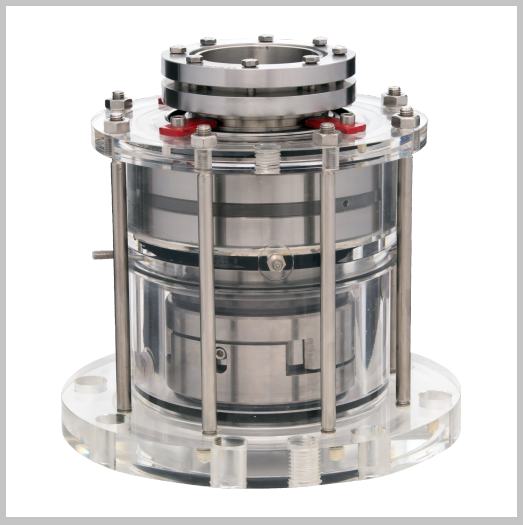
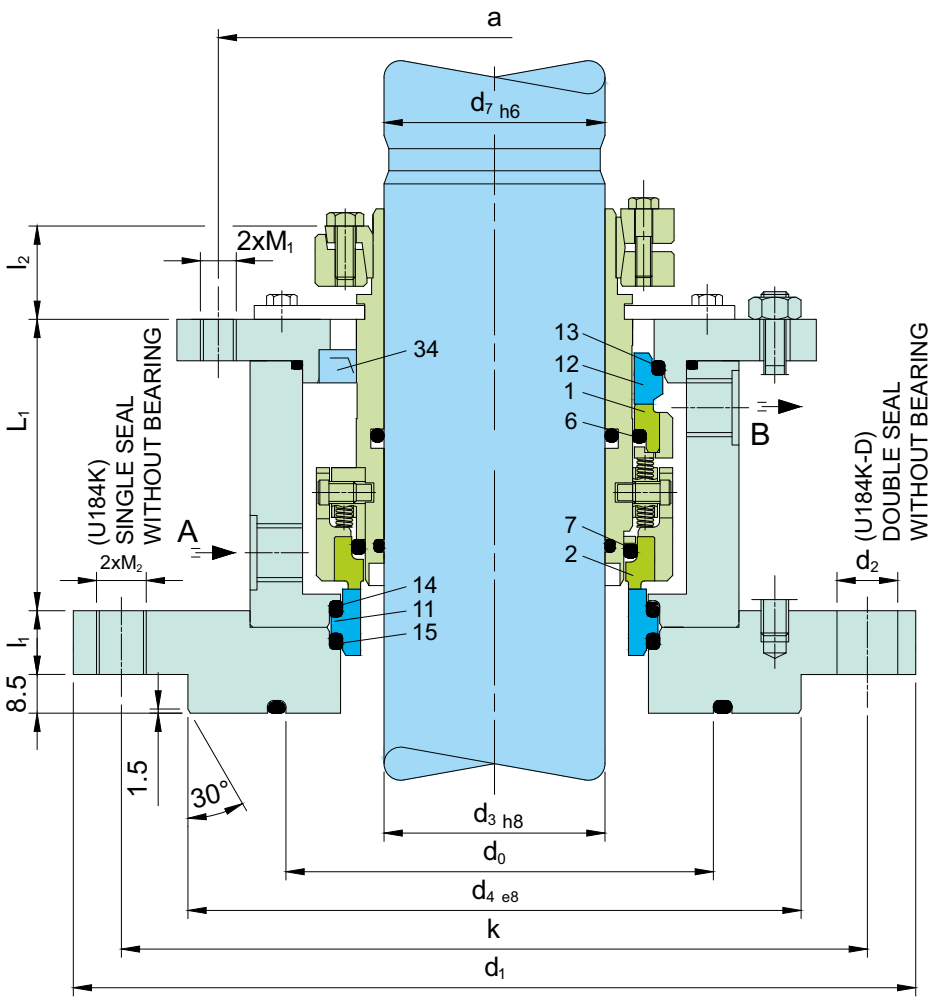


Product Description

1. Single and Dual seal configuration
2. Unbalanced design
3. Independent of direction of rotation
4. Cartridge construction
5. Designed for top entry vessels
6. Rotary unit with multiple springs
7. Construction with integrated bearing also available

Technical Features

1. Available with or without floating bearing
2. Double seals can be applied at higher pressure and rotating speed
3. Suitable for standardizations
4. Rugged design to ensure long term reliability and operating life
5. Seals are assembled in cartridge construction for easy fitment
6. Over all connecting dimensions are tailor made to customer's specification
7. The seal design is unique as it closes due to the hydraulic product pressure as well as overlaying barrier pressure



Note: The item numbers as depicted above are based on our technical experience and knowledge and are placed in the chronological order of their assembly procedure.

Typical Industrial Applications

Agitators
Chemical industry
Non-toxic media with single seal

Pharmaceutical industry
Reactors
Toxic media with double seal

Performance Capabilities

DIN 28138 T2	
Sizes	d_3= 40.... 220 mm (1.575"....8.625")
Single seals:	
Pressure	p_1 = vacuum ... 6 bar (87 PSI), p_3= pressure less
Temperature	t_1* = -40 °C ... +150 (250) °C (-40°F... +302 (482) °F)
Double seals:	
Pressure	p_1 = vacuum ... 16 bar (232 PSI), p_1 = max. 18 bar (261 PSI)
Temperature	t_1* = -40 °C ... +200 (350) °C (-40°F... +392 (662) °F)
Speed	0... 5 m/s (0... 16 ft/s)

* Higher or lower temperatures on request.

Standards

FDA
DIN 28136 T2 (for steel vessels)
DIN 28141 (flange connection for steel vessels)
DIN 28154 (shaft end for steel vessels)

Notes

Options:
Cooling or heating flange
Leakage drain, flush or heating flange
Leakage drain or flush
Polymerization barrier, leakage drain or flush

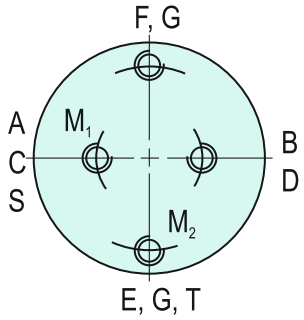
Torque Transmissions

NOTE:

Refer "Agitator Seals Accessories" page no. 83

wafaseal

Installation, Details, Options



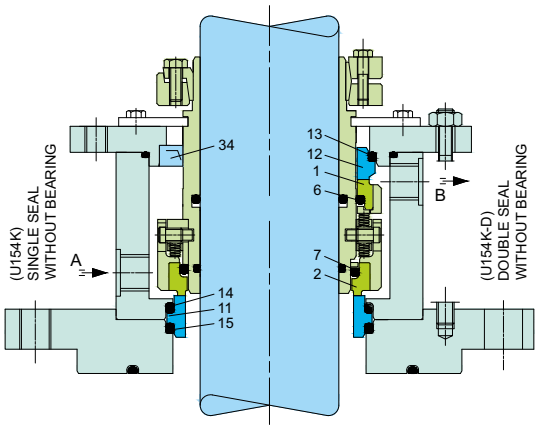
Supply connections
Designation and position acc. to DIN 28138 T3.

A	Barrier fluid resp. quench IN
B	Barrier fluid resp. quench OUT
C	Drainage
D	Leakage drain G1/8"
E	Cooling IN G3/8"
F	Cooling OUT G3/8"
G	Grease
S	Flush
T	Temperature metering

For reasons of standardization, the supply connections of single seals are matched to those of the double seals (in deviation from DIN 28138 T3).

NOTE:
Refer “Agitator Seals Accessories” page no. 83

Design Variations



U154

All types of the U184 range available for unstepped shafts (all diameters). Seal identification: U154... Customized design or e.g. different drives (torque transmissions) are available.

Double Seals Variants

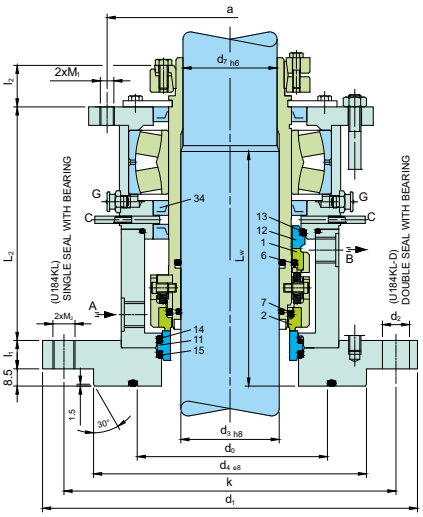
U184K-D

Double seal

U184KL-D

Double seal with integrated floating bearing. These seals are designed to be self-closing on the product side, i.e. they will remain closed even with pressure variations or a pressure reversal. Operation is optionally the same as for the single version

(p_{max} = 6 bar (87 PSI) or
Δp_{max} = 6 bar at $p_1 > p_3$).
In view of the mechanical seal on the atmosphere side it can be used as a buffer pressurized double seal
p_1 = 16 bar (232 PSI).



Single Seals Variants

U184K

Single seal

U184KL

Single seal with integrated floating bearing. Operation of single seals only with pressure less quench.

Dimensional Data

Dimensions in millimeter

d_3 1)	d_7 1)	d_1	nxd_2	d_4	d_0	k	L_1	L_2	L_W 2)	l_1	l_2	a	M_1	M_2	A, B
40	38	175	4X18	110	90	145	87	136	143	15	28	122	M12	M16	G3/8
50	48	240	8X18	176	135	210	89	149	148	17	28	157	M12	M16	G3/8
60	58	240	8X18	176	135	210	93.5	156	158	17	28	168	M12	M16	G3/8
80	78	275	8X22	204	155	240	104.5	189	168	20	34	203	M16	M20	G1/2
100	98	305	8X22	234	190	270	109	190	178	20	34	228	M16	M20	G1/2
125	120	330	8X22	260	215	295	110	205	203	20	40	268	M20	M20	G1/2
140	135	395	12X22	313	250	350	124	222	208	20	40	285	M20	M20	G1/2
160	150	395	12X22	313	265	350	127.5	219.5	213	25	40	302	M20	M20	G1/2
180	170	445	12X22	364	310	400	132.5	230	233	25	45	332	M24	M20	G1/2
200	190	445	12X22	364	310	400	137.5	237.5	243	25	45	352	M24	M20	G1/2
220	210	505	16X22	422	340	460	149.5	249.5	263	25	50	381	M24	M20	G1/2

1) Shaft diameters d_3 and d_7 to DIN 28154
2) Shaft step to DIN 28154
inch size available from size 1.500 to 8.625
Note: Additional technical & dimensional information will be provided on request.