Agitator Cartridge Seal

DIN Compact Units for glass-lined vessels

CK 736/736D

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DIN Compact Units for glass-lined Agitators

Vessel & agitator seals of the CK 736 range are designed to comply with DIN 28138 and DIN 28159, and are factory tested cartridge seal units.

They are used as double seals with integrated bearing to seal glass-lined agitators and prevent emission from getting into the environment. The seals are available in a conventional liquid lubricated design or as a contacting dry running model. In addition to the standard seal shown in this brochure, John Crane offers custom designed seals to suit individual user/OEM requirements.

CK 736 is a liquid lubricated design used in traditional wet seal arrangements, with a process liquid between the seals to lubricate and remove generated heat.

CK 736D is a gas lubricated fully contacting design that uses a specially developed carbon allowing operation on a dry nitrogen sealant without a humidifier.

Design features

- Dual unbalanced mechanical seal
- Reversed pressure design
- Liquid lubricated or contacting dry running
- Suitable for areas where there is a risk of explosion. Certificates of conformity according to 94/9/EC (ATEX) Cat. 3, 2 or 1 can be provided
- According to DIN 28138 part 2 & 3, for shaft ends acc. to DIN 28159
- With bearing for optimal running precision
- Standard materials for a wide application range
- Special materials on request

Operating limits

shaft diameter	40 to 125 mm
vessel pressure	vacuum to 16 bar (depending on size, speed, sealant and seal materials)
temperature	-25°C to 200°C*
speed	up to 570 rpm (according to DIN 28161)

*other temperature limits for special materials

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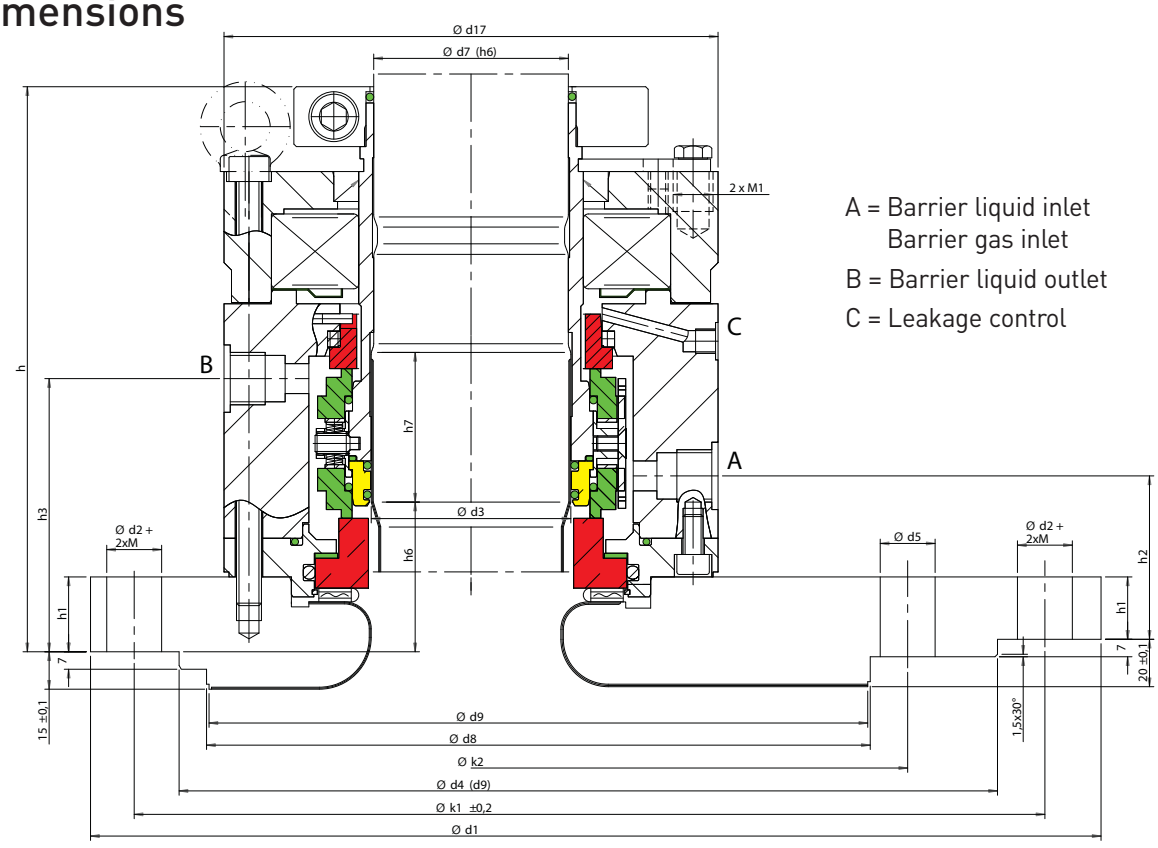
acc. to DIN 28 138 Part 2 and 3, DIN 28 159

Material Selection

Component	Standard Material	EN Symbol	Optional	EN code
Face (Wet)	Resin impregnated carbon (171)	B	Silicon carbide (277)	Q1
(Dry & Gas N_2)	Resin impregnated carbon (646)	B3		
Seat				
inboard	Ceramics (059)	V	Silicon carbide (277)	Q1
outboard	Silicon carbide (277)	Q1		
Secondary seal	Fluorocarbon (134)	V	Perfluoroelastomer (230)	K2
elements	Perfluoroelastomer (394)	K1	FDA (596)	
Metal Parts	Stainless steel (799)	E		
Springs	Stainless steel (001)	G		

Dimensions



Shaft size		Screws			Connections												
d3	d1	k1	Anz	Gew	d2	d4	d7	d8	h	h1	h3	h6	h7	A u.B	C	M	M1
40	175	145	4	M16	18	110	38	102	193	27	106	50	50	G 3/8	G 1/8	M16	M12
50	240	210	8	M16	18	176	48	138	199	27	104	50	50	G 3/8	G 1/8	M16	M12
60	275	240	8	M20	22	204	58	188	207	26	105	50	60	G 3/8	G 1/8	M20	M12
80	305	270	8	M20	22	234	78	212	227	30	110	60	60	G 1/2	G 1/8	M20	M16
100	395	350	12	M20	22	313	98	268	236	30	120	60	60	G 1/2	G 1/8	M20	M16
125	505	460	4	M20	22	422	120	320	261	30	126	60	80	G 1/2	G 1/8	M20	M20

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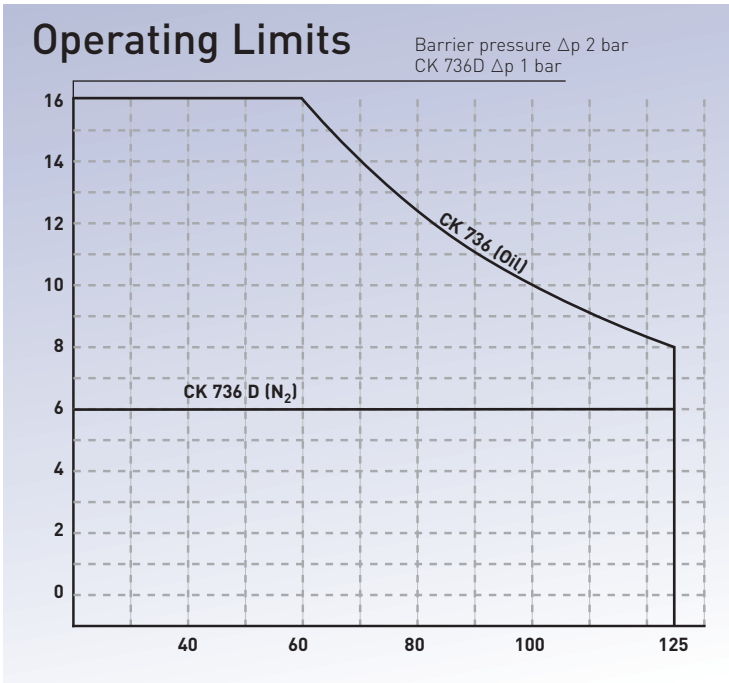

Note:

Static pressure limit = dynamic value x 1.5

CK 736 (wet)
Material carbon against ceramics maximum 6 bar
Vessel pressure with barrier liquid oil

Speed limits
Material carbon against SiC

size	40	50	60	80	100	125
rpm	570	500	410	330	270	230

Multiplication factor for barrier liquid water = 0.75 (boundary line sealant liquid oil x 0.75)

CK 736D (dry)
Speed limits

size	40	50	60	80	100	125
rpm	430	375	310	250	200	170

Gas Sealant Systems

CTS 101 barrier liquid system

CDV barrier gas system

For your nearest John Crane facility, please contact one of the locations below.

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