



NINGBO HUAQIU INDUSTRY AND TRADE CO.,LTD

NingBo HuaQiang Mechanical Seal Factory



2025 HQ Catalogue 3-C

(O.E.M.Seals)

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DESCRIPTION

Standard Mechanical Seals.....	Catalogue-1
Cartridge, Metal Bellow Seals.....	Catalogue-2
O.E.M Seals(A.B.S., Alfa Laval, APV, Andritz, Compressor, Fristam, Flygt, Grundfos, Hilge, Lowara, K.S.B., Sulzer, Tsurumi Seals and so on).....	Catalogue-3
Seat Series.....	Catalogue-4
Mixer and Agitator, Kettle, Desulfurization, Slurry Seals, Nozzle, Rotary Joint.....	Catalogue-5



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I.M.O.Pump Seals

AL-21 (Lidering AL-N-22).....	8
IMO-02(Lidering IM-G-22).....	9
IMO-04(Vulcan 1689).....	10
IMO-05(Vulcan1690).....	11

Vogelsang Seals

VLS-01.....	12
VLS-02.....	13

Inoxpa Pump Seals

HQW01(AES W01).....	14
HIL-01(AES M010S1).....	15
HIL-02(AES M010S2).....	16
HIL-03(AES M010S3).....	17
INO-01(AES W011).....	18
INO-02(AES B092U).....	19
INO-03(AES M07U).....	20
INO-04(AES T03U).....	21
14.....	22
15.....	23

Johnson/Jabsco Pump Seals

AL-38(AES W01).....	24
JS-01(AES W06).....	25
JS-02(AES W01-TL).....	26
JS-03(AES W04).....	27
JS-04(AES W017U).....	28
JS-05(AES W02).....	29
JC-06(AES W09).....	30
JC-07(AES W015).....	31
JS-06(AES W026).....	32
JS-07.....	33

K.S.B.Pump Seals

HQUK.....	34
HQMA-11(AEB-60/80/100).....	35
HQD-03.....	36
AD-04.....	37
KSB-01(Vulcan 127B).....	38
KSB-02(AES B02K).....	39
KSB-03(Vulcan 1678Y).....	40

KSB-04(Vulcan 197).....	41
KSB-05(Vulcan 192K).....	42
KSB-06.....	43
KSB-07.....	44
KSB-08.....	45
KSB-09.....	46
KSB-10.....	47
KSB-12.....	48
KSB-14.....	49
KSB-15.....	50
KSB-16.....	51
KSB-17.....	52
KSB-18.....	53
KSB-19.....	54
KSB-20.....	55
KSB-21.....	56
KSB-22.....	57
KSB-23.....	58
KSB-24.....	59
KSB-25.....	60
KSB-26.....	61
KSB-27.....	62
SZ-16.....	63
SZ-23.....	64

Kangway Pump Seals

OP-31.....	65
OP-32.....	66

Lowara Pump Seals

LOW-01(AES T06D).....	67
LOW-02(AES T04D).....	68
LOW-03(Vulcan 131).....	69
LOW-04(Vulcan 139).....	70
LOW-05(Roten 82).....	71
LOW-06(Roten 82E).....	72
LOW-07(Roten 8E).....	73
LOW-08(Roten 8E4).....	74
LOW-09(Roten 84).....	75
LOW-10(Roten 85).....	76
LOW-11(Roten 85E).....	77
LOW-12(AES POLXB).....	78
71.....	79
72.....	80

Sulzer Pump Seals

HQUK.....	81
HQCS-J27(Crane 48LP/48HP/48MP).....	82
HQCS-J33(Crane SB1).....	83
HQCS-J35(Crane SB1A).....	84
HQCS-J31(Crane SB2).....	85
HQCS-J34(Crane SBW).....	86
HQCS-J41(Crane SE).....	87
HQCS-J42(Crane SE1).....	88
HQCS-J43(Crane SE2).....	89
HQCS-J44(Crane SE2C).....	90
HQCS-J45(Crane SEW).....	91
HQCS-J46(Crane JCS1).....	92
HQCS-J47(Crane JCS1A).....	93
HQCS-J48(Crane JCS1F).....	94
HQCS-J49(Crane JCS2).....	95
HQCS-J50(Crane JCS2P).....	96
HQCS-J51(Crane SAF).....	97
HQMA-05(AEB-60WS).....	98
AD-01.....	99
AD-04.....	100
KSB-12.....	101
SZ-02.....	102
SZ-03.....	103
SZ-04.....	104
SZ-07.....	105
SZ-09.....	106
SZ-12.....	107
SZ-13.....	108
SZ-14.....	109
SZ-15.....	110
SZ-16.....	111
SZ-20.....	112
SZ-22.....	113
SZ-23.....	114
SZ-24.....	115
SZ-25.....	116
SZ-26.....	117
SZ-27.....	118
SZ-28.....	119
SZ-06.....	120
SZ-08.....	121
SZ-17.....	122
SZ-18.....	123

Packo Pump Seals

PK-01(Latty P01).....	124
PK-02(Latty P02).....	125
PK-03(Latty P03).....	126

Tuchenhagen Pump Seals

JC-07(AES W015).....	127
TH-01(AES P09).....	128
TH-02(AES P09S).....	129
TH-03(Vulcan 1661).....	130
TH-04(Vulcan 1691).....	131
TH-05(AES M010S4).....	132
TH06(AES M010S4/type B).....	133
126.....	134

Tsurumi Pump Seals

TS-01(Lidering TC-2530).....	135
TS-02(Burgmann ED560).....	136

Walrus Pump Seals

WLS-01.....	137
WLS-02.....	138
WLS-03.....	139
132.....	140

Warman Pump Seals

HQCS-F05(Flowserve SLC).....	141
HQMA-05(AEB-60WS).....	142
HQMA-14(Lightnin 509-65).....	143
KSB-12.....	144
WAR-01.....	145
WAR-02.....	146
WAR-03.....	147
WAR-04.....	148
WAR-05.....	149
WAR-06.....	150
WAR-08.....	151
144.....	152

Waukesha Pump Seals

WKS-01(AES MOGCE).....	153
WKS-02(AES W13X).....	154
WKS-03(AES M09).....	155
WKS-04(AES M09S).....	156
WKS-05(AES W13U/SINGLE).....	157
WKS-06(AES W13U/DOUBLE).....	158

WKS-07(AES W13SU/SINGLE).....	159
WKS-08(AES W13SU/DOUBLE).....	160
WKS-09(Vulcan 87/88).....	161

Wilo Pump Seals

EMU-05(AES CS).....	162
EMU-06(AES SAIE).....	163
EMU-01(AES B02X).....	164
EMU-02(AES B02XS).....	165
EMU-03(Vulcan 1640/1642).....	166
EMU-04(AES SOEC).....	167
WL-03(Lidering LRB17).....	168
WL-04(Lidering W-MS-30).....	169
WL-21(Vulcan 191).....	170
163.....	171
164.....	172

Various Pump Seals

AL-29(Vulcan 13M).....	173
HAI-06(Vulcan 144).....	174
OP-01(Vulcan N5).....	175
OP-02(Vulcan V4).....	176
OP-04(AES P011).....	177
OP-08.....	178
OP-09(AP).....	179
OP-10(KI-IP).....	180
OP-11(AES SSAI).....	181
OP-12(Lidering MVX-A).....	182
OP-13(Lidering AM-VG).....	183
OP-15(U.S VG-3015).....	184
OP-16.....	185
OP-17(AES T01X).....	186
OP-19.....	187
OP-20(Lidering SF-SP)/OP-36 (Lidering SF-HMPN).....	188
OP-22(AES T07X).....	189
OP-23(Vulcan 196).....	190
OP-24(Vulcan 121).....	191
OP-26(GW).....	192
OP-27(AES M011X).....	193
OP-29.....	194
OP-35/OP-36(Lidering SF-HMPN).....	195
OP-46/46A.....	196
OP-445.....	197
OP-B1-1.....	198



OP-412.....	199
OP-521.....	200
OP-33(Crane R33).....	201
OP-33A.....	202
Cross Reference Charts.....	203
Cross Reference Charts.....	204
Cross Reference Charts.....	205
Cross Reference Charts.....	206
Cross Reference Charts/Material Codes.....	207
Metarial Codes.....	208
Metarial Codes.....	209



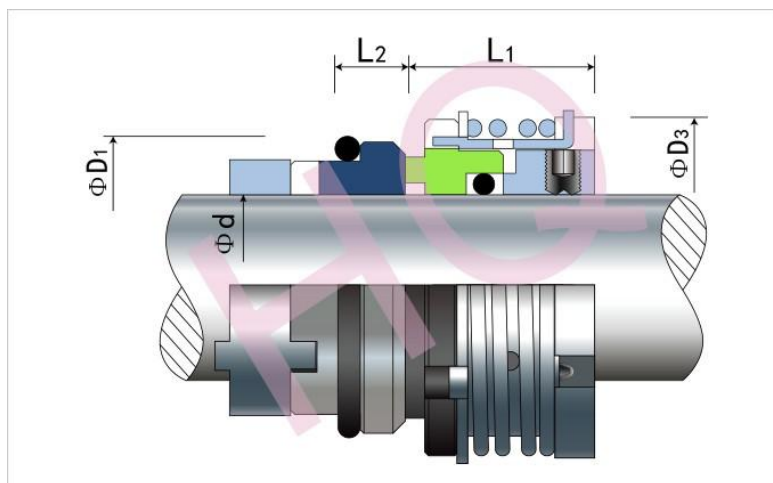
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Type: ALFA LAVAL ,IMO ACE3 Pump Seal
Replacement: LIDERING AL-N-22
Temperature: -20 to +120°C
Pressure: $\leq 1.6\text{Mpa}$
Speed: $\leq 10\text{m/s}$
Material: A,B,Q1,Q2,U1,U2,T,V,Graphite,T6,F,G,M



It is equal to LIDERING AL-N-22,
Suit for IMO ACE3 Screw pumps.

d=22mm.



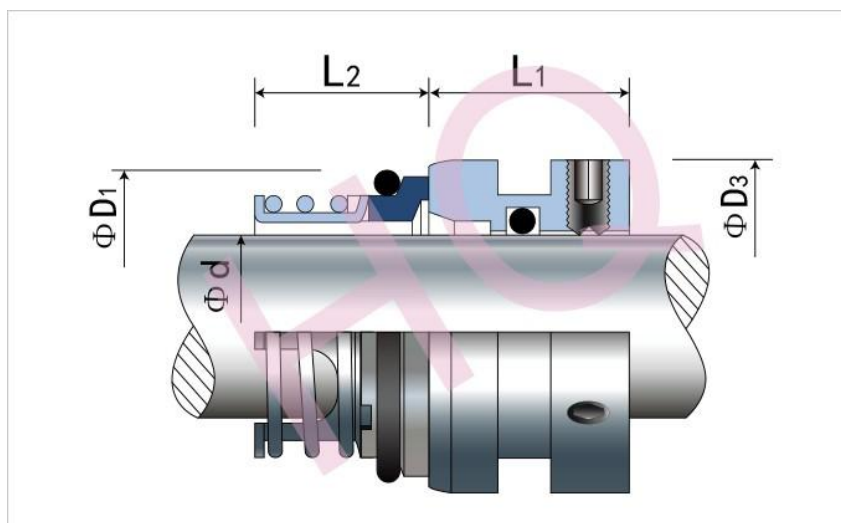
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Type: Suit for IMO Pumps
 Replacement: Suit IMO ACE3 Screw pumps
 Temperature: -20 to +150°C
 Pressure: $\leq 1.4\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G,Alfa



$d=22\text{mm}$



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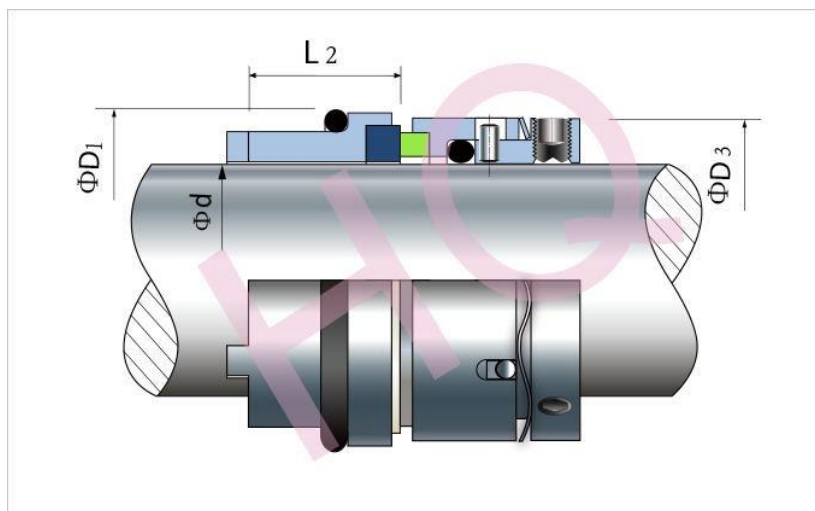


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IMO-04(1689)



Type: Suit I.M.O pumps
 Replacement: Vulcan 1689
 Temperature: -40°C to $+250^{\circ}\text{C}$
 Pressure: $\leq 1.2\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



d (mm)	D1	D2	D3	L2
22	35	33	38	23.5



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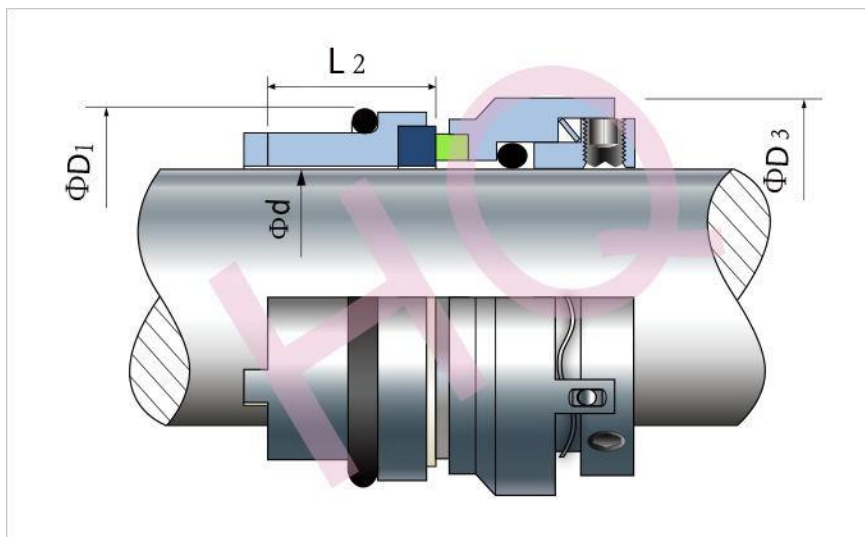


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IMO-05(1690)



Type: Suit I.M.O.series pumps
 Replacement: Vulcan 1690
 Temperature: -40°C to $+250^{\circ}\text{C}$
 Pressure: $\leq 1.2\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



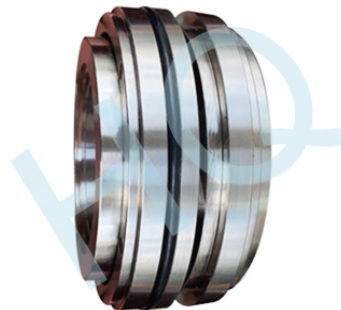
d (mm)	D1	D2	D3	L2
22	35	33	38	23.5



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Type: Vogelsang Pump Seal
Temperature: -15 to +180°C
Pressure: $\leq 2.5\text{Mpa}$
Speed: $\leq 15\text{m/s}$
Material: Q1, Q2, U2, T, V, M1, F, G, M

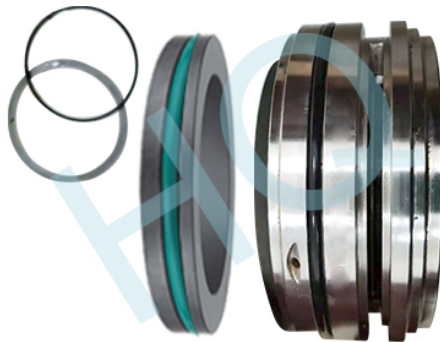
This type is single seal, suit for Vogelsang Rotary Lobe Pumps.



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Type: Vogelsang Pump Seal
Temperature: -15 to +180°C
Pressure: $\leq 2.5\text{Mpa}$
Speed: $\leq 15\text{m/s}$

This type is double seal, suit for Vogelsang Rotary Lobe Pumps.



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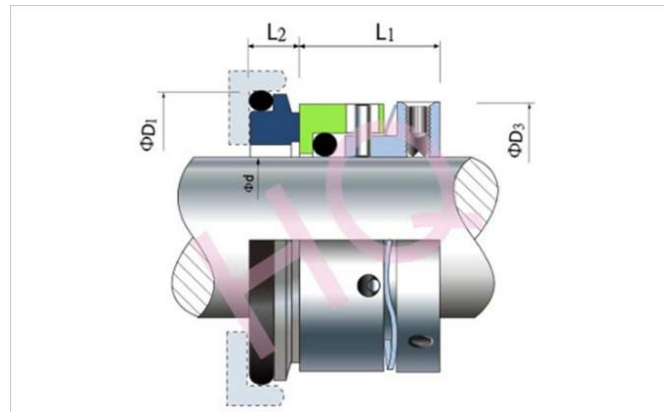
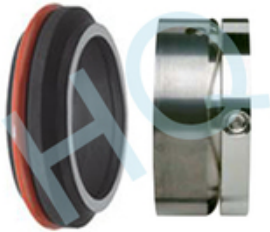
Type: Wave Spring Mechanical Seal
 Replacement: AES W01, Vulcan 1688,
 Crane 80(DF/FP), Roten 7K,
 Flowserve168

Temperature: -40°C to +200°C

Pressure: $\leq 0.80\text{Mpa}$

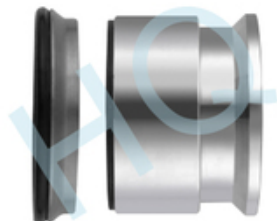
Speed: $\leq 18\text{m/s}$

Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



d (mm)	D1	D3	L1	L2
15.8	28.5	27.0	19.1	6.3
16.0	28.5	27.0	19.1	6.3
19.1	31.7	30.0	19.1	6.3
24.0	35.4	34.1	19.1	7.6
28.0	42.0	40.0	19.1	7.6
28.6	41.2	39.5	19.1	7.6
30.0	42.7	41.0	19.1	7.6
31.7	44.2	42.4	19.1	7.6
32.0	44.4	42.4	19.1	7.6
35.0	47.6	45.5	19.1	7.6
38.0	53.9	51.8	21.1	8.1
44.4	60.3	58.2	21.1	8.1
47.6	63.5	61.4	21.1	8.1
50.0	63.9	61.9	21.1	8.1
50.8	66.6	64.6	22.1	9.6
53.9	73.0	71.0	22.1	9.6
54.0	73.9	71.0	22.1	9.6
54.6	75.0	72.0	22.1	9.6
55.0	75.0	72.0	22.1	9.6
63.0	83.0	79.3	25.8	9.1
63.5	88.9	79.3	25.8	9.1
69.8	95.2	88.9	25.8	9.1
73.0	98.4	94.0	25.8	9.1
75.0	100.4	96.0	25.8	9.1

Hi1-01(M010S1)



Type: Suit for Grundfos,Higle Hygiana centrifugal

Pumps

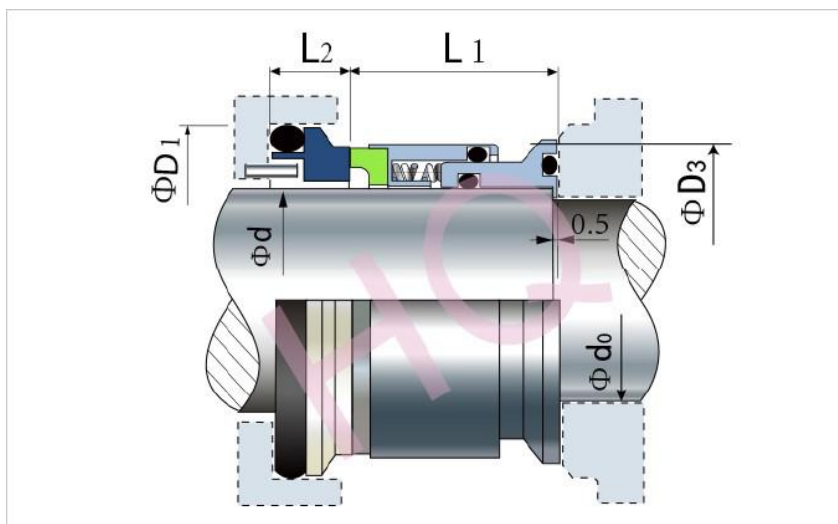
Replacement: AES M010S1, Burgamnn SHJ97, Vulcan 1663, Billi BB8H3,ROTEN EHS3

Temperature: -40°C to +250°C

Pressure: $\leq 2.5\text{Mpa}$

Speed: $\leq 15\text{m/s}$

Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



d (mm)	d0	D1	D3	L1	L2	Vulcan Code	O.E.M. Seal Code
28	24	48.0	43.0	34.5	10.5	1663	BS2-28 O1
38	35	57.1	52.8	35.0	10.5	1663	BS2-38 O1

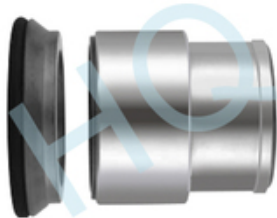


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Hi-02(M010S2)



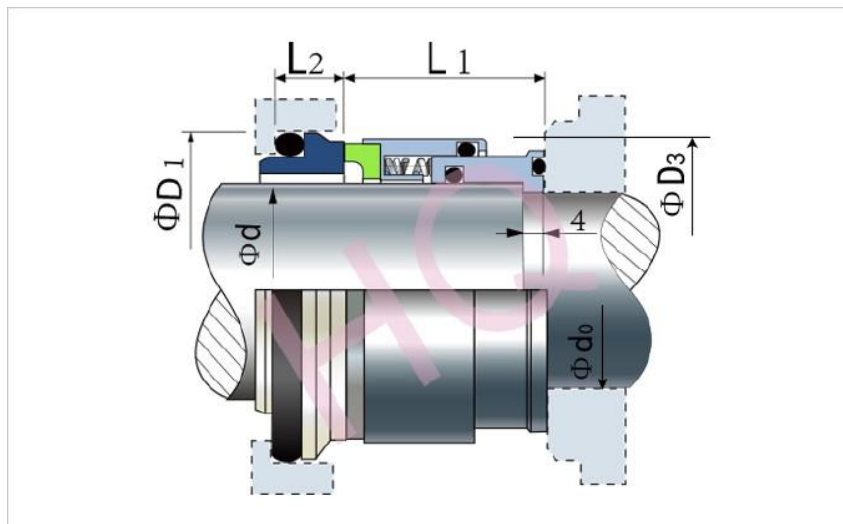
Type: Suit for Grundfos, Hilge Euro-Hygia centrifugal Pumps
 Replacement: AES M010S2, Burgamnn SHJ97, Vulcan 1663A, Billi BB8H3A, ROTEN EHS3

Temperature: -40°C to +250°C

Pressure: ≤ 2.5 Mpa

Speed: ≤ 15 m/s

Material: B, A1, Q1, Q2, U2, P, E, N, V, F, G



d (mm)	d0	D1	D3	L1	L2	Vulcan Code	O.E.M. Seal Code
28.0	24.0	48.0	43.0	38.0	10.5	1663A	BS3-28 O1

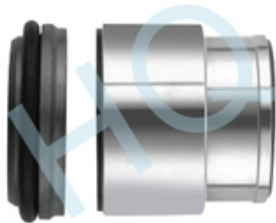


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HiI-03(M010S3)



Type: Suit for Grundfos, Hilge Euro-HYGIA,

Panda, Sipia centrifugal Pumps

Replacement: AES M010S3, Burgamnn SHJ97,

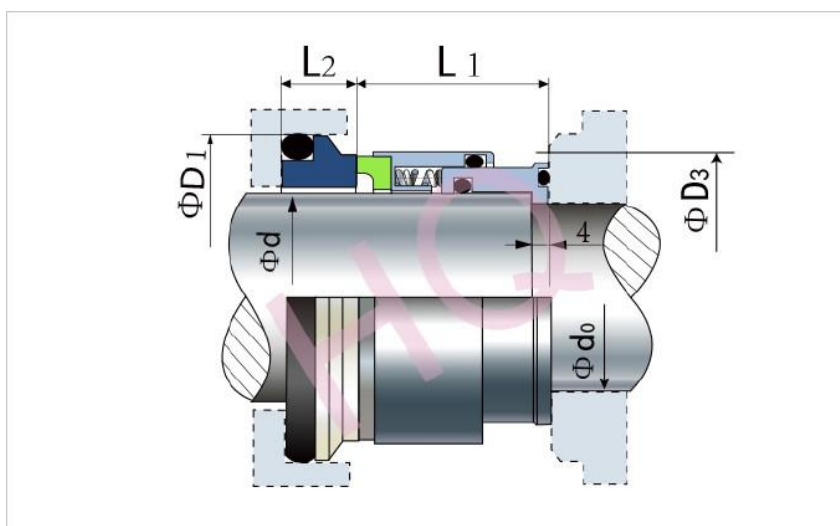
Vulcan 1662, Billi BB8HA2, ROTEN EHS3

Temperature: -40°C to $+250^{\circ}\text{C}$

Pressure: $\leq 2.5\text{Mpa}$

Speed: $\leq 15\text{m/s}$

Material: B, A1, Q1, Q2, U2, P, E, N, V, F, G



d (mm)	d0	D1	D3	L1	L2	Vulcan Code	O.E.M. Seal Code
19	16	30.9	33.5	29	8.0	1662	001-19 O1
28	24	43.3	43.0	33	9.0	1662	001-28 O1
28L	24	43.3	43.0	33	9.0	1662L	001-28 A1
38	35	60.5	52.8	43	11.5	1662	001-38 O1

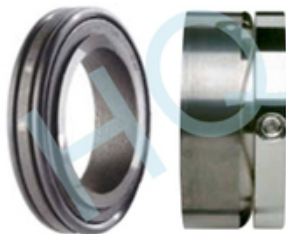


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INO-01(W011)



Type: Suit for Inoxpa Prolac R,M25

Blender,SLR,TLS Pumps

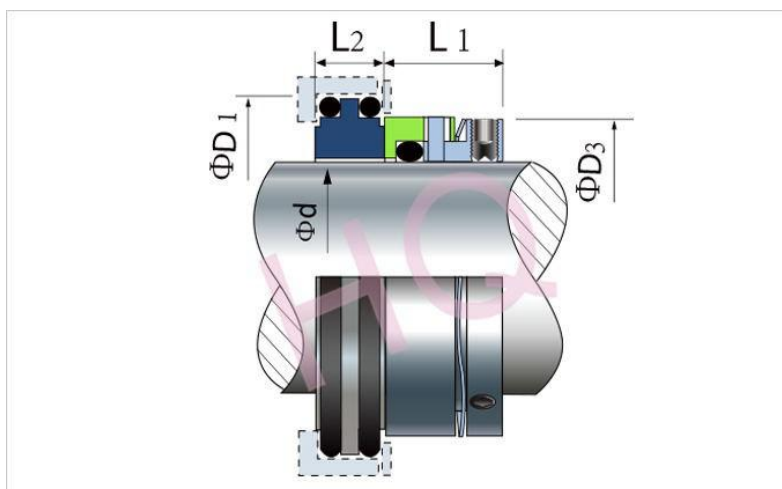
Replacement: AES W011,Vulcan 1683

Temperature: -40°C to +200°C

Pressure: $\leq 0.8\text{Mpa}$

Speed: $\leq 18\text{m/s}$

Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



d (mm)	D1	D3	L1	L2
28	45	39.0	19.1	12
35	53	45.5	19.1	12
50	70	63.5	23.0	12
65	90	82.3	25.8	14



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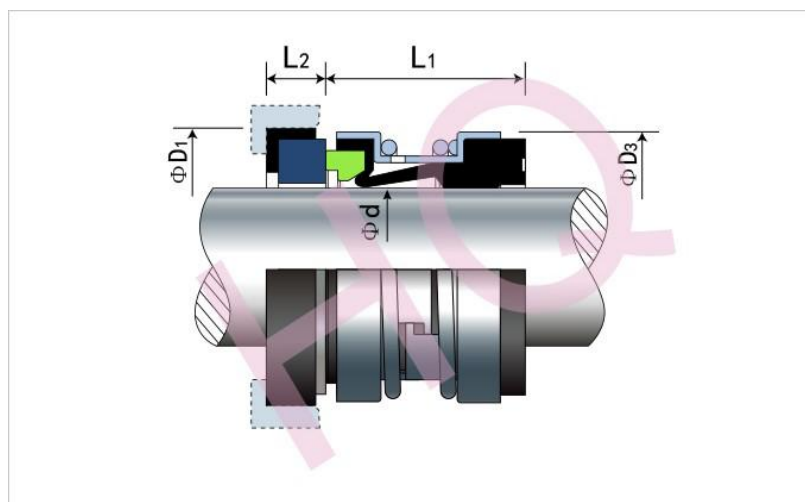


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INO-02(B092U)



Type: Elastomeric Bellow Mechanical Seal
 Replacement: AES B092U, Crane 2100(LK)
 Temperature: -20 to +140°C
 Pressure: $\leq 1.4\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa



d (mm)	D1	D3	L1	L2
25	32.5	38.8	40	0.5
d (inch)	D1	D3	L1	L2
0.984	1.280	1.528	1.550	0.295

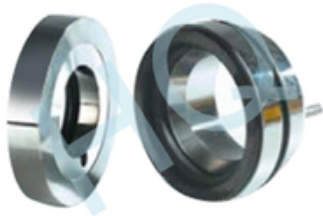


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INO-03(M07U)



Type: Suit for Inoxpa Prolac R, Prolac S, M25

Blender Pumps

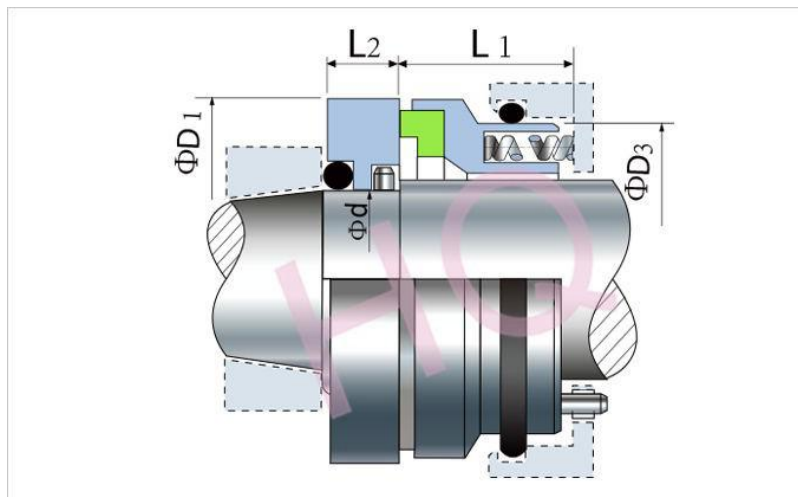
Replacement: AES M07U, Vulcan 50, ROTEN S, ROPLAN R52

Temperature: -40°C to $+200^{\circ}\text{C}$

Pressure: $\leq 0.8\text{Mpa}$

Speed: $\leq 18\text{m/s}$

Material: B, Q22, P, E, V, F, G



d (mm)	D1	D3	L1	L2
15.8	44.5	36.1	24	10.5
25.4	53.5	44.0	24	10.0
38.1	74.0	64.0	28	15.5
d (inch)	D1	D3	L1	L2
0.625	1.752	1.421	0.945	0.413
1.000	2.106	1.732	0.945	0.394



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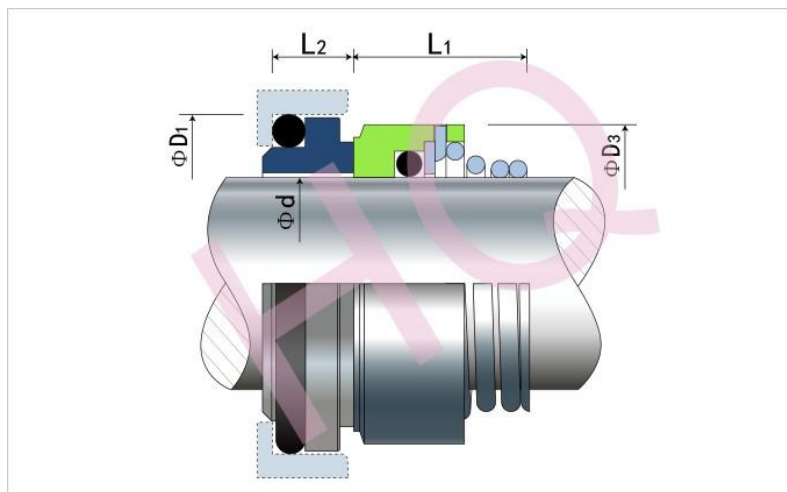
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INO-04(T03U)

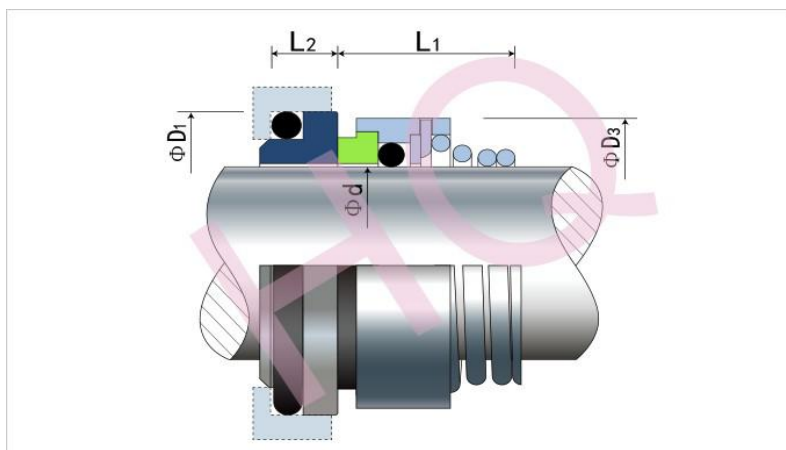
Type: O-Ring Mechanical Seal
 Replacement: AES T03U
 Temperature: -20 to +140°C
 Pressure: $\leq 1.4\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa



Type A



Type B



d (mm)	D1	D3	L1	L2
25	38.2	39	2	8.5
d (inch)	D1	D3	L1	L2
0.984	1.504	1.535	1.063	0.335



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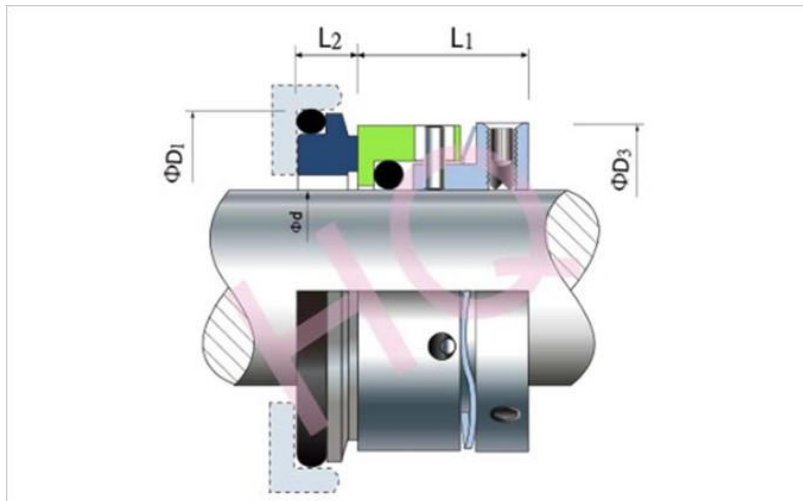
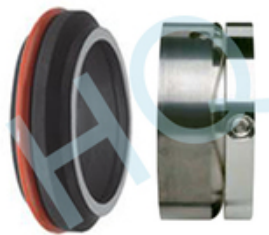
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AL-38(W01)

Type: Suit for Alfa Laval SSP AP,GP,NDM and
Johnson Pumps
Replacement: AES W01
Temperature: -20°C to +200°C
Pressure: $\leq 0.8\text{Mpa}$
Speed: $\leq 18\text{m/s}$
Material: A,B,U1,U2,V,G,M5



d (mm)		D1		D3		L1		L2	
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
15.8	0.622	28.6	1.126	27.0	1.063	19.1	0.752	6.3	0.248
16.0	0.63	28.6	1.126	27.0	1.063	19.1	0.752	6.3	0.248
19.1	0.752	31.7	1.248	30.0	1.181	19.1	0.752	6.3	0.248
24.0	0.945	35.4	1.394	34.1	1.343	19.1	0.752	0.6	0.299
28.0	1.102	42.0	1.654	40.0	1.575	19.1	0.752	0.6	0.299
28.6	1.126	41.2	1.622	39.5	1.555	19.1	0.752	0.6	0.299
30.0	1.181	42.7	1.681	41.0	1.614	19.1	0.752	0.6	0.299
31.7	1.248	44.2	1.74	42.4	1.669	19.1	0.752	0.6	0.299
32.0	1.26	44.4	1.748	42.4	1.669	19.1	0.752	0.6	0.299
34.9	1.374	47.6	1.874	45.5	1.791	19.1	0.752	0.6	0.299
35.0	1.378	47.6	1.874	45.5	1.791	19.1	0.752	0.6	0.299
38.0	1.496	53.9	2.122	51.8	2.039	21.1	0.831	8.1	0.319
38.1	1.500	53.9	2.122	51.8	2.039	21.1	0.831	8.1	0.319
44.4	1.748	60.3	2.374	58.2	2.291	21.1	0.831	8.1	0.319
47.6	1.874	63.5	2.500	61.4	2.417	21.1	0.831	8.1	0.319
50.0	1.969	63.9	2.516	61.9	2.437	21.1	0.831	8.1	0.319
50.8	2.000	66.6	2.622	64.6	2.543	22.1	0.870	9.6	0.378
53.9	2.122	73.0	2.874	71.0	2.795	22.1	0.870	9.6	0.378
54.0	2.126	73.9	2.909	71.0	2.795	22.1	0.870	9.6	0.378

JS-01(W06)



Type: Suit for Hilge Domina S and Johnson

OnLine(OL) Series Lobe Rotor pumps

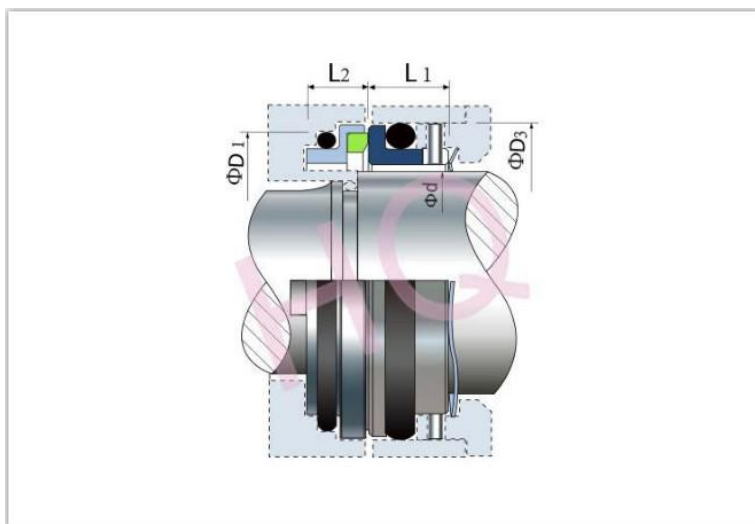
Replacement: AES W06, Vulcan 1650, BURGMANN HRZ60

Temperature: -20 to +150°C

Pressure: $\leq 2.1\text{Mpa}$

Speed: $\leq 10\text{m/s}$

Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G,Alfa



d (mm)	D1	D3	L1	L2	O.E.M Pump Model
24	37.5	38	14.0	11.0	OL1
40	56.0	58	15.5	12.5	OL2
53	69.0	71	17.5	11.5	OL3

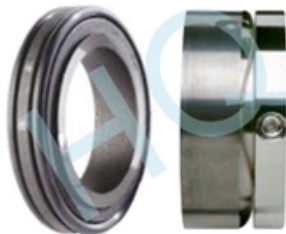


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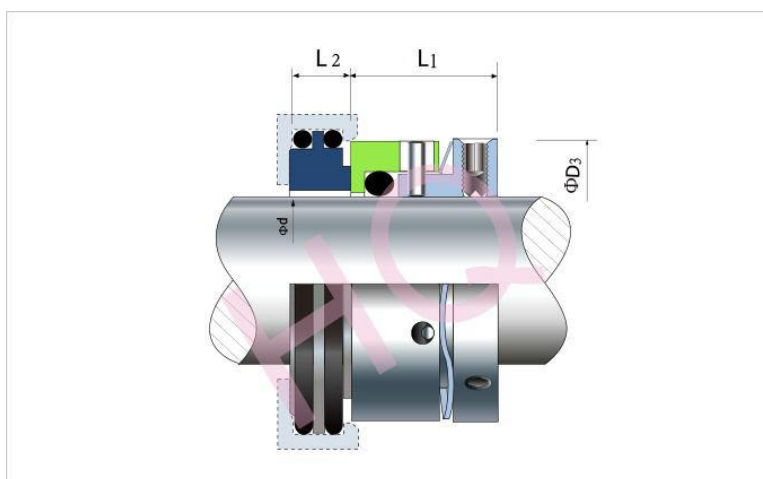
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JS-02(W01-TL)



Type: Suit for Johnson Toplobe Pumps
 Replacement: AES W01-TL, Burgmann M7KS60
 Temperature: -40°C to $+200^{\circ}\text{C}$

Pressure: $\leq 0.8\text{Mpa}$
 Speed: $\leq 20\text{m/s}$
 Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



d(mm)	D1	D3	L1	L2	O.E.M. Pump Model
30	48	41.0	19.1	10.3	TL 1
35	55	45.5	19.1	12.0	TL 2
50	72	61.9	21.1	12.0	TL 3

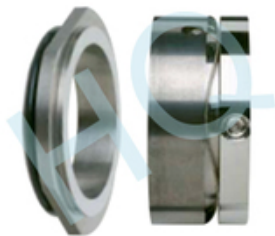


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JS-03(W04)



Type: Suit for Johnson IC and PD -Series Lobe

Rotor pumps

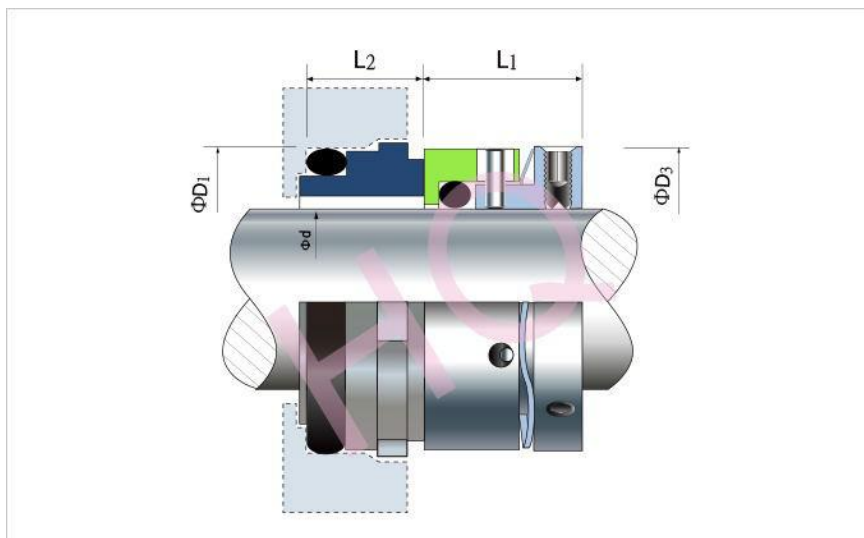
Replacement: AES W04, Vulcan 1688Y

Temperature: -40°C to $+200^{\circ}\text{C}$

Pressure: $\leq 0.8\text{Mpa}$

Speed: $\leq 20\text{m/s}$

Material: B, A1, Q1, Q2, U2, P, E, N, V, F, G



d (mm)	D1	D3	L1	L2	O.E.M. Pump Model
30	40.0	41.0	19.1	9.3	IC10, PD10
35	44.5	45.5	19.1	6.2	IC20, PD20
50	62.0	61.9	21.1	10.4	IC30, PD30
70	85.0	88.9	25.8	14.1	IC40, PD40
80	95.0	101.0	25.8	16.2	IC50, PD50



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JS-04(W017U)

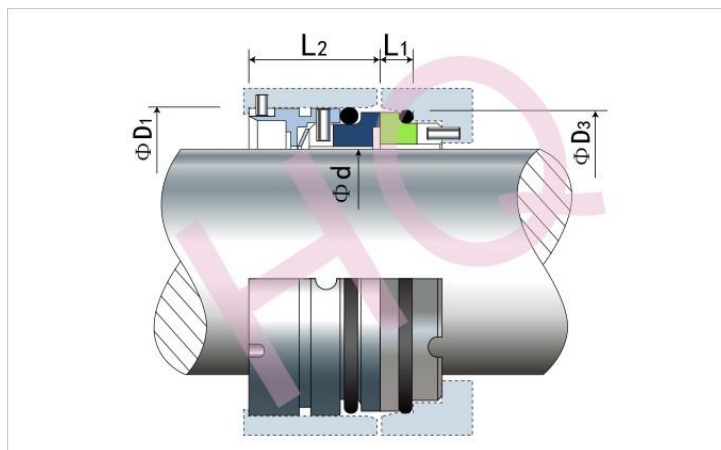


Type: Suit for Johnson TopWing(TW)2 (Pumps
Replacement: AES W17U
Temperature: -40°C to +200°C

Pressure: $\leq 0.6\text{Mpa}$

Speed: $\leq 20\text{m/s}$

Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G,Alfa



d (mm)	D1	D3	L1	L2
30	44.2	43.4	6.2	29.0
48	65.0	66.4	8.1	27.9
d (inch)	D1	D3	L1	L2
1.181	1.740	1.709	0.244	1.142
1.890	2.559	2.614	0.319	1.098

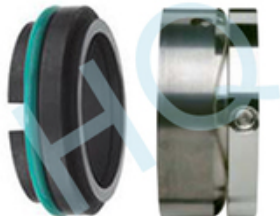


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JS-05(W02)



Type: Suit for Johnson Pumps

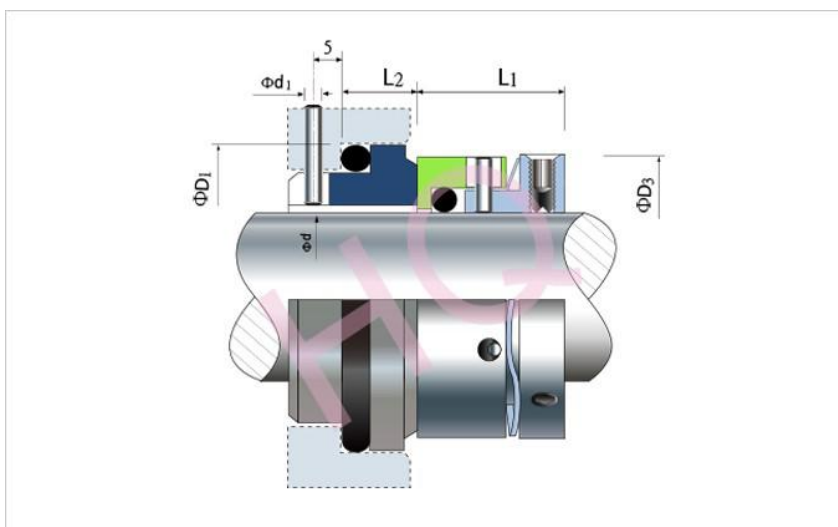
Replacement: AES W02

Temperature: -40°C to $+200^{\circ}\text{C}$

Pressure: $\leq 0.8\text{Mpa}$

Speed: $\leq 20\text{m/s}$

Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



Size (mm)	D1	D3	d1	L1	L2
16	27	27.0	4	19.1	8.6
20	35	31.0	5	19.1	10
22	37	33.0	5	19.1	10
24	39	34.1	5	19.1	10
25	40	35.2	5	19.1	10
28	43	40.0	5	19.1	10
30	45	41.0	5	19.1	10
32	48	42.4	5	19.1	10
33	48	44.0	5	19.1	10
35	50	45.5	5	19.1	10
38	56	51.8	5	21.1	11
40	58	53.8	5	21.1	11

JC-06(W09)

Type: Wave Spring Mechanical Seal,Suit for B1

Pumps

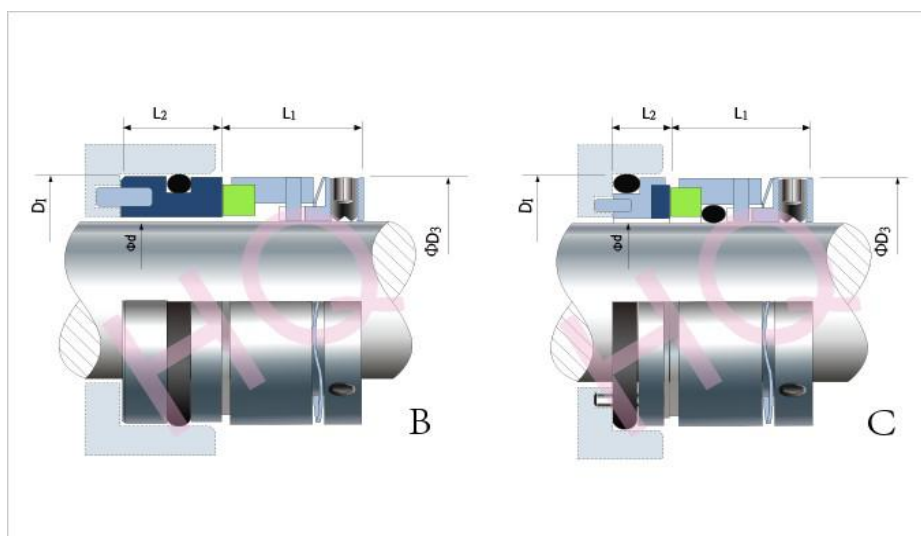
Replacement: AES W09

Temperature: -20 to +140°C

Pressure: $\leq 2.5\text{Mpa}$

S peed: $\leq 10\text{m/s}$

Material: B,Q2,U2,P,E,N,V,F,G,Alfa



d (mm)	D1	D3	L1	L2
15.0	27.0	26.0	20.9	9.3
30.1	42.0	40.9	20.6	14.0
34.9	47.6	47.6	20.6	15.8
50.8	66.6	65.4	23.8	11.9
76.2	95.2	98.6	39.7	11.9
d (inch)	D1	D3	L1	L2
0.591	1.063	1.024	0.823	0.366
1.185	1.654	1.610	0.811	0.551
1.374	1.874	1.874	0.811	0.622
2.000	2.622	2.575	0.937	0.469
3.000	3.748	3.882	1.563	0.469

JC-07(W015)



Type: Suit for Jabsco Hy-Line LH520 and LH540

Pumps, and Tuchenhausen VPSH, VPSU Pumps

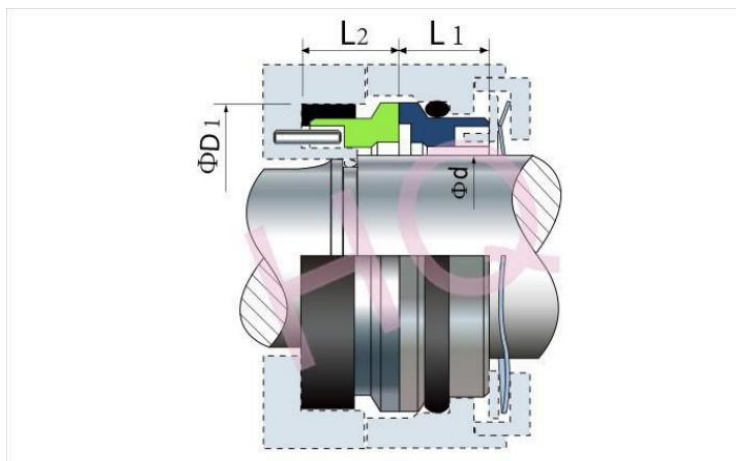
Replacement: AES W015

Temperature: -40 to +240°C

Pressure: $\leq 1.4\text{Mpa}$

Speed: $\leq 10\text{m/s}$

Material: B, Q2, U2, P, E, N, V, F, G, Alfa



d (mm)	D1	L1	L2
25.0	37.0	12.3	11.1
34.9	48.0	12.5	11.5
47.6	60.3	13.7	12.7

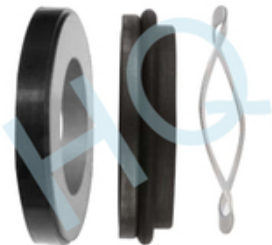


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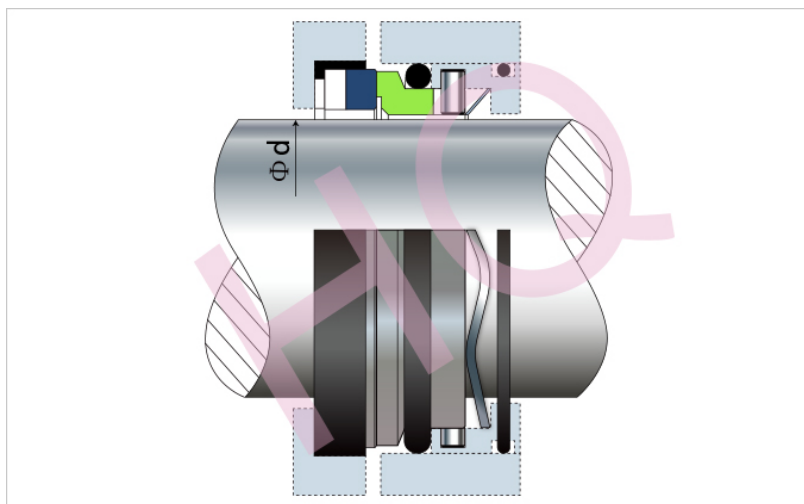


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JS-06(W026)



Type: Suit for Johnson Sterilobe pumps
 Replacement: AES W026
 Temperature: -20 to +150°C
 Pressure: $\leq 2.1\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G,Alfa



d=58mm,68mm,78mm,

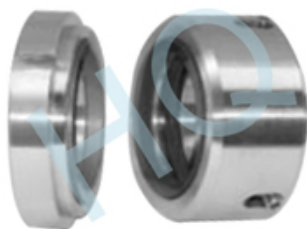
d=2.283",2.677",3.071"



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Type: Suit Johnson Albin Pumps
Temperature: -25 to +150°C
Pressure: $\leq 0.8\text{Mpa}$
Speed: $\leq 10\text{m/s}$
Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G,Alfa

Suit Jihkson Albin Pumps

Equal to Apex Johnson Albin



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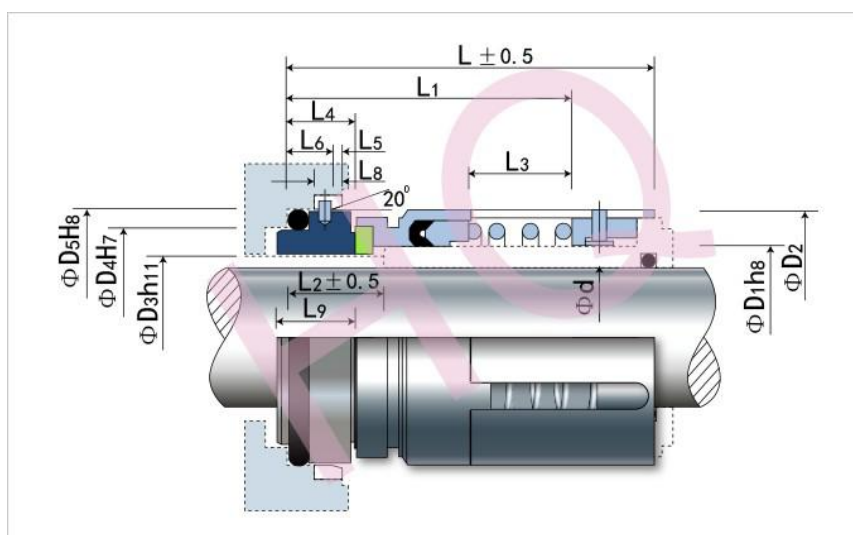


Type: O-Rng Mechanical Seal
Temperature: -20 to +200°C

Pressure: $\leq 4\text{Mpa}$

Speed: $\leq 23\text{m/s}$

Material: B, Q2, U2, P, E, N, V, F, G, Alfa



d (mm)	D1	D2	D3	D4	D5	L	L1	L2	L3	L4	L5	L6	L8	L9
1.750	44.5	62.0	39.6	52.5	62.0	89.0	69.0	23.5	25.0	16.3	2.0	10.5	6.0	18.8
2.125	54.0	76.0	47.6	64.0	76.1	109.5	92.0	27.0	35.0	19.0	2.5	12.5	7.5	20.5
2.250	57.0	75.0	52.3	64.0	73.0	89.0	71.0	27.0	27.0	19.0	2.5	12.5	7.5	20.5
2.500	63.5	85.5	57.0	70.5	82.6	119.0	95.0	28.0	45.0	19.0	2.5	12.5	7.5	20.5
2.875	73.0	95.0	66.6	80.0	92.0	115.0	93.0	28.0	32.0	22.5	3.0	14.0	8.5	23.5
3.250	82.6	104.6	76.2	91.4	101.4	116.0	93.0	32.5	32.0	22.5	3.0	14.0	8.5	23.5
3.375	85.7	112.4	79.3	100.3	112.7	123.5	101.7	32.5	37.0	22.5	3.0	14.0	8.5	23.5
3.625	92.0	114.5	85.7	102.0	114.0	117.0	97.5	32.5	36.5	22.5	3.0	14.0	8.5	23.5
4.000	102.0	125.4	95.2	107.7	121.0	123.1	102.0	32.5	36.5	22.5	3.0	14.0	8.5	23.5



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HQMA-11(AEB-60/80/100)



Type: Water-free Mechanical Seal with Bearing
 Replacement: Suit for Sulzer,KSB,Andritz Pumps
 Temperature: $\leq 150^{\circ}\text{C}$
 Pressure: $\leq 0.8\text{Mpa}$
 Speed: $\leq 1800\text{rpm}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M

*Product description:

Single cartridge mechanical seal for replacemente Lightnin blender application. The product is based on the original AEB-60 model has been improved on, it will play the role of a stable positioning of the bearing portion and the sealing.

*Apply to the host

ITT
 Sulzer
 KSB
 FLOWSERVE
 Andritz
 DuCHTING (Germany) pump company



*Product features

Single cartridge seal
 Pusher
 Multiple springs seal Independent of
 direction of rotation Admissible axial
 movement ± 1



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Type: Desulfurization Stirred Seal
 Replacement: Suit KSB KWPKC8010 Series pumps
 Temperature: -20 to +120°C
 Pressure: 0 to 0.8Mpa
 Speed: $\leq 12\text{m/s}$
 Material: Q1, Q2, A, B, U1, U2, P, E, V, T, F, G, T2, M5

* Product description:

This series special mechanical seal for flue gas desulfurization circulating pump is a special product for the 525th pump industry, with shaft diameter of 125, 142, 158, 175, 198, etc. This machine is sealed into single end face structure and double end face structure with easy installation and strong adaptability. The sealing machine is equipped with internal and external flushing interfaces for users to choose freely. It is easy to install and replace, equipped with flushing circulation system, external flushing water can take away the normally leaking medium and particulate matter from the sealing surface, and prevent long-term corrosion and particle deposition of sealing medium

* Operation parameters:

Suitable medium: medium containing gypsum, lime slurry and other impurities with high content.

Pressure: 0 ~ 2.5 Mpa

Temperature: - 20 °C ~ 180 °C

Speed: $\leq 10\text{m/min}$

pressure: 0 ~ 0.8mpa.

Diameter: 30 ~ 100mm.



* Structural features:

Double-end balance type packaged mechanical seal, multi-spring built-in fective protection,



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Type: Mechanical Seal
 Replacement: Siut for Andritz,KSB,Sulzer Pumps
 Temperature: $\leq 150^{\circ}\text{C}$
 Pressure: $\leq 0.80\text{Mpa}$
 Speed: $\leq 1800\text{r/min}$
 Material: Q1,Q2,A,B,U1,U2,P,E,V,T,F,G,T2,M5

* Product description:

Burgmann general type M7, simple mechanical seal, single end face non assembled structure, can be installed in a suitable pump seal chamber alone for use, or two sets in series to form a double end face mechanical seal.

* Apply to the hos

Sulzer .

KSB.

Andritz.



* Product features

Single terminal non-set type, rotary non-equilibrium type.

Multiple springs, free rotation.

Horizontal mounting, screw fastening drive.

YWN8/SiC/ graphite, 2Cr13/ 304/316l, fluorine rubber.

There is no water.



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KSB-01(127B)



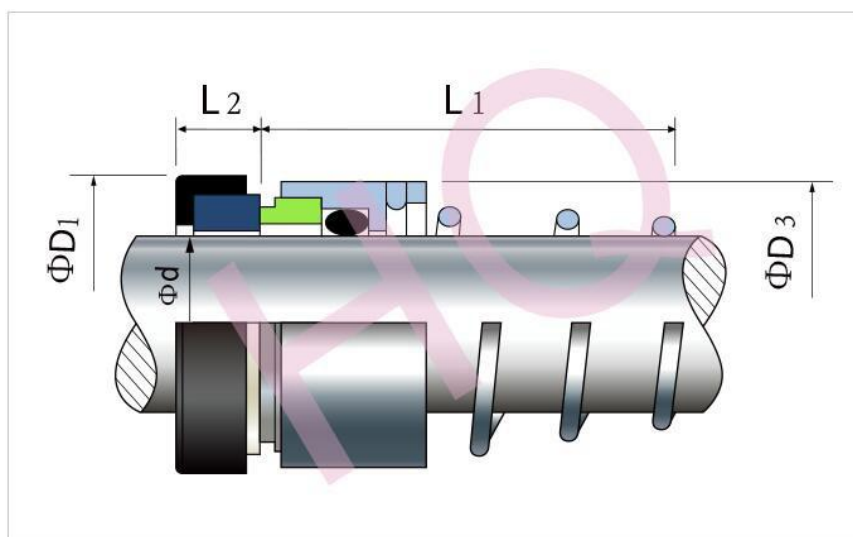
Type: Suit for K.S.B ETA- and SY-Series Pumps
Replacement: Vulcan 127B

Temperature: -20 to $+120^{\circ}\text{C}$

Pressure: $\leq 1.4\text{Mpa}$

Speed: $\leq 15\text{m/s}$

Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G,Alfa



d (mm)	D1	D3	L1	L2
28	43	40	42.5	7.5
38	56	53	46.0	9.0
48	66	64	51.0	9.0



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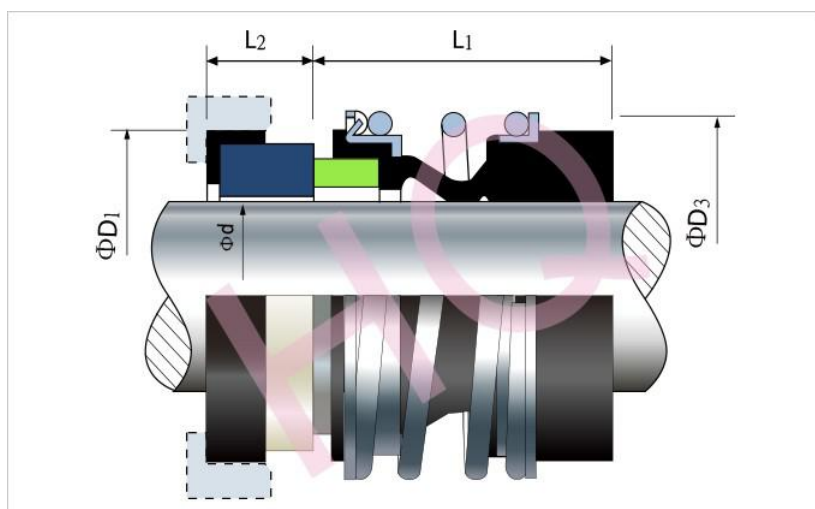


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KSB-02(B02K)



Type: Suit for K.S.B Pumps
 Replacement: AES B02K, Burgmann MG1S,
 Flowservw KZN
 Temperature: -20 to +120°C
 Pressure: $\leq 1.4\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa



d (mm)	D1	D3	L1	L2
10	19.6	20.0	26.0	6.6
15	25.0	25.0	28.4	6.6
16	27.0	26.0	22.2	12.1
22	37.0	36.0	25.5	12.1
28	43.0	47.0	36.5	14.4
38	56.0	58.0	42.0	13.2
48	66.0	69.3	50.5	9.6



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KSB-03(1678Y)

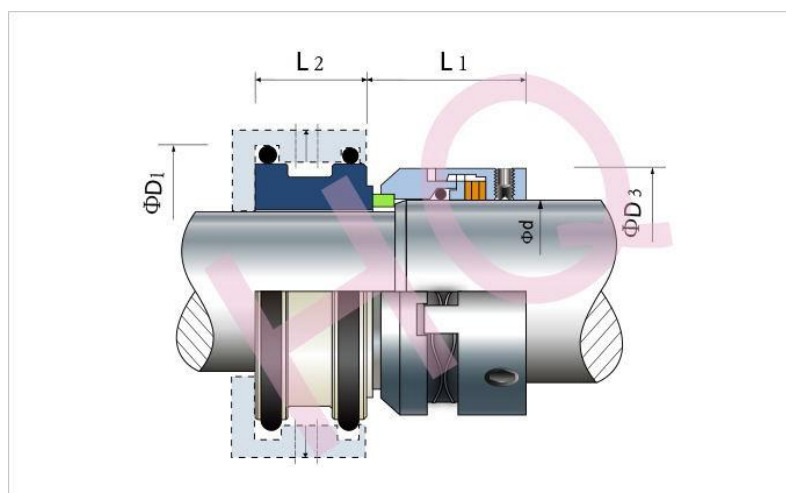


Type: Suit for Various K.S.B Pumps
 Replacement: Vulcan 1678Y
 Temperature: -20 to +140°C

Pressure: $\leq 1.0\text{Mpa}$

Speed: $\leq 18\text{m/s}$

Material: B,Q2,U2,P,E,N,V,F,G,Alfa



d (mm)	D1	D2	D3	L1	L2
28	55.2	48.8	47	38.5	25
33	59.2	52.8	54	38.5	29



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KSB-04(197)



Type: Suit for K.S.B AMA,KRT and SEWA-Series

Pumps

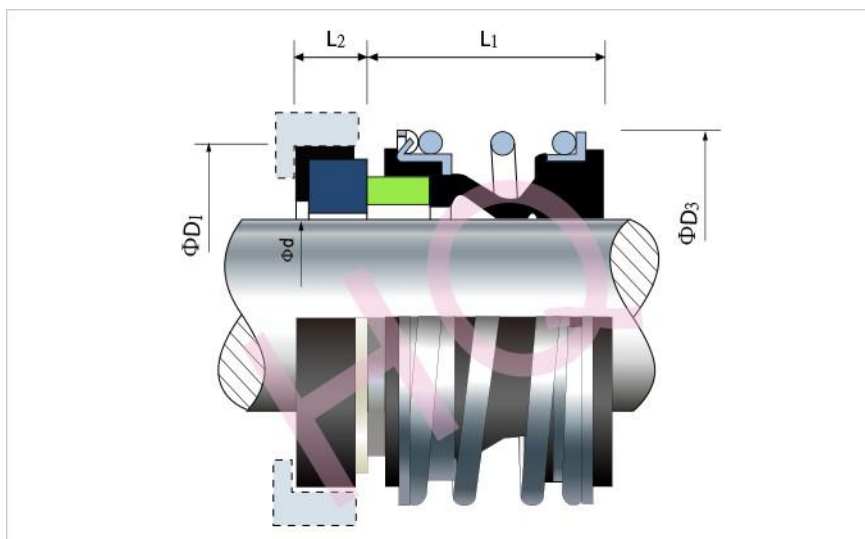
Replacement: Vulcan 197

Temperature: -20 to +120°C

Pressure: $\leq 1.5\text{Mpa}$

Speed: $\leq 15\text{m/s}$

Material: B,Q2,U2,P,E,N,V,F,G,Alfa



d (mm)	D1	D3	L1	L2
25	38	41	23.0	7.5
28	43	47	26.5	9.0
33	48	51	27.5	11.0



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KSB-05(192K)



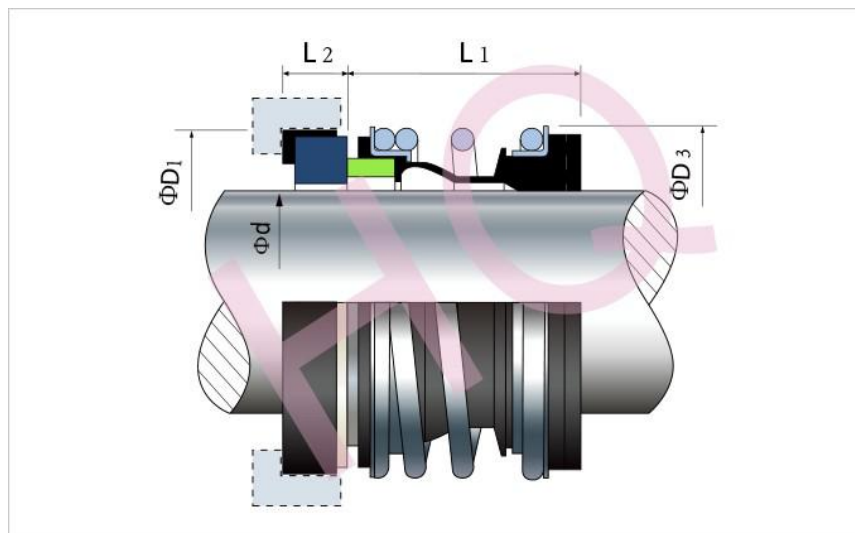
Type: Suit for K.S.B ETA-Series Pumps
Replacement: Vulcan 192K

Temperature: -20 to +120°C

Pressure: $\leq 1.4\text{Mpa}$

Speed: $\leq 15\text{m/s}$

Material: B,Q2,U2,P,E,N,V,F,G,Alfa



d (mm)	D1	D3	L1	L2
16	27	26	22.2	12.1
22	37	36	25.5	12.1
28	43	47	36.5	14.4
38	56	58	42.0	13.2
48	66	69	50.5	9.6



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Type: Mechanical Seal
Replacement: Suit for K.S.B Pumps
Temperature: $\leq 60^{\circ}\text{C}$
Pressure: $\leq 11\text{Mpa}$
Speed: $\leq 1500\text{r/min}$
Material: B,Q2,U2,P,E,N,V,F,G,Alfa



*** Product description:**

Frame oil seal is installed in the product gland, and a closed space is formed between the sealing ring. Flushing water is connected in the space, providing flushing and cooling effect for sealing ring and spring during operation to ensure stable use of mechanical seal.

*** Apply to the host**

KSB

*** Application:**

Thermal power generation

*** Working pump position:**

Cooling pump condensate pump, condensate pump.



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Type: KSB Mechanical Seal
 Replacement: Suit for KSB Pumps
 Temperature: $\leq 200^{\circ}\text{C}$
 Pressure: $\leq 4\text{Mpa}$
 Speed: $\leq 3000\text{r/min}$
 Material: Q1,Q2,A,B,U1,U2,P,E,V,T,F,G,T2,M5

*** Product description:**

This type feed water pump mechanical seal smooth operation, reasonable design, safe and reliable, and put into operation for many years happened affect the safe operation of the host at the end of the accident, provides the guarantee the safety and stability of operation of the coal-fired power plant.

*** Applicable host:**

KSB (KSB) factory.

*** Product features:**

Smooth operation
 Safe and reliable

*** Product parameters:**

Hot water, clear water.
 Temperature: $\leq 200^{\circ}\text{C}$
 Pressure: $\leq 4\text{ Mpa}$ Wash:
 P32
 Speed: $\leq 3000\text{ r/min}$.
 Diameter: 105 mm



*** Application industry:**

Thermal power generation.

*** Working condition pump position:**

Cooling pump, condensate pump, condensate pump.



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Type: Double Cartridge Seal
 Replacement: Suit for KSB pump
 Temperature: $\leq 150^{\circ}\text{C}$
 Pressure: 1.0Mpa
 Speed: $\leq 2000\text{r/min}$
 Material: Q1,Q2,A,B,U1,U2,P,E,V,T,F,G,T2,M5

*Product description:

This series of mechanical seal is a new type of mechanical seal designed for desulfurization peripheral pump. This machine seals the structure advanced, the installation is convenient. This series mechanical seals are made of non-pressed sintered silicon carbide, 316L, fluoro rubber and other materials. The service life can be up to one year.

*Apply to the host

KSB (KSB) factory.

*Product features

Double end face set, rotary non-equilibrium type.
 Single spring/free rotation.
 Horizontal installation, clamping type transmission.
 YWN8, 2Cr13/ 304/316L, fluoro rubber/silicone rubber.
 Outside circulation flushing

*Product parameters

Media: medium containing high impurity content such as gypsum and lime slurry.
 Temperature: $\leq 150^{\circ}\text{C}$
 Pressure: $\leq 1\text{ Mpa}$
 Flushing: external circulation flushing.
 Speed: $\leq 2000\text{ r/min}$.
 Axle diameter: 50 mm

*Applicable industry:

Metallurgy, pharmacy, mineral, alumina, fertilizer.

*Applicable pump:

Slurry pump, dredge pump, alkali pump, mud pump.



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Type: Mechanical Seal
Replacement: Suit For KSB Pumps
Temperature: $\leq 150^{\circ}\text{C}$
Pressure: 1.0Mpa
Speed: $\leq 10\text{r/min}$
Material: Q1,Q2,A,B,U1,U2,P,E,V,T,F,G,T2,M5

***Product description:** this type without blocking special centrifugal pump mechanical seal, mechanical seal manufacture by sichuan yu co., LTD., production, the mechanical seal structure is set outside flush mounted single end face structure, no adjustment in the process of installation and use the installation at the scene size, installation is simple, the substrate material can be chosen as 904 l, 316 l, 316, 2 cr13, friction pair of high quality hard alloy.

***Apply to the host**
KSB (KSB) factory.



***Product features**
High temperature resistance, corrosion, wear, high pressure.
The spring receives the effective protection, the balance structure.
Good sealing performance and long service life.

***Product parameters**
Limestone, gypsum slurry and other solid particle media and corrosion media.
Temperature: $\leq 150^{\circ}\text{C}$
Wash:
Speed: $\leq 10\text{ r/min}$

***Application industry:** thermal power generation fine chemical industry.

***Working condition pump position:** slurry pump.



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Type: Condensate Pump Mechanical Seal
Replacement: Suit for KSB Pumps
Temperature: $\leq 150^{\circ}\text{C}$
Pressure: $\leq 0.80\text{Mpa}$
Speed: $\leq 1900\text{r/min}$
Material: Q1, Q2, A, B, U1, U2, P, E, V, T, F, G, T2, M5



* Product description: for mechanical seal.

* Apply to the host

KSB (KSB) factory.

* Application industry: thermal power generation.



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Type: KSB,WARMAN,SULZER,ANDRITZ

Mechanical Seal

Replacement: Suit KSB,Sulzer and Sulzer Pumps

Temperature: -20 to +180°C

Pressure: $\leq 0.8\text{Mpa}$

Speed: $\leq 10\text{m/s}$

Material: A,B,Q1,Q2,U1,U2,T,T6,V,G,F,M,M1

*Product description

Big shaft mechanical seal. Cartridge type mechanism for easy installation and replacement
warman slurry pumps.

*Apply to the host

Warman Pump Company



*Product features

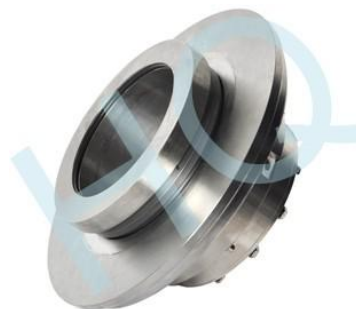
Single cartridge seal

Pusher

Multiple springs seal

Independent of direction of rotation

Admissible axial movement ± 1



*Applicable industries:

Oil and gas industry,Power plant Metallurgy.

Suitable pump: Circulating pump, Slurry pumps, Mud pumps, Sludge pump, Desulphurization pump.



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Type: KSB Mechanical Seal
Replacement: Suit KSB Pumps
Temperature: -20 to +180°C
Pressure: $\leq 0.8\text{Mpa}$
Speed: $\leq 10\text{m/s}$
Material: B,Q2,U2,P,E,N,V,F,G,Alfa

*Model No: KSB-14

*Materials:

Stationary Ring: Q2/V/Q1/U

Rotary Ring: A/B/Q1/Q2/U2

Secondary Seal: B/E/K/N/P/S/V/M

Spring and Metal Parts: F/G/M

Shaft size: 55mm

*Description:

Suit for KSB Sewatec series pumps.



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Type : KSB Pump Seal
Replacement : Suit KSB Pumps
Temperature : -20 to +140°C

Pressure : $\leq 11\text{Mpa}$
Speed : $\leq 1500\text{r/min}$
Material : Q1,Q2,U2,T,V,M1,F,G,M

*** Product description:**

Frame oil seal is installed in the product gland, and a closed space is formed between the sealing ring. Flushing water is connected in the space, providing flushing and cooling effect for sealing ring and spring during operation to ensure stable use of mechanical seal.

*** Apply to the host**

KSB

*** Product features**

The container type.

*** Application:**

Thermal power generation

*** Working pump position:**

Cooling pump condensate pump, condensate pump.



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KSB-16



Type: KSB Pump Seal
Replacement: Suit KSB Etanorm-R Pumps
Temperature: -15 to +150°C
Pressure: $\leq 3\text{Mpa}$
Speed: $\leq 10\text{m/s}$
Material: Q1, Q2, U2, T, V, M1, F, G, M

*Model No: KSB-16

*Materials:

Stationary Ring: Q2/V/Q1/U
Rotary Ring: A/B/Q1/Q2/U2
Secondary Seal: B/E/K/N/P/S/V/M
Spring and Metal Parts: F/G/M
Shaft size: 55mm

*Description:

For KSB Etanorm-R series pumps.



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Type: KSB Pump Seal
Replacement: Suit KSB Pumps
Temperature: -20 to +200°C

Pressure: $\leq 0.8\text{Mpa}$
Speed: $\leq 3000\text{r/min}$
Material: Q1, Q2, U2, T, V, M1, F, G, M

*Product description

KSB pump mechanical seals, built-in, single end, large spring, non-balance, combined coil spring transmission, pump shaft rotation and spring rotation.

*Apply to the host

KSB Company

*Product features

Built-in type, single end surface, large spring, non-balance type, combination coil spring drive, pump shaft rotation and spring rotation.

*Product parameters

Pressure: 0-0.8 Mpa
Temperature: - 20-200 °
Speed: $\leq 3000\text{ r/min}$



*Applicable industries:

This KSB mechanical seals are suitable for bearing, pump, kettle, cylinder, corrosion resistance, high temperature resistance, high pressure resistance, wear resistance.



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Type: KSB High Pressure Pipe Pump Seal
Replacement: Suit KSB Pumps
Temperature: $\leq 40^{\circ}\text{C}$
Pressure: $\leq 70\text{Bar}$
Speed: $\leq 1450\text{r/min}$
Material: Q1, Q2, U2, T, V, M1, F, G, M

***Product description**

KSB KESBY high pressure pipeline pump V/LHS/VS/VC mechanical seals, vertical installation with annular section design of multi-stage high pressure centrifugal pump, equipped with the same nominal diameter, position relative design nozzle and nozzle (pipe design), direct connection, design in accordance with ATEX standards.

***Apply to the host**

KSB Company

***Product features**

It is used in sprinkling irrigation, irrigation, washing, water treatment, fire fighting and supercharging systems.

***Applicable industries:**

High pressure pump



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Type: KSB Direct-Connect Pump Etabloc
Mechanical Seal
Replacement: Suit KSB Pumps
Temperature: $\leq 140^{\circ}\text{C}$
Pressure: $\leq 16\text{Mpa}$
Speed: $\leq 1450\text{r/min}$
Material: Q1, Q2, U2, T, V, M1, F, G, M

*Product description

Etabloc mechanical seal is applied to spray irrigation, irrigation, drainage, central heating, water supply system, air conditioning system, swimming pool, hot water, fire fighting system, cooling water, fire fighting water, seawater, oil, brine, drinking water, detergent, alkali water, industrial water, etc. Single-stage direct-connected single-stage radial split vortex shell, rated power in accordance with EN 733 standard, with replaceable shaft sleeve tube and pump body seal ring. Design in accordance with ATEX.

*Apply to the host

KSB Company

*Product features

It is used for sprinkling irrigation, irrigation, drainage, central heating, water supply system, air conditioning system, swimming pool, hot water, fire fighting system, cooling water, fire fighting water, seawater, oil, brine, drinking water, detergent, alkali water, industrial water, e

*Applicable industries:

KSB direct-connected pump



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Type: KSB Direct-Connect Cr Pump Etachrom BC

Mechanical Seal

Replacement: Suit KSB Pumps

Temperature: $\leq 110^{\circ}\text{C}$

Pressure: $\leq 12\text{Mpa}$

Speed: $\leq 1450\text{r/min}$

Material: Q1, Q2, U2, T, V, M1, F, G, M

***Product description**

KSB direct-link chromium steel pump Etachrom BC mechanical seals. Straight, horizontal single stage annular shell pump with rated power and main dimensions in accordance with EN733 standard, with replaceable pump body sealing ring. Design in accordance with ATEX

***Apply to the host**

KSB Company

***Applicable industries:**

KSB pump, chrome steel pump



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Type: Single Cartridge Mechanical Seal
Replacement: Suit KSB Pumps
Temperature: $\leq 150^{\circ}\text{C}$

Pressure: $\leq 0.8\text{Mpa}$

Speed: $\leq 1100\text{r/min}$

Material: Q1,Q2,U2,T,V,M1,F,G,M

*Product description

Replacement Burgmann single cartridge mechanical seals 021-M43K/125 for KSB and condensate pump seals application.

*Apply to the host

KSB Pump Company

*Product features

Single cartridge seal

Pusher

Multiple springs seal

Independent of direction of rotation

Admissible axial movement ± 1



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*Applicable industries:

Fine chemical Pharmaceutica food and beverage industry, Oil refining Water conservancy.

Suitable pump:

Oil pump, High temperature pump, Condensate pump, Hvac pump, Dosing pump.



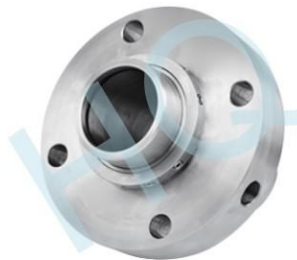
Type: Single Cartridge Mechanical Seal
 Replacement: Suit KSB Pumps
 Temperature: $\leq 150^{\circ}\text{C}$
 Pressure: $\leq 0.8\text{Mpa}$
 Speed: $\leq 1800\text{r/min}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M

*Product description

Single cartridge mechanical seals for Shenyang Blower Works Group Corporation CZJ series pump, water pumps application.

*Apply to the host

KSB Pump Company



*Product features

- Single cartridge seal
- Pusher
- Multiple springs seal
- Independent of direction of rotation
- Admissible axial movement ± 1



*Applicable industries:

Oil and gas industry, Fine chemical Water treatment.

Suitable pump:

Water pump, Chemical standard pump, Chemical pump, Oil pump.



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Type: KSB Pump Seal
Temperature: -20 to +200°C

Pressure: $\leq 6\text{Mpa}$

Speed: $\leq 10\text{m/s}$

Material: Q1,Q2,U2,T,V,M1,F,G,M

*Product description

Cartridge mechanical seals for KSB pumps.



*Apply to the host

KSB Pump Company

*Product features

Single cartridge seal

Pusher

Multiple springs seal

Independent of direction of rotation

Admissible axial movement ± 1



*Applicable industries:

Fine chemical Pharmaceutica food and beverage industry, Oil refining Water conservancy.

Suitable pump:

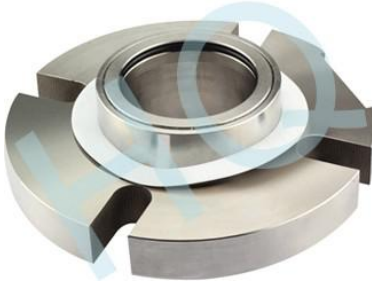
Oil pump, High temperature pump, Condensate pump, Hvac pump, Dosing pump.



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Type: KSB Pump Seal
Temperature: -20 to +200°C
Pressure: $\leq 3\text{Mpa}$
Speed: $\leq 10\text{m/s}$
Material: Q1,Q2,U2,T,V,M1,F,G,M

*Product description

Cartridge mechanical seals for KSB pumps.

*Apply to the host

KSB Pump Company



*Product features

Single cartridge seal
Pusher
Multiple springs seal
Independent of direction of rotation
Admissible axial movement ± 1



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*Applicable industries:

Fine chemical Pharmaceutica food and beverage industry, Oil refining Water conservancy.

Suitable pump:

Oil pump, High temperature pump, Condensate pump, Hvac pump, Dosing pump.



Type: KSB Pump Seal
Temperature: -20 to +200°C
Pressure: $\leq 1.6\text{Mpa}$
Speed: $\leq 10\text{m/s}$
Material: Q1,Q2,U2,T,V,M1,F,G,M

*Product description

Cartridge mechanical seals for KSB pumps.

*Apply to the host

KSB Pump Company



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*Product features

Single cartridge seal

Pusher

Multiple springs seal

Independent of direction of rotation

Admissible axial movement ± 1

*Applicable industries:

Fine chemical Pharmaceutica food and beverage industry, Oil refining Water conservancy.

Suitable pump:

Oil pump, High temperature pump, Condensate pump, Hvac pump, Dosing pump.



Type: KSB Pump Seal
Temperature: $\leq 200^{\circ}\text{C}$
Pressure: $\leq 2.0\text{Mpa}$
Speed: $\leq 10\text{m/s}$
Material: Q1,Q2,U2,T,V,M1,F,G,M

*Product description

Cartridge mechanical seals for KSB pumps.

*Apply to the host

KSB Pump Company

*Product features

Single cartridge seal
Pusher
Multiple springs seal
Independent of direction of rotation
Admissible axial movement ± 1



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*Applicable industries:

Fine chemical Pharmaceutica food and beverage industry, Oil refining Water conservancy.

Suitable pump:

Oil pump, High temperature pump, Condensate pump, Hvac pump, Dosing pump.



Type: KSB Pump Seal
Temperature: -15 to +200°C
Pressure: $\leq 2.5\text{Mpa}$
Speed: $\leq 10\text{m/s}$
Material: B,Q2,U2,P,E,N,V,F,G,Alfa



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Type: Sulzer,KSB Pump Seal
 Replacement: Suit KSB and Sulzer Pumps
 Temperature: -20 to +160°C

Pressure: $\leq 1.60\text{Mpa}$
 Speed: $\leq 10\text{r/min}$
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa

*Product description:

This series of mechanical seals are the most widely used desulfurization mechanical seals in the thermal power industry. And the product before leaving the factory on the relevant inspection, testing, pressure testing work, to ensure that the mechanical seal arrived at the user site can play its due effectiveness.

*Apply to the host

ZAP701 Sulzer

ZAP801 Sulzer

KSB KWPK600-825

KSB KWPK600-815

KSB KWPK600-663

KSB KWPK600-873

*Application:

Thermal power generation.

*Working position:

Circulating pump desulfurization pump.



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Type: Cartridge Mechanical Seal, Suit for
Sluzer, KSB, Ebara Pumps
Replacement: Suit KSB, Sulzer and Ebara Pumps
Temperature: $\leq 200^{\circ}\text{C}$
Pressure: $\leq 1\text{Mpa}$
Speed: $\leq 15\text{m/s}$
Material: Q1, Q2, U2, T, V, M1, F, G, M

*Product description

The shaft seal, Resistant to wear, corrosion, high temperature and high pressure.

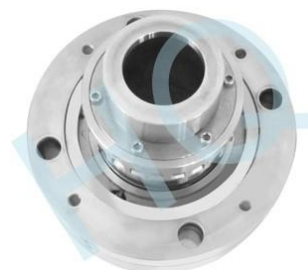
*Apply to the host

Sulzer, KSB, Ebara Pump Company



*Product features

- Duble cartridge seal
- Pusher
- Multiple springs seal
- Independent of direction of rotation
- Admissible axial movement ± 3



*Applicable industries:

Food and beverage industry, Coal chemical industry, Salt making Chemical industry, Alumina industry.

Suitable pump:

Sluzer pump, KSB pumps, Ebara pumps .



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Type: Kangway Pump Seal
Temperature: -20 to +180°C
Pressure: $\leq 1.0\text{Mpa}$
Speed: $\leq 10\text{m/s}$
Material: B,Q2,U2,P,E,N,V,F,G,Alfa

Suit Kangway Pumps



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Type: Kangway Pump Seal
Temperature: -20 to +180°C
Pressure: $\leq 1.0\text{Mpa}$
Speed: $\leq 10\text{m/s}$
Material: B,Q2,U2,P,E,N,V,F,G,Alfa

Suit Kangway Pumps

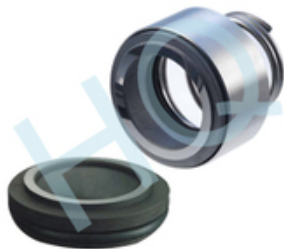


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LOW-01(T06D)



Type: Tapered Single-Spring Seal, Suit for SV- and

SVI- Series Pumps

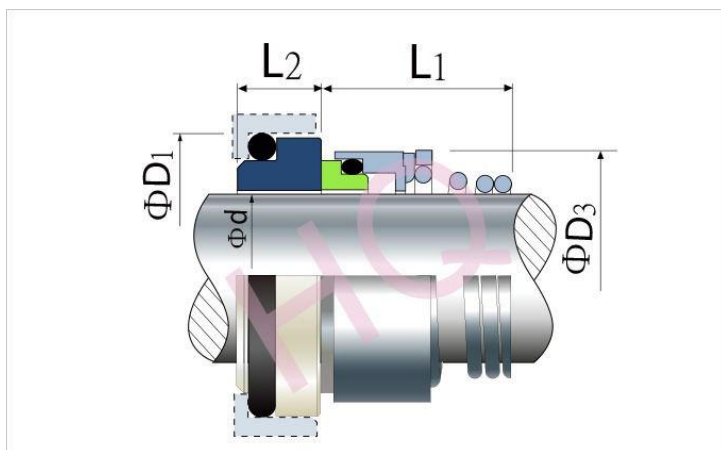
Replacement: Vulcan 135, Burgmann BT-FH, AES T06D, ROTNE UNZTEN 5K

Temperature: -20°C to +180°C

Pressure: $\leq 1.0\text{Mpa}$

Speed: $\leq 15\text{m/s}$

Material: B, A1, Q1, Q2, U2, P, E, N, V, F, G



d (mm)	D1	D3	L1	L2
12	23	21	25.5	7
16	27	26	28.0	7
25	40	36	30.0	10



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LOW-02(T04D)



Type: Parallel single-spring seal, Suit for FC-, FH- and SH- Series Pumps

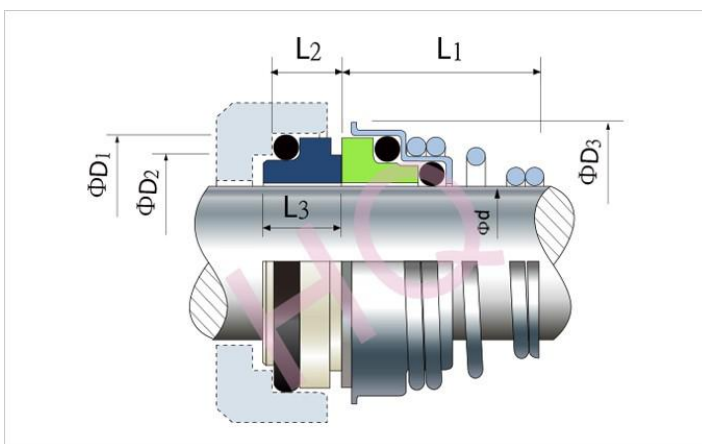
Replacement: AES T04D, Vulcan 130, Burgmann BT-FN NU, ROTEN uniten 3

Temperature: -20°C to +120°C

Pressure: $\leq 1.0\text{Mpa}$

Speed: $\leq 15\text{m/s}$

Material: B, A1, Q1, Q2, U2, P, E, N, V, F, G

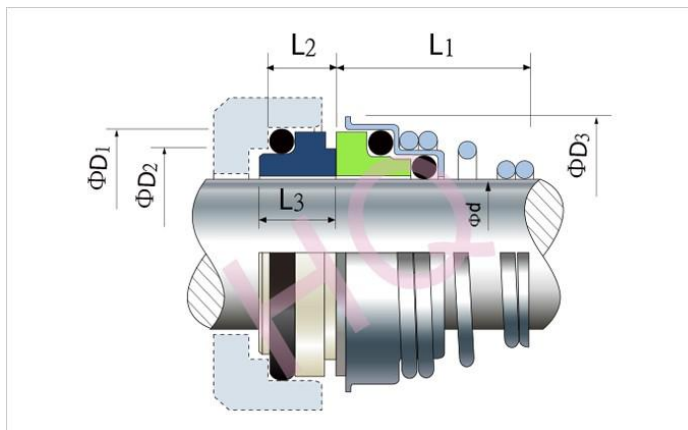


d (mm)	D1	D2	D3	L1	L2	L3
10	21	17	20	15	7	8.5
12	23	19	22	18	7	8.5
14	25	21	25	22	7	8.5
16	27	23	29	23	7	8.5
18	33	27	33	24	10	12.0
20	35	29	33	25	10	12.0
22	37	31	38	25	10	12.0
24	39	33	38	27	10	12.0
25	40	34	40	27	10	12.0
28	43	37	46	29	10	12.0
30	45	39	46	30	10	12.0
32	48	42	46	30	10	11.5
33	48	42	48	39	10	11.5
35	50	44	50	39	10	11.5
38	56	49	56	42	13	15.0
40	58	51	58	42	13	15.0

LOW-03(131)



Type: Suit for LOWARA CE- and CO- Series
Pumps
Replacement: Vulcan 131
Temperature: -20°C to $+120^{\circ}\text{C}$
Pressure: $\leq 1.0\text{Mpa}$
Speed: $\leq 15\text{m/s}$
Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



d (mm)	D1	D3	L1	L2
14	23.1	24	16.6	6



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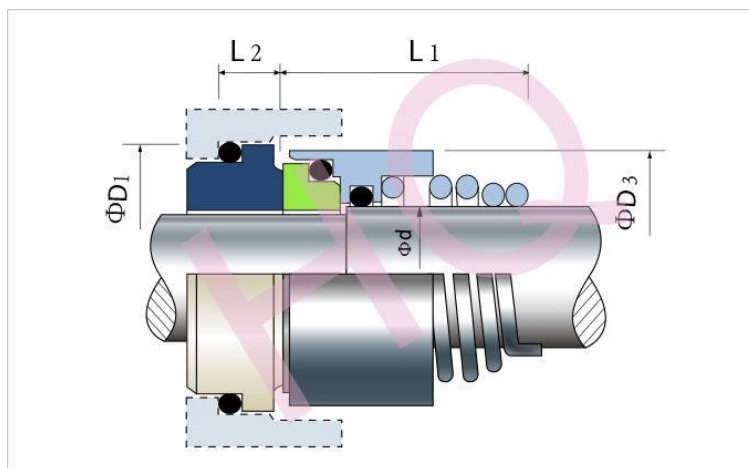
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LOW-04(139)



Type: Suit LOWARA E-SV series pumps
 Replacement: Vulcan 139
 Temperature: -20°C to +150°C

Pressure: $\leq 1.0\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



d (mm)	D1	D3	L1	L2
16	26.9	29.5	34.0	7.0



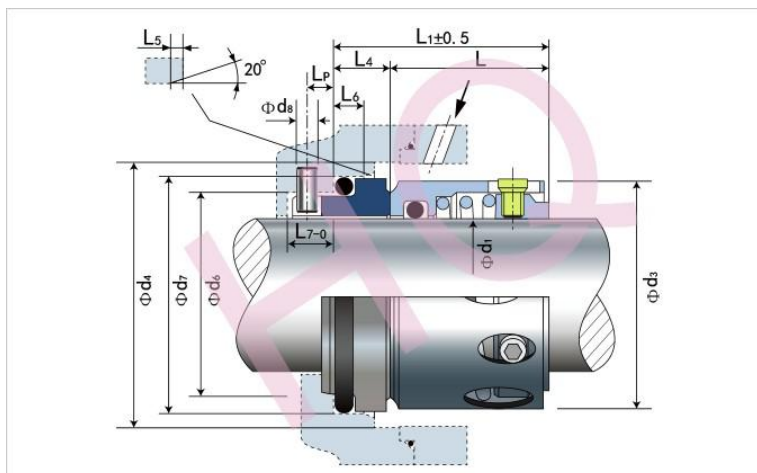
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LOW-05(82)

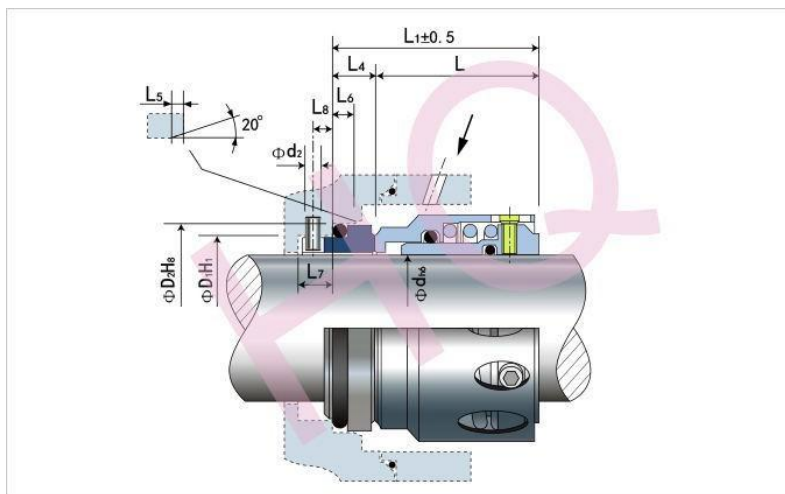
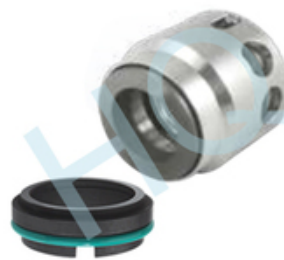
Type: Suit for LOWAARA Pumps
 Replacement: Roten Uniten 82
 Temperature: -20°C to +140°C
 Pressure: $\leq 1.2\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: B,A,Q2,U2,P,E,V,F,G



d1 (mm)	d3	d4	d6	d7	d8	L	L1	L4	L5	L6	L7	Lp
10	21	24	14.0	18.1	2.0	15	20.5	5.5	1.2	2.8	6.2	3.5
11	21	24	16.5	20.6	2.0	18	23.5	5.5	1.2	2.8	6.2	3.5
12	22	24	16.5	20.6	2.0	18	23.5	5.5	1.2	2.8	6.2	3.5
14	24	27	19.0	23.1	2.0	22	28.0	6.0	1.2	2.8	6.7	4.0
16	26	31	21.0	26.9	2.5	23	30.0	7.0	1.3	3.7	7.6	4.0
18	29	35	25.0	30.9	3.0	24	32.0	8.0	1.3	3.7	8.5	4.5
19	30	36	25.0	30.9	3.0	25	33.0	8.0	1.3	3.7	8.5	4.5
20	30	36	25.0	30.9	3.0	25	33.0	8.0	1.3	3.7	8.5	4.5
22	34	40	30.0	35.4	3.5	25	33.0	8.0	1.8	3.7	8.5	5.0
24	35	41	30.0	35.4	3.5	27	35.0	8.0	1.8	3.7	8.5	5.0
25	37	43	33.0	38.2	4.0	27	35.5	8.5	1.8	3.7	9.1	5.0
28	42	47	38.0	43.3	4.0	29	38.0	9.0	1.8	3.7	9.6	6.0
29	42	47	38.0	43.3	4.0	29	38.0	9.0	1.8	3.7	9.6	6.0
30	45	50	38.0	43.3	4.0	29	38.0	9.0	1.8	3.7	9.6	6.0
32	45	50	38.0	43.3	4.0	29	38.0	9.0	1.8	3.7	9.6	6.0
33	48	55	45.0	53.5	5.0	33	44.5	11.5	2.1	5.4	12.0	7.5
35	50	57	45.0	53.5	5.0	35	46.5	11.5	2.1	5.4	12.0	7.5
38	54	62	52.0	60.5	5.0	35	46.5	11.5	2.1	5.4	12.0	7.5
40	56	64	52.0	60.5	5.0	35	46.5	11.5	2.1	5.4	12.0	7.5
42	59	67	52.0	60.5	5.0	35	46.5	11.5	2.1	5.4	12.0	7.5
43	60	68	52.0	60.5	5.0	35	46.5	11.5	2.1	5.4	12.0	7.5
44	60	68	57.0	65.5	5.0	37	48.5	11.5	2.1	5.4	13.0	8.5
45	64	72	57.0	65.5	5.0	37	48.5	11.5	2.1	5.4	13.0	8.5
48	67	72	57.0	65.5	5.0	37	48.5	11.5	2.1	5.4	13.0	8.5
50	69	75	64.0	72.5	5.0	39	50.5	11.5	2.1	5.4	13.0	8.5
55	74	80	64.0	72.5	5.0	39	50.5	11.5	2.1	5.4	13.0	8.5
60	80	87	72.0	79.3	5.0	40	51.5	11.5	2.1	5.4	13.5	8.5
65	87	92	77.0	84.5	5.0	41	52.5	11.5	2.1	5.4	13.5	8.5
70	92	97	82.0	89.5	5.0	41	52.5	11.5	2.1	5.4	13.5	8.5
75	97	102	87.0	94.5	5.0	44	55.5	11.5	2.1	5.4	13.5	8.5
80	102	107	92.0	99.5	5.0	48	59.5	11.5	2.1	5.4	13.5	8.5
85	110	113	98.0	105.5	5.0	48	61.5	13.5	2.6	5.4	13.5	8.5
90	117	120	105.0	111.5	5.0	48	61.5	13.5	2.6	5.4	13.5	8.5

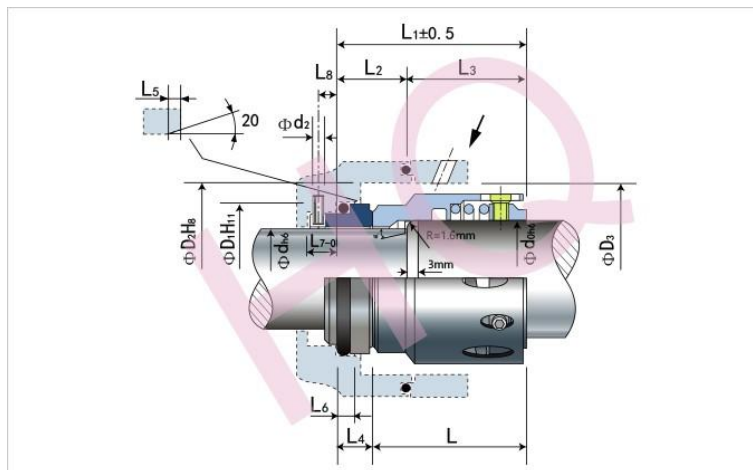
LOW-06(82E)

Type: Suit for LOWAARA Pumps
 Replacement: Roten Uniten 82E
 Temperature: -20°C to $+140^{\circ}\text{C}$
 Pressure: $\leq 1.2\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: B,A,Q2,U2,P,E,V,F,G



d	d2	D1	D2	D3	L	L1	L4	L5	L6	L7	L8
20	3	25	30.9	44	35.0	43.0	8.0	1.3	3.7	8.5	4.5
22	3.5	30	35.4	47	35.0	43.0	8.0	1.8	3.7	8.5	5.0
24	3.5	30	35.4	50	37.5	45.5	8.0	1.8	3.7	8.5	5.0
25	4	33	38.2	52	37.5	46.0	8.5	1.8	3.7	9.1	5.0
28	4	38	43.3	54	40.0	49.0	9.0	1.8	3.7	9.6	6.0
30	4	38	43.3	56	40.0	49.0	9.0	1.8	3.7	9.6	6.0
32	4	38	43.3	62	40.0	49.0	9.0	1.8	3.7	9.6	6.0
33	5	45	53.5	62	40.0	51.5	11.5	2.1	5.4	12.0	7.5
35	5	45	53.5	65	40.0	51.5	11.5	2.1	5.4	12.0	7.5
38	5	52	60.5	68	39.5	51.0	11.5	2.1	5.4	12.0	7.5
40	5	52	60.5	70	39.5	51.0	11.5	2.1	5.4	12.0	7.5
43	5	52	60.5	73	39.5	51.0	11.5	2.1	5.4	12.0	7.5
45	5	57	65.5	75	39.5	51.0	11.5	2.1	5.4	13.0	8.5
48	5	57	65.5	78	39.5	51.0	11.5	2.1	5.4	13.0	8.5
50	5	64	72.5	80	43.5	55.0	11.5	2.1	5.4	13.0	8.5

Type: Suit for LOWAARA Pumps
 Replacement: Roten Uniten 8E
 Temperature: -20°C to $+140^{\circ}\text{C}$
 Pressure: $\leq 1.2\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: B,A,Q2,U2,P,E,V,F,G



d	d0	d2	D1	D2	D3	L	L1	L2	L3	L4	L5	L6	L7	L8
10	14	3	17	21	26	33.0	40.0	18	22.0	7	1.5	4	8.5	5
12	16	3	19	23	28	33.0	40.0	18	22.0	7	1.5	4	8.5	5
14	18	3	21	25	34	35.5	42.5	18	24.5	7	1.5	4	8.5	5
16	20	3	23	27	36	35.5	42.5	18	24.5	7	1.5	4	8.5	5
18	22	3	27	33	38	35.0	45.0	20	25.0	10	2.0	5	9.0	5
20	24	3	29	35	40	35.0	45.0	20	25.0	10	2.0	5	9.0	5
22	26	3	31	37	42	35.0	45.0	20	25.0	10	2.0	5	9.0	5
24	28	3	33	39	44	37.5	47.5	20	27.5	10	2.0	5	9.0	5
25	30	3	34	40	46	37.5	47.5	20	27.5	10	2.0	5	9.0	5
28	33	3	37	43	49	40.0	50.0	20	30.0	10	2.0	5	9.0	5
30	35	3	39	45	51	40.0	50.0	20	30.0	10	2.0	5	9.0	5
32	38	3	42	48	58	40.0	50.0	20	30.0	10	2.0	5	9.0	5
33	38	3	42	48	58	40.0	50.0	20	30.0	10	2.0	5	9.0	5
35	40	3	44	50	60	40.0	50.0	20	30.0	10	2.0	5	9.0	5
38	43	4	49	56	63	39.5	52.5	23	29.5	13	2.0	6	9.0	5
40	45	4	51	58	65	39.5	52.5	23	29.5	13	2.0	6	9.0	5
43	48	4	54	61	68	39.5	52.5	23	29.5	13	2.0	6	9.0	5
45	50	4	56	63	70	39.5	52.5	23	29.5	13	2.0	6	9.0	5

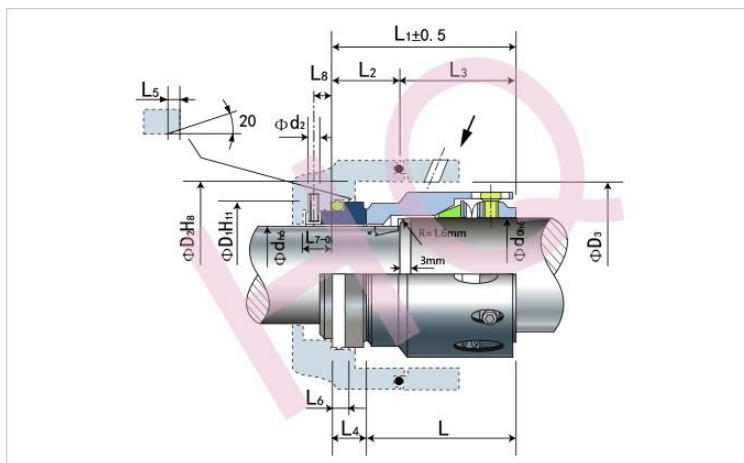
LOW-08(8E4)

Type: Suit for LOWAARA Pumps
Replacement: Roten Uniten 8E4
Temperature: -20°C to +140°C

Pressure: $\leq 1.2\text{Mpa}$

Speed: $\leq 15\text{m/s}$

Material: B,A,Q2,U2,P,E,V,F,G

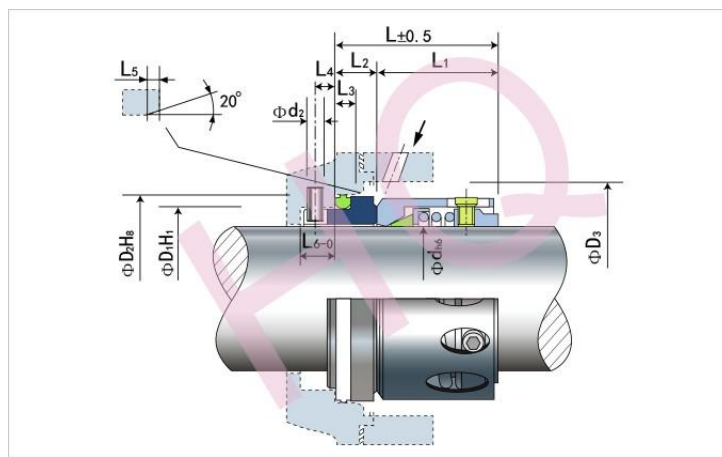


d	d0	d2	D1	D2	D3	L	L1	L2	L3	L4	L5	L6	L7	L8
10	14	3	17	21	26	33	40	18	22	7	1.5	4	8.5	5
12	16	3	19	23	28	33	40	18	22	7	1.5	4	8.5	5
14	18	3	21	25	34	35.5	42.5	18	24.5	7	1.5	4	8.5	5
16	20	3	23	27	36	35.5	42.5	18	24.5	7	1.5	4	8.5	5
18	22	3	27	33	38	35	45	20	25	10	2	5	9	5
20	24	3	29	35	40	35	45	20	25	10	2	5	9	5
22	26	3	31	37	42	35	45	20	25	10	2	5	9	5
24	28	3	33	39	44	37.5	47.5	20	27.5	10	2	5	9	5
25	30	3	34	40	46	37.5	47.5	20	27.5	10	2	5	9	5
28	33	3	37	43	49	40	50	20	30	10	2	5	9	5
30	35	3	39	45	51	40	50	20	30	10	2	5	9	5
32	38	3	42	48	58	40	50	20	30	10	2	5	9	5
33	38	3	42	48	58	40	50	20	30	10	2	5	9	5
35	40	3	44	50	60	40	50	20	30	10	2	5	9	5
38	43	4	49	56	63	39.5	52.5	23	29.5	13	2	6	9	5
40	45	4	51	58	65	39.5	52.5	23	29.5	13	2	6	9	5
43	48	4	54	61	68	39.5	52.5	23	29.5	13	2	6	9	5
45	50	4	56	63	70	39.5	52.5	23	29.5	13	2	6	9	5

LOW-09(84)



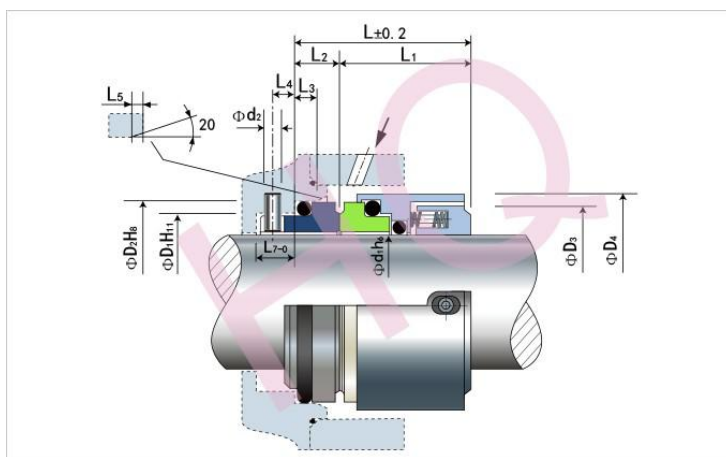
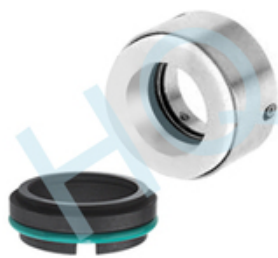
Type: Suit for LOWARA pumps.
 Replacement: Roten 84
 Temperature: -40°C to $+240^{\circ}\text{C}$
 Pressure: $\leq 1.2\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: B,A,Q2,U2,P,E,V,F,G



d	d2	D1	D2	D3	D4	L	L1	L2	L3	L4	L5	L6
16	2.5	21	26.9	26	31	30	23	7	3.7	4	1.3	7.6
18	3	25	30.9	29	35	32	24	8	3.7	4.5	1.3	8.5
19	3	25	30.9	30	36	33	25	8	3.7	4.5	1.3	8.5
20	3	25	30.9	30	36	33	25	8	3.7	4.5	1.3	8.5
22	3.5	30	35.4	34	40	33	25	8	3.7	5	1.8	8.5
24	3.5	30	35.4	35	41	35	27	8	3.7	5	1.8	8.5
25	4	33	38.2	37	43	35.5	27	8.5	3.7	5	1.8	9.1
28	4	38	43.3	42	47	38	29	9	3.7	6	1.8	9.6
29	4	38	43.3	42	47	38	29	9	3.7	6	1.8	9.6
30	4	38	43.3	45	50	38	29	9	3.7	6	1.8	9.6
32	4	38	43.3	45	50	38	29	9	3.7	6	1.8	9.6
33	5	45	53.5	48	55	44.5	33	11.5	5.4	7.5	2.1	12
35	5	45	53.5	50	57	46.5	35	11.5	5.4	7.5	2.1	12
38	5	52	60.5	54	62	46.5	35	11.5	5.4	7.5	2.1	12
40	5	52	60.5	56	64	46.5	35	11.5	5.4	7.5	2.1	12

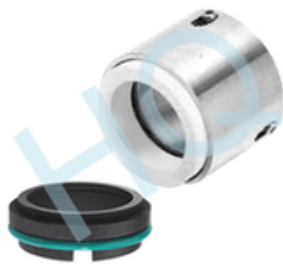
LOW-10(85)

Type: Suit for LOWARA pumps.
Replacement: Roten 85
Temperature: -40°C to +240°C
Pressure: ≤ 1.2 Bar
Speed: ≤ 15 m/s
Material: B,A,Q2,U2,P,E,V,F,G

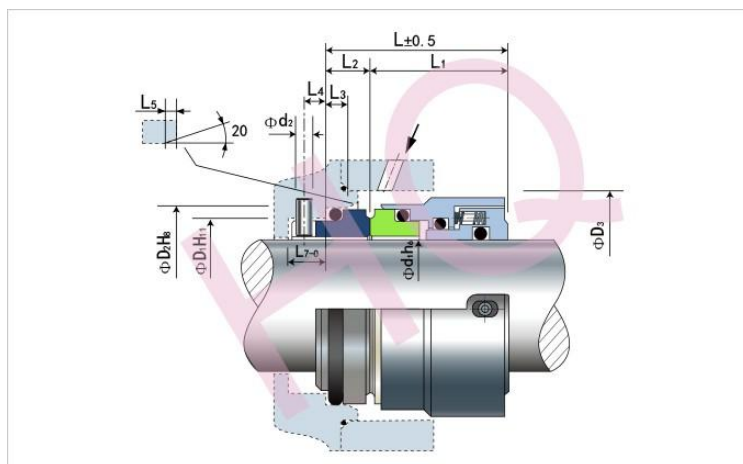


d	d2	D1	D2	D3	D4	L	L1	L2	L3	L4	L5	L7
12	2.0	16.5	20.6	22.5	24	23.5	18.0	5.5	2.8	3.5	1.2	6.2
14	2.0	19	23.1	24.5	27	28.0	22.0	6.0	2.8	4.0	1.2	6.7
16	2.5	21	26.9	28.5	31	30.0	23.0	7.0	3.7	4.0	1.3	7.6
18	3.0	25	30.9	32.5	36	32.0	24.0	8.0	3.7	4.5	1.3	8.5
19	3.0	25	30.9	32.5	36	33.0	25.0	8.0	3.7	4.5	1.3	8.5
20	3.0	25	30.9	32.5	36	33.0	25.0	8.0	3.7	4.5	1.3	8.5
22	3.5	30	35.4	37.0	41	33.0	25.0	8.0	3.7	5.0	1.8	8.5
24	3.5	30	35.4	37.0	41	33.0	25.0	8.0	3.7	5.0	1.8	8.5
25	4.0	33	38.2	41.0	45	34.5	26.0	8.5	3.7	5.0	1.8	9.1
28	4.0	38	43.3	47.0	50	35.0	26.0	9.0	3.7	6.0	1.8	9.6
29	4.0	38	43.3	47.0	50	35.0	26.0	9.0	3.7	6.0	1.8	9.6
30	4.0	38	43.3	47.0	50	35.0	26.0	9.0	3.7	6.0	1.8	9.6
32	4.0	38	43.3	47.0	50	35.0	26.0	9.0	3.7	6.0	1.8	9.6
33	5.0	45	53.5	48.0	62	41.5	30.0	11.5	5.4	7.5	2.1	12.0
35	5.0	45	53.5	57.0	62	41.5	30.0	11.5	5.4	7.5	2.1	12.0
38	5.0	52	60.5	64.0	70	43.5	32.0	11.5	5.4	7.5	2.1	12.0
40	5.0	52	60.5	64.0	70	43.5	32.0	11.5	5.4	7.5	2.1	12.0

LOW-11(85E)



Type: Suit for LOWARA pumps.
 Replacement: Roten 85
 Temperature: -40°C to +240°C
 Pressure: $\leq 1.2\text{Bar}$
 Speed: $\leq 15\text{m/s}$
 Material: B,A,Q2,U2,P,E,V,F,G



d	d2	D1	D2	D3	L	L1	L2	L3	L4	L5	L6
20	3	25	30.9	44	35.5	27.5	8	3.7	4.5	1.3	8.5
22	3.5	30	35.4	47	35.5	27.5	8	3.7	5	1.8	8.5
24	3.5	30	35.4	50	38	30	8	3.7	5	1.8	8.5
25	4	33	38.2	52	38.5	30	8.5	3.7	5	1.8	9.1
28	4	38	43.3	54	41.5	32.5	9	3.7	6	1.8	9.6
30	4	38	43.3	56	41.5	32.5	9	3.7	6	1.8	9.6
32	4	38	43.3	62	41.5	32.5	9	3.7	6	1.8	9.6
35	5	45	53.5	65	44	32.5	11.5	5.4	7.5	2.1	12
38	5	52	60.5	68	43.5	32	11.5	5.4	7.5	2.1	12
40	5	52	60.5	70	43.5	32	11.5	5.4	7.5	2.1	12
43	5	52	60.5	73	43.5	32	11.5	5.4	7.5	2.1	12
45	5	57	65.5	75	43.5	32	11.5	5.4	8.5	2.1	13
48	5	57	65.5	78	43.5	32	11.5	5.4	8.5	2.1	13
50	5	64	72.5	80	45	33.5	11.5	5.4	8.5	2.1	13

LOW-12(POLXB)



Type: Parallel Spring Mechanical Seal, Suit for

Locara Pumps

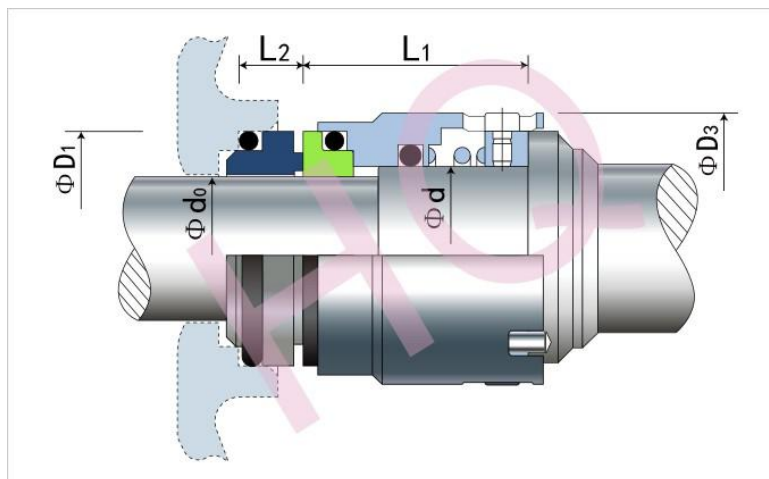
Replacement: AES POLXB

Temperature: -40 to $+240^{\circ}\text{C}$

Pressure: $\leq 1.4\text{Mpa}$

Speed: $\leq 15\text{m/s}$

Material: B, A1, Q1, Q2, U2, P, E, N, V, F, G, Alfa



d (mm)	d0	D1	D3	L1	L2
26	22	37	43	36.4	10.4
d (inch)	d0	D1	D3	L1	L2
1.024	0.866	1.456	1.693	1.433	0.409



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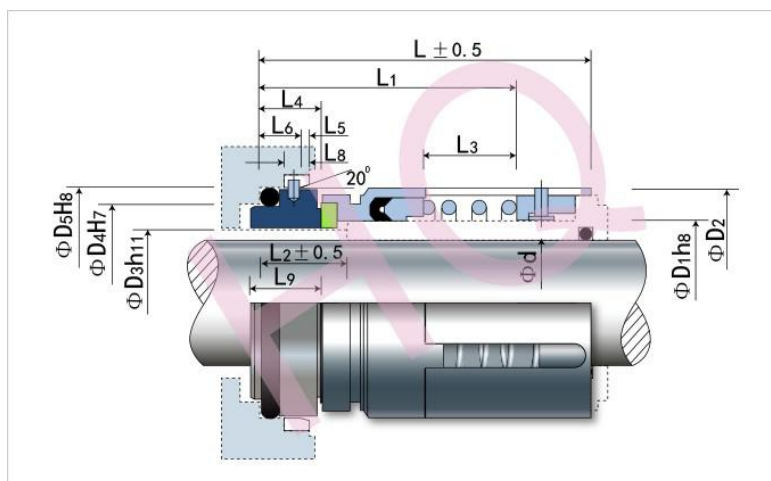


Type: O-Rng Mechanical Seal
Temperature: -20 to +200°C

Pressure: $\leq 4\text{Mpa}$

Speed: $\leq 23\text{m/s}$

Material: B,Q2,U2,P,E,N,V,F,G,Alfa



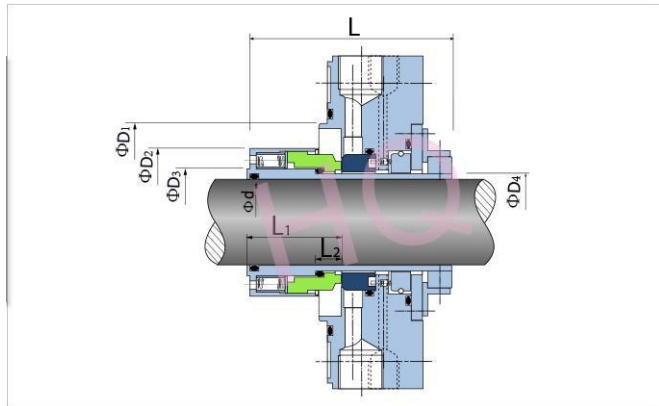
d (mm)	D1	D2	D3	D4	D5	L	L1	L2	L3	L4	L5	L6	L8	L9
1.750	44.5	62.0	39.6	52.5	62.0	89.0	69.0	23.5	25.0	16.3	2.0	10.5	6.0	18.8
2.125	54.0	76.0	47.6	64.0	76.1	109.5	92.0	27.0	35.0	19.0	2.5	12.5	7.5	20.5
2.250	57.0	75.0	52.3	64.0	73.0	89.0	71.0	27.0	27.0	19.0	2.5	12.5	7.5	20.5
2.500	63.5	85.5	57.0	70.5	82.6	119.0	95.0	28.0	45.0	19.0	2.5	12.5	7.5	20.5
2.875	73.0	95.0	66.6	80.0	92.0	115.0	93.0	28.0	32.0	22.5	3.0	14.0	8.5	23.5
3.250	82.6	104.6	76.2	91.4	101.4	116.0	93.0	32.5	32.0	22.5	3.0	14.0	8.5	23.5
3.375	85.7	112.4	79.3	100.3	112.7	123.5	101.7	32.5	37.0	22.5	3.0	14.0	8.5	23.5
3.625	92.0	114.5	85.7	102.0	114.0	117.0	97.5	32.5	36.5	22.5	3.0	14.0	8.5	23.5
4.000	102.0	125.4	95.2	107.7	121.0	123.1	102.0	32.5	36.5	22.5	3.0	14.0	8.5	23.5

HQCS-J27(48LP/48HP/48MP)

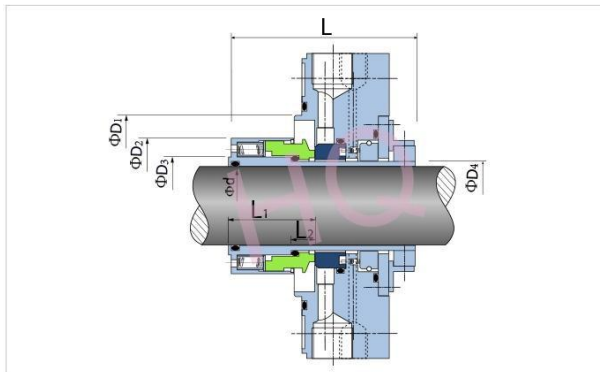


Type: Single Cartridge Seal
 Replacement: Crane 48LP/48HP
 Temperature: -40 to +200°C
 Pressure: $\leq 20\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M

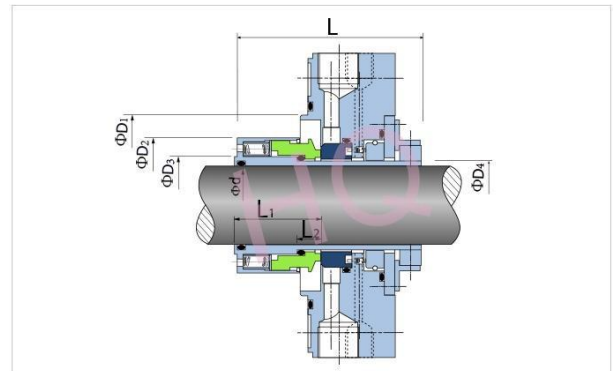
48LP



48HP



48MP



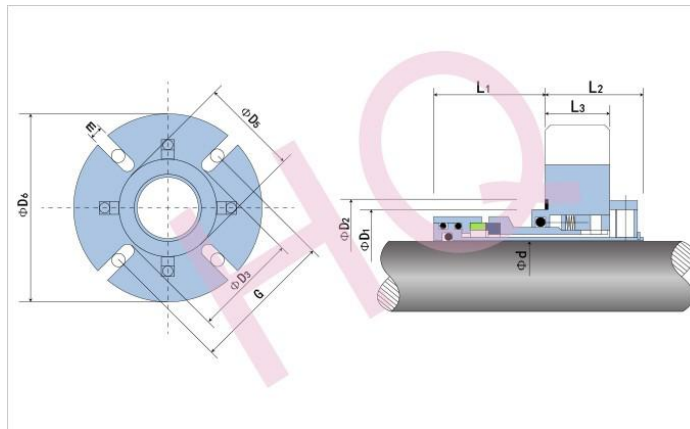
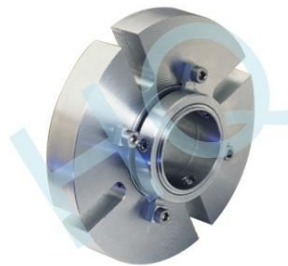
d (inch)	D1 (min)	D2	D3	D4	L	L1	L2
1.000	2.500	2.125	1.500	1.250	3.687	1.437	0.343
1.125	2.750	2.375	1.625	1.375	4.000	1.750	0.437
1.250	2.875	2.500	1.750	1.500	4.000	1.750	0.437
1.375	3.000	2.625	1.875	1.625	4.062	1.750	0.437
1.500	3.125	2.750	2.00	1.750	4.062	1.750	0.437
1.625	3.375	3.000	2.125	1.875	4.375	2.062	0.500
1.750	3.500	3.125	2.250	2.000	4.375	2.062	0.500
1.875	3.625	3.250	2.375	2.125	4.437	2.062	0.500
2.000	3.750	3.375	2.500	2.250	4.437	2.062	0.500

HQCS-J33(SB1)

Type: Single Cartridge Seal
Replacement: Crane SB1
Temperature: -40 to +220°C

Pressure: $\leq 2.5\text{Mpa}$
Speed: $\leq 20\text{m/s}$

Material: Q1,Q2,U2,T,V,M1,F,G,M



d (mm)	D1	D2	D3	D5	D6	G (mm)	L1	L2	L3	m
35	51	67	67	55	130	91	42	44	25	13
38	58	75	75	65	130	98	42	44	25	13
40	60	76	76	66	130	98	42	44	25	13
43	65	78	78	70	140	101	42	44	25	13
45	65	81	81	68	140	105	42	44	25	13
48	68	84	84	73	140	105	42	44	25	13
50	70	86	86	73	160	111	42	44	25	13
53	75	91	91	80	160	111	42	44	25	13
55	75	91	91	80	160	111	42	44	25	13
58	83	97	97	85	160	111	42	44	25	13
60	85	97	97	87	160	123	42	44	25	13
63	90	100	100	92	160	127	47	51	30	17
65	90	105	105	92	160	127	47	51	30	17
68	95	112	112	95	210	127	47	51	30	17
70	95	112	112	99	210	155	47	51	30	17
75	104	115	115	106	210	155	54	51	30	17
80	109	122	122	111	210	155	54	51	30	17
85	114	127	127	116	210	165	54	51	30	17
90	124	132	132	117	210	165	54	51	30	17
95	124	138	138	126	210	165	54	51	30	17
100	129	148	148	131	220	175	54	51	30	17
105	135	160	160	134	220	175	54	51	30	17

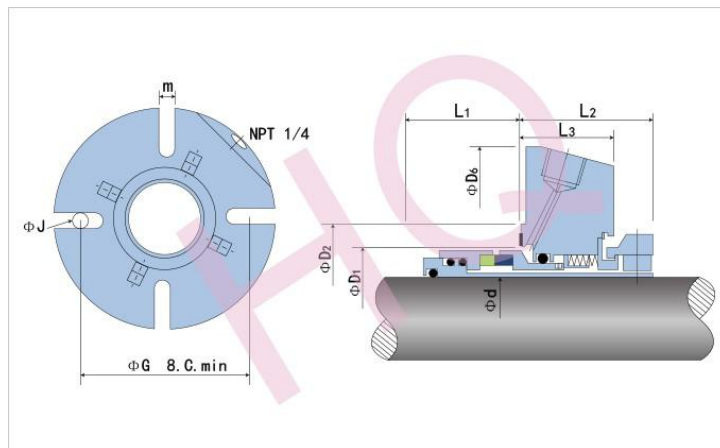
HQCS-J35(SB1A)

Type: Single Cartridge Seal
 Replacement: Crane SB1A
 Temperature: -40 to +220°C

Pressure: $\leq 2.5\text{Mpa}$

Speed: $\leq 20\text{m/s}$

Material: Q1,Q2,U2,T,V,M1,F,G,M

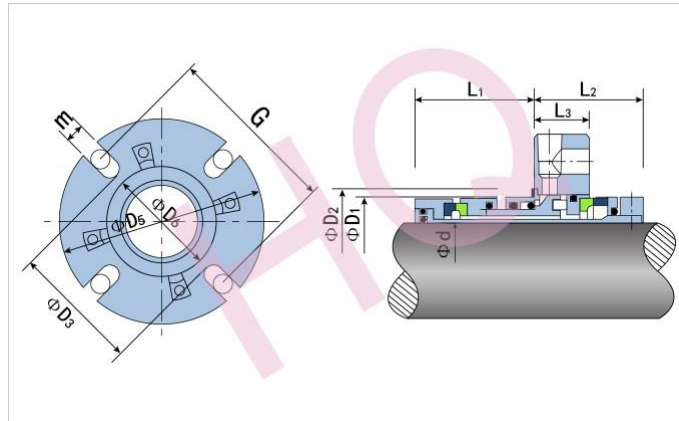


d (mm)	D1		D2	D6	G		L1	L2	L3	m
	min	max			J3/8	J1/2				
1.000	1.625	2.00	2.39	3.78	2.77	2.90	1.25	1.84	1.27	0.55
1.125	1.750	2.09	2.52	3.94	2.91	3.03	1.25	1.84	1.27	0.55
1.250	1.875	2.24	2.63	4.13	3.01	3.13	1.28	1.84	1.27	0.55
1.375	2.000	2.32	2.76	4.33	3.15	3.27	1.28	1.84	1.27	0.55
1.500	2.125	2.45	2.88	4.49	3.26	3.38	1.28	1.84	1.27	0.55
1.625	2.375	2.68	3.11	4.96	3.49	3.61	1.33	1.84	1.27	0.55
1.750	2.500	2.87	3.23	5.47	3.6	3.73	1.33	1.84	1.31	0.55
1.875	2.625	2.91	3.35	5.47	3.73	3.85	1.33	1.84	1.31	0.55
2.000	2.750	3.19	3.46	5.51	3.86	3.98	1.33	1.84	1.31	0.55
2.125	2.875	3.27	3.58	5.98	3.96	4.09	1.33	1.84	1.31	0.71
2.250	3.000	3.40	3.71	6.10	4.09	4.21	1.33	1.84	1.31	0.71
2.375	3.125	3.50	3.9	6.30	4.28	4.40	1.33	1.84	1.31	0.71
2.500	3.250	3.69	4.01	6.38	4.41	4.52	1.33	1.84	1.31	0.71
2.625	3.375	3.75	4.13	6.38	4.51	4.65	1.33	1.84	1.31	0.71
2.750	3.750	4.14	4.84	7.95	5.30	5.42	1.33	1.84	1.31	0.71
2.875	3.875	4.25	4.61	7.95	4.99	5.11	1.33	1.84	1.31	0.71
3.000	4.000	4.41	4.73	7.95	5.11	5.23	1.33	1.84	1.31	0.71

HQCS-J31(SB2)



Type: Double Cartridge Seal
 Replacement: Crane SB2
 Temperature: -40 to +220°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 20\text{m/s}$
 Material: Q1,Q2,,V,K,E,P,G,M5,M6,T4



d (mm)	D1	D2	D3	D5	D6	G	L2	L1	L3	m
35	58	79	68	130	62	91	49	57	20	13
38	62	86	72	130	66	98	52	59	23	13
40	62	86	72	130	66	98	52	59	23	13
43	67	89	77	130-150	70	101	52	59	23	13
45	69	93	79	130-150	75	105	52	59	23	13
48	72	93	82	140-150	75	105	53	60	23	13
50	74	99	84	140-170	77	111/115	53	60	23	13/17
53	76	99	86	140-170	80	111	53	60	24	13
55	79	99	89	150-170	82	111/115	53	64	24	13/17
58	83	99	93	150	84	111	53	64	24	13
60	85	111	95	150	87	123/127	53	64	24	13/17
63	90	111	99	160	90	127	60	72	25	17
65	93	111	102	160-170	92	127	60	72	25	17
68	95	111	104	170	95	127	60	72	25	17
70	95	139	105	170-220	98	155	60	72	25	17
80	109	139	118	200-220	111	155	65	74	29	17
85	114	149	123	200-220	111	165	70	78	30	17
90	119	149	128	200-220	120	165	70	78	30	17
95	125	149	134	200	125	165	70	76	30	17
100	129	159	138	220	130	175	76	76	34	17

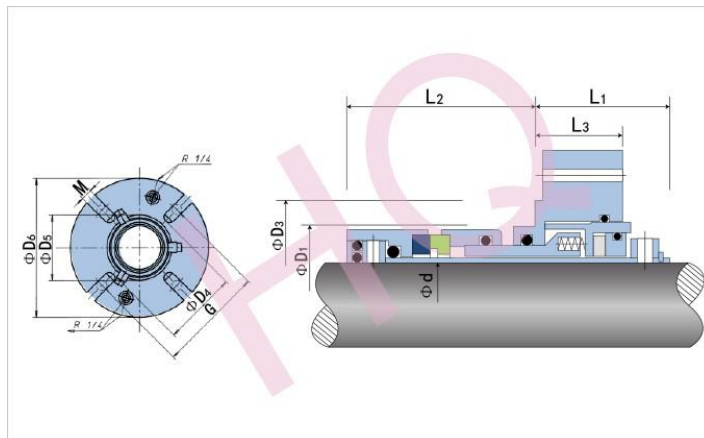
HQCS-J34(SBW)

Type: Single Cartridge Seal
Replacement: Crane SBW
Temperature: -40 to +220°C

Pressure: $\leq 2.5\text{Mpa}$

Speed: $\leq 20\text{m/s}$

Material: Q1,Q2,U2,T,V,M1,F,G,M



d (mm)	D1	D3	D4	G	D5	D6	L1	L2	L3	M
35	55	79	70	91	61	130	49	52	30	13
38	58	84	73	98	65	130	52	52	30	13
40	60	86	75	98	66	130	52	52	30	13
43	65	93	80	101	70	140	52	52	30	13
45	65	93	80	105	70	140	52	52	30	13
48	68	93	83	105	73	140	53	52	30	13
50	70	99	86	111	75	160	53	52	31	13
53	75	99	90	111	80	160	53	52	31	13
55	75	99	90	111	80	160	53	52	31	13
58	83	99	94	111	85	160	53	52	31	13
60	85	111	98	123	87	160	53	52	31	13
63	90	116	102	127	92	160	60	54	35	17
65	90	116	102	127	92	160	60	54	35	17
68	95	139	112	127	95	210	60	54	35	17
70	95	139	112	155	99	210	60	54	35	17
75	104	139	117	155	106	210	65	62	35	17
80	109	139	123	155	111	210	65	62	35	17
85	114	149	134	165	116	210	65	62	35	17
90	119	149	136	165	121	210	65	62	35	17
95	124	149	140	165	126	210	65	62	35	17
100	129	159	145	175	131	210	65	62	35	17

HQCS-J41(SE)



Type: Single Cartridge Seal,Suit Sulzer AP Pumps
Replacement: Crane SE
Temperature: -40 to +180°C
Pressure: $\leq 1.4\text{Mpa}$
Speed: $\leq 20\text{m/s}$
Material: Q1,Q2,U2,T,V,M1,F,G,M

Equivalent with John Crane SE seal , for Sulzer AP series pumps



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Type: Single Cartridge Seal, Suit for Sulzer Process

Pumps

Replacement: Crane SE1

Temperature: -40 to +180°C

Pressure: $\leq 1.4\text{Mpa}$

Speed: $\leq 35\text{m/s}$

Material: Q1, Q2, U2, T, V, M1, F, G, M

*Product description:

Type SE1 is the excellent replacement of John Crane type SE1 seal, with more economical price.

The Safe seal Type SE1 is a customer-fitted (OEM standard) single, balanced component or cartridge seal designed for clean and lubricating fluids such as water, different types of oils, solvents and paper stock. The Type SE1 seal is designed especially for the Sulzer APP and APT pump series and Scan pump.

The SE1 seal is easy to install and maintain. In spite of its simple design, SE1 is very advanced in its technical capabilities, including, for example, a patented thermal method for seal face holding and an elastic thrust ring. Several variants of the design are available for different services:

Type SE1C — single, balanced, cartridge seal, used in Sulzer Scan pump

Type SE1F — single, balanced cartridge seal with flush Features:

1. Balanced design — undisturbed operation even with sudden pressure shocks.
2. Spring located in the stationary body of the seal — axial misalignment does not pump up the spring or wear out the O-ring.
3. Installation against the shaft shoulder — easy installation reduces risk of human error. No measurements required for installation.
4. No drive pins at seals — seal face does not crack at start-up.
5. Available in different materials — selection covers all possible single seal applications.



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HQCS-J43(SE2)



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Type: Double Cartridge Seal, Suit Sulzer Process

Pumps

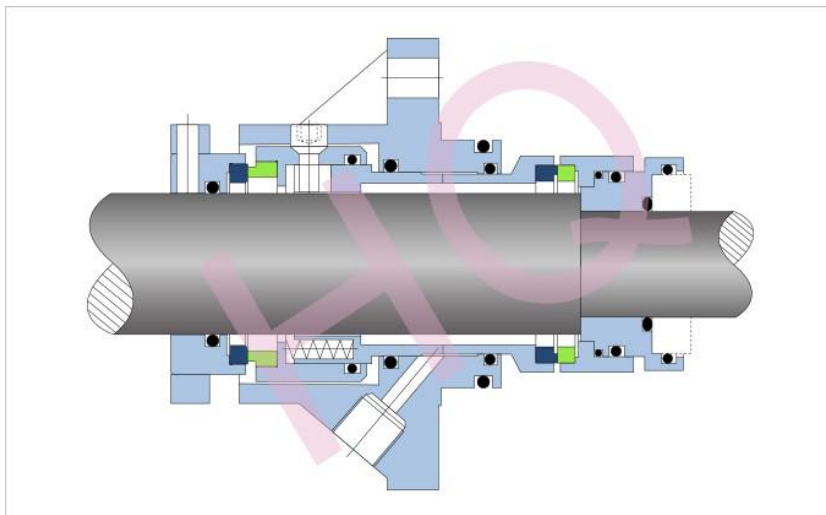
Replacement: Crane SE2 Series

Temperature: -40 to +180°C

Pressure: $\leq 1.5\text{Mpa}$

Speed: $\leq 30\text{m/s}$

Material: Q1, Q2, U2, T, V, M1, F, G, M





Type: Cartridge Seal
Replacement: Crane SE2C
Temperature: -40 to +180°C
Pressure: $\leq 1.5\text{Mpa}$
Speed: $\leq 20\text{m/s}$
Material: Q1,Q2,U2,T,V,M1,F,G,M

SE2C is a customer-fitted (OEM standard) dual, balanced cartridge seal designed for the severe applications found in the pulp and paper industry and slurry applications.



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HQCS-J45(SEW)



Type: Single Cartridge Seal, Suit Sulzer Process
Pumps

Replacement: Crane SEW, Suit for Sulzer, ABS Pumps

Temperature: -40 to +180°C

Pressure: $\leq 1.5\text{Mpa}$

Speed: $\leq 20\text{m/s}$

Material: Q1, Q2, U2, T, V, M1, F, G, M



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HQCS-J46(JCS1)



Type: Single Cartridge Seal
Replacement: Crane JCS1
Temperature: -40 to +180°C
Pressure: $\leq 1.4\text{Mpa}$
Speed: $\leq 10\text{m/s}$
Material: Q1,Q2,U2,T,V,M1,F,G,M



The JCS1 is originally designed for Sulzer AHLSTARUP pumps and later expanded to cover Andritz process pumps and other equipment.



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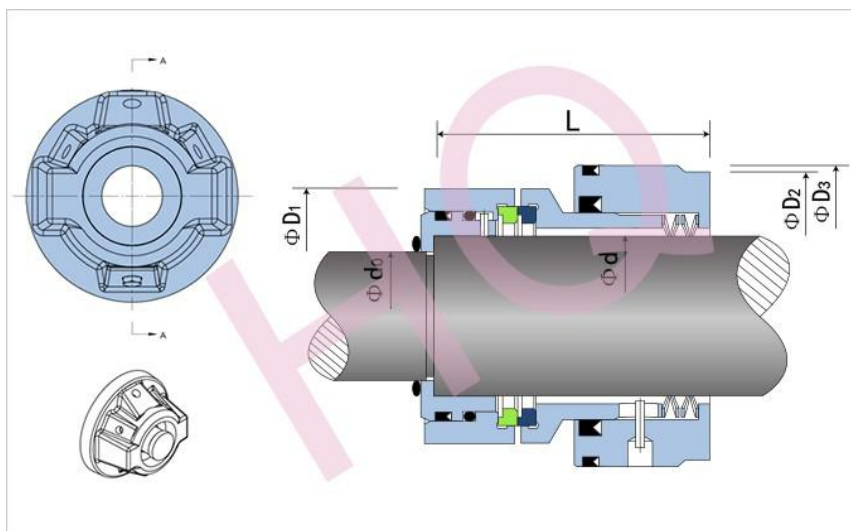


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HQCS-J47(JCS1A)



Type: Single Cartridge Seal
 Replacement: Crane JCS1A
 Temperature: -40 to +180°C
 Pressure: $\leq 5.0\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M



JCS1A - Single application specific seal for Sulzer liquid ring pumps
 and Andritz ACP pumps



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HQCS-J48(JCS1F)



Type: Single Cartridge Seal
Replacement: Crane JCS1F
Temperature: -40 to +180°C
Pressure: $\leq 2.5\text{Mpa}$
Speed: $\leq 10\text{m/s}$
Material: Q1,Q2,U2,T,V,M1,F,G,M

CS1F - Single application-specific seal with flush into the medium



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HQCS-J49(JCS2)



Type: Double Cartridge Seal, Suit Sulzer Process

Pumps

Replacement: Crane JCS2

Temperature: -40 to +180°C

Pressure: $\leq 15\text{Mpa}$

Speed: $\leq 15\text{m/s}$

Material: Q1, Q2, U2, T, V, M1, F, G, M

*Product description:

Type JCS2 is the excellent replacement of John crane type JCS2 seal, with more economical price.

Type JCS2 seals are designed to be used in pumps for environmentally hazardous and abrasive liquids when operating limits for single-acting seals are exceeded. The double-balanced design of the seal allows the use of both pressurized and non-pressurized sealant fluid. This design ensures reliable and long-lasting operation under the most demanding conditions, reducing seal fluid consumption, and prevents environmental emissions.

Several variant of the design available for different services:

JCS2P — OEM (Sulzer Ahlstar Up) Engineered double external stationary spring O-ring mounted seal

JCS2A — Double application-specific seal for Sulzer liquid ring pumps and Andritz ACP pumps

JCS2M — Double application-specific seal for Sulzer multistage pumps

JCS2-MC — Double application-specific seal for Andritz MC-pumps

JCS E — Double application-specific seal for Sulzer hot liquid



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HQCS-J50(JCS2P)



Type: Double Cartridge Seal, Suit Sulzer Process

Pumps

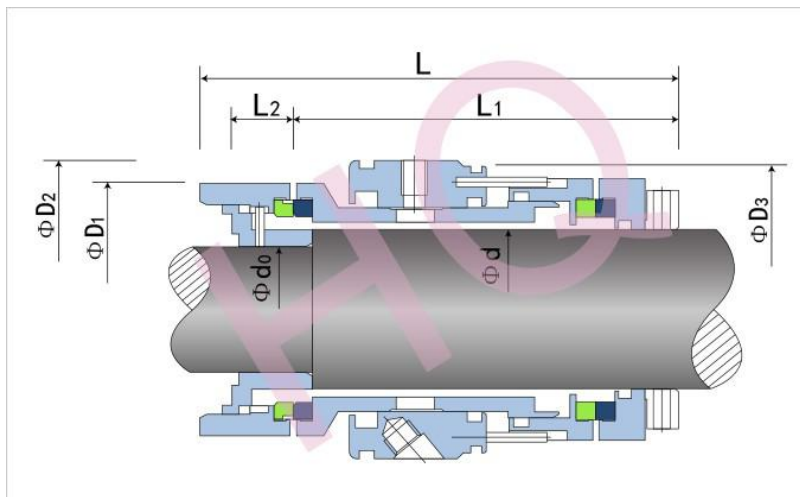
Replacement: Crane JCS2P

Temperature: -40 to $+180^{\circ}\text{C}$

Pressure: $\leq 8.0\text{Mpa}$

Speed: $\leq 15\text{m/s}$

Material: Q1, Q2, U2, T, V, M1, F, G, M



JCS2P — OEM (Sulzer Ahlstar Up) Engineered double external stationary
spring O-ring mounted seal



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HQCS-J51(SAF)



Type: Double Cartridge Seal, Suit Sulzer, Andritz

Process Pumps

Replacement: Crane SAF

Temperature: -40 to +180°C

Pressure: $\leq 2.5\text{Mpa}$

Speed: $\leq 10\text{m/s}$

Material: Q1, Q2, U2, T, V, M1, F, G, M

*** Product description:** this series mechanical seal is my company in the late 1990 s for mud pump design of a container type mechanical seal, mechanical seal for module focuses on medium containing solid particles, change of the mechanical seal material can also be used for metallurgy, mining, chemical and other industries of high solid content condition.

*** Apply to the host:**

Andritz pressure screden mechanical seal.

*** Product features**

Dual face structure, no leakage.

The particle medium has little effect on spring performance.

High temperature resistance, corrosion resistance and wear resistance.

*** Product parameters**

Temperature: $\leq 150\text{ }^{\circ}\text{C}$

Pressure: $\leq 0.8\text{ Mpa}$

Wash:

Speed: $\leq 10\text{ r/min}$



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Specification: 40mm, 50mm, 60mm, 70mm, 90mm.

HQMA-05(AEB-60WS)



Type: Water-free Mechanical Seal with Bearing
 Replacement: Suit for Sulzer,KSB,Andritz Pumps
 Temperature: $\leq 150^{\circ}\text{C}$
 Pressure: $\leq 0.8\text{Mpa}$
 Speed: $\leq 1800\text{rpm}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M

*Product description:

Single cartridge mechanical seal for replacemente Lightnin blender application.The product is based on the original AEB-60 model has been improved on, it will play the role of a stable positioning of the bearing portion and the sealing.

*Apply to the host

ITT

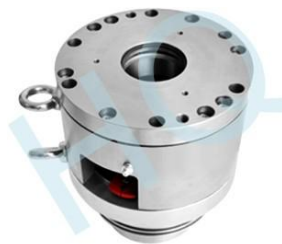
Sulzer

KSB

FLOWSERVE

Andritz

DuCHTING (Germany) pump company



*Product features

Single cartridge seal

Pusher

Multiple springs seal

Independent of direction of rotation

Admissible axial movement ± 1



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Type: Addritz, Sulzer Pump Seal

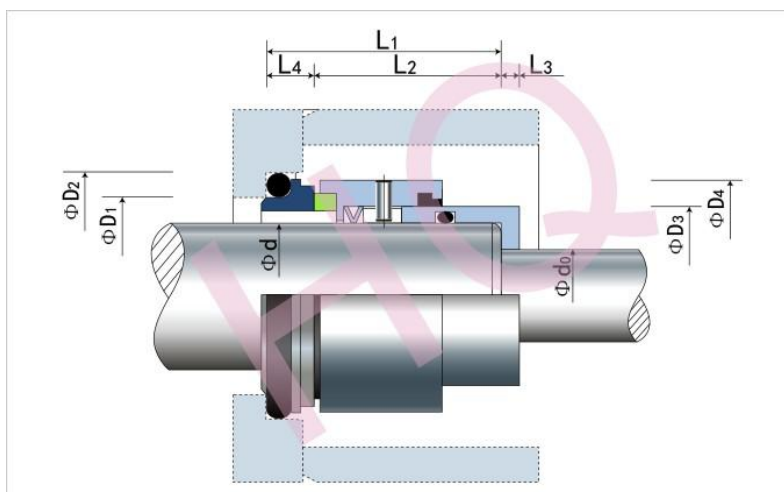
Replacement: Burgmann AK5M

Temperature: $\leq 150^{\circ}\text{C}$

Pressure: $\leq 0.60\text{Mpa}$

Speed: $\leq 1600\text{r/min}$

Material: Q1, Q2, A, B, U1, U2, P, E, V, T, F, G, T2, M5



*** Product description:**

Single component mechanical seal for replacement Andritz pump application.



Type: Mechanical Seal
 Replacement: Siut for Andritz,KSB,Sulzer Pumps
 Temperature: $\leq 150^{\circ}\text{C}$
 Pressure: $\leq 0.80\text{Mpa}$
 Speed: $\leq 1800\text{r/min}$
 Material: Q1,Q2,A,B,U1,U2,P,E,V,T,F,G,T2,M5

* Product description:

Burgmann general type M7, simple mechanical seal, single end face non assembled structure, can be installed in a suitable pump seal chamber alone for use, or two sets in series to form a double end face mechanical seal.

* Apply to the hos

Sulzer .

KSB.

Andritz.



* Product features

Single terminal non-set type, rotary non-equilibrium type.

Multiple springs, free rotation.

Horizontal mounting, screw fastening drive.

YWN8/SiC/ graphite, 2Cr13/ 304/316l, fluorine rubber.

There is no water.



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Type: KSB,WARMAN,SULZER,ANDRITZ

Mechanical Seal

Replacement: Suit KSB,Sulzer and Sulzer Pumps

Temperature: -20 to +180°C

Pressure: $\leq 0.8\text{Mpa}$

Speed: $\leq 10\text{m/s}$

Material: A,B,Q1,Q2,U1,U2,T,T6,V,G,F,M,M1

Warman Pump Company



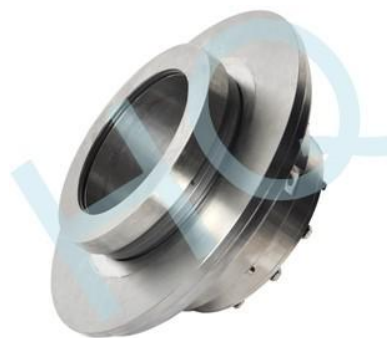
Single cartridge seal

Pusher

Multiple springs seal

Independent of direction of rotation

Admissible axial movement ± 1



Oil and gas industry,Power plant Metallurgy.

Circulating pump, Slurry pumps, Mud pumps, Sludge pump, Desulphurization pump.



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Type: Sulzer Pump Seal
Replacement: Suit for Sulzer Pumps
Temperature: $\leq 150^{\circ}\text{C}$
Pressure: $\leq 1.00\text{Mpa}$
Speed: $\leq 1500\text{rpm}$
Material: B,Q2,U2,P,E,N,V,F,G,Alfa

* Product description:

SZ-02 pump mechanical seal, for the assembly type double - end structure.

* Apply to the host

Sulzer.



* Product features

Double end face set, rotary non-equilibrium type.

Single spring/free rotation.

Horizontal installation, clamping type transmission.

YWN8, 2Cr13/ 304/316l, fluoro rubber/silicone rubber.

Outside circulation flushing.

* Application industry

Oil production fine chemicals pharmaceutical paper.



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* Pump position

Paper pulp pump high-pressure pump chemical pump delivery pump.



Type: Double Mechanical Seal
 Replacement: Suit for SULZER Pumps
 Temperature: $\leq 150^{\circ}\text{C}$
 Pressure: $\leq 1.5\text{Mpa}$
 Speed: $\leq 10\text{r/min}$
 Material: Q1,Q2,A,B,U1,U2,P,E,V,T,F,G,T2,M5

* **Product description:** 50THZ50 double end mechanical seal.

* **Apply to the host**

Sulzer .

* **Product features**

Double face

Product parameters

Temperature: 150°C

Pressure: 1.5mpa

Wash: P62

Speed: 10 r/min



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* **Application industry:** food.



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* **Working condition pump position:** slurry pump.



Type: Big Spring Mechanical Seals

Replacement: Suit for SULZER Pumps

Temperature: $\leq 150^{\circ}\text{C}$

Pressure: $\leq 0.80\text{Mpa}$

Speed: $\leq 1500\text{r/min}$

Material: Q1,Q2,A,B,U1,U2,P,E,V,T,F,G,T2,M5

*** Product description:**

Single cartridge seal for oil pump series of Dalian Acid Proof Pump seal Plant application.

*** Apply to the host:**

Sulzer.



*** Product features**

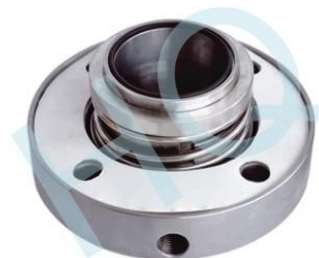
Single cartridge seal

Pusher

Single springs seal

Independent of direction of rotation

Admissible axial movement ± 2



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Type: Double Mechanical Seal
Replacement: Suit for Sluzer Pumps
Temperature: $\leq 150^{\circ}\text{C}$
Pressure: $\leq 1.5\text{Mpa}$
Speed: $\leq 10\text{r/min}$
Material: Q1,Q2,U2,T,V,M1,F,G,M

*Product description:

Double cartridge seal.Used in fine chemical and pharmaceutical mineral water treatment.

*Apply to the host

Sulzer pump.



*Product features

Double cartridge seal.

*Application industry:

Mineral industry .



*Working pump position:

Air conditioning pump



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Type: Double Mechanical Seal
Replacement: Suit for Sluzer Pumps
Temperature: $\leq 150^{\circ}\text{C}$

Pressure: $\leq 1.5\text{Mpa}$
Speed: $\leq 10\text{r/min}$
Material: Q1,Q2,U2,T,V,M1,F,G,M

*** Product description:**

Double mechanical seal.



***Apply to the host**

Sulzer pump.

***Product features**

Double cartridge seal.

***Application industry:**

Thermal power generation .



***Working pump position:**

Overflow pump.



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Type: Double Cartridge Seal
Replacement: Suit for Sulzer Pump
Temperature: $\leq 150^{\circ}\text{C}$
Pressure: $\leq 0.80\text{Mpa}$
Speed: $\leq 10\text{r/min}$
Material: Q1, Q2, U2, T, V, M1, F, G, M

*Product description:

Double cartridge seal. Used in fine chemical and pharmaceutical mineral water treatment.

*Apply to the host

Sulzer pump.

*Product features

Double cartridge seal.



*Application industry:

Fine chemical and pharmaceutical mineral water treatment

*Working pump position:

Sulzer circulating pump



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Type: Mechanical Seal
Replacement: Suit for Sluizer Pumps
Temperature: $\leq 100^{\circ}\text{C}$
Pressure: $\leq 1.60\text{Mpa}$
Speed: $\leq 5\text{m/s}$
Material: B,Q2,U2,P,E,N,V,F,G,Alfa

*** Product description:**

Mechanical seal.



*** Apply to the hos**

Sulzer.

*** Application industry**

Fertilizer.



***Working condition pump position:**

Slurry pump.



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Type: Sulzer Pump Seal
 Replacement: Suit for Sluzer Pumps
 Temperature: $\leq 200^{\circ}\text{C}$
 Pressure: $\leq 1.50\text{Mpa}$
 Speed: $\leq 2900\text{r/min}$
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa

* Product Description:

Single cartridge seal for replacement sulzer pumps seal application. Multiple springs structure, it is more easy to install.

* Application

Sulzer Pump



* Design features:

Single cartridge seal

Pusher

Multiple springs

Independent of direction of rotation



* Application industry

Power plant Petrochemical.

* Pump type:

Centrifuge Pump.



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Type: Sulzer Pump Seals
Replacement: Suit for Sluzer Pumps
Temperature: $\leq 250^{\circ}\text{C}$
Speed: $\leq 4\text{Mpa}$
Pressure: $\leq 15\text{m/s}$
Material: Q1,Q2,U2,T,V,M1,F, G,M

*Product description

Supporting seals for sulzer pump, resistant to wear, high temperature, corrosion and high pressure.

*Apply to the host

Sulzer Company

*Product features

non-packaged, double end face, balance, arbitrary steering, small spring.

*Applicable industries:

Cylinder, automobile, pump, kettle, bearing.



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Type: Sulzer, KSB Pump Seal
Replacement: Suit KSB and Sulzer Pumps
Temperature: -20 to +160°C

Pressure: $\leq 1.60\text{Mpa}$
Speed: $\leq 10\text{r/min}$
Material: B, Q2, U2, P, E, N, V, F, G, Alfa

***Product description:**

This series of mechanical seals are the most widely used desulfurization mechanical seals in the thermal power industry. And the product before leaving the factory on the relevant inspection, testing, pressure testing work, to ensure that the mechanical seal arrived at the user site can play its due effectiveness.

***Apply to the host**

ZAP701 Sulzer

ZAP801 Sulzer

KSB KWPK600-825

KSB KWPK600-815

KSB KWPK600-663

KSB KWPK600-873

***Application:**

Thermal power generation.

***Working position:**

Circulating pump desulfurization pump.



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Type: Sulzer Pump Seals
Replacement: Suit for Sluzer Pumps
Temperature: $\leq 150^{\circ}\text{C}$
Pressure: $\leq 1.5\text{Mpa}$
Speed: $\leq 10\text{m/s}$
Material: Q1,Q2,U2,T,V,M1,F,G,M

*Product description

SULZER JCS2-55 pulp pump mechanical seal.

*Apply to the host

SULZER Pump Company

*Product features

Duble cartridge seal

Pusher

Multiple springs seal

Independent of direction of rotation

Admissibile axial movement ± 3



*Applicable industries:

Pulp pump industry.

Suitable pump:

SULZER pump.



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Type: Double Cartridge Seal
 Replacement: Suit for Sulzer Pumps
 Temperature: $\leq 200^{\circ}\text{C}$
 Pressure: $\leq 2\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: Q1, Q2, U2, T, V, M1, F, G, M

*Product description

This is double mechanical seal, used in Sulzer WPP61-600 circulating desulfidation pumps.

*Apply to the host

Sulzer Pump Company



*Product features

- Duble cartridge seal
- Pusher
- Multiple springs seal
- Independent of direction of rotation
- Admissible axial movement ± 3



*Applicable industries:

Food and beverage industry, Coal chemical industry, Salt making Chemical industry, Alumina industry.

Suitable pump:

Sulzer WPP61-600 pump.



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Type: Cartridge Mechanical Seal, Suit for
Sluzer, KSB, Ebara Pumps
Replacement: Suit KSB, Sulzer and Ebara Pumps
Temperature: $\leq 200^{\circ}\text{C}$
Pressure: $\leq 1\text{Mpa}$
Speed: $\leq 15\text{m/s}$
Material: Q1, Q2, U2, T, V, M1, F, G, M

*Product description

The shaft seal, Resistant to wear, corrosion, high temperature and high pressure.

*Apply to the host

Sulzer, KSB, Ebara Pump Company

*Product features

- Duble cartridge seal
- Pusher
- Multiple springs seal
- Independent of direction of rotation
- Admissible axial movement ± 3



*Applicable industries:

Food and beverage industry, Coal chemical industry, Salt making Chemical industry, Alumina industry.

Suitable pump:

Sluzer pump, KSB pumps, Ebara pumps .



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Type: Cartridge Seal
Replacement: Suit for Sulzer Pumps
Temperature: -20 to +200°C
Pressure: $\leq 1.6\text{Mpa}$
Speed: $\leq 10\text{m/s}$
Material: Q1,Q2,U2,T,V,M1,F,G,M

*Product description

This is double mechanical seal,used in Sluzer pumps.

*Apply to the host

Sulzer Pump Company

*Product features

Duble cartridge seal
Pusher
Multiple springs seal
Independent of direction of rotation
Admissible axial movement ± 3



*Applicable industries:

Food and beverage industry,Coal chemical industry, Salt making Chemical industry,Alumina industry.

Suitable pump:

Sluzer pump.



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Type: Cartridge Seal
 Replacement: Suit for Sulzer Pumps
 Temperature: -20 to +200°C
 Pressure: $\leq 3\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M

*Product description

This is double mechanical seal,used in Sluzer pumps.

*Apply to the host

Sulzer Pump Company

*Product features

Duble cartridge seal
 Pusher
 Multiple springs seal
 Independent of direction of rotation
 Admissible axial movement ± 3



*Applicable industries:

Food and beverage industry,Coal chemical industry, Salt making Chemical industry, Alumina industry.

Suitable pump:

Sluzer pump.



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Type: Cartridge Seal
 Replacement: Suit for Sulzer Pumps
 Temperature: $\leq 230^{\circ}\text{C}$
 Pressure: $\leq 2.0\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M

*Product description

This is double mechanical seal, used in Sulzer pumps.

*Apply to the host

Sulzer Pump Company



*Product features

Double cartridge seal

Pusher

Multiple springs seal

Independent of direction of rotation

Admissible axial movement ± 3



*Applicable industries:

Food and beverage industry, Coal chemical industry, Salt making Chemical industry, Alumina industry.

Suitable pump:

Sulzer pump.



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Type: Cartridge Seal
 Replacement: Suit for Sulzer Pumps
 Temperature: $\leq 280^{\circ}\text{C}$
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: Q1, Q2, U2, T, V, M1, F, G, M

***Product description**

This is double mechanical seal, used in Sulzer pumps.

***Apply to the host**

Sulzer Pump Company



***Product features**

Double cartridge seal

Pusher

Multiple springs seal

Independent of direction of rotation

Admissible axial movement ± 3



***Applicable industries:**

Food and beverage industry, Coal chemical industry, Salt making Chemical industry, Alumina industry.

Suitable pump:

Sulzer pump.

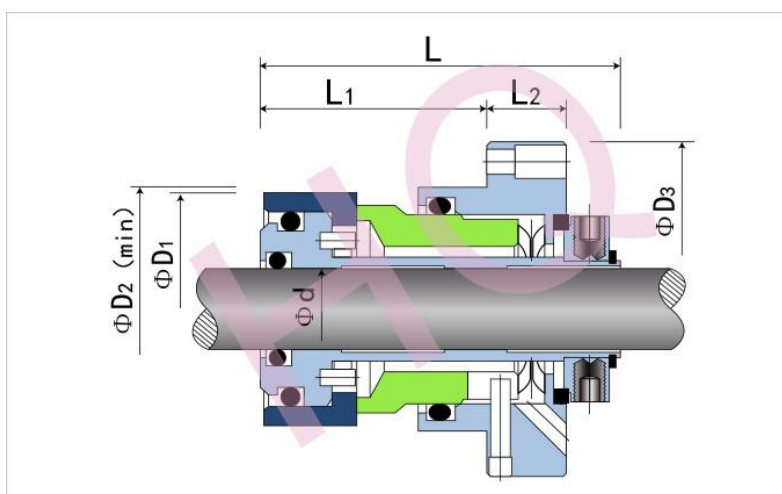


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Type: Cartridge Seal
 Replacement: Suit for Sulzer, Deepblue, Kubota Pumps
 Temperature: -30 to +200°C
 Pressure: $\leq 0.8\text{Mpa}$
 Speed: $\leq 18\text{m/s}$
 Material: Q1, Q2, U2, T, V, M1, F, G, M



d (mm)	D1	D2	D3	L	L1	L2	L3
35	62	64	82	63	39	14	24
60	88	92	129	91	57	22	34
80	113	140	185	102	36	52	66



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Type: Sulzer Pump Seal
 Replacement: SE2-60mm
 Temperature: $\leq 150^{\circ}\text{C}$
 Pressure: $\leq 0.8\text{Mpa}$
 Speed: $\leq 1800\text{r/min}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M

*Product description

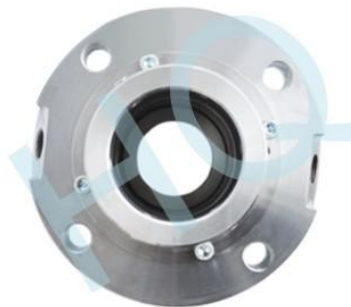
Mechanical seals for replacement Sulzer APP pumps,cooling water pumps,seawater pumps application. Component structure must support the corresponding pump installed in order to work properly.

*Apply to the host

Sulzer company

*Product features

Double component seal
 Pusher
 Single springs seal
 Independent of direction of rotation
 Admissible axial movement ± 2



*Applicable industries:

Food and beverage industry,Pulp and paper industry, water treatment chemical industry.

*Suitable pump:

Cooling water pump,acid pump, feeding pump, sea water pump, pulp pump, water pump.



Type: Sulzer Pump Seal
 Replacement: SE2-40mm
 Temperature: $\leq 180^{\circ}\text{C}$
 Pressure: $\leq 1.50\text{Mpa}$
 Speed: $\leq 1800\text{r/mim}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M

*Product description

Mechanical seals for replacement Sulzer APP pumps,cooling water pumps,seawater pumps application. Component structure must support the corresponding pump installed in order to work properly.

*Apply to the host

Sulzer company

*Product features

Double component seal

Pusher

Single springs seal

Independent of direction of rotation

Admissible axial movement ± 2

*Applicable industries:

Food and beverage industry,Pulp and paper industry, water treatment chemical industry.

*Suitable pump:

Cooling water pump,acid pump, feeding pump, sea water pump, pulp pump, water pump.



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Type: Sulzer Pump Seal
Replacement: SE2-50mm
Temperature: $\leq 150^{\circ}\text{C}$

Pressure: $\leq 0.8\text{Mpa}$
Speed: $\leq 1500\text{r/min}$
Material: Q1, Q2, U2, T, P, M1, F, G, M

*Product description

Mechanical seals for replacement Sulzer APP pumps and seawater pumps application.
Component structure must support the corresponding pump installed in order to work properly.

*Apply to the host

Sulzer company

*Product features

Double component seal
Pusher
Single springs seal
Independent of direction of rotation
Admissible axial movement ± 2



*Applicable industries:

Food and beverage industry, Pulp and paper industry, water treatment chemical industry.

*Suitable pump:

Cooling water pump, acid pump, feeding pump, sea water pump, pulp pump, water pump.



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Type: Sulzer Pump Seal
Replacement: SE2-80mm
Temperature: $\leq 150^{\circ}\text{C}$

Pressure: $\leq 0.8\text{Mpa}$
Speed: $\leq 1500\text{r/min}$
Material: Q1,Q2,U2,T,V,M1,F,G,M



*Product description

Mechanical seal for replacement Sulzer APP pumps application. It is special use for sea water pumps seals. Component structure must support the corresponding pump installed in order to work properly.

*Apply to the host

Sulzer company



*Applicable industries:

Food and beverage industry, Pulp and paper industry, water treatment chemical industry.

Suitable pump:

Cooling water pump, acid pump, feeding pump, sea water pump, pulp pump, water pump.



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Type: Suit Packo Pumps
Replacement: Latty P01
Temperature: -20 to +120°C
Pressure: $\leq 1.4\text{Mpa}$
Speed: $\leq 15\text{m/s}$
Material: B,Q2,U2,P,E,N,V,F,G,Alfa

Suit Packo GM/MS Pumps.

d=33mm,43mm,70mm.



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Type: Suit Packo Pumps
Replacement: Latty P02
Temperature: -20 to +120°C
Pressure: $\leq 1.4\text{Mpa}$
Speed: $\leq 15\text{m/s}$
Material: B,Q2,U2,P,E,N,V,F,G,Alfa

Suit Packo GM/MS Pumps.

d=33mm,43mm,70mm.



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Type: Suit Packo Pumps
Replacement: Latty P03
Temperature: -20 to +120°C
Pressure: $\leq 1.4\text{Mpa}$
Speed: $\leq 15\text{m/s}$
Material: B,Q2,U2,P,E,N,V,F,G,Alfa

Suit Packo GM/MS Pumps.

d=33mm,43mm,70mm.



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JC-07(W015)



Type: Suit for Jabsco Hy-Line LH520 and LH540

Pumps, and Tuchenhagen VPSH, VPSU

Pumps

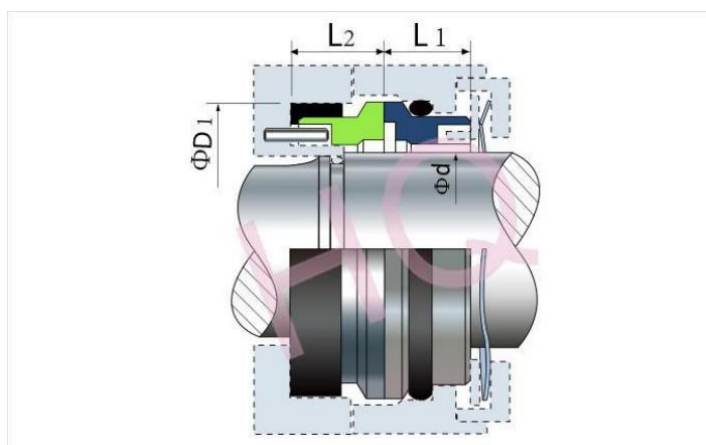
Replacement: AES W015

Temperature: -40 to +240°C

Pressure: $\leq 1.4\text{Mpa}$

Speed: $\leq 10\text{m/s}$

Material: B, Q2, U2, P, E, N, V, F, G, Alfa



d (mm)	D1	L1	L2
25.0	37.0	12.3	11.1
34.9	48.0	12.5	11.5
47.6	60.3	13.7	12.7

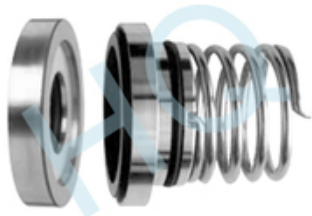


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TH-01(P09)



Type: Suit for Tuchenhagen AR,AG,ZR and ZG Pumps

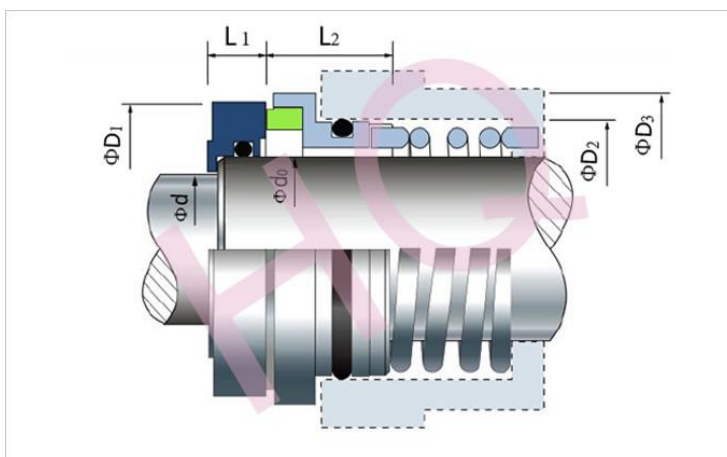
Replacement: AES P09, Vulcan 94, Burgmann MR

Temperature: -20°C to +200°C

Pressure: $\leq 2.5\text{Mpa}$

Speed: $\leq 20\text{m/s}$

Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



d (mm)	d0	D1	D2	D3	L1	L2
12	16	35	30	40	7	22.5
18	24	59	50	63	11	24.0
21	25	59	50	63	11	24.0
28	35	59	50	63	11	24.5
40	50	73	64	74	14	31.5



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TH-02(P09S)



Type: Suit for Tuchenhausen VPB,VPC,
VPD Pumps

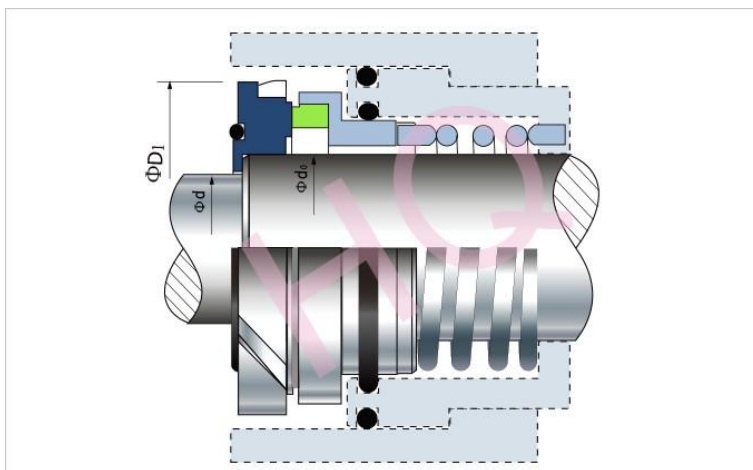
Replacement: AES P09S, Vulcan B94,Burgmann MR

Temperature: -20°C to +200°C

Pressure: $\leq 2.5\text{Mpa}$

Speed: $\leq 20\text{m/s}$

Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



d0 (mm)	d	D1
22.0	18.0	52.0
30.0	22.0	66.0
35.0	30.0	66.0

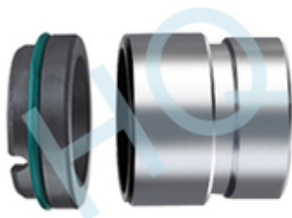


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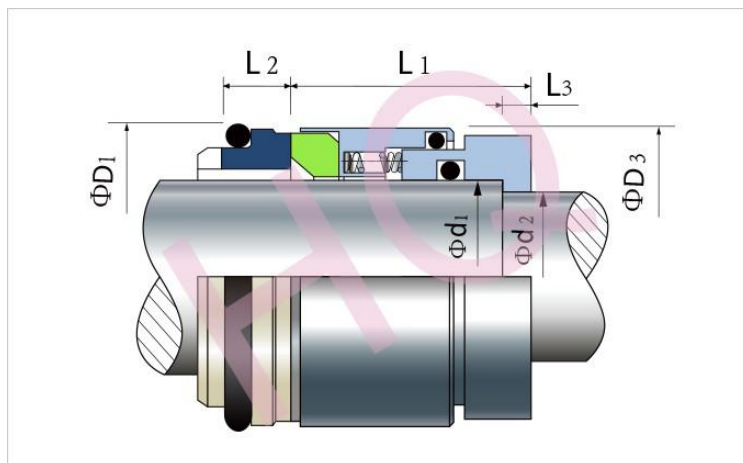


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TH-03(1661)



Type: Suit for Tuchenhagen Variflow KN Series
Pumps
Replacement: Vulcan 1661
Temperature: -40°C to +240°C
Pressure: $\leq 1.2\text{Mpa}$
Speed: $\leq 10\text{m/s}$
Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



d1 (mm)	D1	D3	d2	L1	L2	L3	O.E.M TYPE CODE
30.00	44.50	45.00	21.50	32.50	7.00	4.00	KN1
35.00	49.30	50.00	28.00	40.50	7.00	4.00	KN3

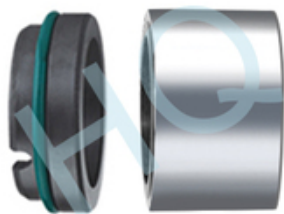


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TH-04(1691)



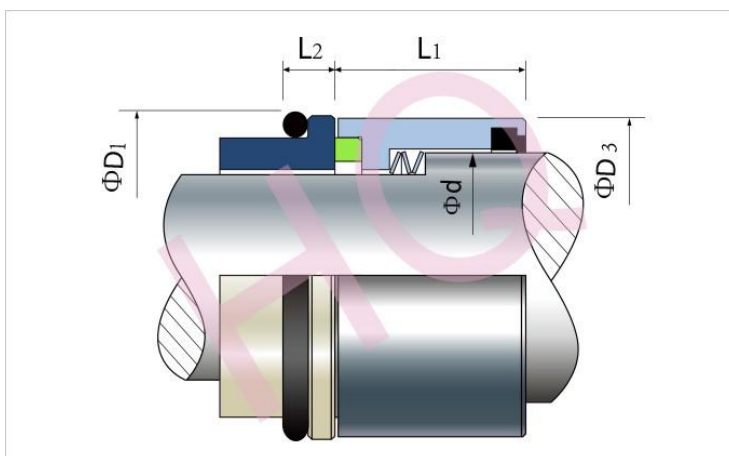
Type: Suit for Tuchenhausen Variflow Pumps
Replacement: Vulcan 1691

Temperature: -40 to +240°C

Pressure: $\leq 1.4\text{Mpa}$

Speed: $\leq 10\text{m/s}$

Material: B,Q2,U2,P,E,N,V,F,G,Alfa



d (mm)	D1	D3	L1	L2	O.E.M PUMP Model
30	40	39	24.5	7	TP10,TP15,TP20,TP30
35	45	44	25.5	7	TP16,TP25,TP50,TP80

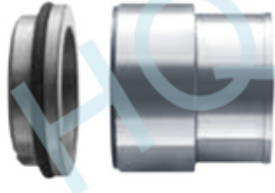


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TH-05(M010S4)



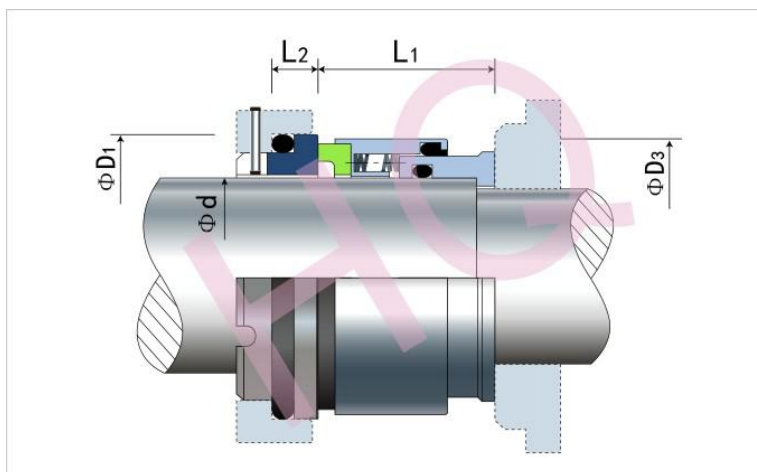
Type: Suit for Variflow KN Pumps
Replacement: AES M010S4,BURGMANN
SHJ92S9/SHJ97GS9

Temperature: -40 to +240°C

Pressure: $\leq 1.4\text{Mpa}$ Speed:

Speed: $\leq 10\text{m/s}$

Material: B,Q2,U2,P,E,N,V,F,G,Alfa



d (mm)	D1	D3	L1	L3
30	45	44	32.0	7.5
35	50	49	39.9	7.5
d (inch)	D1	D3	L1	L3
1.181	1.772	1.732	1.260	0.295
1.378	1.969	1.929	1.571	0.295

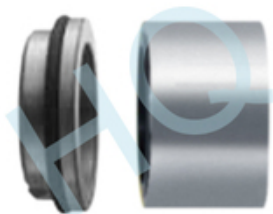


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TH06(M010S4/type B)



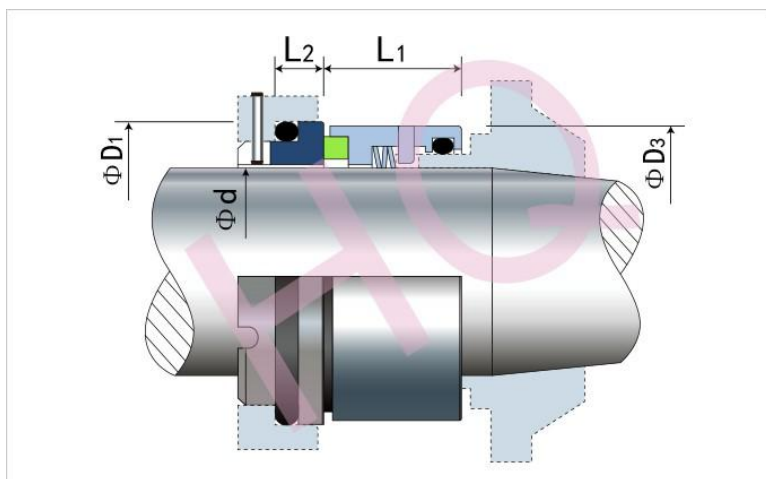
Type: Suit for Variflow TP/TPS Pumps
Replacement: AES M010S4(Type B),BURGMANN
SHJ92S9/SHJ97GS9

Temperature: -40 to +240°C

Pressure: $\leq 1.4\text{Mpa}$

Speed: $\leq 10\text{m/s}$

Material: B,Q2,U2,P,E,N,V,F,G,Alfa



d (mm)	D1	D3	L1	L3
25	40	38.8	24.5	7.0
30	45	43.7	27.1	7.6
d (inch)	D1	D3	L1	L3
0.984	1.575	1.528	0.965	0.276
1.181	1.772	1.720	1.067	0.299



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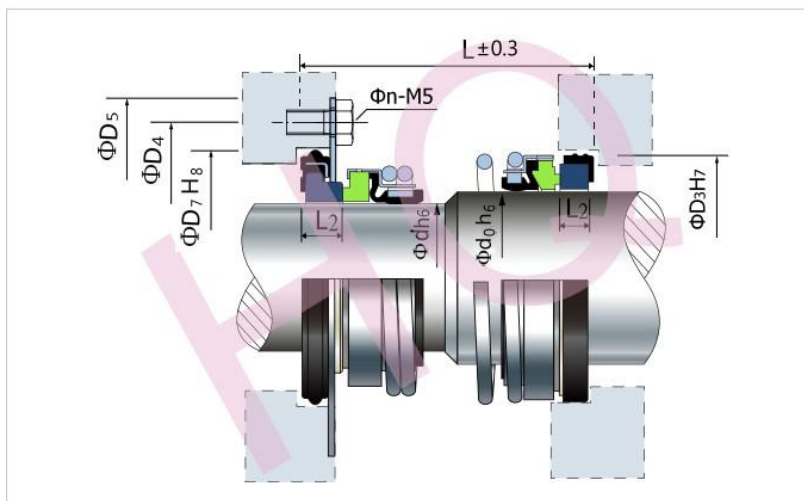
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Type: Suit for TSURUMI Pumps
 Replacement: Lidering TS-H2530/3035
 Temperature: -40°C to +150°C
 Pressure: $\leq 0.8\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



Size (mm)	d	d0	D3	D4	D5	D7	L	L2	n-M5
20F	20	20	38	56	68	44	49.5	7.5	4-M5
25/30	25	30	50	62	76	50	54.0	8.0	4-M5
30/35	30	35	58	72	95	57	62.0	9.0	6-M5
35/40	35	40	64	80	105	64	65.0	9.0	6-M5
45/50	45	50	70	92	115	70	69.0	10.0	8-M5



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TS-02(ED560)

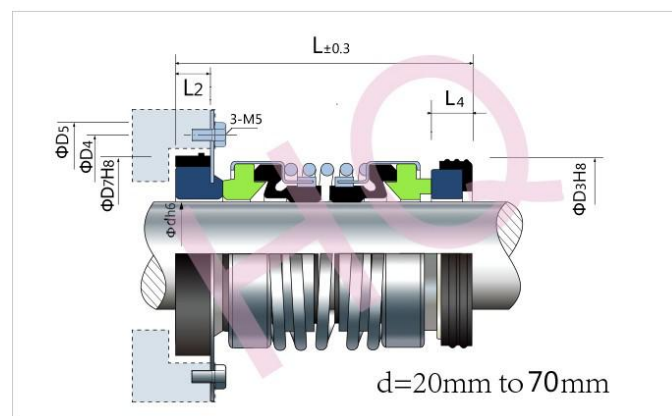
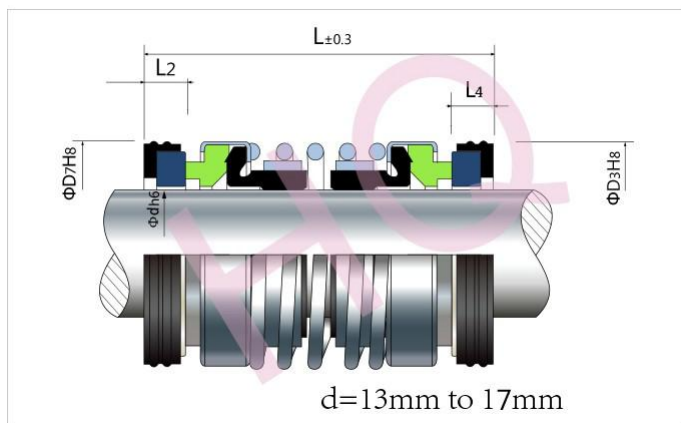


Type: Suit for TSURUMI Pumps
 Replacement: Burgmann ED560, Vulcan 260B
 Temperature: -40°C to +150°C

Pressure: $\leq 0.8\text{Mpa}$

Speed: $\leq 10\text{m/s}$

Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



Size (mm)	d	D3	D4	D5	D7	L	L2	L4
13	13	25	/	/	25	36	5.0	5.0
14	14	30	/	/	30	36	5.0	5.0
15	15	30	/	/	30	34/36	4/5.0	4/5.0
16	16	30	/	/	30	34/36	4/5.0	4/5.0
17	17	33	/	/	33	36	5.0	5.0
20	20	38	(50)/60	(62)/72	(38)/44	50	7.5	7.5
25	25	44	60	72	50	51	8.0	7.5
30	30	44/50	(60)/70	(72)/80	(50)/57	59	9.0	8.5
35	35	58	(70)/80	(82)/92	(58)/64	61	9.0	10.0
40	40	64	85	100	70	65	11.0	10.0
45	45	66	85	100	70	65	10.0	9.0
50	50	72	95	109	80	69	10.0	10.0
60	60	80	105	120	95	85	13.0	14.0
70	70	95	120	135	105	85	13.0	14.0

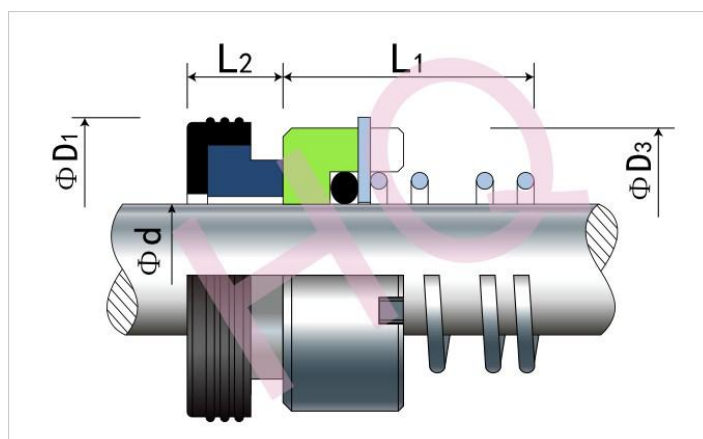


Type: Elastomeric Seal
Replacement: Walrus Pump Seals
Temperature: -20°C to +180°C

Pressure: $\leq 1.4\text{Mpa}$

Speed: $\leq 10\text{m/s}$

Material: B,Q2,U2,P,E,N,V,F,G,Alfa



*Suit for Walrus Pumps.

*d=12mm,16mm,25mm.



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Type: Cartridge Mechanical Seal
 Replacement: Walrus Pump Seals
 Temperature: -20 to +180°C

Pressure: $\leq 1.4\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa

d=12mm,16mm



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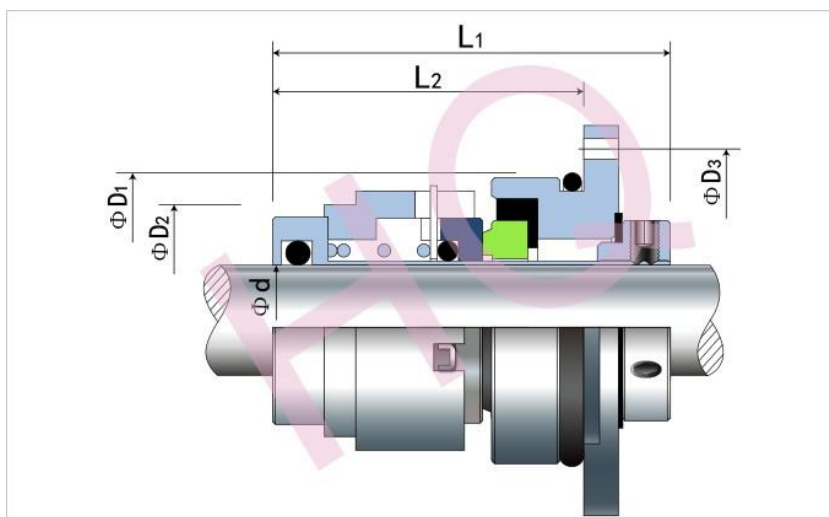


Type: Cartridge Mechanical Seal
 Replacement: Walrus TPCK2 and TPCK4 Pumps
 Temperature: -30 to +180°C

Pressure: $\leq 1.1\text{Mpa}$

Speed: $\leq 10\text{m/s}$

Material: B,Q2,U2,P,E,N,V,F,G,Alfa



d=12mm,16mm.



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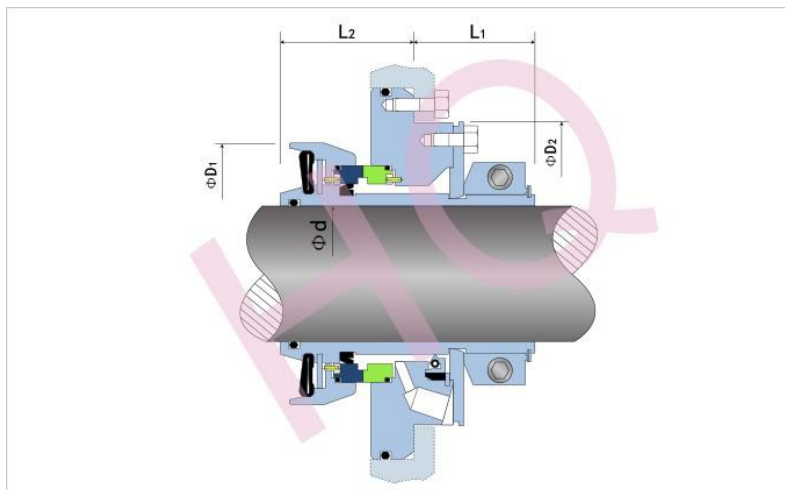
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HQCS-F05(SLC)

Type: Single Cartridge Seal Replacement:
 Replacement: Flowserve SLC, Suit for Warman Pump
 Temperature: $\leq 110^{\circ}\text{C}$
 Pressure: ≤ 20.7 Bar
 Speed: $\leq 15\text{m/s}$
 Material: A,B,U1,U2,Q1,Q2,G,M5



Group	d (mm)	D1	D2	wet end		dry end	
				L1	L2	L1	L2
1	35-54	99.7	127.8	52.4	62.2	56.2	55.5
2	54-82	136.0	156.5	57.9	62.7	58.6	58.1
3	82-106	170.0	186.4	59.9	67.3	61.6	65.5
4	106-138	202.1	229.6	77.7	67.8	67.4	69.2
5	168-181	257.9	280.9	83.6	78.5	66.5	77.4
6	181-220	313.2	329.6	99.3	92.4	99.3	92.1

Group	d (inch)	D1	D2	wet end		dry end	
				L1	L2	L1	L2
1	1.375-2.125	3.91	5.03	2.06	2.45	2.21	2.18
2	2.125-3.125	5.35	6.19	2.28	2.47	2.31	2.29
3	3.125-4.125	6.69	7.34	2.36	2.65	2.42	2.58
4	4.125-5.438	7.96	9.04	3.06	2.67	2.65	2.72
5	5.438-7.125	10.15	11.06	3.29	3.09	2.62	3.05
6	7.125-8.661	12.33	12.98	3.91	3.63	3.91	3.63

HQMA-05(AEB-60WS)



Type: Water-free Mechanical Seal with Bearing
 Replacement: Suit for Sulzer,KSB,Andritz Pumps
 Temperature: $\leq 150^{\circ}\text{C}$
 Pressure: $\leq 0.8\text{Mpa}$
 Speed: $\leq 1800\text{rpm}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M

*Product description:

Single cartridge mechanical seal for replacemente Lightnin blender application.The product is based on the original AEB-60 model has been improved on, it will play the role of a stable positioning of the bearing portion and the sealing.

*Apply to the host

ITT

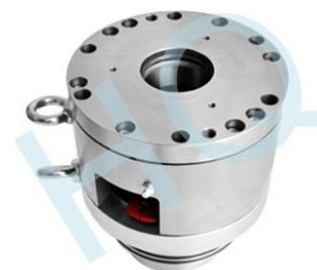
Sulzer

KSB

FLOWSERVE

Andritz

DuCHTING (Germany) pump company



*Product features

Single cartridge seal

Pusher

Multiple springs seal Independent of

direction of rotation Admissible

axial movement ± 1



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HQMA-14(509-65)



Type: Side Feed Type Mixer Seal
Replacement: American LIGHTNIN Strring .
Temperature: $\leq 150^{\circ}\text{C}$

Pressure: $\leq 0.80\text{Mpa}$
Speed: $\leq 1800\text{r/min}$
Material: Q1, Q2, A, B, U1, U2, P, E, V,
T, F, G, T2, M5

* The product description:

The product is sealed with no clogging centrifugal pump, and the structure form is a single end face structure of the assembly type.

* Applicable host:

American Lightnin.
SHARPE .
EKATO .



* Product features:

Single end face set, static balance type.
Multiple springs, free rotation.
Horizontal installation, clamping type transmission.
SiC, 304/316L, fluoro rubber/silicone rubber.
Outside circulation flushing

*Replacement models

SE3700
SE3000
SE45000

*The common specifications:

SCB-2.5"
SCB-3.000"
SCB-3.5"

* Application industry:

Thermal power metallurgical coal chemical industry.

* Working condition pump position:

Spray tower side agitator stainless steel reaction kettle.



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Type: KSB,WARMAN,SULZER,ANDRITZ

Mechanical Seal

Replacement: Suit KSB,Sulzer and Sulzer

Pumps Temperature: -20 to +180°C

Pressure: $\leq 0.8\text{Mpa}$

Speed: $\leq 10\text{m/s}$

Material: A,B,Q1,Q2,U1,U2,T,T6,V,G,F,M,M1

*Product description

Big shaft mechanical seal. Cartridge type mechanism for easy installation and replacement warman slurry pumps.

*Apply to the host

Warman Pump Company



*Product features

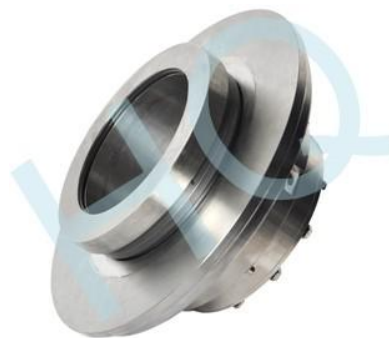
Single cartridge seal

Pusher

Multiple springs seal

Independent of direction of rotation

Admissible axial movement ± 1



*Applicable industries:

Oil and gas industry,Power plant Metallurgy.



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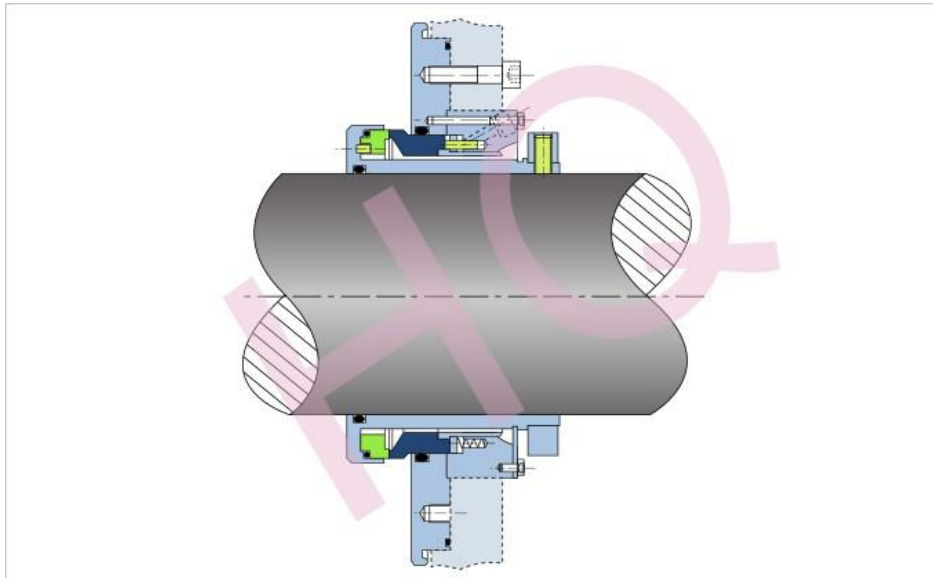
Suitable pump:

Circulating pump, Slurry pumps, Mud pumps, Sludge pump, Desulphurization pump.



Type: Desulfurization Stirred Seal
Replacement: Match with WARMAN Pump
Temperature: -30°C to +220°C

Pressure: 2.1Mpa
Speed: $\leq 25\text{m/s}$
Material: Q1, Q2, A, B, U1, U2, P, E, V, T, F, G, T2, M5



***Product description:**

Used in main circulation pump of smog desulfurized tower in electric power plant.

***Apply to the host:**

Match with Warman pump.

***Axle diameter:**

165mm and 220mm available.



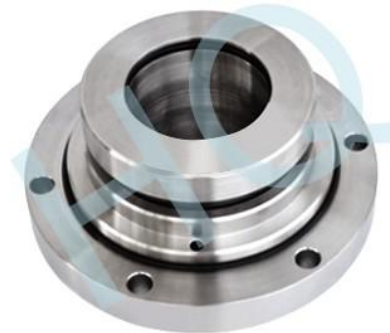
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Type: Slurry Pump Seals
 Replacement: Suit for WARMAN Pumps
 Temperature: $\leq 150^{\circ}\text{C}$
 Pressure: $\leq 1.5\text{Mpa}$
 Speed: $\leq 10\text{rpm}$
 Material: Q1,Q2,A,B,U1,U2,P,E,V,T,F,G,T2,M5



***Product description:**

this mechanical seal is used for the AH pump in Warman, Australia.

***Apply to the host:**

Warman factory.

***Product features:**

High temperature resistance, corrosion, wear, high pressure.

Friction pair is silicon carbide for silicon carbide.

Good sealing performance and long service life.

d= 60 mm

***Application industry:**

coal-fired power generation metallurgical coal chemical building materials.

***Pump position:**

slurry pump centrifugal pump.



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Type: Slurry Pump Seals
 Replacement: Suit for WARMAN Pumps
 Temperature: $\leq 150^{\circ}\text{C}$
 Pressure: $\leq 1.5\text{Mpa}$
 Speed: $\leq 10\text{rpm}$
 Material: Q1,Q2,A,B,U1,U2,P,E,V,T,F,G,T2,M5

*Product description:

this series of mechanical seals is a mechanical seal of slurry pump.

The mechanical seal is of good versatility and can be applied to a variety of powerful pumps. High efficiency, low energy consumption, high reliability and excellent performance.

*Apply to the host:

Warman factory.



*Product features:

High temperature resistance, corrosion, wear, high pressure.

Friction pair is silicon carbide for silicon carbide.

Good sealing performance and long service life.

*Application industry:

Coal-fired power generation metallurgical coal chemical building materials.

*Pump position:

Slurry pump centrifugal pump.



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Type: Slurry and Desulfurization Pumps Seal
 Replacement: Burgmann 26-HRS2/100-A1
 Temperature: $\leq 150^{\circ}\text{C}$
 Pressure: $\leq 1.5\text{Mpa}$
 Speed: $\leq 10\text{r/min}$
 Material: Q1,Q2,A,B,U1,U2,P,E,V,T,F,G,T2,M5

***Product description:**

Single cartridge mechanical seals replacement eagleburgmann mechanical seal 26-HRS2/100-A1 of burgmann seals catalog.

***Apply to the host:**

Warman host factory
 Burgmann Company



***Product features:**

Single end face set, static balance type.
 Multiple springs/free rotation.
 Horizontal mounting, screw fastening drive.
 YWN8/SiC, 2Cr13/ 304/316l, fluoro rubber/silicone rubber.
 Outside circulation flushing



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***Applicable industries:**

Pharmaceutical manufacturing, basic chemical raw materials manufacturing, petroleum processing, coking and nuclear fuel processing, food manufacturing.

***Applicable pump:**

Infusion pump, booster pump, pump, circulating pump, oil pump, chemical standard.



Type: Warman Pump Seal
 Temperature: $\leq 150^{\circ}\text{C}$
 Pressure: $\leq 0.8\text{Mpa}$
 Speed: $\leq 1100\text{rpm}$
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa

*Product description

The shaft diameter of this product is 115mm. Different from other shaft diameter products of the same series, this product is clamp-type transmission, which is easier and more convenient to install. After the normal assembly of mechanical seal, only the corresponding parts of the pump body can be assembled. The product can be automatically adjusted to the normal working height in the combination process of pump chamber gland, and there is no disassembly process of the limit device. The product is built in structure, which is less affected by the environment. As with most mechanical seals, flushing and circulating water must be connected before operation. Dry operation is forbidden.

*Apply to the host

900GSL Warman
 800GSL Warman
 700GSL Warman
 600GSL Warman



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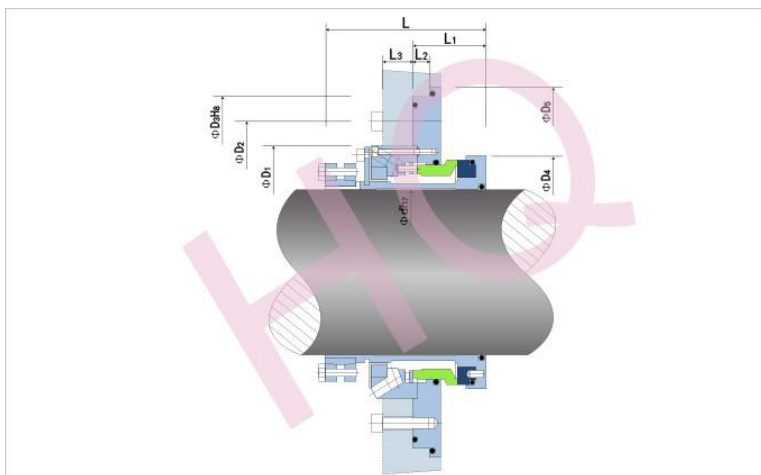


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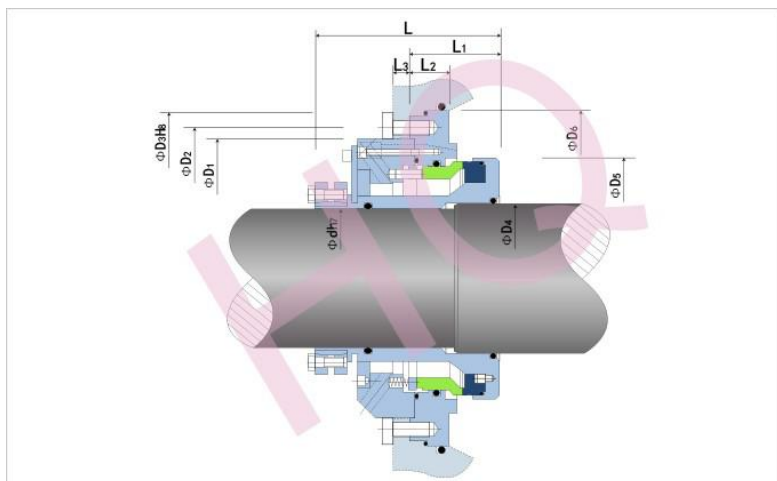


Type: Slurry Pump Seals
 Replacement: Suit for WARMAN Pumps
 Temperature: $\leq 150^{\circ}\text{C}$
 Pressure: $\leq 1.5\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M

WAR-06(2C)



WAR-06(3C)



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Type: Slurry Pump Seals
 Replacement: Suit for WARMAN Pumps
 Temperature: $\leq 100^{\circ}\text{C}$
 Pressure: $\leq 1.5\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: Q1,Q2,U2,T,V,M1,F,G,M

*Product description:

Package structure, very convenient for installation and debugging. This type of anhydrous mechanical seal is developed on the basis of our company's summary of the bulk anhydrous mechanical seal and the second generation of anhydrous mechanical seal. In the second generation of waterless mechanical seal has been improved, the limit device has been added to the shaft sleeve, so that the seal ring will not be exposed in the storage, transportation, installation process, not easy to damage or pollution.

*Apply to the host

Warman



*Product features

Packaged waterless flushing without flushing, corrosion resistance, anti - scaling.

*Application industry:

Metallurgical minerals.

*Working pump position:

Slurry pump



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WKS-01(MOGCE)



Type: Waukesha/Wright TRA 500 Series
Pump Seal

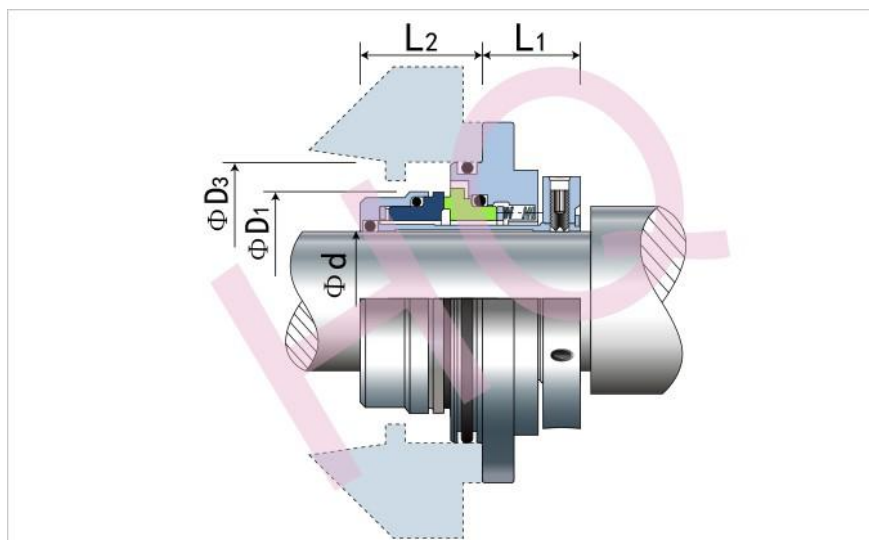
Replacement: AES MOGCE

Temperature: -20 to +160°C

Pressure: $\leq 1.0\text{Mpa}$

Speed: $\leq 10\text{m/s}$

Material: B,Q2,U2,P,E,N,V,F,G,Alfa



d (mm)	D1	D3	L1	L2
30	46.8	60	24.85	30.88
d (inch)	D1	D3	L1	L2
1.181	1.843	2.362	0.978	1.216

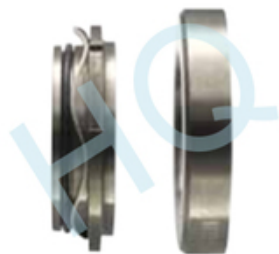


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WKS-02(W13X)

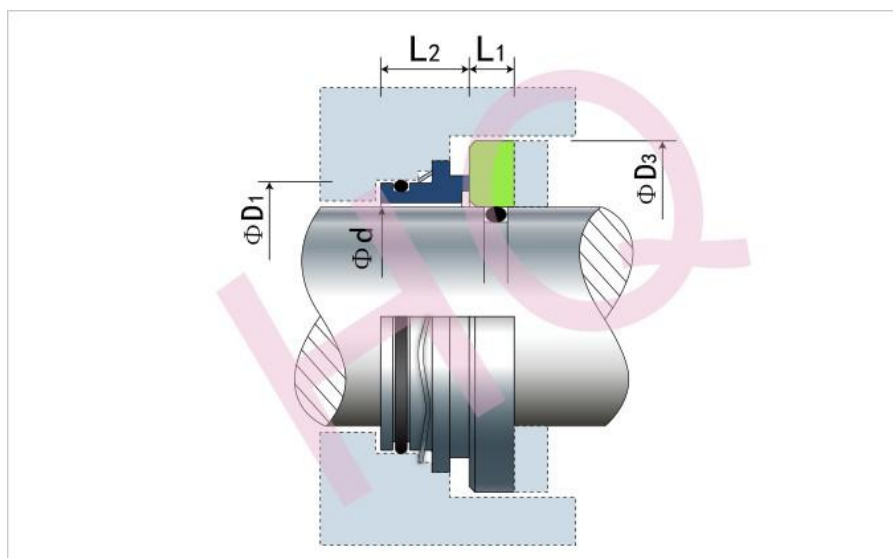


Type: Waukesha/Wright SP4 Pump Seal
 Replacement: AES W13X
 Temperature: 20°C to +120°C

Pressure: $\leq 1.4\text{Mpa}$

Speed: $\leq 10\text{m/s}$

Material: B,Q2,U2,P,E,N,V,F,G,Alfa



d (mm)	D1	D3	L1	L2
33	40.1	52.5	6.8	13.3
d (inch)	D1	D2	L1	L2
1.300	1.578	2.067	0.268	0.523



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WKS-03(M09)



Type: Waukesha/Wright Universal I,
WRU(TRA10) Pump Seal

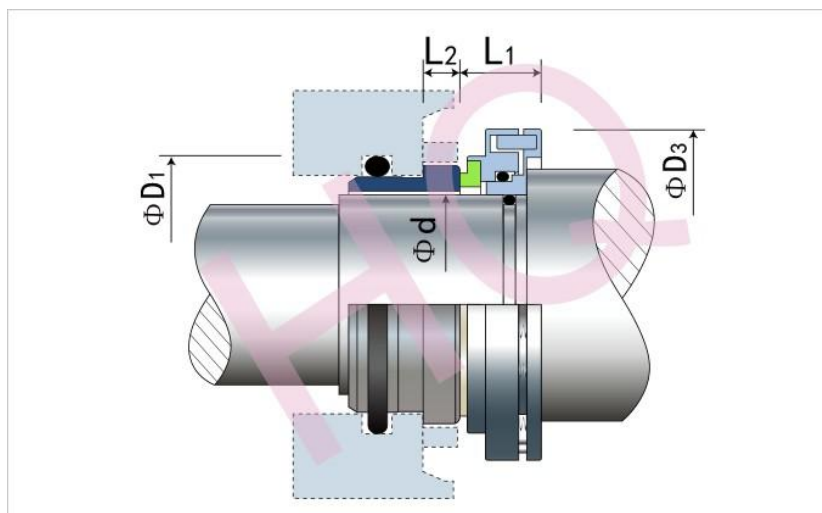
Replacement: AES M09

Temperature: -20 to +180°C

Pressure: $\leq 1.4\text{Mpa}$

Speed: $\leq 10\text{m/s}$

Material: B,Q2,U2,P,E,N,V,F,G,Alfa



d (mm)	D1	D3	L1	L2
38.1	53.6	80.8	11.6	3.0
47.6	66.1	79.0	19.4	8.9
d (inch)	D1	D3	L1	L2
1.500	2.110	3.175	0.457	0.118
1.875	2.602	3.110	0.763	0.350



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WKS-04(M09S)



Type: Waukesha/Wright Universal II
(TRA20) Pump Seal

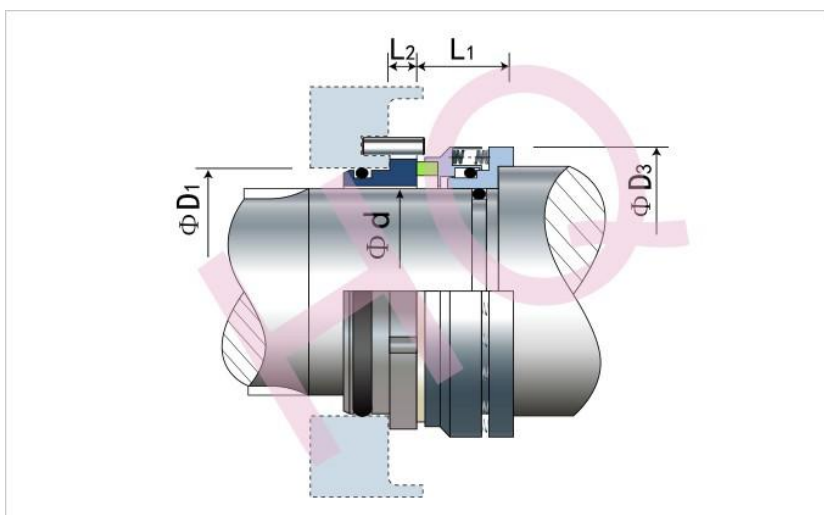
Replacement: AES M09S

Temperature: -20 to +180°C

Pressure: $\leq 1.4\text{Mpa}$

Speed: $\leq 10\text{m/s}$

Material: B,Q2,U2,P,E,N,V,F,G,Alfa



d (mm)	D1	D3	L1	L2
69.8	83.3	93.4	24.0	5.1
d (inch)	D1	D3	L1	L2
2.750	3.280	3.675	0.945	0.201



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WKS-05(W13U/SINGLE)



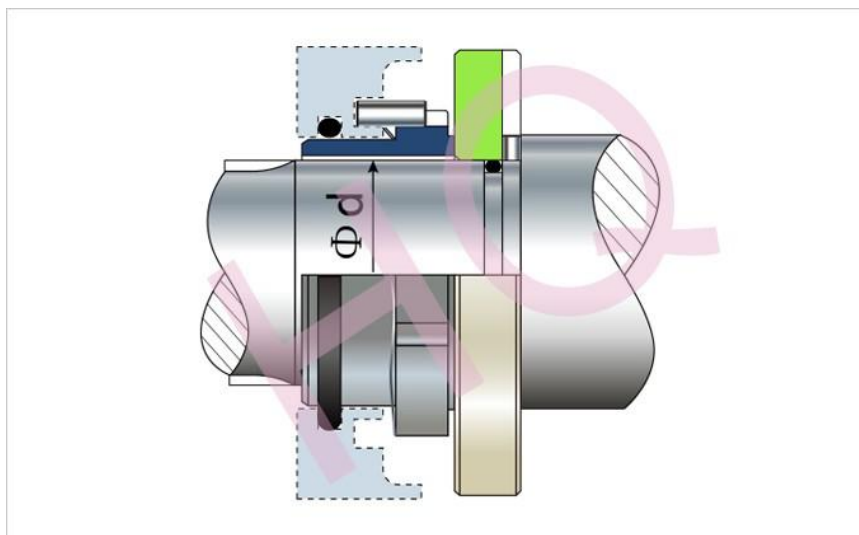
Type: Waukesha/Wright Universal I,
WRU(TRA10) Pump Seal

Replacement: AES W13U(Single Seals)

Temperature: -20 to +180°C

Pressure: $\leq 1.0\text{Mpa}$

Speed: $\leq 10\text{m/s}$



Suit for Waukesha/Wright Pumps.

d=30.1mm,38.1mm,47.6mm,69.8mm

and 1.185",1.500",1.875",2.750".



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WKS-06(W13U/DOUBLE)



Type: Waukesha/Wright Universal I, WRU(TRA10)

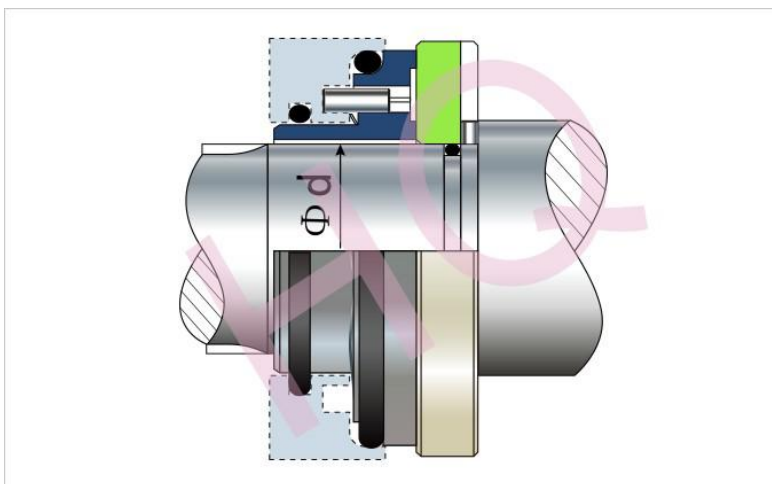
Pump Seal

Replacement: AES W13U(Double Seals)

Temperature: -20 to +180°C

Pressure: $\leq 1.0\text{Mpa}$

Speed: $\leq 10\text{m/s}$



Suit for Waukesha/Wright Pumps.

d=30.1mm,38.1mm,47.6mm,69.8mm

and 1.185",1.500",1.875",2.750".



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WKS-07(W13SU/SINGLE)



Type: Waukesha/Wright Universal II (TRA20)

Pump Seal

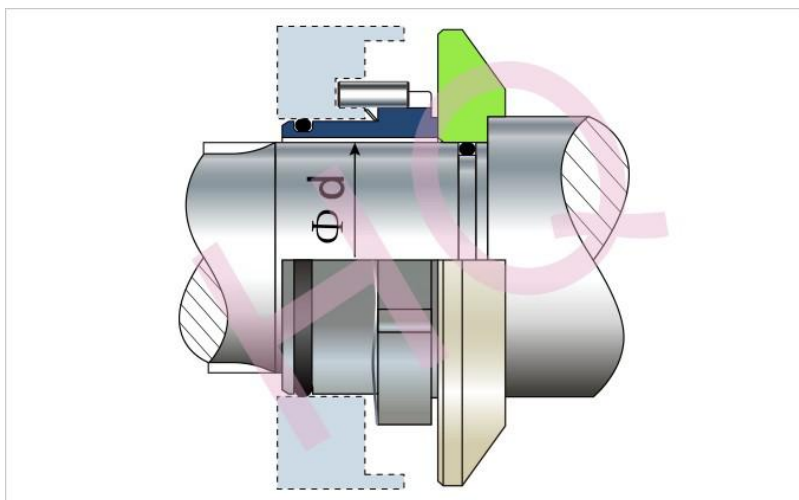
Replacement: AES W13SU(Single Seals)

Temperature: -20 to +180°C

Pressure: $\leq 1.0\text{Mpa}$

Speed: $\leq 10\text{m/s}$

Material: B,Q2,U2,P,E,N,V,F,G,Alfa



Suit for Waukesha/Wright Pumps.

d=31.7mm, 41.2mm, 50.8mm, 69.8mm ,76.2mm

and 1.250", 1.625", 2.000", 2.750", 3.000".

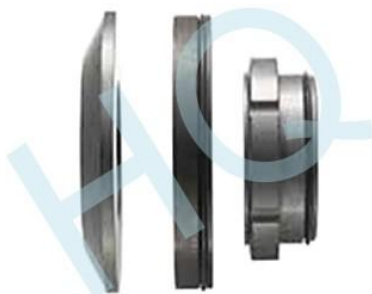


<http://www.hqseal.com>

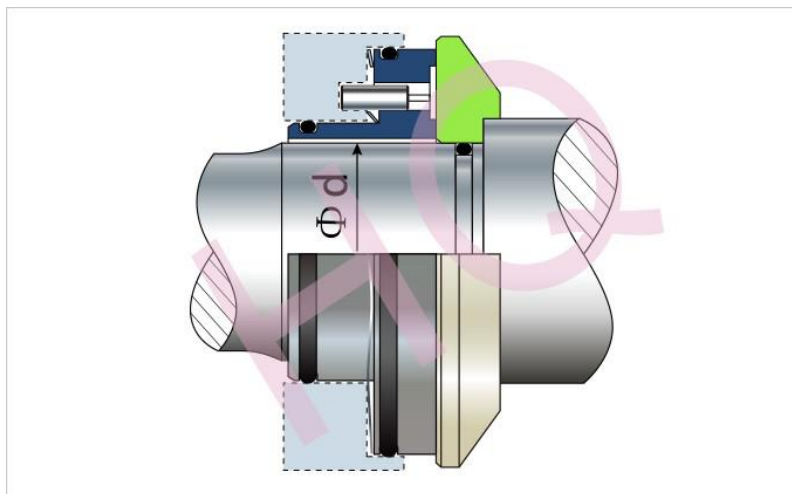


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WKS-08(W13SU/DOUBLE)



Type: Waukesha/Wright Universal II (TRA20)
 Pump Seal
 Replacement: AES W13SU(Double Seals)
 Temperature: -20 to +180°C
 Pressure: $\leq 1.0\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa



Suit for Waukesha/Wright Pumps.

d=31.7mm, 41.2mm, 50.8mm, 69.8mm ,76.2mm

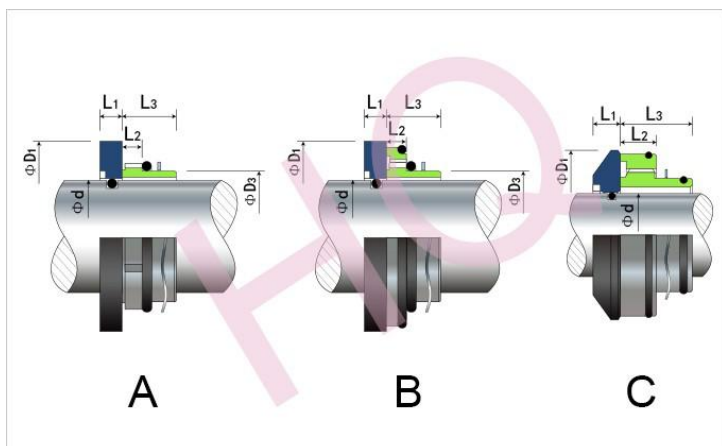
and 1.250", 1.625", 2.000", 2.750", 3.000".



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Type: Waukesha Universal Serie Pumps Seals
 Replacement: Vulcan 87,88
 Temperature: -20 to +180°C
 Pressure: ≤1.4Mpa
 Speed: ≤10m/s
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa

Type 87 table for the Universal I-Series of Pumps

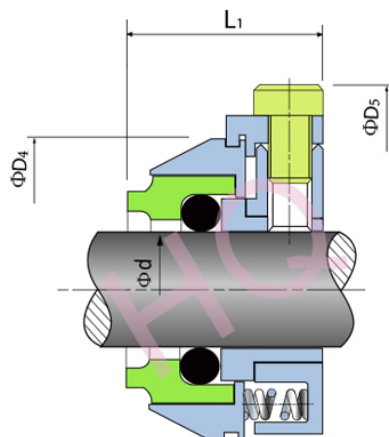
d (mm)	D1	D3	L1	L2	L3	OEM Seal Code	Face Profile
28.6	63.9	37.5	8.0	10.5	19.1	U6, U14, U15, U18, U24	Slope
38.1	80.5	43.8	8.5	11.5	17.0	U30, U34	Slope
47.6	94.2	56.6	13.8	13.5	32.5	U60, U64, U130, U134	flat
69.8	114.5	79.0	13.8	13.5	32.5	U220, U224	flat
d (inch)	D1	D3	L1	L2	L2	OEM Seal Code	Face Profile
1.125	2.516	1.476	0.315	0.413	0.752	U6, U14, U15, U18, U24	Slope
1.500	3.169	1.724	0.335	0.453	0.669	U30, U34	Slope
1.875	3.709	2.228	0.543	0.531	1.280	U60, U64, U130, U134	flat
2.750	4.508	3.110	0.543	0.531	1.280	U220, U224	flat

Type 88 table for the Universal II-Series of Pumps

d (mm)	D1	D3	L1	L2	L3	OEM Seal Code	Face Profile
31.7	63.5	39.2	10.3	11.6	10.6	006U2, 015U2, 018U2	Slope
41.2	80.1	50	10.3	9.0	18.3	030U2	Slope
50.8	98.4	63.2	13.8	12.0	25.4	045U2, 060U2, 130U2	flat
69.8	116.0	112.8	13.8	12.0	25.4	180U2, 220U2	flat
d(inch)	D1	D3	L1	L2	L2	OEM Seal Code	Face Profile
1.250	2.500	1.543	0.406	0.457	0.417	006U2, 015U2, 018U2	Slope
1.625	3.154	1.969	0.406	0.354	0.72	030U2	Slope
2.000	3.874	2.488	0.543	0.472	1.000	045U2, 060U2, 130U2	flat
2.750	4.567	4.440	0.543	0.472	1.000	180U2, 220U2	flat

EMU-05(CS)

Type: Suit for EMU Pumps and MIXERS
 Replacement: AES CS
 Temperature: -50°C to +204°C
 Pressure: $\leq 1.1\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: B,V,E,P,K,F,G

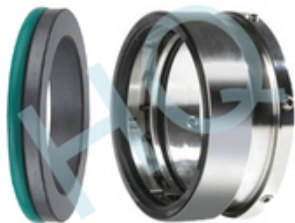


d	L1	D4	D5
20	27.91	45.3	59.8
22	27.91	47.3	61.8
24	27.9	49.3	63.8
25	27.9	50.3	64.8
28	27.91	53.3	67.8
30	27.91	55.3	69.8
32	27.91	57.3	71.8
33	27.9	58.3	72.8
35	27.91	60.3	74.8
38	27.91	63.3	77.8
40	27.91	65.3	79.8
42	27.9	67.3	81.8
43	27.9	68.3	82.8
45	27.91	70.3	84.8
48	27.91	73.3	87.8
50	27.9	75.3	89.8
53	27.91	78.3	92.8
55	27.9	80.3	94.8
60	27.9	85.3	99.7
65	30.3	96.5	111
70	30.28	101.5	116
75	30.28	106.5	121
80	30.28	111.5	126
85	30.28	116.5	131
90	30.28	121.5	136
95	30.3	126.5	141
100	30.28	131.5	146

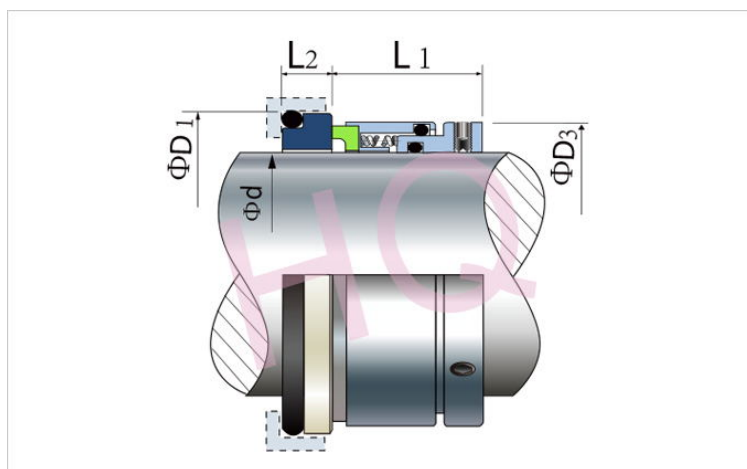
d	L1	D4	D5
0.625	1.098	1.622	2.192
0.75	1.098	1.747	2.317
0.875	1.098	1.872	2.442
1	1.098	1.997	2.567
1.125	1.098	2.122	2.692
1.25	1.098	2.247	2.817
1.375	1.098	2.372	2.942
1.5	1.098	2.497	2.067
1.625	1.098	2.622	3.192
1.75	1.098	2.747	3.317
1.875	1.098	2.872	3.442
2	1.098	2.997	3.567
2.125	1.098	3.122	3.692
2.25	1.098	3.247	3.817
2.375	1.098	3.372	3.942
2.5	1.098	3.497	4.067
2.625	1.192	3.866	4.436
2.75	1.192	3.991	4.561
2.875	1.192	4.116	4.686
3	1.192	4.241	4.811
3.125	1.192	4.366	4.936
3.25	1.192	4.491	5.061
3.375	1.192	4.616	5.186
3.5	1.192	4.741	5.311
3.625	1.192	4.866	5.436
3.75	1.192	4.991	5.561
3.875	1.192	5.116	5.686
4	1.192	5.241	5.811

d (Inch)	L1	D4	D5
0.625	1.098	1.622	2.192
0.75	1.098	1.747	2.317
0.875	1.098	1.872	2.442
1	1.098	1.997	2.567
1.125	1.098	2.122	2.692
1.25	1.098	2.247	2.817
1.375	1.098	2.372	2.942
1.5	1.098	2.497	2.067
1.625	1.098	2.622	3.192
1.75	1.098	2.747	3.317
1.875	1.098	2.872	3.442
2	1.098	2.997	3.567
2.125	1.098	3.122	3.692
2.25	1.098	3.247	3.817
2.375	1.098	3.372	3.942
2.5	1.098	3.497	4.067
2.625	1.192	3.866	4.436
2.75	1.192	3.991	4.561
2.875	1.192	4.116	4.686
3	1.192	4.241	4.811
3.125	1.192	4.366	4.936
3.25	1.192	4.491	5.061
3.375	1.192	4.616	5.186
3.5	1.192	4.741	5.311
3.625	1.192	4.866	5.436
3.75	1.192	4.991	5.561
3.875	1.192	5.116	5.686
4	1.192	5.241	5.811

EMU-06(SAIE)



Type: Suit for EMU Pumps
 Replacement: AES SAIE
 Temperature: -40°C to +200°C
 Pressure: $\leq 1.2\text{Mpa}$
 Speed: $\leq 20\text{m/s}$
 Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



d (mm)	D1	D3	L1	L2
85.0	109.0	103.2	44.2	14.8
105.0	134.3	129.0	36.5	14.8



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EMU-01(B02X)

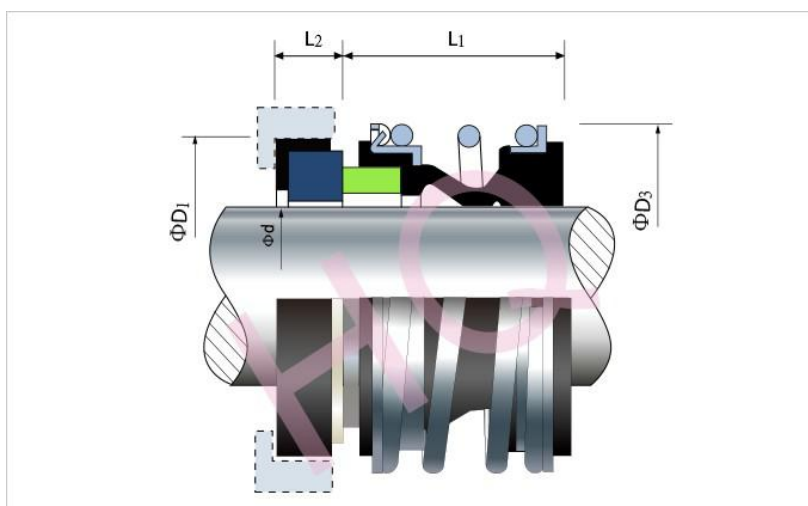


Type: Suit for ABS/EMU/WILO Pumps
 Replacement: AES B02X, Burgamnn MG1S
 Temperature: -20°C to +120°C

Pressure: $\leq 1.2\text{Mpa}$

Speed: $\leq 10\text{m/s}$

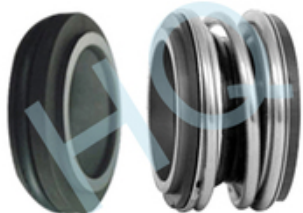
Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



d (mm)	D1	D3	L1	L2
15.0	35.0	28.0	17.0	3.9
17.0	33.0	31.0	19.5	7.5
20.0	36.5	36.0	21.5	12.0
25.0	40.0	41.0	22.5	7.5
30.0	50.8	47.0	23.0	9.5
32.0	48.0	51.0	40.0	7.5
32.0(B)	50.8	51.0	33.7	12.6
40.0	50.8	60.0	30.0	12.7
45.0	65.0	65.0	30.0	12.5



EMU-02(B02XS)

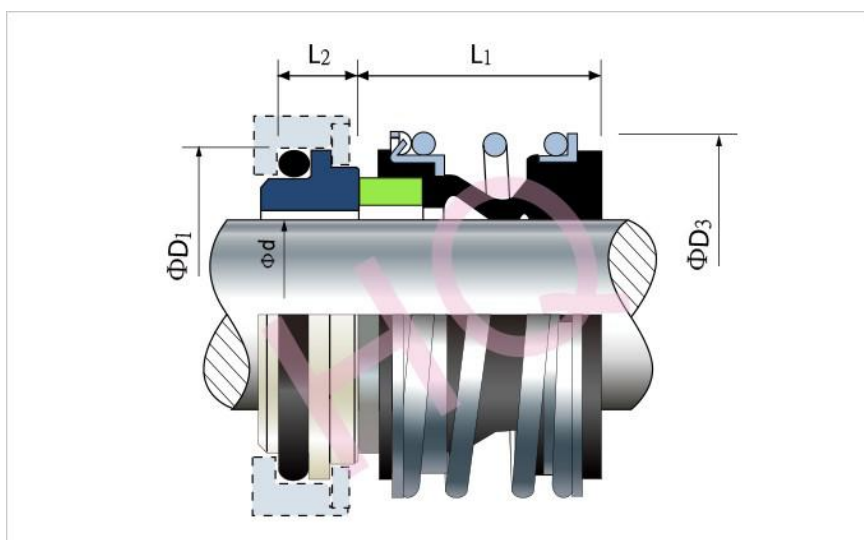


Type: Suit for ABS/EMU/WILO Pumps
 Replacement: AES B02XS, Burgamnn MG1S
 Temperature: -20°C to +120°C

Pressure: $\leq 1.2\text{Mpa}$

Speed: $\leq 10\text{m/s}$

Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



d (mm)	D1	D3	L1	L2
48.0	67.0	69.0	30.5	10.3
65.0	86.0	90.0	38.0	13.5
100.0	123.3	136.0	44.7	14.0



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EMU-03(1640/1642)

Type: Suit for EMU/Wilo Submersible
Pumps and MIXERS

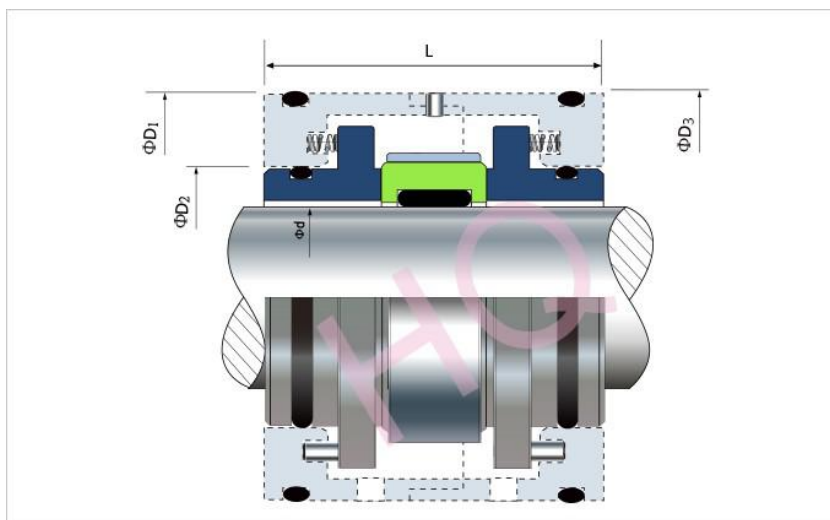
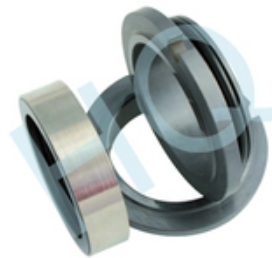
Replacement: Vulcan1640/1642,AES SOE

Temperature: -40°C to +204°C

Pressure: $\leq 1.1\text{Mpa}$

Speed: $\leq 15\text{m/s}$

Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



Vulcan 1640

d (mm)	D1	D2	D3	L
35	72	47	72	47
50	92	63	90	52
75	130	95	128	75

Vulcan 1642

d (mm)	D1	D2	D3	L
35	72	49	72	47
50	92	65	90	52

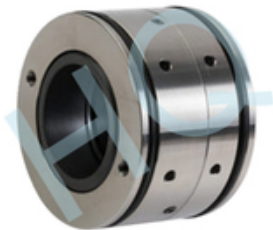


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EMU-04(SOEC)



Type: Suit for EMU/Wilo Pumps and MIXERS

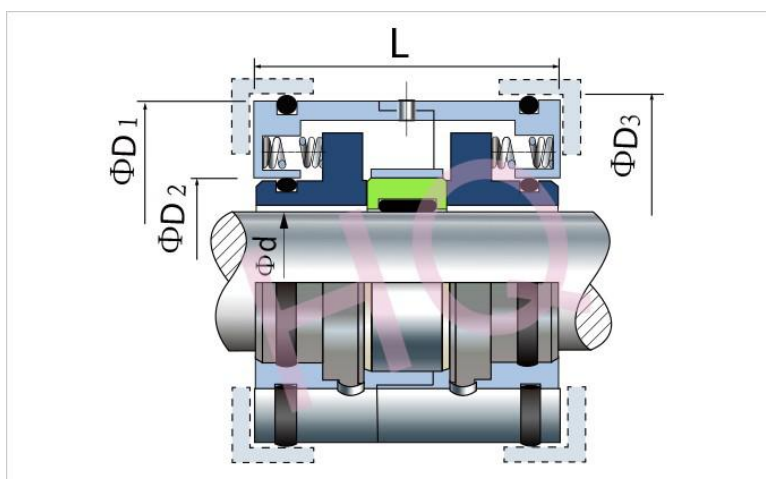
Replacement: AES SOEC

Temperature: -40°C to $+200^{\circ}\text{C}$

Pressure: $\leq 1.2\text{Mpa}$

Speed: $\leq 20\text{m/s}$

Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



d	Code	D3	D2	D1	L
35	0.35	72	47	72	47
50	0.5	92	63	90	52
75	0.75	130	95	128	75



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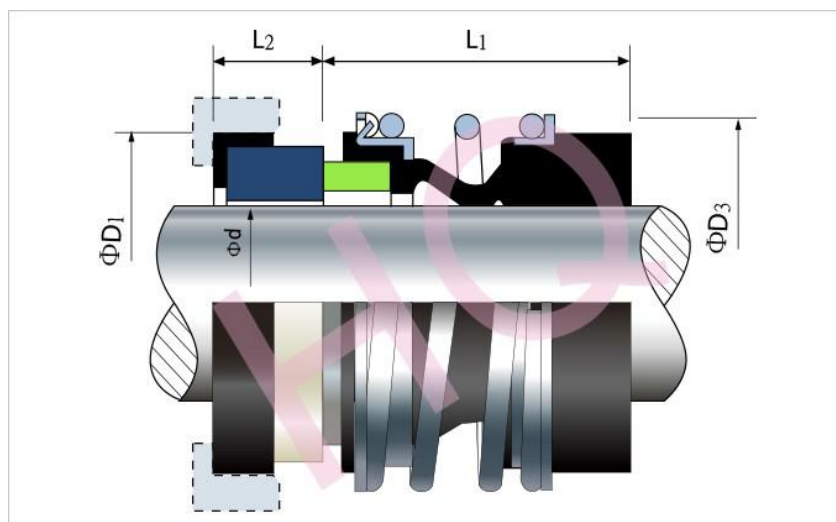
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Type: Suit for Wilo Submersible Pumps
 Replacement: Lidering 107
 Temperature: -20 to +150°C

Pressure: $\leq 2.1\text{Mpa}$
 Speed: $\leq 15\text{m/s}$

Material: B,Q2,U2,P,E,N,V,F,G,Alfa



d (mm)	D1	D3	L1	L2
22	37	37.0	30.0	7.5
28	43	49.0	42.5	7.5
38	56	59.0	46.0	9.0
48	66	70.5	51.0	9.0



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Type: Suit for Wilo Submersible Pumps
Replacement: Lidering W-MS-30
Temperature: -20 to +150°C
Pressure: 1.5Mpa
Speed: $\leq 15\text{m/s}$
Material: B,Q2,U2,P,E,N,V,F,G,Alfa

It is equal to Lidering W-MS-30.
d=30mm



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WL-21(191)



Type: Suit for Wilo CENTRIFUGAL Pumps

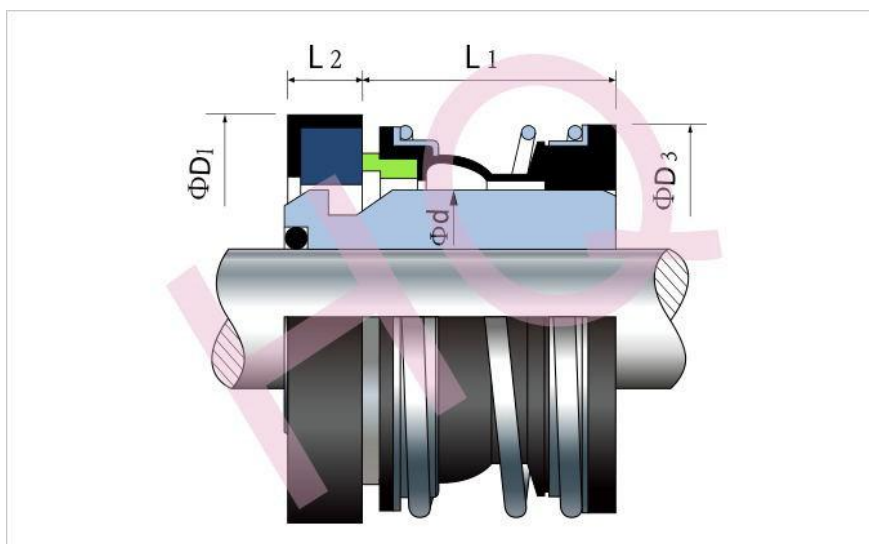
Replacement: Vulcan 191, AES B02W

Temperature: -20°C to $+120^{\circ}\text{C}$

Pressure: $\leq 1.4\text{Mpa}$

Speed: $\leq 15\text{m/s}$

Material: B, A1, Q1, Q2, U2, P, E, N, V, F, G



d (mm)	D1	D3	L1	L2
32	50.8	51	33.34	12
55	76.2	78	41.00	12



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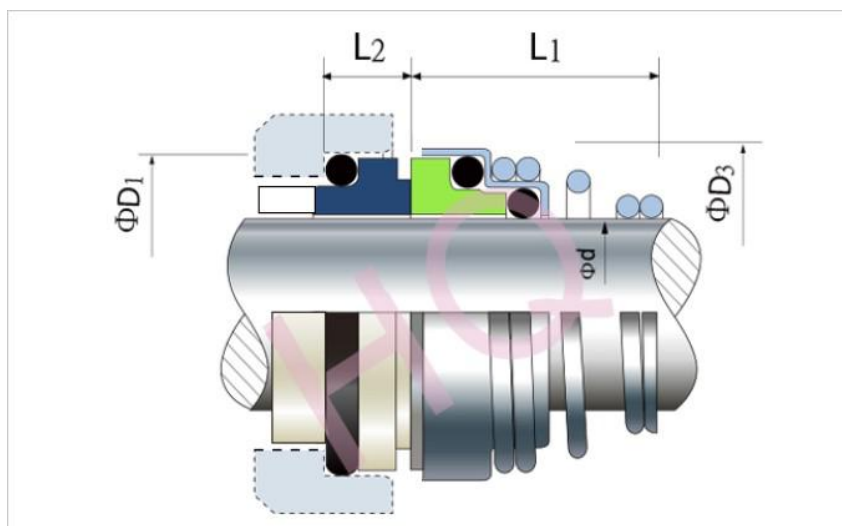


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AL-29(13M)



Type: Suit for Alfa Laval and C.S.F, Inox AS and
CS Centrifugal Series Pumps
Replacement: Vulcan 13M,Billi BB5
Temperature: -20°C to $+120^{\circ}\text{C}$
Pressure: $\leq 1.2\text{Mpa}$
Speed: $\leq 10\text{m/s}$
Material: A,Q2,U2,P,E,V,F,G



d (mm)	D1	D3	L1	L2
28	43	45.5	29	9.5



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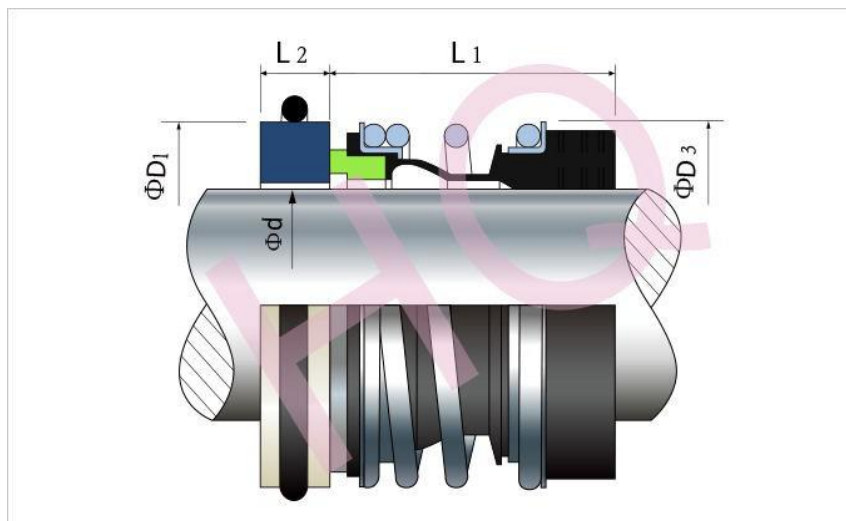


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HAI-06(144)



Type: KOLMEKS A-,L-,N- and T-pumps Seals
 Replacement: Vulcan 144
 Temperature: -20°C to +120°C
 Pressure: $\leq 1.0\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



d (mm)	D1	D3	L1	L2
12	22.22	22	25.40	5.5
28	30.15	32	24.50	8.0
25	36.73	39	25.40	8.0
32	46.00	46	30.15	8.5
40	58.00	56	36.00	9.0



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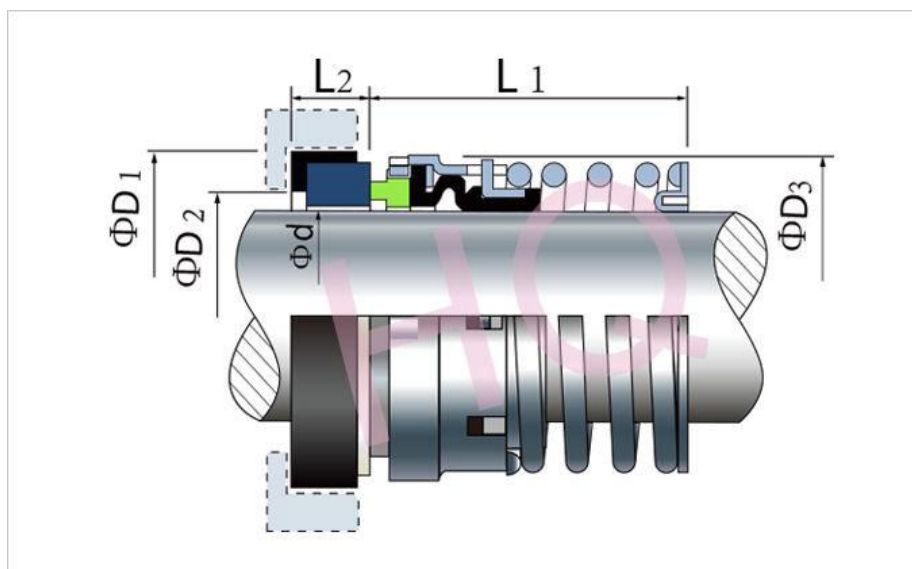


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OP-01(N5)



Type: Mission Magnum Pump Seals, For National
oilwell Varco
Replacement: Vulcan N5
Temperature: -20 to +150°C
Pressure: $\leq 1.4\text{Mpa}$
Speed: $\leq 10\text{m/s}$
Material: B, Q2, U2, P, E, N, V, F, G, Alfa



d		D1		D3		L1		L3	
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
63.50	2.500	85.73	3.375	81.54	3.210	63.5	2.500	14.40	0.567



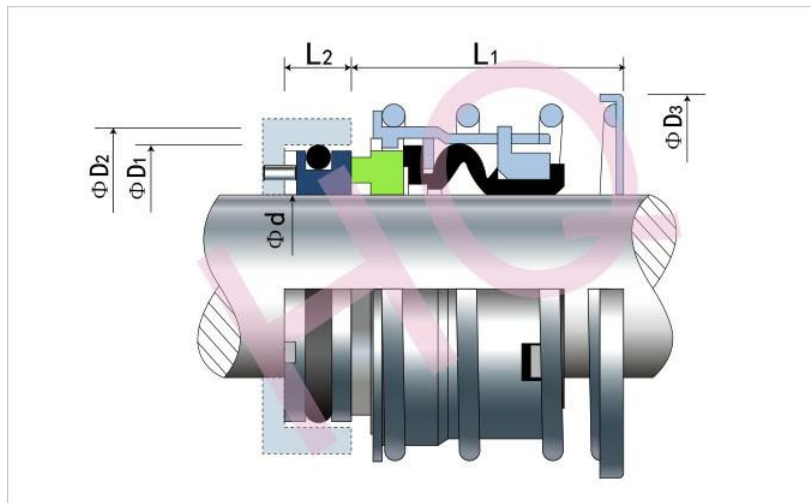
<http://www.hqseal.com>



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OP-02(V4)

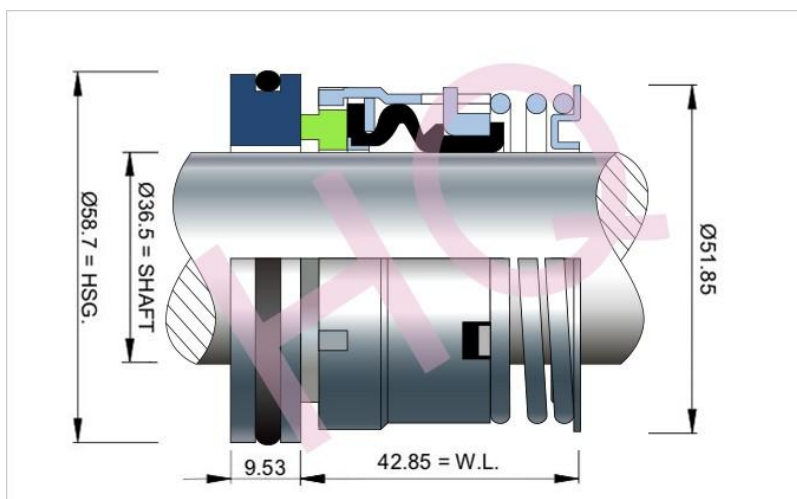
Type: Viking Pump Seals
 Replacement: Vulcan V4
 Temperature: -20 to +150°C
 Pressure: $\leq 1.4\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G,Alfa



d (inch)	Size Code	D1	D2	D3	L1	L2
1.000	0254	40.82	37.0	43.0	25.4	7.87
1.250	0317	47.60	45.5	51.5	25.4	9.65

0254.O.AN. Stationary has no ANTI-ROTATION slot

0317.O.AN Stationary has 2 off slots at 180"



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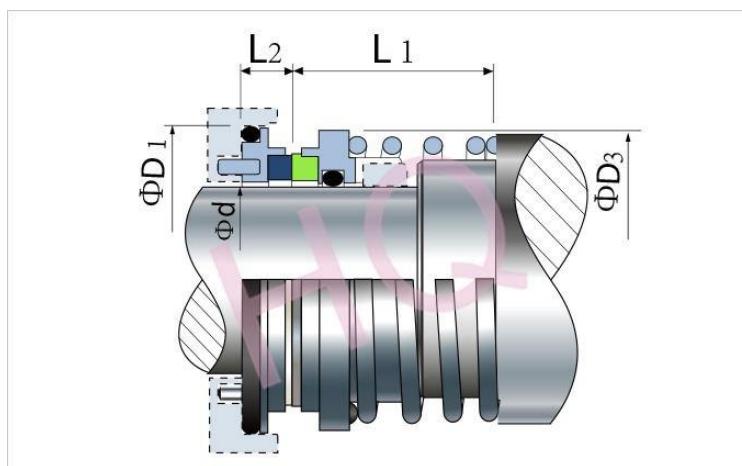


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OP-04(P011)



Type: Viking Pump Seals
 Replacement: AES P011
 Temperature: -20°C to +120°C
 Pressure: $\leq 1.4\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



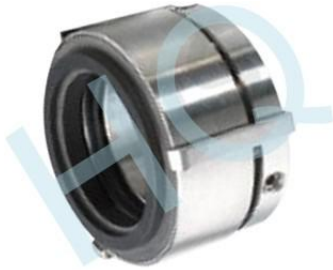
d (mm)	D3	D1	L2
28.6	47.2	50.8	9.4
36.5	56.5	58.8	9.4



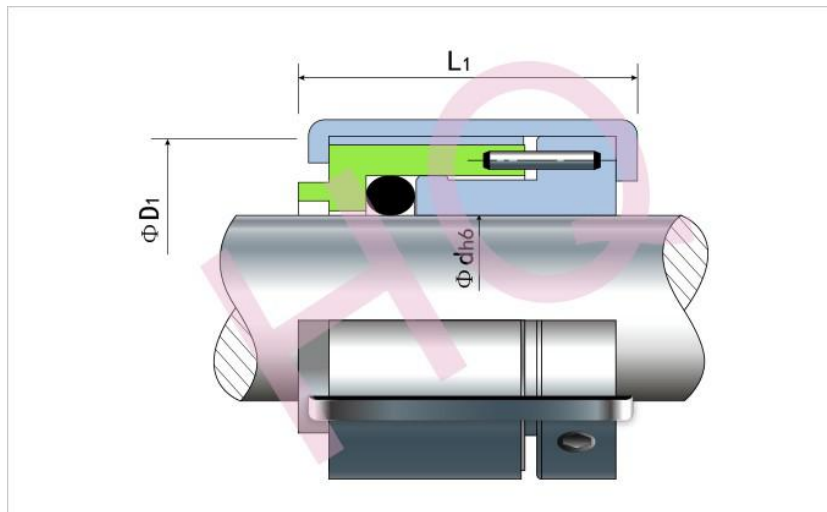
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Type: machined mechanical seal
 Replacement: widely used for industrial pumps
 Temperature: -20°C to +140°C
 Pressure: $\leq 1.2\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: B,A,Q2,P,E,V,U2,F,G



Size (inch)	d	D1	L1
1 1/8"	28.575	48.2	33
1 3/8"	34.925	54.8	33
1 7/8"	47.625	68.6	33



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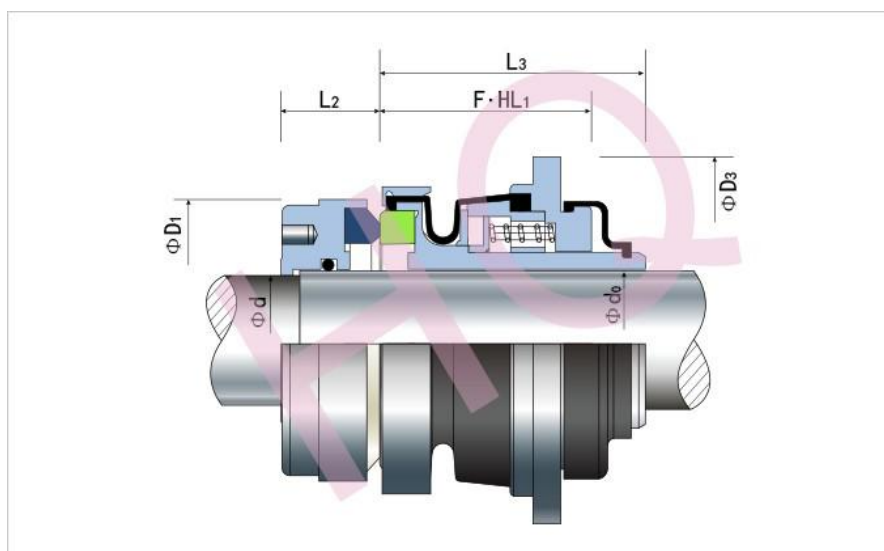


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OP-09(AP)



Type: machined mechanical seal
 Replacement: widely used for industrial pumps
 Temperature: -20°C to $+140^{\circ}\text{C}$
 Pressure: $\leq 1.2\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: B,A,Q2,P,E,V,U2,F,G



d (mm)	d0	D1	D3	L1	L2	L3
25	35	100	70	68	27.8	76
38	45	110	80	68	27.8	76
40	50	115	85	68	28.0	76
50	60	125	95	68	30.6	76



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OP-10(KI-IP)

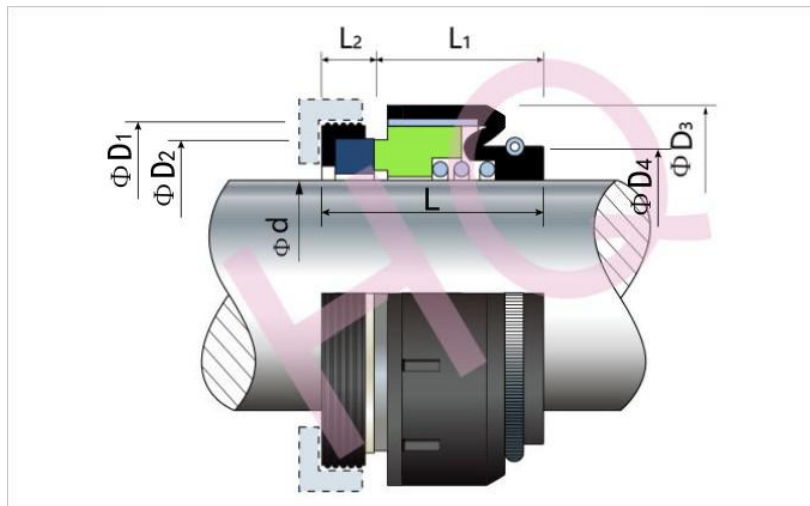


Type: Single Spring Rubber Bellow Seal
 Replacement: GOETZE Pump Seals
 Temperature: -20°C to +120°C

Pressure: $\leq 1.2\text{Mpa}$

Speed: $\leq 10\text{m/s}$

Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



d (mm)	D1	D2	D3	D4	L	L1	L2
20	38	32	38	28	27.5	18	9.5
25	42	36	44	34	29.5	20	9.5
30	48	43	50	39	34.0	24	10.0



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OP-11(SSAI)

Type: ROPAC NORMOPAC 33 Pump Seals

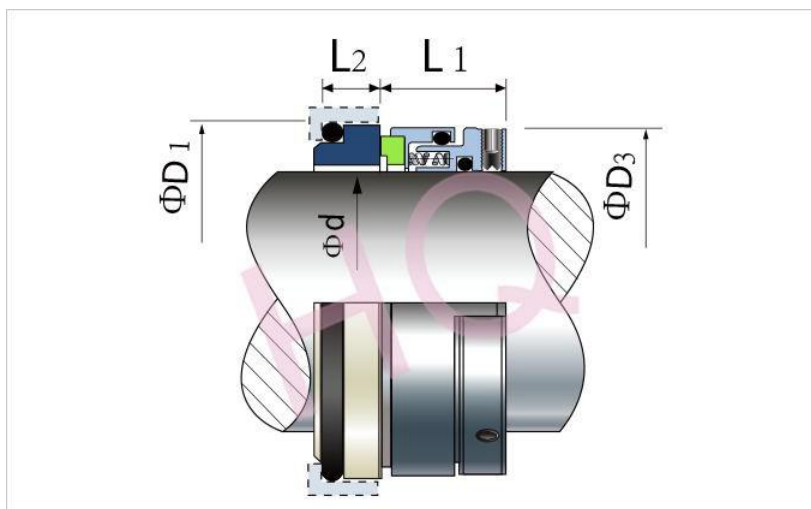
Replacement: AES SSAI

Temperature: -40°C to +250°C

Pressure: $\leq 1.2\text{Mpa}$

Speed: $\leq 15\text{m/s}$

Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



d (mm)	D1	D3	L1	L2
20	35.0	36	20	7.5
22	35.0	38	20	7.5
24	38.0	40	22	7.5
25	38.0	41	23	7.5
28	42.0	44	23	9.0
30	45.0	46	24	10.5
32	48.0	48	24	10.5
33	50.0	49	24	11.0
35	52.0	51	24	11.0
38	55.0	58	27	10.3
40	58.0	60	28	10.8
43	62.0	63	28	12.0
45	64.0	65	28	11.6
48	68.4	68	28	11.6
50	69.3	70	27	11.6
53	72.3	73	27	12.3
55	75.4	75	27	13.3
58	78.4	83	29	13.3
60	80.4	85	29	13.3
63	83.4	88	32	13.3
65	85.4	90	32	13.0
68	91.5	93	32	13.7
70	92.0	95	32	13.0

OP-12(MVX-A)

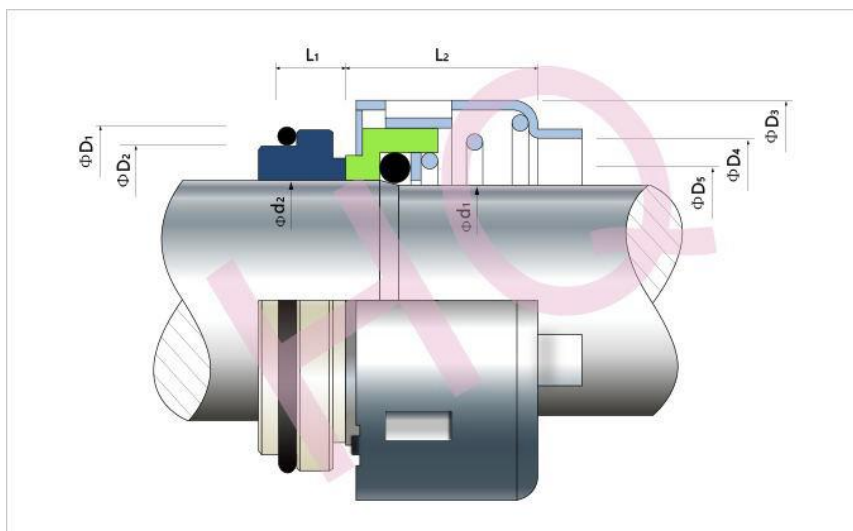


Type: Mouvex Series Pump Seals
Temperature: -20°C to $+120^{\circ}\text{C}$

Pressure: $\leq 1.2\text{Mpa}$

Speed: $\leq 10\text{m/s}$

Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



Model (mm)	d1	d2	D1	D2	D3	D4	D5	L1	L2	L2 (free)
OP-12-30	29.5	31	50.5	40.6	47.2	36.5	31.2	16.2	20.5	32
OP-12-35	34.3	36		52.8	52.0	47.7	36.3	11.5	18.0	20
OP-12-40	39.3	41	58.8	51.9	67.5	55	46.0	11.5	30.0	32

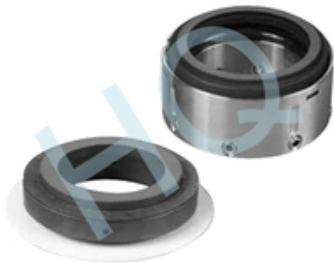


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OP-13(AT)



Type: Armstrong 4300 Pump Seals

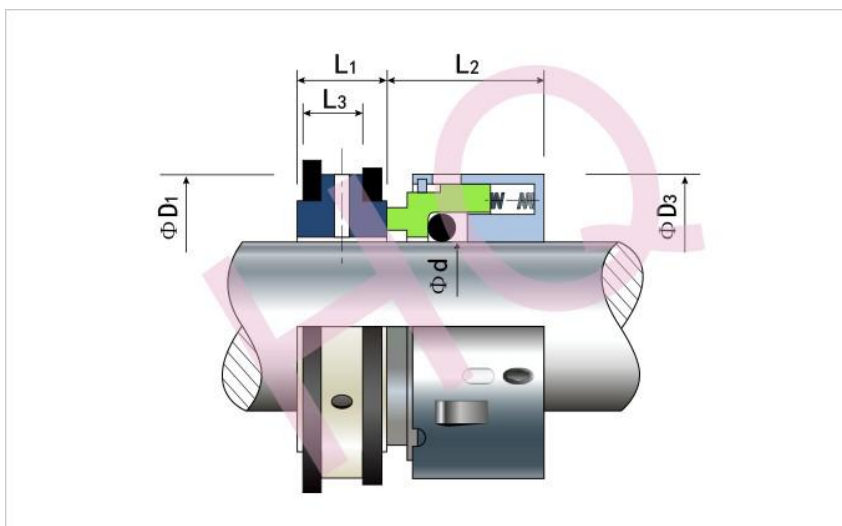
Replacement: U.S VGXB2

Temperature: -20°C to $+120^{\circ}\text{C}$

Pressure: $\leq 1.2\text{Mpa}$

Speed: $\leq 10\text{m/s}$

Material: B,A,Q1,Q2,U2,P,E,N,V,F,G



d (inch)	d (mm)	D1	D3	L1	L2	L3
1 1/8	28.575	59.4	47.6	25.3	25.6	15.9
1 5/8	41.275	71.8	62.0	25.3	29.5	15.9
2 1/8	53.975	84.6	79.4	25.3	29.3	15.9
2 5/8	66.675	111.0	88.9	25.3	41.3	15.9



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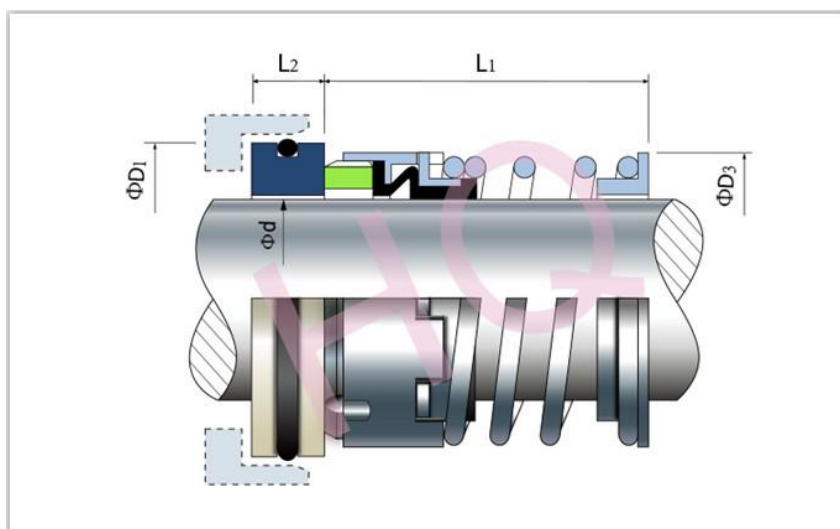


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OP-15(HM1)



Type: Mission Magnum Mud Pump Seals, For
National Oilwell Varco Pumps
Replacement: US VG-3015
Temperature: -20°C to $+120^{\circ}\text{C}$
Pressure: $\leq 1.4\text{Mpa}$
Speed: $\leq 15\text{m/s}$
Material: B, A1, Q1, Q2, U2, P, E, N, V, F, G, Alfa



d (inch)	D1	D2	L1	L2
63.5	87.725	80.95	63.5	14.27



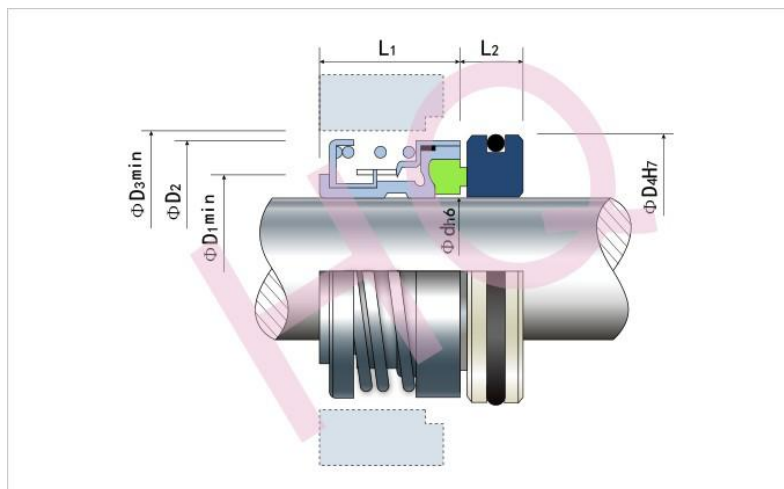
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OP-16

Type: Single Spring Seal
 Replacement: Upgrade Crane 2100
 Temperature: -30°C to +150°C
 Pressure: $\leq 4.0\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: B,A,Q2,P,E,V,U2,F,G

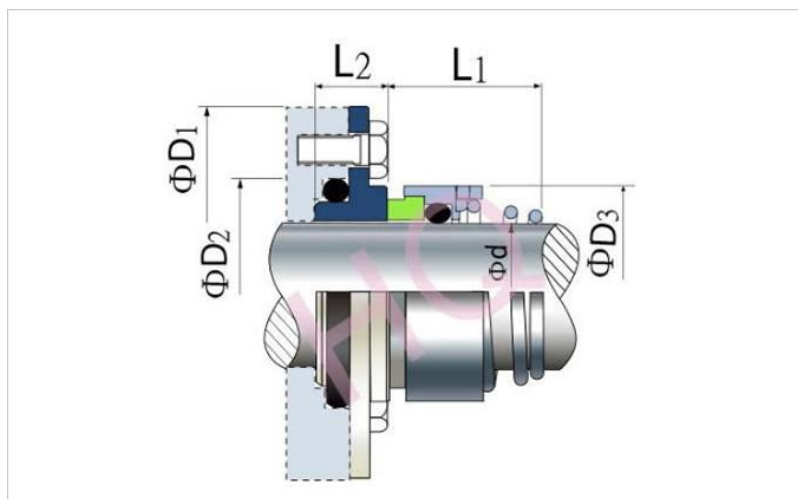


Model	d (inch)	D1	D2	D3	D4	L1	L2
7/16"	11.100	14.0	23.2	25.0	30.00	18.00	8.7
1/2"	12.700	16.7	24.0	26.0	25.40	20.62	7.9
5/8"	15.875	19.4	27.0	28.0	31.75	22.23	10.3
3/4"	19.050	23.8	32.0	34.0	34.93	22.23	10.3
7/8"	22.225	27.0	36.0	38.0	38.10	23.80	10.3
1"	25.400	30.0	39.0	41.0	41.28	25.40	11.1
1 1/8"	28.575	33.5	42.0	44.0	44.45	26.97	11.1
1 1/4"	31.750	37.0	46.0	48.0	47.63	26.97	11.1
1 3/8"	34.925	40.5	49.5	51.0	50.80	28.58	11.1
1 1/2"	38.100	43.5	54.0	58.0	53.98	30.15	11.1
1 5/8"	41.275	47.0	56.5	60.0	60.33	34.93	12.7
1 3/4"	44.450	50.5	61.0	65.0	63.50	34.93	12.7
1 7/8"	47.625	54.0	64.0	68.0	66.68	38.10	12.7
2	50.800	57.0	67.5	70.0	69.85	38.10	12.7

OP-17(T01X)



Type: ANEMA ZA Pump Seals
 Replacement: AES T01X, Vulcan 8Y
 Temperature: -20 to +150°C
 Pressure: $\leq 1.0\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: B, Q2, U2, P, E, N, V, F, G, Alfa



d (mm)	D1	D2	D3	L1	L2
30	77.5	38.7	43	24.5	15
35	77.5	45.8	49	28.0	15



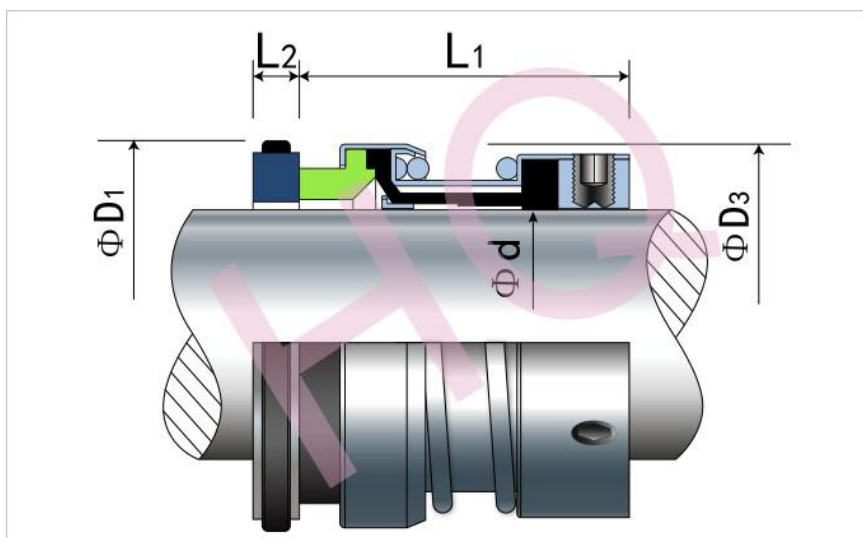
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Type: Salmson Pump Seals
Replacement: Lidering SM-AC
Temperature: -20 to +150°C
Pressure: $\leq 1.6\text{Mpa}$
Speed: $\leq 15\text{m/s}$
Material: B,Q2,U2,P,E,N,V,F,G,Alfa



It is equal to Lidering SM-AC

d=14mm,18mm,22mm,28mm,38mm,55mm



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OP-20



Type: Someflu Pump Seals
 Replacement: Lidering SF-SP-160
 Temperature: -20 to +150°C
 Pressure: $\leq 1.8\text{Mpa}$
 Speed: $\leq 15\text{m/s}$
 Material: B, Q2, U2, P, E, N, V, F, G, Alfa

It is equal to Lidering SF-SP-160



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OP-36



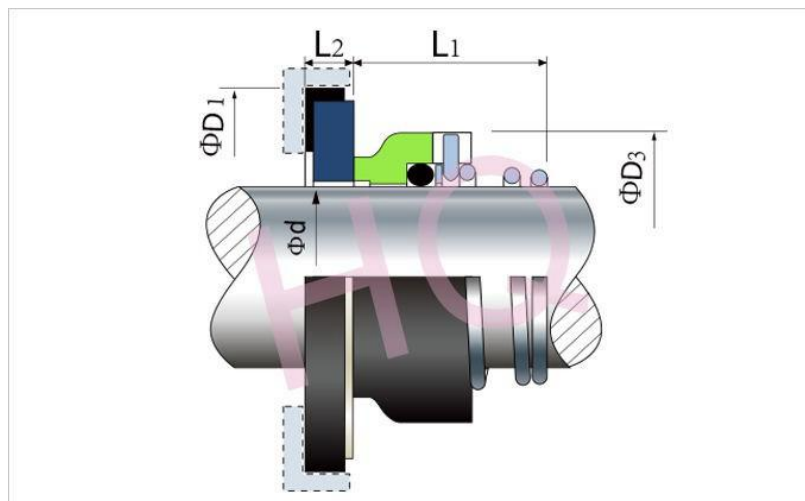
Type: Someflu Pump Seals
 Replacement: Lidering SF-HMPN
 Temperature: -10 to +150°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: B, Q2, U2, P, E, N, V, F, G, Alfa

Equalent to Lidering SF-HMPN

OP-22(T07X)



Type: Westfalia Pump Seals
 Replacement: AES T07X
 Temperature: -20°C to +120°C
 Pressure: $\leq 1.2\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



d (mm)	D1	D3	L1	L2
20	42	32	17.6	5.4



<http://www.hqseal.com>

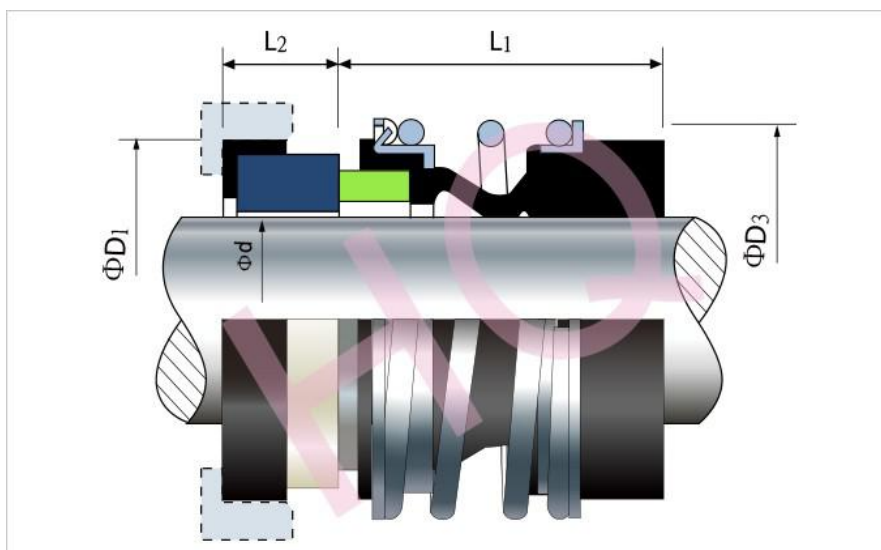


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OP-23(196)



Type: S.P.P Eurostream Centrifugal Pump Seals
 Replacement: Vulcan 196 32mm
 Temperature: -20°C to $+120^{\circ}\text{C}$
 Pressure: $\leq 1.2\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



d (mm)	D1	D3	L1	L2
32	48	46	40	7.5

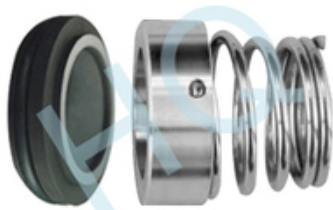


<http://www.hqseal.com>



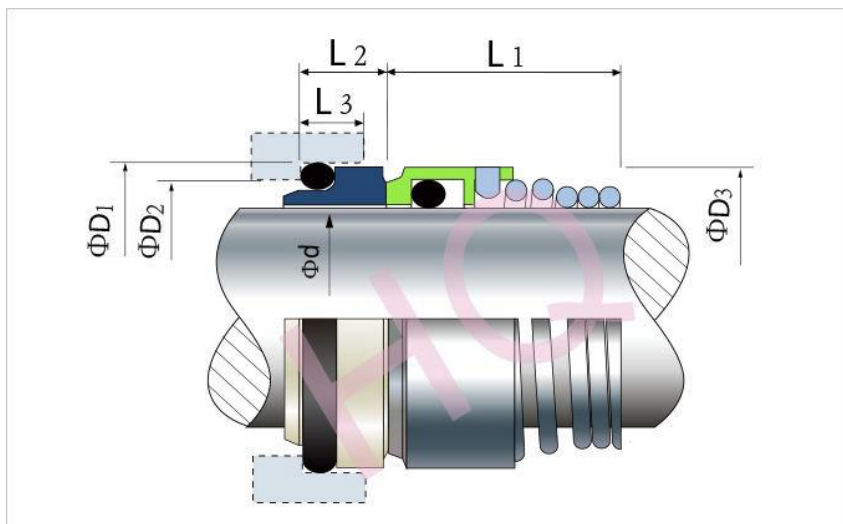
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OP-24(121)



Type: STERLING SIHI Pump Seals
 Replacement: Vulcan 121
 Temperature: -20°C to +120°C

Pressure: $\leq 1.2\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



d (mm)	D1	D2	D3	L1	L2
38	53.5	49	53	42	9.5



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OP-26(GW)



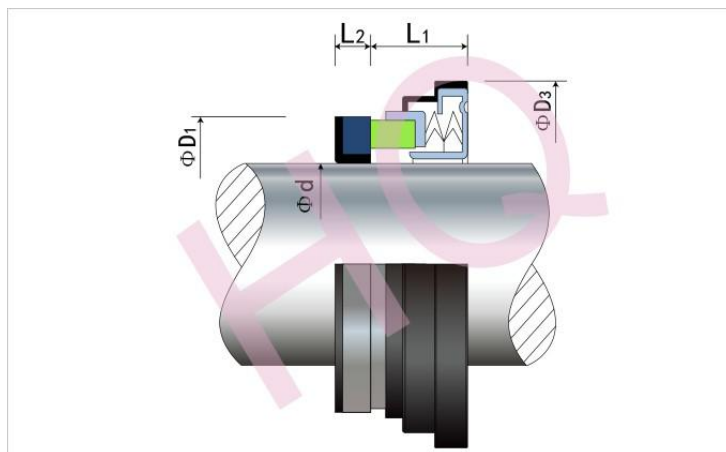
Type: Washing Machine Seals

Temperature: -20 to +120°C

Pressure: $\leq 4.0\text{Mpa}$

Speed: $\leq 10\text{m/s}$

Material: B,Q2,U2,P,E,N,V,F,G,Alfa



d(mm)	D1	D3	L1	L2
40	58	68	12	5.0
50	70	80	13	5.0
58	75	88	18	7.0
85	112	130	20	10.0
90	112	130	20	8.5
100	122	140	20	7.0

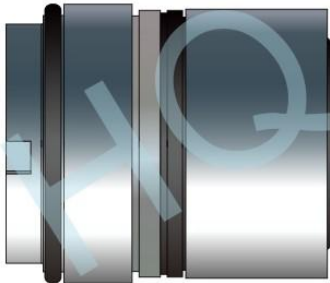


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OP-27(M011X)



Type: Goulds IC & ICB/Vogel LSB
& LSN pump seal

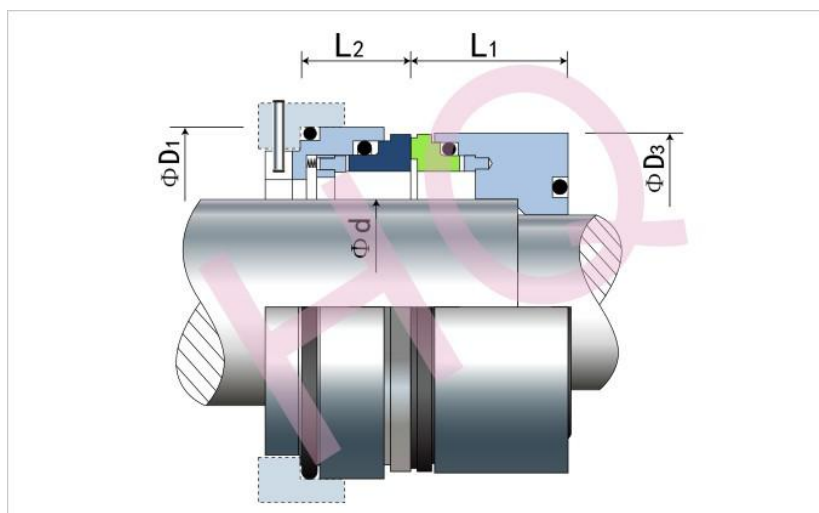
Replacement: AES M011X

Temperature: -20 to +150°C

Pressure: $\leq 0.8\text{Mpa}$

Speed: $\leq 10\text{m/s}$

Material: B,Q2,U2,P,E,N,V,F,G,Alfa



d (mm)	D1	D3	L1	L2
57	85	83	42.5	20
d (inch)	D1	D3	L1	L2
2.244	3.346	3.346	1.673	0.787



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Type: GX pump Seals
Temperature: -20 to +180°C
Pressure: $\leq 1.4\text{Mpa}$
Speed: $\leq 10\text{m/s}$
Material: B,Q2,U2,P,E,N,V,F,G,Alfa



<http://www.hqseal.com>

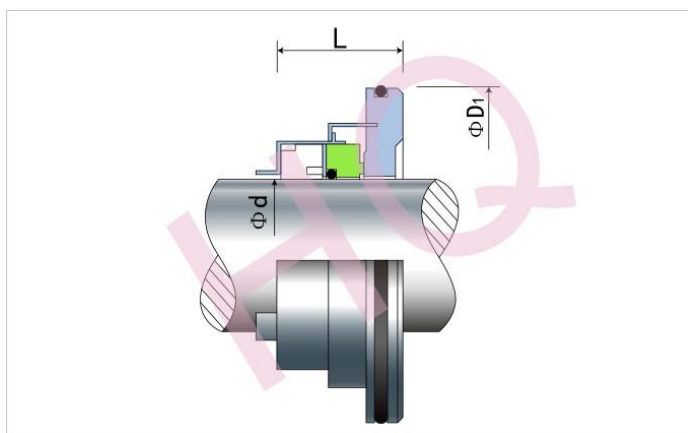


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OP-35

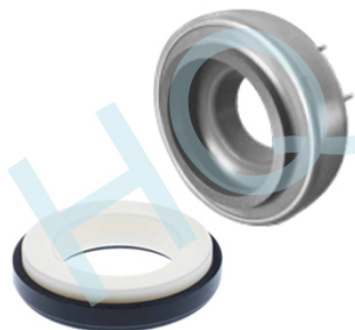


Type: Blackmer Pump Seals
 Replacement: Suit for Blackmer X,GX and TX pumps
 Temperature: -10 to +150°C
 Pressure: $\leq 0.8\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa



Blackmer pump seals, Suit X, GX and TX pumps.

OP-36



Type: Someflu Pump Seals
 Replacement: Lidering SF-HMPN
 Temperature: -10 to +150°C
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 10\text{m/s}$
 Material: B,Q2,U2,P,E,N,V,F,G,Alfa

Equalent to Lidering SF-HMPN



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OP-46/46A

Type: Multi Spring Mechanical Seal
 Temperature: -30°C to +200°C

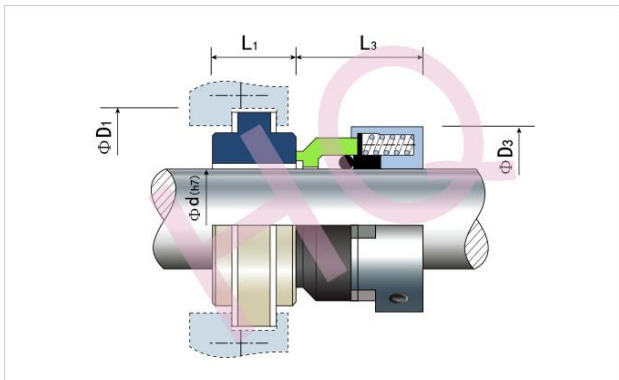
Pressure: $\leq 1.0\text{Mpa}$

Speed: $\leq 10\text{m/s}$

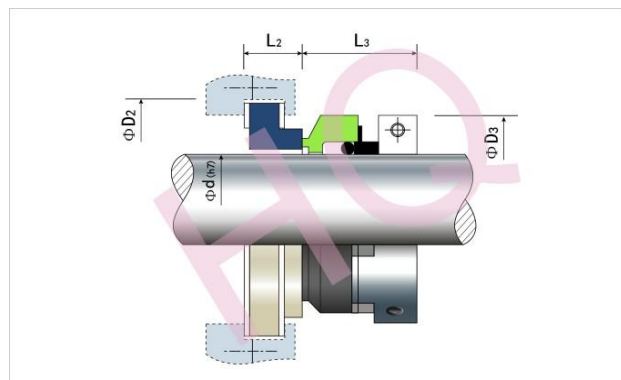
Material: Q1,Q2,A,B,U1,U2,P,E,V,T,F,G,T2,M5



OP46



OP46A



Size (mm)	d	D3	D1	L1	L3
18	18	44	48	17.6	38.2
20	20	46	51	17.6	38.2
22	22	48	51	17.6	38.2
24	24	50	54	17.6	38.2
25	25	52	54	17.6	38.2
28	28	55	65	27.0	38.2
30	30	58	68	27.0	38.2
32	32	60	68	27.0	38.2
33	33	60	71	27.0	38.2
35	35	62	71	27.0	38.2
38	38	65	78	27.0	38.2
40	40	68	81	27.0	38.2
43	43	70	84	27.0	38.2
45	45	72	84	27.0	42.2
48	48	75	97	33.3	42.2
50	50	78	97	33.3	42.2
53	53	80	100	33.3	42.2
55	55	80	103	33.3	42.2



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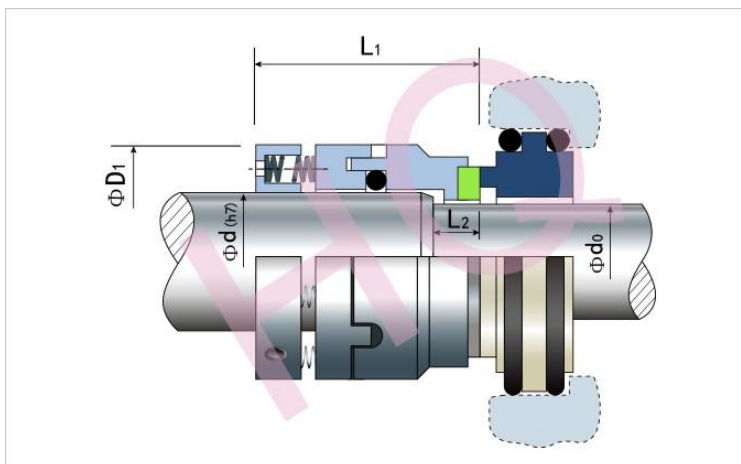
OP-445

Type: Multi Spring Seal
Temperature: -20°C to +200°C

Pressure: $\leq 2.5\text{Mpa}$

Speed: $\leq 20\text{m/s}$

Material: Q1,Q2,A,B,U1,U2,P,E,V,T,F,G,T2,M5



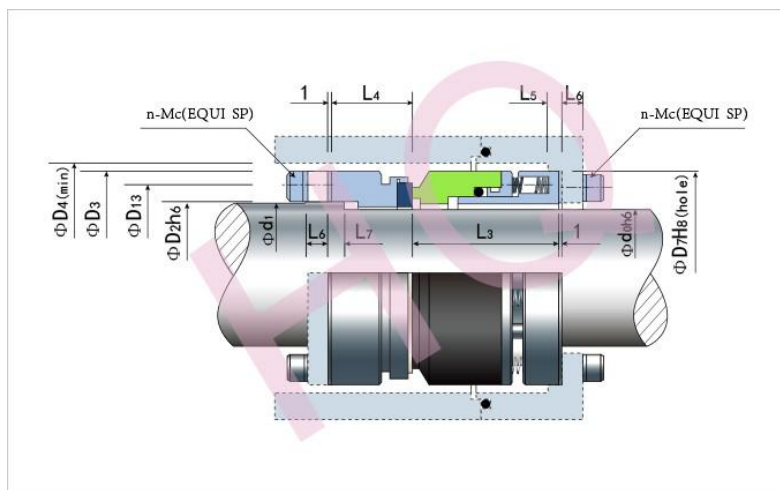
Size (mm)	d	d0	D1	L1	L2
20	20	24	38	40.2	7
22	22	26	40	40.2	7
24	24	28	42	40.2	7
25	25	30	44	40.2	7
28	28	33	47	40.2	7
30	30	35	49	40.2	7
33	33	38	54	42.2	7
35	35	40	56	42.2	7
38	38	43	59	43.2	8
40	40	45	61	43.2	8
43	43	48	64	43.2	8
45	45	50	66	44.2	8
48	48	53	69	44.2	8
50	50	55	71	44.2	8
55	55	60	78	46.2	9
60	60	65	83	46.2	9
65	65	70	90	46.2	9
70	70	75	95	46.2	9
75	75	80	100	46.2	9
80	80	85	105	46.2	9
85	85	90	110	49.2	10
90	90	95	115	49.2	10
95	95	100	120	49.2	10

Type: Multi Spring Seals
Temperature: -40 to +200°C

Pressure: $\leq 4.0\text{Mpa}$

Speed: $\leq 20\text{m/s}$

Material: Q1,Q2,A,B,U1,U2,P,E,V,T,F,G,T2,M5



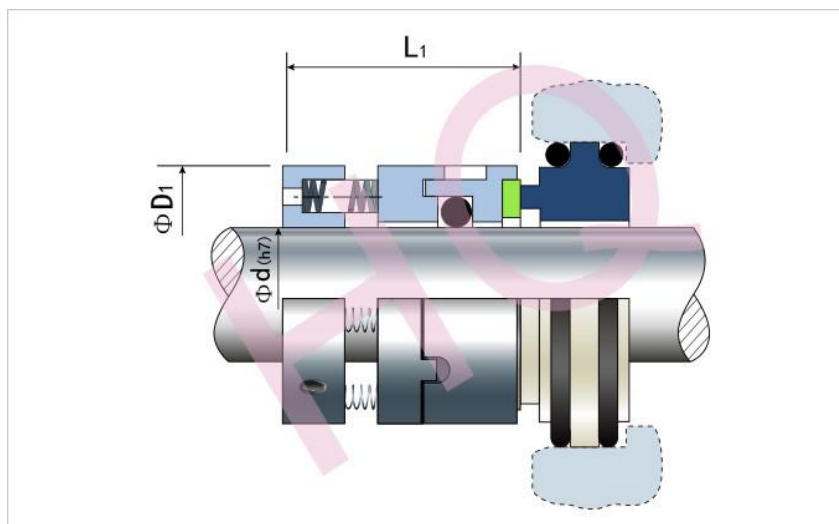
Size (mm)	d	d0	D2	D3	D4	D7	D13	L3	L4	L5	L6	L7	n	Mc
30	30	27.0	32.5	47	49	47	40	30	18	5	6	5	8	M4
35	35	31.5	36.0	51	53	51	44	30	20	5	6	5	8	M4
40	40	37.0	41.5	62	65	62	52	40	25	5	8	6	6	M6
45	45	41.5	46.5	67	70	67	56	52	25	5	8	6	6	M6
50	50	46.5	51.5	72	75	72	62	52	25	5	8	6	6	M6
55	55	51.5	56.5	78	80	78	67	55	30	5	8	6	6	M6
60	60	53.0	61.0	83	85	83	72	55	30	5	8	6	6	M6
65	65	58.5	66.0	88	90	88	76	55	30	5	10	6	6	M6
70	70	67.0	72.5	97	100	97	84	55	30	8	10	6	6	M6
75	75	73.0	77.5	98	100	98	88	50	30	8	10	6	6	M6
80	80	73.5	79.5	103	105	103	91	50	30	8	10	6	6	M6
85	85	78.0	85.5	108	110	108	97	50	30	8	10	6	6	M6
90	90	86.0	92.5	115	118	115	103	58	30	10	10	6	6	M6
95	95	90.0	97.5	121	124	121	110	50	30	10	10	8	8	M6
100	100	95.0	102.5	124	128	124	113	50	30	10	10	8	8	M6

Type: Multi Spring Cartridge Seal
 Temperature: -30°C to $+200^{\circ}\text{C}$

Pressure: $\leq 1.2\text{Mpa}$

Speed: $\leq 20\text{m/s}$

Material: Q1,Q2,A,B,U1,U2,P,E,V,T,F,G,T2,M5



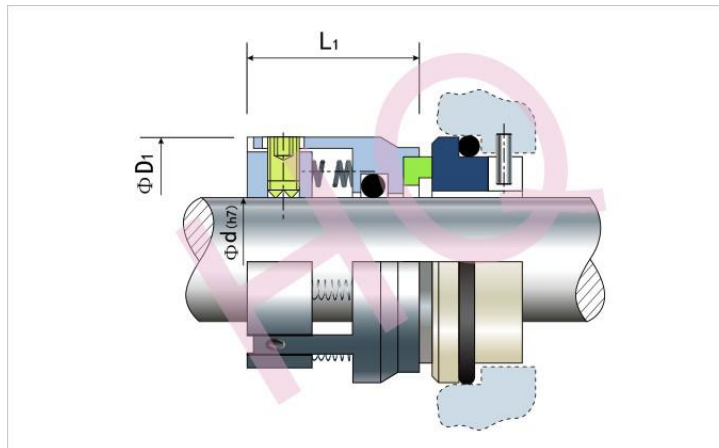
Size (mm)	d	D1	L1
20	20	34	35.2
22	22	36	35.2
24	24	38	35.2
25	25	39	35.2
28	28	42	35.2
30	30	44	35.2
32	32	46	35.2
33	33	47	35.2
35	35	49	35.2
38	38	54	38.2
40	40	56	38.2
43	43	59	38.2
45	45	61	38.2
48	48	64	38.2
50	50	66	38.2
53	53	69	40.2
55	55	71	40.2
60	60	78	41.2
65	65	83	41.2
70	70	90	42.2
75	75	95	42.2
80	80	100	42.2
85	85	105	43.2
90	90	110	45.2
95	95	115	45.2
100	100	120	45.2

Type: Multi Spring Seal
Temperature: -20°C to +200°C

Pressure: $\leq 0.8\text{Mpa}$

Speed: $\leq 15\text{m/s}$

Material: Q1,Q2,A,B,U1,U2,P,E,V,T,F,G,T2,M5



Size (mm)	d	D1	L1
25	25	39	30.2
28	28	42	32.7
30	30	44	32.7
32	32	46	32.7
33	33	47	32.7
35	35	49	32.7
38	38	54	34.2
40	40	56	34.2
43	43	59	34.2
45	45	61	34.2
48	48	65	34.2
50	50	66	34.7
53	53	69	34.7
55	55	71	34.7
58	58	78	39.7
60	60	80	39.7
63	63	83	39.7
65	65	85	39.7
68	68	88	37.4
70	70	90	44.9
75	75	99	44.9
80	80	104	44.5
85	85	109	44.5
90	90	114	49.5
95	95	119	49.5
100	100	124	49.5

OP-33/33A

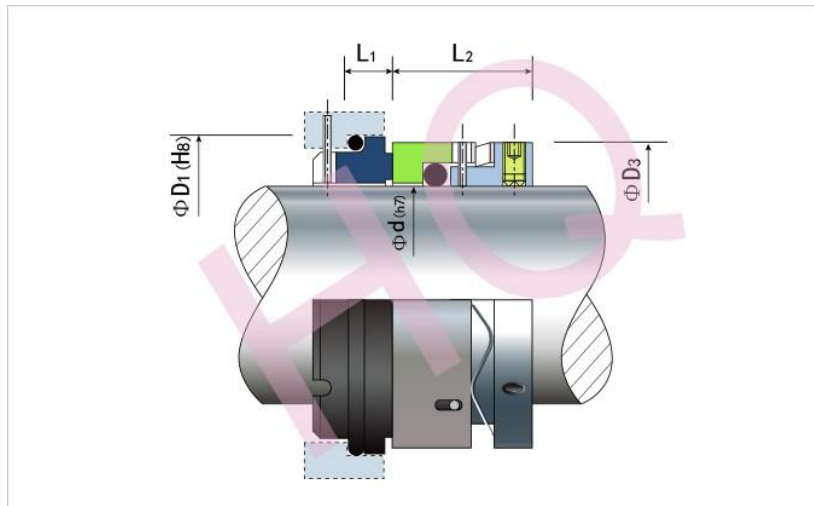
Type: Wave Spring Seal
 Temperature: -20°C to +200°C

Pressure: $\leq 0.8\text{Mpa}$
 Speed: $\leq 15\text{m/s}$

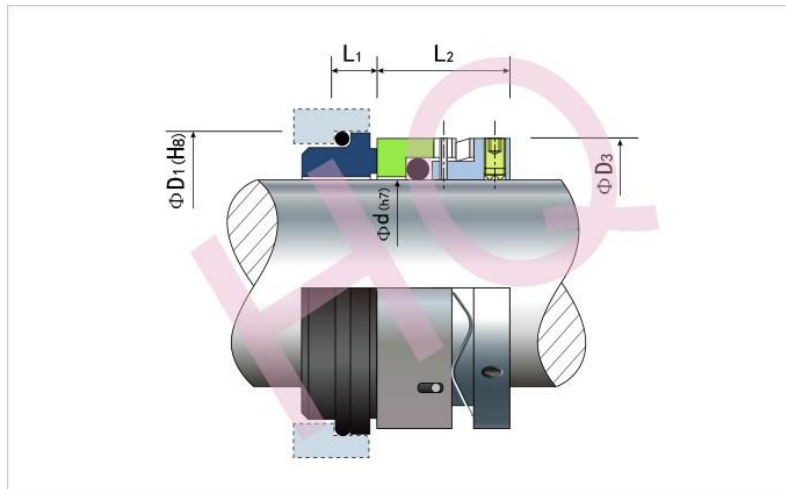
Material: Q1,Q2,A,B,U1,U2,P,E,V,T,F,G,T2,M5



OP-33



Size (mm)	d	D1	D3	L1	L3
33-16	16	27	27.0	8.6	19.3
33-20	20	35	31.0	10.0	19.3
33-22	22	37	33.0	10.0	19.3
33-24	24	39	34.1	10.0	19.3
33-25	25	40	35.2	10.0	19.3
33-28	28	43	40.0	10.0	19.3
33-30	30	45	41.0	10.0	19.3
33-32	32	48	42.4	10.0	19.3
33-33	33	48	44.0	10.0	19.3
33-35	35	50	45.5	10.0	21.3
33-38	38	56	51.8	11.0	21.3
33-40	40	58	53.8	11.0	21.3
33-43	43	61	56.0	11.0	21.3
33-45	45	63	58.2	11.0	21.3
33-48	48	66	61.4	11.0	21.3
33-50	50	70	61.9	13.0	21.3
33-55	55	75	72.0	13.0	22.3
33-60	60	80	76.0	13.0	26.0
33-63	63	83	79.3	13.0	26.0
33-65	65	85	82.3	13.0	26.0
33-70	70	92	88.9	15.3	26.0
33-75	75	97	96.0	15.3	26.0



Size(Inch)	d	D1	D3	L1	L3
33A-5/8	15.80	28.58	27.0	6.3	19.3
33A-16	16.00	28.58	27.0	6.3	19.3
33A-3/4	19.05	31.75	30.3	6.3	19.3
33A-24	24.00	35.46	34.2	7.6	19.3
33A-28	28.00	42.00	40.0	7.6	19.3
33A-1 1/8	28.58	41.27	40.0	7.6	19.3
33A-30	30.00	42.70	40.7	7.6	19.3
33A-1 1/4	31.75	44.20	42.5	7.6	19.3
33A-32	32.00	44.45	42.5	7.6	19.3
33A-35	35.00	47.62	45.6	7.6	19.3
33A-38	38.00	53.97	52.0	8.1	21.3
33A-1 3/4	44.45	60.32	58.3	8.1	21.3
33A-1 7/8	47.63	63.50	61.5	8.1	21.3
33A-50	50.00	63.96	62.0	8.1	21.3
33A-2	50.80	66.67	64.7	9.6	22.3
33A-2 1/8	53.98	73.02	71.0	9.6	22.3
33A-2.15	54.61	75.00	73.0	9.6	22.3
33A-55	55.00	75.00	73.0	9.6	22.3
33A-63	63.00	83.00	79.3	9.1	26.0
33A-2 1/2	63.50	88.90	79.3	9.1	26.0
33A-2 3/4	69.85	95.20	88.9	9.1	26.0
33A-2 7/8	73.00	98.40	94.0	9.1	26.0
33A-75	75.00	100.40	96.0	9.1	26.0

Cross Reference Charts

HQ	BURGMANN	AES	CRANE	VULCAN	ROTEN	FLOWSERVE	Lidering	U.S
O E M Seals								
I.M.O. Pump Seals								
AL-21							AL-N-22	
IMO-04				1689				
IMO-05				1690				
INOXPA Pump Seals								
INO-01		W011						
INO-02		B092U						
INO-03		M07U		50	S			
INO-04		T03U						
HQW01		W01						
HIL-01		M010S1						
HIL-02		M010S2						
HIL-03		M010S3						
AL-29		13M						
Johnson/Jabsco Pump Seals								
JS-01	HRZ60	W06						
JS-02	M7KS60	W01-TL						
JS-03		W04			1688Y	280Y		
JS-04		W017U						
JS-05		W02						
JC-06		W09						
JC-07		W015						


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Cross Referance Charts

HQ	BURGMANN	AES	CRANE	VULCAN	ROTEN	FLOWSERVE	Lidering	U.S
O E M Seals								
K.S.B. Pump Seals								
KSB-01				127B				
KSB-02				B02K				
KSB-03				1678Y				
KSB-04				197				
KSB-05				192K				
Lowara Pump Seals								
LOW01	BT-FH	T06D			5K			
LOW-02	BT-FN.UN	T04D						
LOW-03				131				
LOW-04				139				
LOW-06					82/82E			
LOW-07					8E/8E4			
LOW-09					84			
LOW-10					85/85E			
LOW-11		POLXB						



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Cross Reference Charts

HQ	BURGMANN	AES	CRANE	VULCAN	ROTEN	FLOWSERVE	Lidering	U.S
O E M Seals								
Sulzer Pump Seals								
HQCS-J33			SB1					
HQCS-J34			SBW					
HQCS-J35			SB1A					
HQCS-J41			SE					
HQCS-J42			SE1					
HQCS-J43			SE2					
HQCS-J44			SE2C					
HQCS-J45			SEW					
HQCS-J46			JCS1					
HQCS-J47			JCS1A					
HQCS-J48			JCS1F					
HQCS-J49			JCS2					
HQCS-J50			JCS2P					
HQCS-J51			SAF					
Tuchanhagen Pump Seals								
TH-01	MR	P09		94				
TH-02	MR	P09S						
TH-03				1661				
TH-04				1691				
TH-05		M010S4						
TH-06		M010S4/B						



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Cross Referance Charts

HQ	BURGMANN	AES	CRANE	VULCAN	ROTEN	FLOWSERVE	Lidering	U.S
O E M Seals								
Tsurumi Pump Seals								
TS-01							TS- H2530/3035	
TS-02	ED560							
Wilo Pump Seals								
WL-03							107	
WL-04							W-MS-30	
WL-17				1640/1642				
WL-21				191				
Waukesha Pump Seals								
WKS-01		MOGCE						
WKS-02		W13X						
WKS-03		M09						
WKS-04		M09S						
WKS-05		W13U		87				
WKS-06		W13U		87				
WKS-07		W13SU		88				
WKS-08		W13SU		88				
WKS-09		W013U/013SU		87/88				



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Cross Reference Charts

HQ	BURGMANN	AES	CRANE	VULCAN	ROTEN	FLOWSERVE	Lidering	U.S
O E M Seals								
Various Pump Seals								
OP-01				N5				
OP-02				V4				
OP-04		P011						
OP-06		W13X						
OP-11		SSAI						
OP-13								VGXB2
OP-15								VG-3015
OP-17		T01X		8Y				
OP-19							SM-AC	
OP-20							SF-SP-160	
OP-22		T07X						
OP-23				196				
OP-24				121				
OP-27		M011X						

Metarial Codes

Spring Materials			
Type	Material Description	Symbol	Code
	Hastelloy C-4 Alloy	Hast.C4	M
	Stainless Steel	304	F
	Stainless Steel	304L	F1
	Stainless Steel	316	G
	Stainless Steel	316L	G1
	65Mn Coated with Chrome	65Mn	G8

Metal Materials			
Type	Material Description	Symbol	Code
	Normal Stainless Steel	2Cr13	F2
	Stainless Steel	304	F
	Stainless Steel	304L	F1
	Stainless Steel	316	G
	Stainless Steel	316L	G1
	Hastelloy C-4 Alloy	Hast C4	M
	Hastelloy B-2 Alloy	Hast B2	M1
	Carpenter	Carp.20	M3
	Monel	Monel.K50	M4
	Hastelloy C-4C-276 Alloy	Hast.C-276	M5
	Pure Titanim	TA2	T2
	Carpenter	Carp.42	T4
	Deposit induration Stainless Steel	Am350	T6
	08F Coated with Chrome	Q235-A	C
	Brass	H62	H
Secondary Seal Materials			
Type	Material Description	Symbol	Code
Rubber	Nitrile(NBR)	NBR	P
	Ethylene Propylene(EPDM)	EPR	E
	Fluorocarbon Rubber(Viton)	FPM	V
	Silicon Rubber	SI	S
	Chloroprene Rubber	CR	N
	Hydrogen Nitrile	HNBR	H
	Perfluoroelastomer(Kalrez,Chemraz)	FFKM	K
PTFE	Pure PTFE	PTFE	T
	PTFE, glassfibre reinforced		T2
	PTFE,Carbon Reinforced		T3
PTFE Wrapped	FPM,with PTFE wrapped	PTFE+FPM	M1
	EPR,with PTFE wrapped	PTFE+EPR	M2
	MVQ,with PTFE wrapped	PTFE+MVQ	M3
Expended graphite	Expanded Graphite		G



Seal Ring Materials			
Type	Material Description	Symbol	Code
SIC	Silicon Carbide,Sintered Pressureless	SSIC	Q1
	Silicon Carbide,Sintered Pressureless(shrunk-in)		Q12
	Silicon Carbide,Reaction bonded	RBSIC	Q2
	Silicon Carbide,Reaction bonded(shrunk-in)		Q22
	Reaction Silicon Carbide with graphite		Q3
	Sintered Silocon Carbide with SB		Q4
AL203	Ceramic(Alumina)	99.5% AL203	V
	Ceramic(Alumina)	99% AL203	V1
	Ceramic(Alumina)	95% AL203	V2
	Cermet	Fe+AL203	V3
TC	Co-binder Tungsten Carbide	YG6,GY8	U1
	Co-binder Tungsten Carbide(shrunk-in)		U12
	Ni-binder Tungsten Carbide	M106,M108	U2
	Ni-binder Tungsten Carbide(shrunk-in)		U22
	NiCrmo-binder Tungsten Carbide		U3
	NiCrmo-binder Tungsten Carbide(shrunk-in)		U32
Carbon	Antimony Impreg.Carbon Graphite		A
	Babbit Alloy Impreg.Carbon Graphite		A1
	Copper Impreg.Carbon Graphite		A2
	Resin Impregnated Carbon Graphite(Furan)		B
	Resin Impregnated Carbon Graphite(Epoxy)		B1
	Resin Impregnated Carbon (Phedol-formaldehyde)		B2
	Hot-pressing Carbon		B5
Metal	Stainless Steel	304	F
	Stainless Steel	304L	F1
	Stainless Steel	316	G
	Stainless Steel	316L	G1
	Tin bronze	ZQSn6-6-3	S1
	High silicon cast iron		S2
	High nickel cast iron		S3
Plastic	PTFE,glassfibre reinforced		Y1
	PTFE,carbon reinforced		Y2