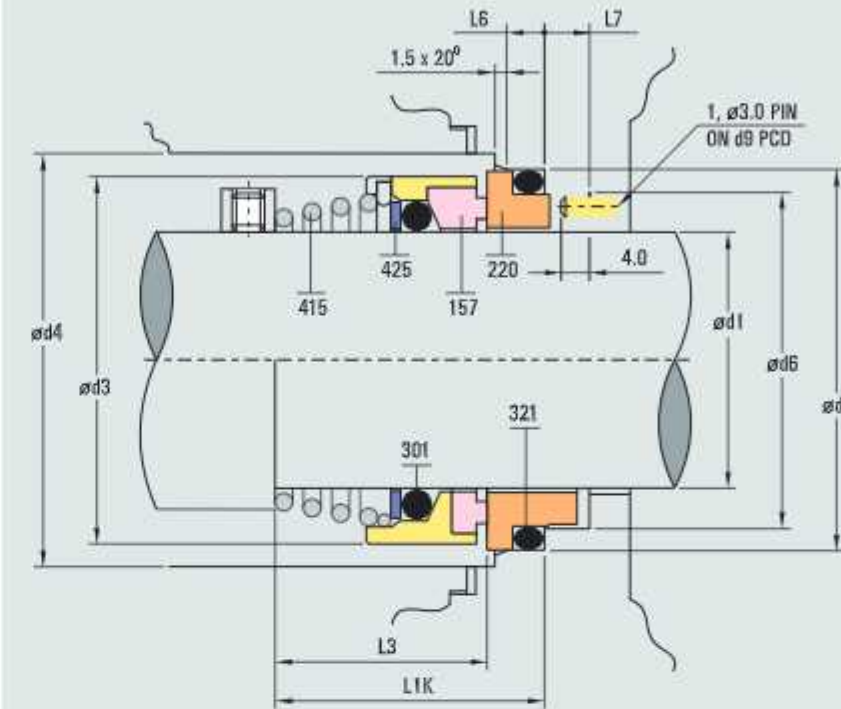
Seal Characteristics

- Single acting
- Unbalanced
- Inside mounted
- Dependent of direction of rotation

Operating Limits

Shaft Diameter d1 : 0.5" 3.0"
Pressure p : 10 bar (max)
Temperature t : -20 + 120°C
Velocity v : 20 m/sec

Series C2U



Part No.	Description
157	Seal Ring
220	Mating Ring
301	O - Ring
321	O - Ring
415	Spring
425	Thrust Ring

SEAL SIZE		d3	d4	d6 ^{+0.1} _{-0.05}	d7 ^{+0.05}	d9	L3 ^{+0.5}	L6	L7	L1K
d1 ^{+0.01} _{-0.01}										
0.500	12.70	23.0	26.0	22.72	28.22	19.0	17.5	4.6	5.6	24.5
0.625	15.87	26.0	29.0	25.90	31.40	22.2	19.5	4.6	5.6	26.5
0.750	19.05	33.0	36.0	29.07	34.57	25.4	22.0	4.6	5.6	29.0
0.875	22.22	36.0	39.0	32.25	37.75	28.6	23.5	4.6	5.6	30.5
1.000	25.40	40.0	43.0	35.35	40.85	31.6	26.5	4.6	5.6	33.5
1.125	28.58	42.0	45.0	38.52	44.02	34.6	26.5	4.6	5.6	33.5
1.250	31.75	46.0	49.0	41.70	47.20	38.0	28.5	4.6	5.6	35.5
1.375	34.92	49.0	52.0	44.84	50.37	41.2	28.5	4.6	5.6	35.5
1.500	38.10	54.0	57.0	48.05	53.55	44.4	32.5	4.6	5.6	39.5
1.625	41.28	58.0	61.0	54.40	59.90	50.6	37.5	5.0	5.8	45.9
1.750	44.45	61.0	64.0	60.75	66.25	57.0	39.5	5.0	5.8	47.9
1.875	47.62	64.0	67.0	63.92	69.42	61.0	44.5	5.0	5.8	52.9
2.000	50.80	67.0	70.0	63.92	69.42	61.0	46.0	5.0	5.8	54.4
2.125	53.98	70.0	73.0	73.45	78.95	70.2	49.0	5.5	6.6	58.2
2.250	57.15	77.0	80.0	76.62	82.12	72.8	52.0	5.5	6.6	61.2
2.375	60.32	79.0	82.0	76.62	82.12	72.8	53.0	5.5	6.6	62.2
2.500	63.50	82.0	85.0	79.80	85.30	76.0	53.0	5.5	6.6	62.2
2.625	66.68	87.0	90.0	79.80	85.30	76.0	55.0	5.5	7.4	65.0
2.750	69.85	90.0	93.0	82.97	88.47	79.2	56.5	5.5	7.4	66.5
2.875	73.02	94.0	97.0	86.22	91.72	81.5	56.5	5.5	7.4	66.5
3.000	76.20	99.0	102.0	89.04	97.60	85.4	56.5	7.5	5.5	68.3
3.125	79.38	103.0	106.0	95.39	103.95	91.8	59.5	7.5	5.5	71.3
3.250	82.55	106.0	109.0	95.39	103.95	91.8	59.5	7.5	5.5	71.3
3.375	85.72	109.0	112.0	98.57	107.13	95.0	61.0	7.5	5.5	72.8
3.500	88.90	112.0	115.0	102.10	110.66	98.5	61.0	7.5	5.5	72.8

Series C2U is a single conical helical spring, unbalanced seal with 'O'ring as secondary sealing member. Various seal face materials and elastomers can be offered for wide service application. As the torque transmission is done by conical helical spring these seals are dependent of the direction of rotation. Direction of rotation is seen from the drive end of the shaft. Clockwise rotating shaft requires right handed spring and anticlockwise rotating shaft requires left-handed spring. For easier fitting, the conical helical spring should be pushed on the shaft with a twisting motion in the sense of the spring unwinding. This movement enlarges the diameter of the spring, enabling easy fitment.

Rotary Joints

Monoflow and dualflow

ROTARY JOINTS

Series CPMF 101/CPDF 201



Series CPMF 101



Series CPDF 201

Standard Style

Face Materials
Carbon / Silicon Carbide

Metal Parts
SS 304, Brass, Aluminium

Secondary Seal
Elastomer

Applications

- Water
- Coolant
- Oil
- Steam
- Air

Operating Limits

Pressure p : 10 bar
Temperature t : 120°C
Size Range : 3/8" to 2.0"

Speed up to

3500 RPM for Straight threads 3/4" size & below
3000 RPM for Straight threads 1" size
2500 RPM for Straight threads 1.1/2" & 1.1/4" size
750 RPM for Straight threads 2" size

Rotor connection options

BSP, NPT, UNF, UNC, METRIC THREAD are available.
Built in Flange connection and quick change
Flange connection are also available.

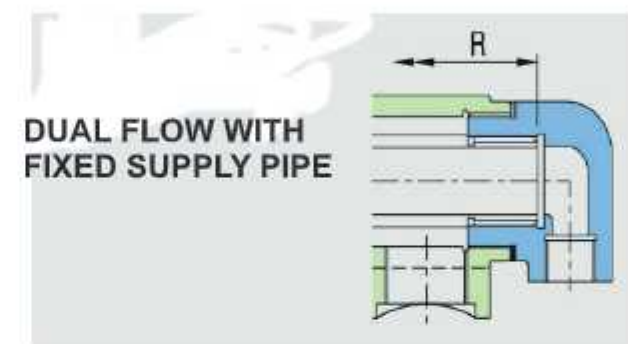
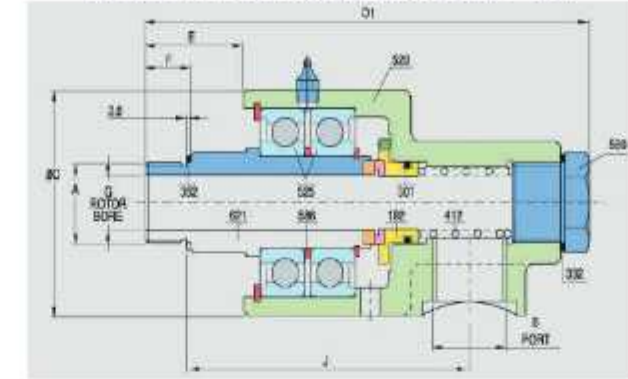
No External support required

Self supporting on two precision Ball Bearings far enough to reduce vibration & wobbling.

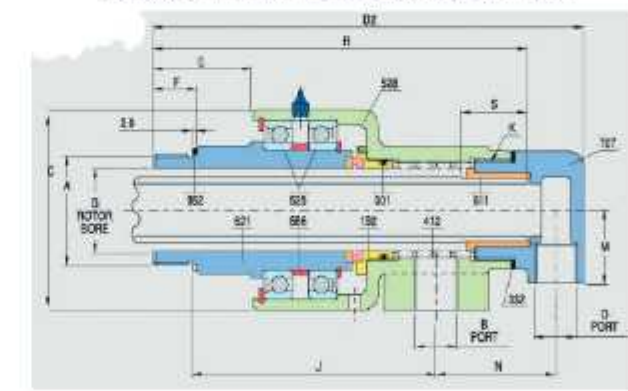
Balanced Mechanical Seal

Minimises operating torque & enhances life. Seal faces are self lubricating. Carbon (Resin impregnated) and Silicon Carbide with suitable elastomeric secondary sealing. Or as per the requirement.

MONO FLOW SERIES CPMF 101



DUAL FLOW SERIES CPDF 201



Part No.	Description
192	Seal Ring
301	O - Ring
332	Gasket
352	Gasket
412	Spring
525	Bearing
528	Bearing Housing
586	Spacer
590	Plug
611	Bush
621	Rotor
707	Elbow

Part No.	Description
Body	Brass / Aluminium
Rotor	SS 304
Elbow	SS 304
Plug	SS 304
Spring	SS 304
Bush	CFT
Faces	Carbon-R/Sic in SS 304
Elastomers	Viton
	Nitrile
	Neoprene

A Rotor Thread	B Port	C	D1	E	F	NOM. SIZE G ROTOR BORE	J	Dualflow											
								D2	K	M	N	O PORT	Fixed Supply Pipe			Rotating Supply Pipe			
													Threads	Pipe OD	R	Pipe Size	Pipe DIA.	S	R
3/8"BSP	3/8"BSP	55	132	26	16.0	10.0	85.5	145	3/8"BSP	18	35	1/4"BSP	---	---	---	6.35	6.00 5.95	18	123
1/2"SP	1/2"BSP	55	148	34	19.0	13.0	91.0	168	1/2"BSP	18	46.5	3/8"BSP	1/8"BSP	10.3	137	1/8"NB	9.42 9.40	25	143
3/4"BSP	3/4"BSP	66	155	34	19.0	18.0	97.5	182	3/4"BSP	26	53	1/2"BSP	1/4"BSP	13.7	142	1/4"NB	12.60 12.57	30	155
1"BSP	1"BSP	80	182	42	21.5	24.0	114.0	210	1"BSP	27	62	1/2"BSP	3/8"BSP	17.1	167	3/8"NB	15.80 15.75	35	183
1 1/4"BSP	1 1/4"BSP	102	220	54	27.0	30.0	136.0	251	1 1/4"BSP	35	72	3/4"BSP	1/2"BSP	21.3	200	1/2"NB	19.92 19.87	38	218
1 1/2"BSP	1 1/2"BSP	108	240	61	28.6	36.0	149.5	272	1 1/2"BSP	38	78	3/4"BSP	3/4"BSP	26.7	220	3/4"NB	25.40 25.35	45	236.5
1 3/4"BSP	1 3/4"BSP	114	245	63	28.6	42.0	153.5	285	1 3/4"BSP	38	87	3/4"BSP	3/4"BSP	26.7	230	3/4"NB	25.40 25.35	44	249
2"BSP	2"BSP	124	258	65	28.6	47.0	164.0	295	2"BSP	38	87	1"BSP	3/4"BSP	26.7	241	3/4"NB	25.40 25.35	44	259

FOR BIGGER SIZE CONTACT CHEMPROOF

Series CPTS07

Cyclone Separator

Series CPCS03



Standard Style

Metal Parts

Thermosyphon shell : Carbon steel / SS 304 / SS 316
 Cooling coil : SS 304 / SS 316
 Empty weight : 10 kg (Approx)

Secondary Seal

Elastomers

Operating Limits

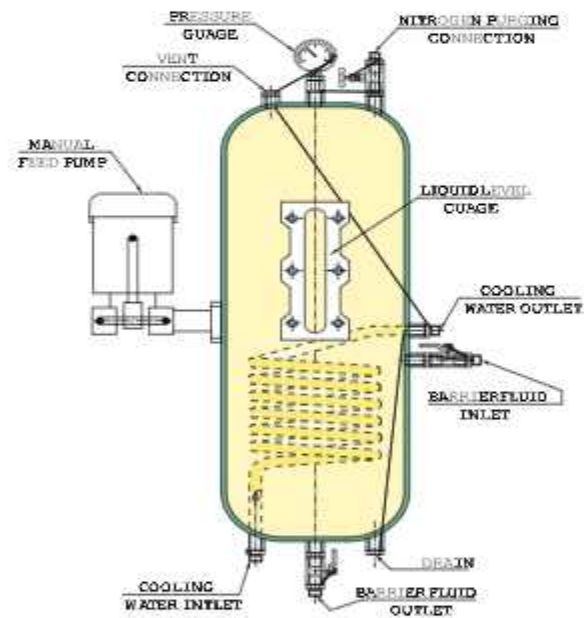
Capacity : 7.0 ltrs
 Design Pressure : 35 bar
 Hydraulic Test pressure : 53 bar
 Working temperature (max) : 150°C
 Heat Transfer area of cooling coil : 0.2 m²
 Cooling water flow rate recommended : 5 ltrs/min

Connection specifications

Cooling Water Inlet : 3/8" NPT (F)
 Cooling Water Outlet : 3/8" NPT (F)
 Barrier Fluid Inlet : 3/8" NPT (F)
 Barrier Fluid outlet : 3/8" NPT (F)
 Pressure Gauge Connection : 3/8" NPT (F)
 Filling Connection : 3/8" NPT (F)
 Nitrogen Purging Connection : 3/8" NPT (F)
 Feed Pump Connection : 3/8" NPT (F)
 Drain : 3/8" NPT (F)

Accessories

Pressure Gauge : 0-40 bar
 Level Gauge : To indicate barrier fluid
 Manual Feed Pump : (optional)



Standard Style

Metal Parts: Carbon Steel / SS 304 / SS 316
 Empty weight : 1 kg (Approx)

Secondary Seal

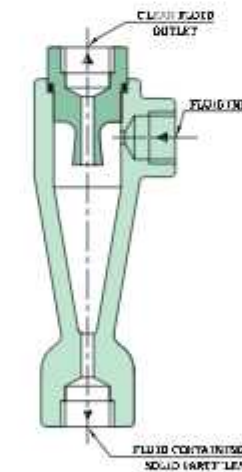
PTFE

Operating Limits

Solid Contents : 10% by weight (max)
 Liquid Viscosity : 20 Centistokes (max)
 Differential Pressure : 2 to 8.5 bar (max)

Technical Specifications

Size : 1/2" NPT (F) or 1/2" BSP (F)
 Design Pressure : 40 bar
 Working Pressure : 25 bar
 Design Temperature : 180°C
 Working Temperature : 150°C

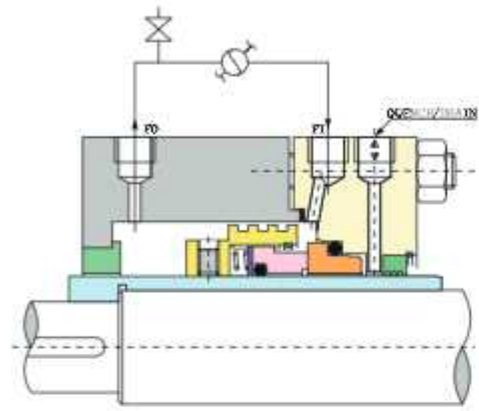


Series CPT07 is basically used as a storage & pressurising unit. This is used for double mechanical seals in back to back or tandem seal arrangement to provide necessary lubrication and cooling to the seal faces to achieve recommended seal life. This is equipped with cooling coil inside the shell to bring down the temperature of barrier fluid coming from seal to Thermosyphon vessel. higher capacity upto 20 ltr. can also offered.

Series CPCS03 is designed to supply clear flushing fluid for lubrication to mechanical seal chamber. This is fitted in between pump discharge and seal flush port line, to remove abrasive particles which can cause damage to mechanical seal and reduce its recommended operational life.

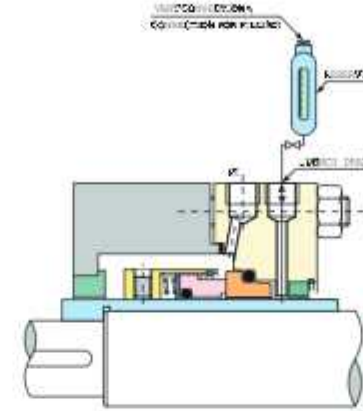
Due to centrifugal action of the fluid, cyclone is generated in the cyclone separator and 80% of abrasive particles are separated and sent back to pump suction

FLUSHING PLAN



Seal Flush Plan 23

- Recirculation from a pumping ring in the seal chamber through a cooler and back in to the seal chamber.
- This plan can be used on hot applications to minimize the heat load on the cooler by cooling only the small amount of liquid that is recirculated.
- Connection FI for flushing inlet and FO for flushing outlet.

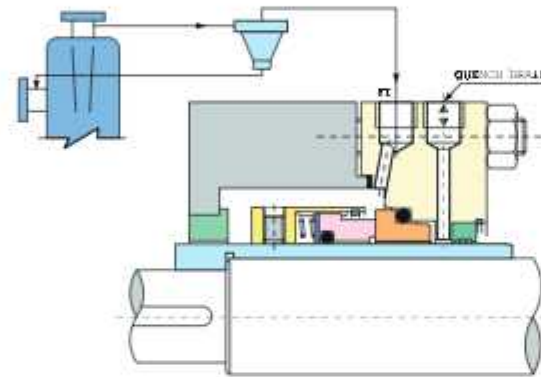


Seal Flush Plan 51

- External reservoir providing a dead ended blanket for fluid to the quench connection of the gland.
- Connection FI for flushing inlet.

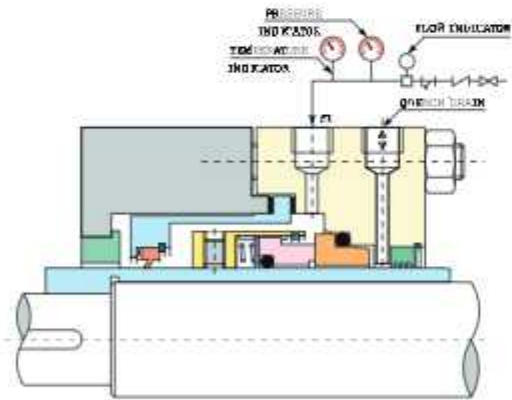
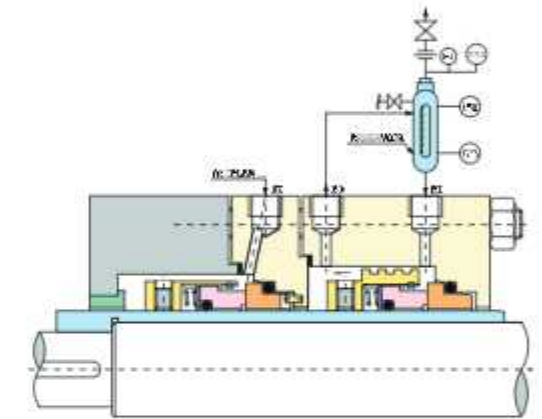
Seal Flush Plan 31

- Recirculation from pump discharge through a cyclon separator delivering the clean fluid to the seal chamber.
- The solids are delivered to the pump suction.
- Connection FI for flushing inlet.



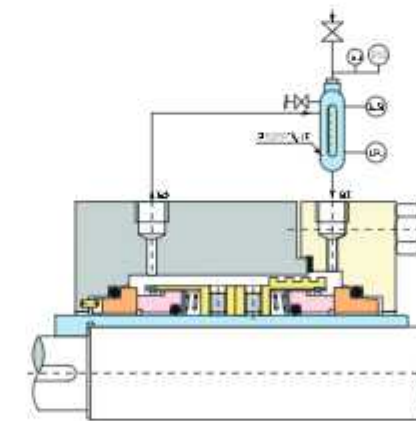
Seal Flush Plan 52

- External reservoir providing buffer liquid for the outer seal of an Arrangement 2 seal.
- During normal operation, circulation is maintained by an internal pumping ring. The reservoir is usually continuously vented to a vapour recovery system.
- The reservoir is maintained at a pressure less than the pressure in the seal chamber.
- Connection FI for flushing inlet, BI for buffer inlet and BO for buffer outlet.



Seal Flush Plan 32

- Flush is injected in to the seal chamber from an external source.
- Care must be exercised in choosing a proper source of seal flush to eliminate potential for vaporization of the injected fluid and to avoid contamination of the fluid being pumped with the injected flush.
- Connection FI for flushing inlet.

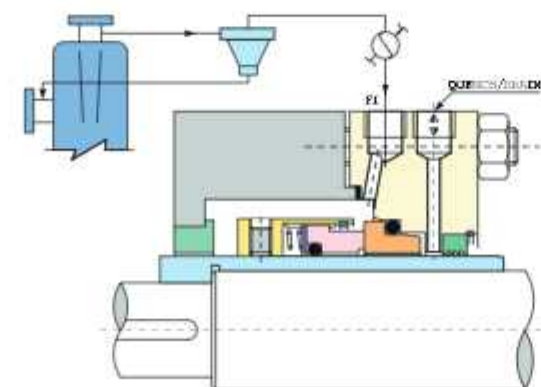


Seal Flush Plan 53A

- Pressurized external barrier fluid reservoir supplying clean fluid to the seal chamber. Circulation is by an internal pumping ring.
- Reservoir pressure is greater than the process fluid being sealed.
- Connection BI for barrier inlet and BO for barrier outlet.

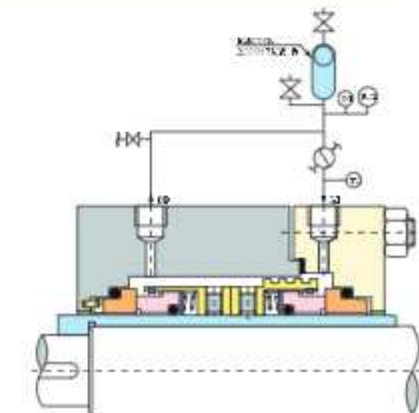
Seal Flush Plan 41

- Recirculation from pump discharge through a cyclon separator delivering the clean fluid to a seal cooler and then to the seal chamber.
- The solids are delivered to the pump suction.
- Connection FI for flushing inlet.

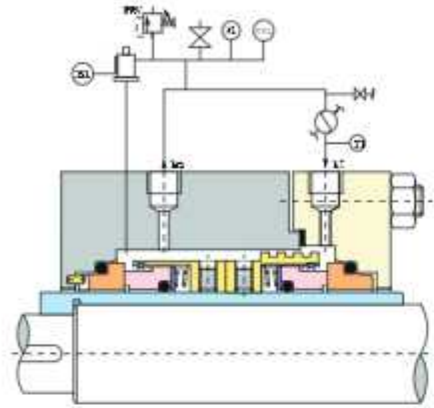


Seal Flush Plan 53B

- External piping provides fluid to the seal chamber of a pressurized dual seal Arrangement. Pre-pressurized bladder accumulator provides pressure to the circulation system.
- Flow is maintain by an internal pumping ring. Heat is removed from the circulation system by an air-cooled or water-cooled heat exchanger.
- Connection BI for barrier inlet and BO for barrier outlet.

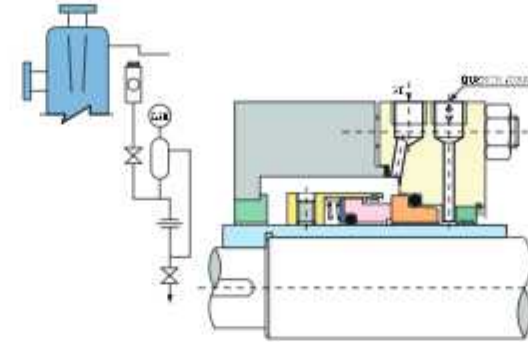


FLUSHING PLAN



Seal Flush Plan 53C

- External piping provides fluid to the seal chamber of a pressureized dual seal Arrangement. Reference line from the seal chamber to a piston accumulator provides pressure to the circulation system.
- Flow is maintain by an internal pumping ring. Heat is removed from the circulation system by an air-cooled or water-cooled heat exchanger.
- Connection BI for barrier inlet and BO for barrier outlet.

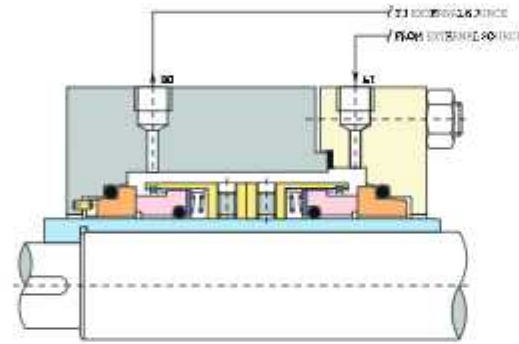


Seal Flush Plan 65

- External drain piping is arranged to alarm on high seal leakage, measured by a float type level switch.
- The orifice downstream of the level switch is typically 5 mm and is located in a vertical piping leg.

Seal Flush Plan 54

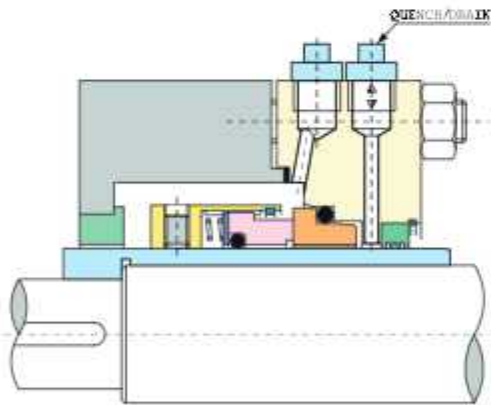
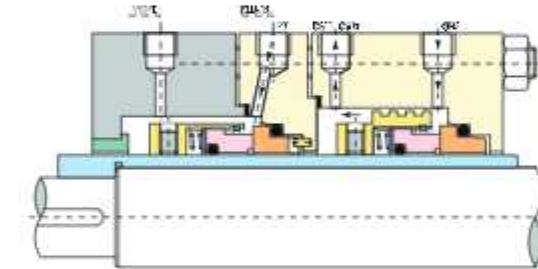
- Pressurized external barrier fluid reservoir or system supplying clean fluid to the seal chamber.
- Circulation is by an external pump or pressure system.
- Reservoir pressure is greater than the process pressure being sealed.
- Connection BI for barrier inlet and BO for barrier outlet.



Seal Flush Plan 71

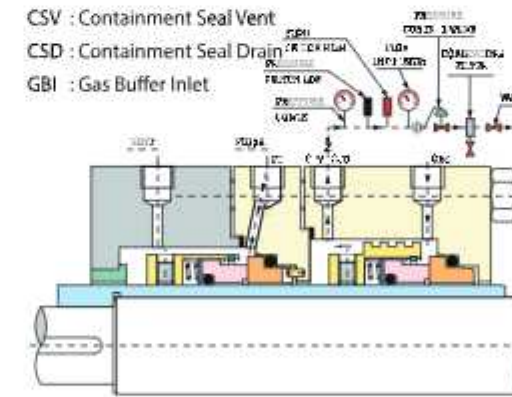
- Tapped connections for purchases use.
- Typically this plan is used, when the purchaser may use buffer gas in the future.

CSV : Containment Seal Vent
CSD : Containment Seal Drain
GBI : Gas Buffer Inlet



Seal Flush Plan 61

- Tapped and plugged connections for the purchaser's use. Typically this plan is used when the purchaser is to provide fluid (such as steam, gas or water) to an external sealing device



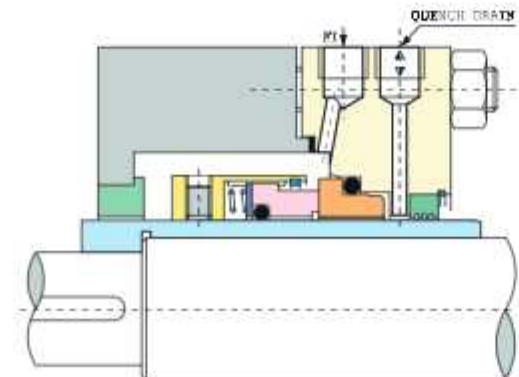
CSV : Containment Seal Vent
CSD : Containment Seal Drain
GBI : Gas Buffer Inlet

Seal Flush Plan 72

- Externally supplied gas buffer for arrangement 2 seals.
- Buffer gas may be used alone to dilute seal leakage or in conjunction with plan 75 or 76 to help sweep leakage in to close connection system.
- Pressure of buffer gas is lower then process side pressure of inner seal.

Seal Flush Plan 62

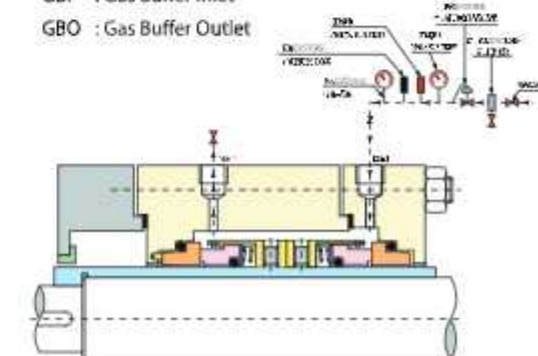
- Exterior source providing a quench.
- The quench may be required to prevent solids from accumulating on the atmospheric side of the seal.
- Typically used with a close clearance throttle bush.
- Connection FI for flush inlet if required.



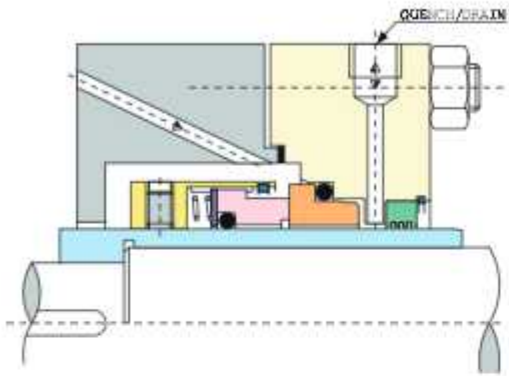
Seal Flush Plan 74

- Externally supplied barrier gas used to positively prevent process fluid from leaking to atmosphere.
- Pressure of barrier gas is higher than process side of inner seal.
- Venting of the seal chamber may be required prior to start up and operation to avoid the collection of gas in the pump.

GBI : Gas Buffer Inlet
GBO : Gas Buffer Outlet

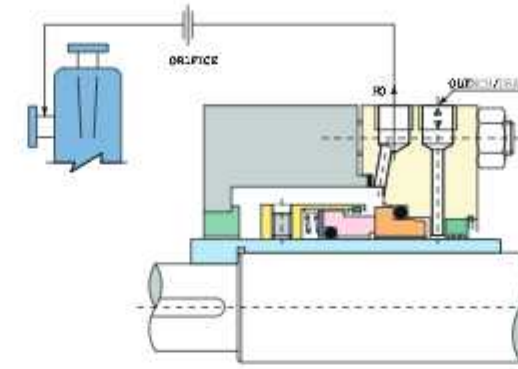


FLUSHING PLAN



Seal Flush Plan 01

- Integral recirculation pump discharge to seal chamber.
- Recommended for clean pumpage only.
- Care must be taken to ensure that integral recirculation is sufficient to maintain stable face conditions.

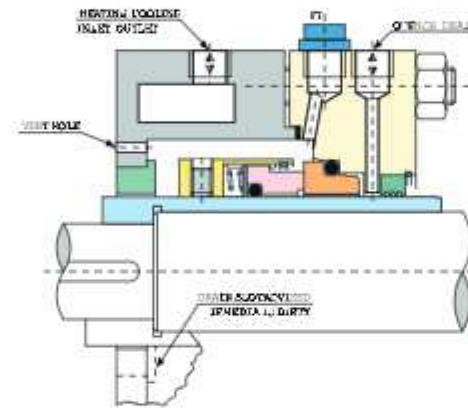


Seal Flush Plan 13

- Recirculation from pump seal chamber through a flow control orifice and back to the pump suction.
- Mainly applicable for vertical pumps.
- Connection FO for flushing outlet.

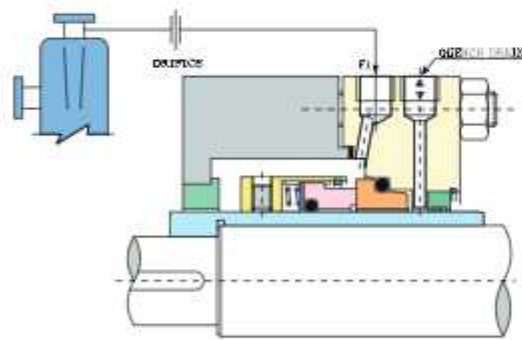
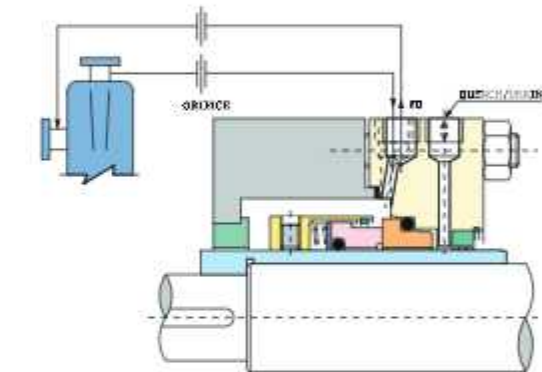
Seal Flush Plan 02

- Dead ended seal chamber with no circulation of flushed fluid.
- Jacketed seal chamber and throat bushing required when specified.
- Connection FI plugged for possible future connection.



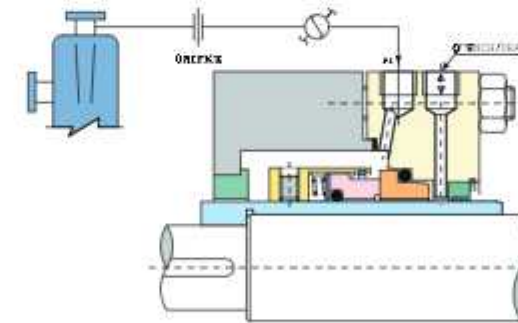
Seal Flush Plan 14

- Recirculation from pump discharge through a flow control orifice to the seal and simultaneously from seal chamber through a control orifice (if required) to pump suction.
- This allows fluid to enter the seal chamber and provide cooling while continually venting and reducing the pressure in the seal chamber.
- Connection FI for flushing inlet and FO for flushing outlet.



Seal Flush Plan 11

- Recirculation from pump discharge through a flow control orifice to the seal.
- The flow enters the seal chamber adjacent to the mechanical seal faces, flushes the faces, and flows across the seal back in to the pump.
- Connection FI for flushing inlet.

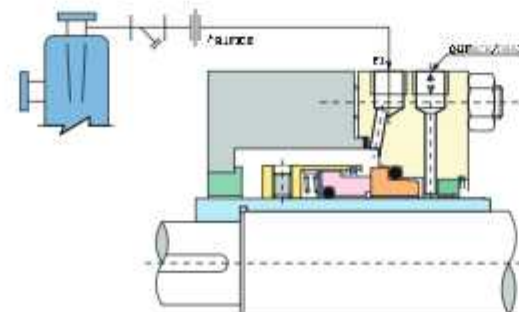


Seal Flush Plan 21

- Recirculation from pump discharge through a flow control orifice and heat exchanger, then in to the seal chamber.
- Connection FI for flushing inlet.

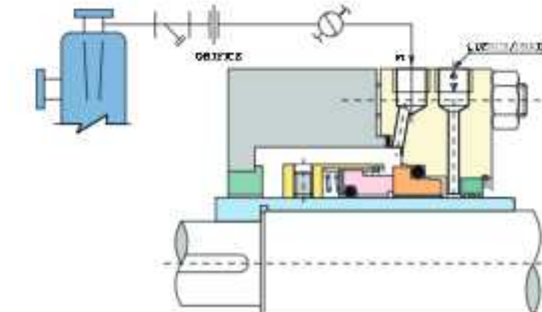
Seal Flush Plan 12

- Recirculation from pump discharge through a strainer and flow control orifice to the seal.
- This plan is similar to plan 11 but with the addition of a strainer to remove occasional particles.
- Connection FI for flushing inlet.

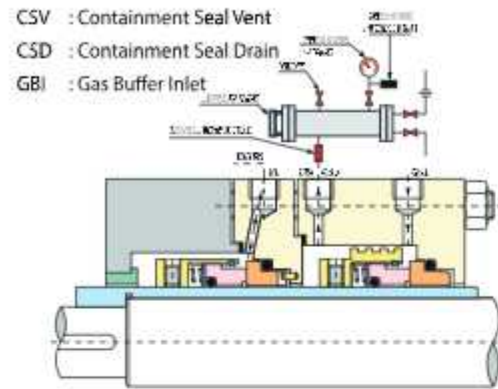


Seal Flush Plan 22

- Recirculation from pump discharge through a strainer, a flow control orifice, a cooler and then into the seal chamber.
- Connection FI for flushing inlet.



FLUSHING PLAN

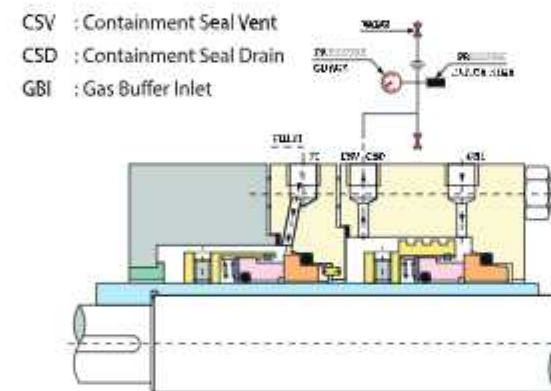


Seal Flush Plan 75

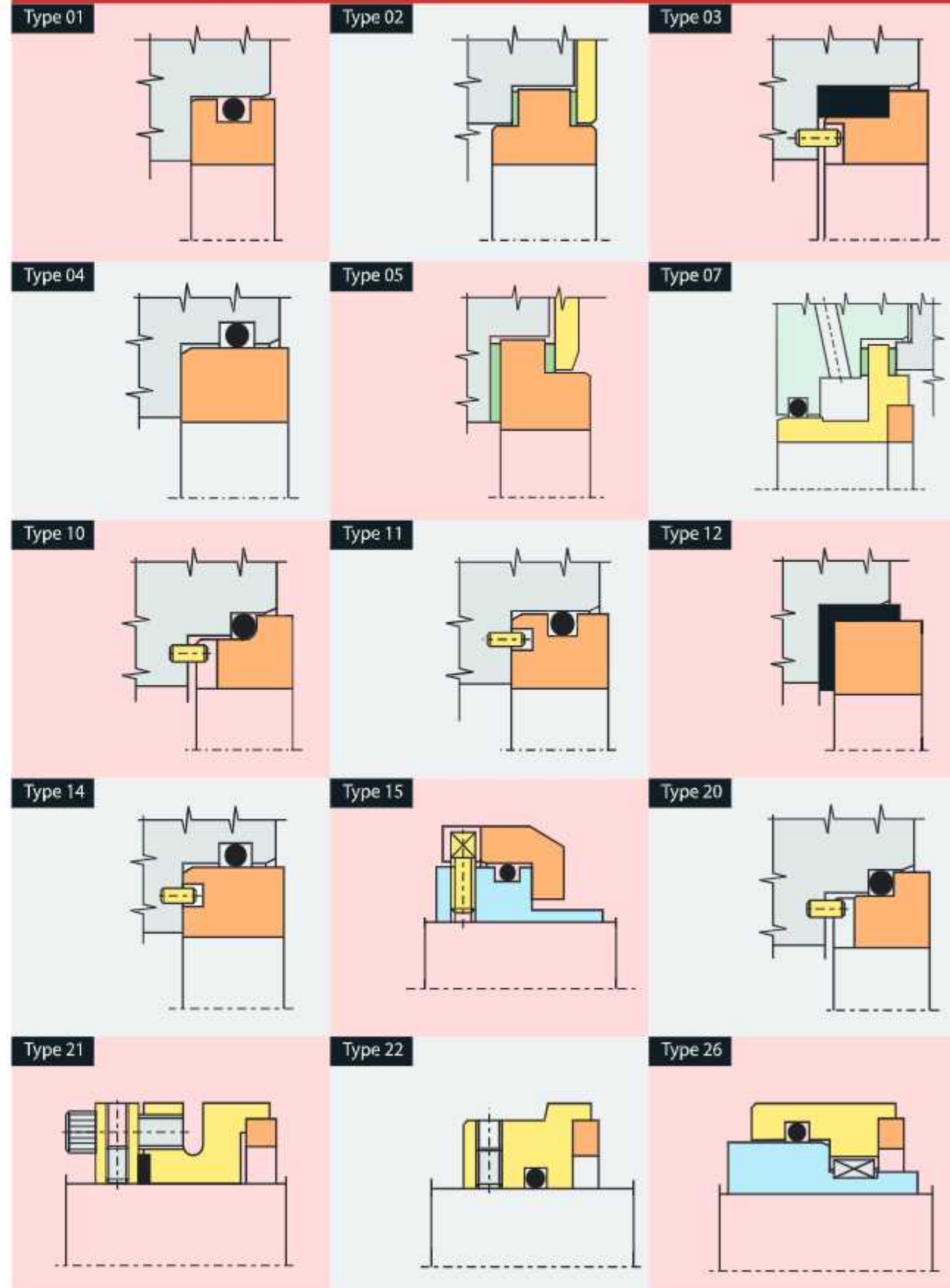
- Containment seal chamber drain for condensing leakage on arrangement 2 seal.
- Pump fluid condenses at ambient temperatures.
- Valves to be installed for operator use, relative to ground clearance and other obstructions.

Seal Flush Plan 76

- Piping / instrument harness shall be supported from overhead structure or side stand such that no strain is put on tubing connected to seal gland.
- Containment seal chamber drain from non-condensing leakage on arrangement 2 seal.
- Pump fluid dose not condense at ambient temperatures.

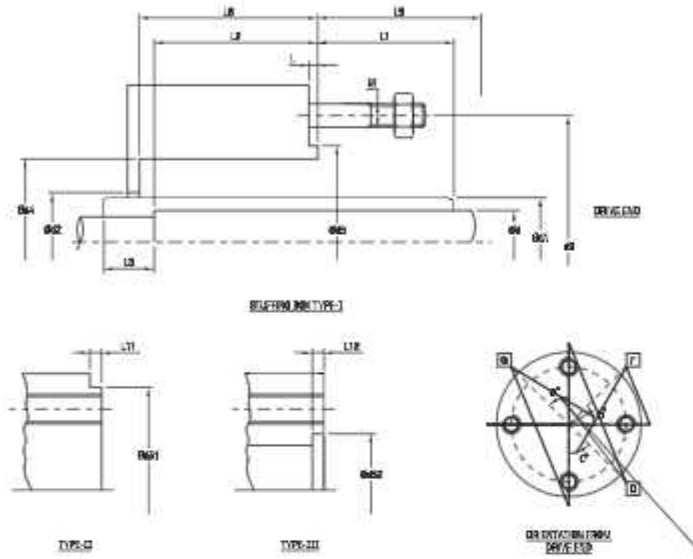


STATIONARY MATING RING TYPE

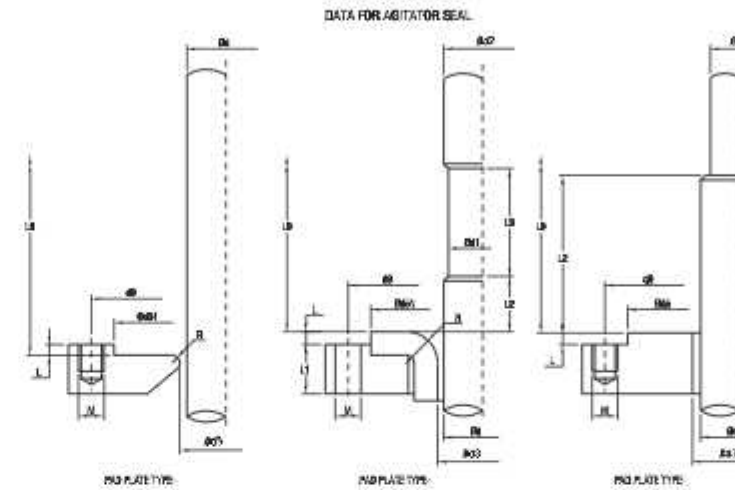


Pump Information Data

Agitator Information Data



- d - Shaft OD
- d1 - Sleeve OD
- d2 - Stuffing Box ID
- d4 - Stuffing Box bore
- d5 - Spigot dia d51 d52
- d9 - Bolt Circle
- M - No. of Bolts Size
- L - Raised collar L11 L12
- L1 - Sleeve Extension
- L2 - Shaft hub
- L3 - Impeller sleeve length
- L8 - Stuffing Box depth
- L9 - Nearest obstruction
- a - b - c -
- Stud holes on axis / off axis
- Stuffing box cover jacketed / non jacketed



- d - Shaft OD
- d1 - Shaft OD
- d2 - Shaft OD
- d3 - Pad plate ID
- d5 - Spigot d51
- d9 - Bolt Circle
- M - No. of Bolts Size
- L - Raised collar
- L1 - Thickness
- L2 - Shaft step from Pad
- L3 - Distance between two steps
- L9 - Nearest obstruction
- R - Radius

Client

Address

Pump Data

Make Bearing Bracket
 Model Item/Tag No
 Material of Construction Existing Seal

Operating Parameters

Total Head Suction pressure Discharge pressure Box pressure
 Speed Direction of rotation (Viewed from Drive End) CW/CCW

Fluid Details

Fluid
 Pumping temperature Maximum temperature
 Specific Gravity Viscosity
 Boiling Point Freezing point
 Fluid Description a. Clean b. Dirty c. Abrasive d. Slurry e. Toxic
 Percentage of solids Grain Size

API Plans

- Whether seal flushing by external fluid acceptable? If yes, What Fluid
- Recommended buffer fluid for double seal Temperature
- Recommended API Plan # Plan 52 (Non Pressurised Thermosyphon) # Plan 53 (Pressurised Thermosyphon) # Plan 54 (Buffer Fluid Circulation by external pump/source) #* Plan 32 (Fluid Injection by external pump/source) #* Plan 02 (Dead ended with no circulation of buffer fluid & with cooling jacket)

Other Remarks

.....

Client

Address

Agitator Data

Make Model
 Item / Tag No. Matl of Construction

Existing seal arrangement Gland Packing / Mechanical Seal

If mechanical seal, seal make & type

Existing mechanical seal working satisfactory Yes / No

If No, give details of seal failure in brief in remarks column.

Operating Parameters

Vessel Pressure Speed
 Direction of rotation from drive end CW / CCW

Fluid Details

Fluid
 Temperature Specific Gravity Viscosity
 Boiling Point Freezing Point
 Fluid Description a. Clean b. Dirty c. Abrasive d. Slurry e. Toxic
 Percentage of solids Grain size

API Plans

- Recommended buffer fluid Temperature
- Recommended API Plan # Plan 52 (Non Pressurised Thermosyphon), # Plan 53 (Pressurised Thermosyphon), # Plan 54 (Buffer Fluid Circulation by external pump/source)

Remarks

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WORKSHOP



QUALITY CONTROL FACILITIES



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DRAWING DEPT



OFFICE DEPT

: MFG. UNIT :



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