

## WC/WCS

Rotary shaft seal in standard design with a metal outer surface, a metal insert and a spring-energised sealing lip made of elastomer. In addition, the standard model is also available with a protective lip (WCS) on the air side.

### Standard materials

NBR 70  
Colour: black  
Energised spring: non-alloy spring steel according to DIN EN 10270-1  
Metal housing: non-alloy steel according to DIN EN 10139  
Metal insert: non-alloy steel according to DIN EN 10139

### Areas of application

Heavy engineering, agricultural and forestry machinery, wind energy converters and rolling mills.  
As a result of its greater rigidity the WC/WCS is particularly suitable for larger dimensions as well as difficult installation conditions and severe operating conditions.

### Function

The WC/WCS is a single action rotary shaft seal for rotating or pivoting shafts with optional protective lip sealing action (WCS) on the side facing away from the medium, against dirt accumulation from the outside. The additional metal insert gives the rotary shaft seal more rigidity and the metal outer casing guarantees tight and accurate fitting. The WC/WCS model has limited sealing action with thin fluid or gaseous media and with split housings.

To guarantee a high degree of static sealing on the outer surface, better surface treatment of the housing bore is required or an additional coat of paint should be applied to the metal outer casing.

## Media

Good chemical resistance to various mineral oils and greases. Please also refer to our media resistance tables on page 22 of this catalogue.

### Operational application limits

Pressure (Mpa/bar):  $\leq 0.05/0.5$   
Temperature ( $^{\circ}\text{C}$ ):  $-40$  to  $+100$   
Peripheral speed (m/s):  $\leq 12$   
Please also refer to our rotational speed diagram on page 20 of this catalogue.

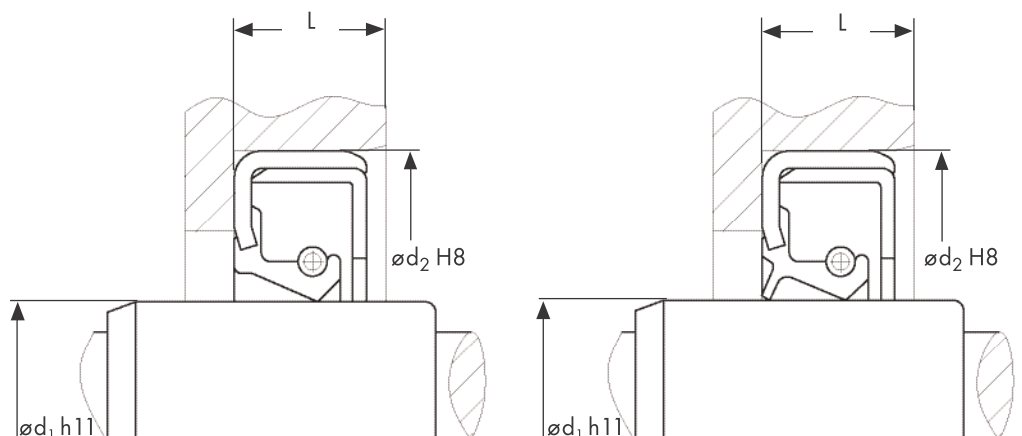
### Installation

Suitable tools should be used for installation. It is recommended that the installation housing is designed to provide the rotary shaft seal with axial support. Please also refer to our general installation instructions on page 30 of this catalogue.

### Remarks

The nominal widths mentioned on the following pages represent the standard dimensions.

Other dimensions and different designs, e.g. double dust protection lip, spiral on the sealing lip, spring or metal insert made of other steel grades can be produced as well as all kinds of special designs. WC/WCS are available with an additional coat of paint. Minimum quantities may be obligatory for dimensions outside of the standard.



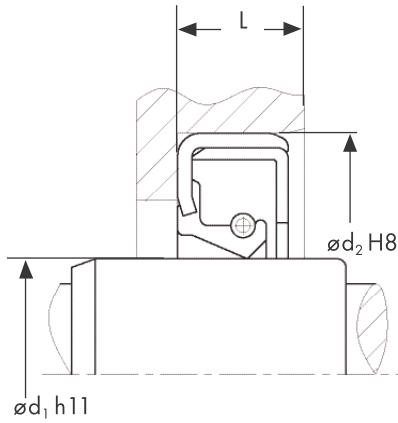
**WC**

**Sizes  
metric**

Part No.	Dimensions in mm			Part No.	Dimensions in mm		
	ød <sub>1</sub>	ød <sub>2</sub>	L		ød <sub>1</sub>	ød <sub>2</sub>	L
40361	10	22	8	19707	30	45	9.5
38739	15	30	10	17176	30	45	10
7697	15	42	10	17178	30	46	10
38738	16	30	10	25663	30	47	9
16862	16	32	10	17188	30	47	10
16883	17	32	10	17198	30	50	10
16891	17	35	10	17202	30	50	12
19689	17	40	8.5	17208	30	52	9
16902	17	40	10	17212	30	52	10
16915	18	35	10	17216	30	52	12
16941	20	35	10	17224	30	55	10
16946	20	38	8	17229	30	55	12
16957	20	40	10	17232	30	56	10
40662	20	42	7	17233	30	56	12
16962	20	42	10	69757	30	60	7
40661	20	47	7	17237	30	60	10
16972	20	47	10	17241	30	60	12
16976	20	52	10	17247	30	62	9
16997	22	40	10	17250	30	62	10
17000	22	42	10	17254	30	62	12
17004	22	47	9	17258	30	72	10
17007	22	47	10	17261	30	72	12
17013	23	40	10	17278	32	47	9
17014	23	42	10	17281	32	47	10
40362	24	37	9	48727	32	50	8
38737	24	40	10	17287	32	50	10
17023	24	42	10	17289	32	50	12
17048	25	40	9	17294	32	52	9
17052	25	40	10	17297	32	52	10
40363	25	42	9	34887	32	52	12
17060	25	42	10	17300	32	54	10
61725	25	43	9	17303	32	55	10
61726	25	44	7	17304	32	55	12
17065	25	45	10	17308	32	56	10
17073	25	47	9	19713	32	56	12
17078	25	47	10	17310	32	60	10
17081	25	50	10	17311	32	60	12
38736	25	50	12	17313	32	62	10
17088	25	52	9	17314	32	62	12
17091	25	52	10	17316	32	65	10
17095	25	52	12	17317	32	65	12
17099	25	62	10	17325	33	62	10
17100	25	62	12	19749	33	62	12
40364	26	42	9	37075	33	72	12
17106	26	42	10	17329	34	50	10
38735	26	47	9	17334	34	52	10
19747	26	47	10	17338	34	58	13
48726	26	50	12	17340	34	62	10
40365	27	47	10	17341	34	62	12
17135	28	40	10	17342	34	72	10
24720	28	47	8	17343	34	72	12
40366	28	47	9	40788	35	47	7
34886	28	47	10	17355	35	47	10
60203	28	50	10	40373	35	50	9
40367	28	52	9	17363	35	50	10

**WC**

**Sizes  
metric**



Part No.	Dimensions in mm			Part No.	Dimensions in mm		
	$\varnothing d_1$	$\varnothing d_2$	L		$\varnothing d_1$	$\varnothing d_2$	L
17367	35	50	12	17508	38	72	10
40374	35	52	7	17510	38	72	12
17376	35	52	9	40384	40	50	7
17380	35	52	10	41732	40	52	8
17383	35	52	12	17526	40	55	9
38734	35	55	8	17529	40	55	10
17390	35	55	10	19729	40	55	12
17392	35	55	12	17532	40	56	9
17396	35	56	10	17535	40	56	10
17401	35	56	12	17537	40	56	12
40375	35	58	10	19752	40	58	9
17407	35	58	12	17540	40	58	10
17409	35	58	13	17543	40	58	12
17412	35	60	10	17548	40	60	10
17414	35	60	12	17549	40	60	12
17420	35	62	9	17551	40	62	8
17424	35	62	10	17552	40	62	9
17428	35	62	12	17556	40	62	10
17432	35	65	10	17561	40	62	12
17435	35	65	12	38484	40	63.5	12.5
17440	35	70	10	17566	40	65	10
17442	35	70	12	17570	40	65	12
17447	35	72	10	17574	40	68	10
17452	35	72	12	17576	40	68	12
17453	35	80	12	17579	40	70	10
17454	35	80	13	17580	40	70	12
60257	36	50	9	17584	40	72	9
41432	36	54	7	17587	40	72	10
37202	36	54	7.5	17589	40	72	12
40377	36	56	12	25723	40	78	10
36571	36	62	9	17593	40	80	10
38733	36	62	10	17596	40	80	12
40378	36	72	12	17598	40	80	13
40379	37	52	10	75265	40	82.57	13
40380	37	55	9	38731	40	85	10
40381	37	58	13	73079	40	90	8
74257	37	62	8	60251	40	90	9
40382	37	62	9	17600	40	90	12
17475	37	80	13	17601	40	90	13
17482	38	52	10	48730	40	95	10
17485	38	54	10	41741	41	60.5	8
17488	38	55	9	17616	42	60	10
19751	38	55	10	17617	42	60	12
19724	38	55	12	17623	42	62	10
17491	38	56	10	17626	42	62	12
17492	38	56	12	83467	42	65	8
17493	38	58	12	17629	42	65	10
17495	38	60	10	17632	42	65	12
38732	38	60	12	17636	42	70	10
19727	38	62	9	38730	42	70	12
17498	38	62	10	17640	42	72	10
17500	38	62	12	17642	42	72	12
17502	38	65	10	17644	42	80	12
17504	38	70	10	17645	42	80	13
17505	38	70	12	40387	43	72	10

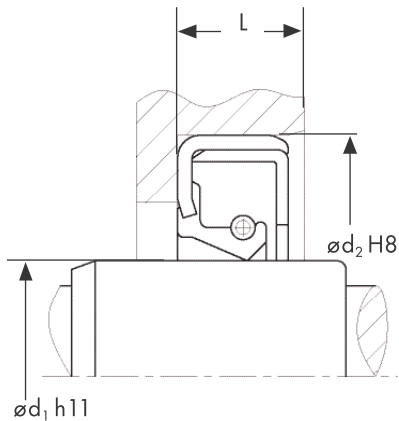
**WC**

**Sizes  
metric**

Part No.	Dimensions in mm			Part No.	Dimensions in mm		
	ød <sub>1</sub>	ød <sub>2</sub>	L		ød <sub>1</sub>	ød <sub>2</sub>	L
38729	44	60	10	42083	50	74	8
17653	44	62	12	17792	50	75	10
39061	44	65	12	17794	50	75	12
38728	44	70	12	17798	50	80	10
25724	44	72	12	17800	50	80	12
17665	45	60	10	17803	50	80	13
17666	45	60	12	17805	50	85	10
17674	45	62	10	17809	50	85	13
17678	45	62	12	17813	50	90	10
17684	45	65	10	17814	50	90	12
17687	45	65	12	17816	50	90	13
17692	45	68	10	83469	50	95	10
17694	45	68	12	60357	52	68	8
17696	45	70	10	17820	52	68	10
17699	45	70	12	17821	52	68	12
17705	45	72	10	17823	52	69	12
17709	45	72	12	17824	52	70	10
17713	45	75	10	17827	52	72	10
17714	45	75	12	17829	52	72	12
17715	45	75	13	17830	52	75	10
117854	45	78	13	17832	52	75	12
17717	45	80	10	17835	52	80	10
17718	45	80	12	17836	52	80	12
17720	45	80	13	17838	52	80	13
17723	45	85	10	17840	52	85	10
17724	45	85	13	17841	52	85	12
34354	45	90	10	17842	52	85	13
40390	46	65	10	17843	52	90	13
41441	47	65	12	40394	53	68	10
25967	47	72	10	40395	53	80	13
48736	47	75	12	38723	54	70	12
19732	48	62	13	17848	54	72	10
17735	48	65	10	17850	54	72	12
17736	48	65	12	17854	54	80	10
38727	48	68	10	17856	54	80	12
38726	48	68	12	17858	54	80	13
19874	48	70	10	17860	54	85	10
17743	48	70	12	25725	54	90	13
19733	48	72	10	49517	55	70	9
17750	48	72	12	17869	55	70	10
85237	48	78	10	17870	55	70	12
17752	48	80	10	17875	55	72	10
17754	48	80	13	17877	55	72	12
17760	48	90	13	17879	55	75	10
38724	50	62	10	17882	55	75	12
17769	50	65	10	17886	55	78	12
17771	50	65	12	38722	55	78	13
69486	50	68	9	75272	55	80	8
17775	50	68	10	17040	55	80	10
17777	50	68	12	17895	55	80	12
44566	50	70	8	17899	55	80	13
17781	50	70	10	17903	55	85	10
17784	50	70	12	17904	55	85	12
17788	50	72	10	17906	55	85	13
17791	50	72	12	17912	55	90	13

**WC**

**Sizes  
metric**



Part No.	Dimensions in mm			Part No.	Dimensions in mm		
	ød <sub>1</sub>	ød <sub>2</sub>	L		ød <sub>1</sub>	ød <sub>2</sub>	L
17913	55	100	13	38488	64	85	13
38721	56	72	10	40405	64	90	10
19757	56	80	10	38715	64	90	13
38720	56	80	13	25726	64	100	10
56399	56	85	10	25727	64	100	13
17922	56	90	13	40404	65	75	8
40398	57	72	10	18020	65	80	10
40399	57	80	12	18023	65	80	12
17924	57	85	13	18024	65	80	13
17925	57	90	13	18028	65	85	10
40400	58	72	8	18031	65	85	12
17929	58	75	12	19679	65	85	13
40401	58	78	13	18036	65	90	10
17932	58	80	10	18039	65	90	12
17933	58	80	12	18042	65	90	13
38719	58	80	13	18046	65	95	10
17936	58	85	10	18048	65	95	13
17938	58	85	13	18052	65	100	10
17940	58	90	13	18054	65	100	12
38718	60	75	8	18056	65	100	13
17945	60	75	12	59437	66	90	10
39065	60	78	13	40406	66	90	13
38487	60	80	8	40407	67	80	13
17952	60	80	10	37736	67	85	10
17955	60	80	12	19758	68	90	10
17958	60	80	13	25976	68	90	12
38717	60	85	8	38489	68	100	12
17963	60	85	10	83471	68	110	13
17964	60	85	12	18071	70	85	10
19739	60	85	13	18076	70	90	10
48740	60	85.1	12	18079	70	90	12
19404	60	90	10	18082	70	90	13
17971	60	90	12	151328	70	92	12
17975	60	90	13	18084	70	95	10
17977	60	95	10	18086	70	95	13
17978	60	95	13	40447	70	98	13
17980	60	100	12	18090	70	100	10
17982	60	100	13	18093	70	100	12
75276	60	110	13	18095	70	100	13
17985	61	85	13	18097	70	105	13
38716	62	75	10	18101	70	110	13
17987	62	80	10	48742	70	120	13
17989	62	80	12	40446	72	90	10
72519	62	82	10	18107	72	90	13
17992	62	85	10	56726	72	95	10
17993	62	85	12	60329	72	95	12
17995	62	85	13	38490	72	95	13
17998	62	90	10	36924	72	100	10
18000	62	90	12	40445	72	110	13
18003	62	100	13	40443	73	95	10
56472	63	85	10	40442	73	100	13
18004	63	85	12	40441	74	95	10
56048	63	90	13	40440	74	100	13
42548	63.5	94	14	18116	75	90	10
40403	64	85	10	18117	75	90	12

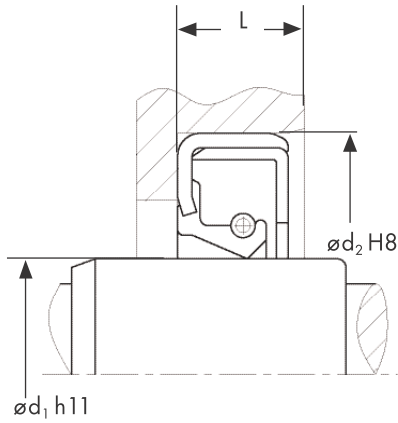
**WC**

**Sizes  
metric**

Part No.	Dimensions in mm			Part No.	Dimensions in mm		
	ød <sub>1</sub>	ød <sub>2</sub>	L		ød <sub>1</sub>	ød <sub>2</sub>	L
18120	75	95	10	48750	88	120	13
18123	75	95	12	48751	89	120	13
20950	75	95	13	18219	90	110	8
18127	75	100	10	18221	90	110	10
18131	75	100	12	18225	90	110	12
18133	75	100	13	18228	90	110	13
74602	75	105	12	22252	90	110	15
18136	75	105	13	19674	90	112.7	13
18139	75	110	13	18230	90	115	9
17103	75	115	13	38711	90	115	13
38714	77	95	10	48752	90	120	12
40438	77	95	13	18239	90	120	13
72922	77	100	10	19675	90	120	15
36443	78	95	13	18242	90	125	13
40437	78	100	10	18244	90	130	13
38713	78	100	12	18245	90	140	13
40436	78	105	13	18248	92	120	13
18149	80	100	10	40427	93	110	13
18151	80	100	12	48753	93	130.2	10
18154	80	100	13	40424	94	120	13
40435	80	105	12	18251	95	110	9
18158	80	105	13	18253	95	110	10
18162	80	110	10	18256	95	110	12
18165	80	110	12	18258	95	110	13
18169	80	110	13	61734	95	115	9
38491	80	110	14	34363	95	115	10
18172	80	120	12	18262	95	115	13
18175	80	120	13	92212	95	120	12
18178	80	125	13	18269	95	120	13
38492	82	105	13	60186	95	120	15
18183	82	110	13	18274	95	125	13
18184	83	110	12	41440	95	125	15
38200	83	110	13	18277	95	130	13
38493	83.5	105	13	48757	95	133	14
38495	84	105	13	40423	97	120	13
55937	84	110	12	83473	98	120	12
18186	85	100	12	48758	98	125	13
18187	85	100	13	38501	98.4	125	13
18189	85	105	10	42819	100	120	5.5
18192	85	105	13	18290	100	120	10
18195	85	110	12	38710	100	120	12
18197	85	110	13	18292	100	120	13
35305	85	110	14	18296	100	125	13
38496	85	110	15	18301	100	130	13
19676	85	115	13	19673	100	130	15
38712	85	120	12	37675	100	135	13
18203	85	120	13	18303	100	140	13
59788	85	120	15	36923	100	150	13
18205	85	125	13	48760	100	160	15
18209	85	130	13	22839	102	125	13
40432	87	100	13	48764	102	130	13
36062	87	110	10	18305	103	125	13
40431	87	110	13	72782	105	120	15
25973	88	110	13	18310	105	125	13
64376	88	120	10	40422	105	130	12

**WC**

**Sizes  
metric**



Part No.	Dimensions in mm			Part No.	Dimensions in mm		
	ød <sub>1</sub>	ød <sub>2</sub>	L		ød <sub>1</sub>	ød <sub>2</sub>	L
18313	105	130	13	18380	125	150	13
18314	105	130	15	38708	125	150	15
18320	105	140	13	20217	125	152.4	15
40421	105	150	15	18382	125	160	13
75325	106.4	130	10	18384	125	160	15
42824	107	133.5	11	83482	125	162	15
38503	108	130	13	38707	125	170	13
83475	108	133.4	13	18385	125	170	15
83476	108	140	13	38509	128	150	15
18326	110	128	9	115842	130	150	11
38504	110	130	12	56732	130	150	14
18330	110	130	13	36925	130	155	10
19654	110	130	15	83483	130	155	12
40420	110	133.3	13	18390	130	160	13
18332	110	135	13	18392	130	160	15
83477	110	140	12	40450	130	165	13
18337	110	140	13	18394	130	170	13
18339	110	140	15	35102	130	170	15
40419	110	140	15.5	83484	130	170	16
27464	110	145	13	18397	130	180	15
18342	110	150	13	38706	132	160	13
38505	110	150	15	40451	132	160	15
83478	110	152	15	38705	135	155	13
21098	112	140	13	18399	135	160	13
48767	112	200	10	18402	135	160	15
19657	113	140	13	19643	135	165	13
123551	113	160	12	40453	135	165	15
18347	114	140	13	40454	135	170	13
152971	115	135	9	22113	135	170	15
18352	115	140	12	55997	138	160	15
18355	115	140	13	18408	140	160	13
18356	115	140	15	19661	140	160	15
18360	115	150	13	18409	140	165	12
18361	115	150	15	48775	140	165	12.5
48769	115	150	16	34888	140	165	15
130487	115	155	13	38510	140	170	12
40416	115	160	15	18411	140	170	13
38506	119	140	15	18412	140	170	14
38507	120	140	10	18415	140	170	15
18366	120	140	13	19611	140	180	15
40415	120	145	13	83488	140	190	15
60196	120	145	14.5	83489	143	170	10
38709	120	145	15	38511	144.8	175	12
43080	120	146	16	19663	145	165	13
40414	120	150	12	40456	145	165	15
18371	120	150	13	83490	145	170	10
18372	120	150	15	19662	145	170	13
83480	120	152	16	18419	145	170	15
18374	120	160	13	35387	145	175	13
18376	120	160	15	38704	145	175	15
40413	120	170	15	43092	145	180	13
40412	122	150	13	20634	145	180	15
83481	122	150	15	48777	146	170	15
48772	124	150	15	18421	148	170	15
38249	125	150	12	40457	148	180	15

**WC**

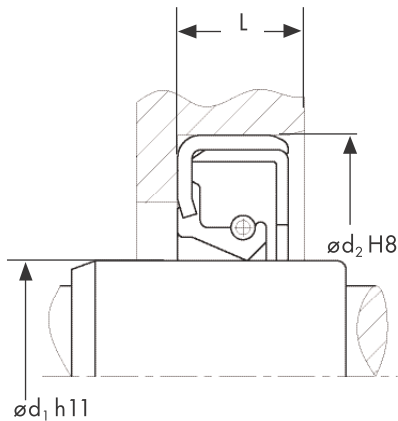
**Sizes  
metric**

Part No.	Dimensions in mm			Part No.	Dimensions in mm		
	ød <sub>1</sub>	ød <sub>2</sub>	L		ød <sub>1</sub>	ød <sub>2</sub>	L
40458	148	190	15	22009	180	220	16
38539	149	180	15	60258	180	250	15
19664	150	170	15	22019	185	210	13
38702	150	180	12	19644	185	215	15
18427	150	180	13	22010	185	230	16
18429	150	180	15	92224	186	215.9	12
19669	150	190	15	92878	186	216	12
48778	150	195	15	92879	188	215	16
40459	150	200	15	38544	190	215	15
83491	152	190	15	18456	190	215	16
38542	152	195	15	38546	190	220	12
18431	155	180	12	19612	190	220	15
18432	155	180	15	19613	190	220	16
37024	155	190	15	40466	190	225	15
48779	155	193.9	15.5	19744	190	230	16
48780	155	200	15	92883	194	222	12
43094	157	181	11.5	38548	195	220	16
43093	157	186.5	14.6	22011	195	230	15
83492	157	190.5	16	22842	195	230	16
40460	158	180	15	69751	200	225	12
83493	158.8	190	12	38549	200	225	12.5
48781	159	185	16	18463	200	230	15
19637	160	180	15	43927	200	230	16
38701	160	185	10	148663	200	230	18
19638	160	190	13	92884	200	240	15
19639	160	190	15	57320	200	240	16
48783	160	200	14	20672	200	245	15
38700	160	200	15	19614	200	250	15
92870	162	190	10	43939	200	250	16
40461	162	190	15	38550	203	230	14
18443	165	190	13	38551	205	230	15
34889	165	190	15	22012	205	230	16
38699	165	200	15	22013	205	250	16
40462	168	190	15	92886	209.6	235	12.7
92872	168	200	12	92888	210	230	16
38698	168	200	15	38552	210	235	12
38543	169	190	10	18464	210	240	15
18444	170	190	15	38553	210	240	16
19630	170	200	13	40467	210	250	13
18447	170	200	15	44607	210	250	15
40463	170	210	20	19615	210	250	16
22248	170	215	16	38554	210	260	15
92873	170	225	16	153518	210	260	16
48785	170	245	16	48799	210	260	25
40464	172	200	15	43100	212	250	15
18450	175	200	15	34389	214	241.5	15
92874	175	210	15	48804	215	240	12
19640	175	215	16	92890	215	245	16
92875	178	200	12	38555	215	250	15
40465	178	200	15	92892	215	250	16
40583	178	215	16	152168	216	260	16
19641	180	200	15	40468	218	250	16
19642	180	210	15	19616	220	250	15
37099	180	215	15	40561	220	260	15
19610	180	215	16	92894	220	260	18



**WC**

**Sizes metric**



Part No.	Dimensions in mm			Part No.	Dimensions in mm		
	$\varnothing d_1$	$\varnothing d_2$	L		$\varnothing d_1$	$\varnothing d_2$	L
92895	220	260	22	60280	280	310	15
20889	220	270	15	19627	280	310	16
148918	220	300	15	48824	280	316	18
48808	225	250	12.5	34410	280	320	16
22014	225	250	16	60282	280	320	18
69913	225	260	15	19649	280	320	20
40470	225	270	16	26242	280	324	25
38557	229	255	15	48825	280	380	20
19645	230	255	10	75284	280	400	15
36793	230	255	15	22017	285	310	16
19646	230	260	15	38560	285	320	16
19617	230	270	15	75285	285	325	15
69544	230	270	16	48826	285	325	16
22015	230	280	16	48827	285	330	20
92897	230	285	23	48828	290	330	15
92898	235	270	15	56316	290	330	16
19618	235	270	16	19628	290	330	18
19619	240	270	15	48829	290	334	20
35383	240	270	16	48831	290	350	25
20655	240	275	18	38564	295	335	16
18470	240	280	16	92904	295	335	18
22016	240	290	16	19629	300	332	16
21118	240	300	18	19650	300	335	18
19620	245	270	16	56317	300	340	16
48811	245	285	16.5	68886	300	340	18
44608	250	280	14	18474	300	340	20
19621	250	280	15	34417	300	342	16
26371	250	280	16	48833	300	344	20.5
20656	250	285	18	44152	300	350	18
48813	250	290	15	42645	300	350	19
19622	250	290	16	92905	300	350	20
39225	250	310	25	38565	300	360	18
48814	255	290	16	92906	300	400	18
60283	258	290	16	92907	300	420	20
20233	260	280	16	43108	301	328	15
19623	260	290	16	38566	305	340	18
48816	260	290	20	56971	305	345	20
40562	260	300	16	38567	310	350	18
19648	260	300	20	36644	310	370	28
74724	260	310	16	48836	315	355	16.5
92902	260	320	25	44957	315	355	18
60277	260	330	20	69545	315	365	16
43106	264	290	15	37361	315	365	20
69543	265	290	15	40037	320	350	16
19624	265	290	16	18475	320	350	18
75277	265	300	16	92909	320	360	15
38558	265	310	16	19651	320	360	18
75282	267	300	20	20221	320	360	20
38559	268	300	16	48838	320	360	25
19625	270	310	16	48839	320	360	32
19873	270	310	18	48840	320	380	20
48819	270	330	25	59530	320	380	25
48820	272	310	16	59790	325	360	16
21954	275	310	15	38569	325	365	16
19626	275	310	16	92910	330	360	15

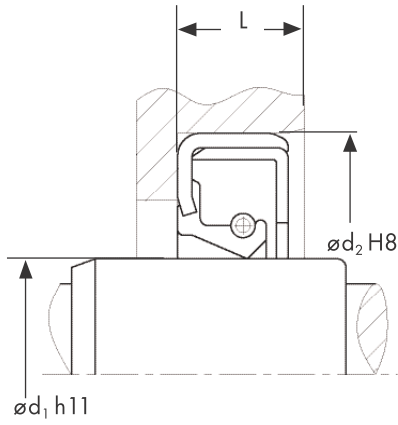
**WC**

**Sizes  
metric**

Part No.	Dimensions in mm			Part No.	Dimensions in mm		
	ød <sub>1</sub>	ød <sub>2</sub>	L		ød <sub>1</sub>	ød <sub>2</sub>	L
23771	330	370	18	48866	425	475	22
69857	330	370	20	44605	425	480	15
21567	330	380	20	92914	430	480	22
92911	330	385	18	92915	430	480	25
19632	340	372	16	92916	430	495	25
38570	340	380	16	38583	440	470	20
19633	340	380	18	38589	440	480	20
19634	340	380	20	48868	440	490	17
48841	340	390	20	38590	440	490	20
21658	340	400	25	48869	445	480	16
60289	350	380	16	21868	445	480	18
38571	350	390	18	39362	448	480	15
34422	355	395	32	48870	450	490	18
34428	355	405	15	21194	450	490	20
48846	360	390	20	117011	450	500	20
48847	360	392	20	38591	450	500	25
44168	360	400	18	48871	455	495	20
19635	360	400	20	44980	459	522	27
59469	360	400	25	38592	460	500	20
48850	360	425	20	48872	460	510	25
48851	365	395	15	48873	460	520	26
38574	365	405	18	20712	461	500	20
38575	365	410	20	24282	467	510	20
38576	370	400	10	20711	470	510	20
35846	370	410	15	48874	470	520	18
48852	370	410	20	48875	470	520	20
48853	370	415	15	37259	470	520	22
36973	375	420	18	77774	475	530	18
48854	375	430	18	38593	480	520	20
38577	380	420	18	92917	480	550	25
19636	380	420	20	117784	482	530	20
38578	380	430	19	37586	485	535	22
43111	380	445	15	48878	490	530	20
38579	390	430	18	41115	500	520	12
48857	390	440	25	92918	500	535	12
48858	394	420	16	38594	500	540	20
38052	395	430	15	92919	500	550	20
35443	395	430	18	37585	500	550	22
38820	400	430	26	38596	500	560	20
37258	400	438.5	17	48880	510	550	20
35984	400	440	15	38597	510	572	20
21173	400	440	16	152084	520	560	14
72649	400	440	18	48881	520	580	20
37477	400	440	20	56899	530	565	20
92913	400	450	18	38598	530	570	20
27630	400	450	20	38599	540	580	20
48859	400	470	20	48883	540	590	22
48860	400	500	25	38600	540	590	25.5
48862	410	454	20.5	36560	550	590	20
48864	410	460	15	48884	550	600	22
69631	410	460	22	38601	555	600	20
38581	420	460	15	38602	560	610	20
20714	420	460	18	117012	560	610	25
38582	420	460	20	38603	560	620	20
59333	420	480	15	48885	560	620	25

**WC**

**Sizes  
metric**



Part No.	Dimensions in mm		
	ød <sub>1</sub>	ød <sub>2</sub>	L
55919	565	630	20
36643	570	620	22
48886	570	630	25
35584	580	615	20
48888	580	630	20
48889	580	636	25
48890	580	640	25
48892	580	640	30
48893	595	635	20
38604	600	640	20
72903	600	640	22
48895	600	650	25
38606	610	650	20
38607	610	660	20
42664	620	660	20
56286	620	670	25
48898	620	680	25
37584	620	684	25
48899	628	655	20
38608	630	670	20
38609	630	680	20
20710	630	690	30
38610	630	700	20
48900	632	672	20
48901	640	680	20
69858	640	690	25
48902	645	677	16
48903	650	690	18
38120	650	690	20
44641	650	700	20
48905	650	710	25
48906	660	700	18
92920	660	704	22.5
48907	670	710	20
92921	670	730	25
38611	695	740	20
38612	700	740	20
38613	710	760	20
38614	740	780	20
36648	750	790	23
92922	750	800	25
38615	760	800	20
55895	790	830	23
37819	840	880	20
44950	860	900	20
20253	880	940	32
48909	950	1000	20
48910	1060	1100	20

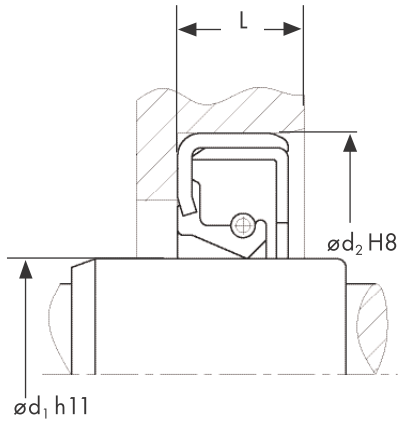
**WC**

**Sizes  
inch**

Part No.	Dimensions in mm			Dimensions in inch		
	ød <sub>1</sub>	ød <sub>2</sub>	L	ød <sub>1</sub>	ød <sub>2</sub>	L
60827	14.28	25.4	6.35	0.562	1	0.25
60828	15.87	25.4	6.35	0.625	1	0.25
60829	15.87	28.57	7.93	0.625	1.125	0.312
27404	15.87	28.57	9.52	0.625	1.125	0.375
60830	19.05	39.37	7.93	0.75	1.55	0.312
60831	20.63	31.75	9.52	0.812	1.25	0.375
60832	25.4	41.27	11.11	1	1.625	0.437
60833	25.4	44.45	9.52	1	1.75	0.375
60834	28.57	47.62	11.11	1.125	1.875	0.437
60835	31.75	44.45	7.93	1.25	1.75	0.312
40369	31.75	44.45	9.52	1.25	1.75	0.375
40370	31.75	44.68	9.52	1.25	1.759	0.375
120761	31.75	50.8	9.52	1.25	2	0.375
40371	33.33	50.9	11.11	1.312	2.004	0.437
60836	34.92	50.8	8.73	1.375	2	0.344
60837	34.92	53.97	11.11	1.375	2.125	0.437
40372	34.92	54.08	9.52	1.375	2.129	0.375
60838	34.92	68.26	12.7	1.375	2.687	0.5
48728	35.2	57.3	12.7	1.386	2.256	0.5
120757	38.1	53.97	11.11	1.5	2.125	0.437
40383	38.1	57.15	9.52	1.5	2.25	0.375
74245	38.1	57.2	12.7	1.5	2.252	0.5
120760	38.1	60.32	9.52	1.5	2.375	0.375
60840	39.68	63.5	12.7	1.562	2.5	0.5
60839	39.68	64.29	12.7	1.562	2.531	0.5
60841	39.68	73.13	7.93	1.562	2.879	0.312
48729	39.69	61.9	11.9	1.563	2.437	0.469
75264	39.69	63.5	12	1.563	2.5	0.472
60842	41.27	60.32	12.7	1.625	2.375	0.5
120759	41.27	61.91	9.52	1.625	2.437	0.375
48731	41.27	63.65	7.95	1.625	2.506	0.313
36645	41.27	66.67	12.7	1.625	2.625	0.5
60844	41.53	63.5	7.93	1.635	2.5	0.312
92203	42.67	76.2	9.65	1.68	3	0.38
40389	44.45	63.5	9.52	1.75	2.5	0.375
40388	44.45	68.33	12.7	1.75	2.69	0.5
48733	44.45	76.2	9.53	1.75	3	0.375
60209	44.5	60.43	9.25	1.752	2.379	0.364
60845	47.62	63.5	12.7	1.875	2.5	0.5
35366	47.62	66.67	7.93	1.875	2.625	0.312
60846	47.62	70.66	11.11	1.875	2.782	0.437
75266	47.62	73.02	7.93	1.875	2.875	0.312
75267	47.62	76.2	7.93	1.875	3	0.312
75268	47.62	80.96	11.11	1.875	3.187	0.437
75269	47.62	90.96	11.11	1.875	3.581	0.437
48737	49.2	79.38	9.65	1.937	3.125	0.38
157003	49.21	68.26	9.52	1.937	2.687	0.375
60847	49.21	76.2	12.7	1.937	3	0.5
74246	49.21	76.2	14.7	1.937	3	0.579
38725	49.21	90.11	12.7	1.937	3.548	0.5
60893	49.21	95.25	12.7	1.937	3.75	0.5
60848	50.01	73.02	11.91	1.969	2.875	0.469
60849	50.8	68.99	11.91	2	2.716	0.469
60850	50.8	69.85	7.93	2	2.75	0.312
60894	50.8	69.85	9.52	2	2.75	0.375

**WC**

**Sizes  
inch**



Part No.	Dimensions in mm			Dimensions in inch		
	ød <sub>1</sub>	ød <sub>2</sub>	L	ød <sub>1</sub>	ød <sub>2</sub>	L
83468	50.8	69.85	12.7	2	2.75	0.5
60851	50.8	73.02	12.7	2	2.875	0.5
48738	50.8	76.2	12.7	2	3	0.5
120758	50.8	80.97	9.52	2	3.188	0.375
60852	52.38	76.2	12.7	2.062	3	0.5
42089	53	76.2	12.8	2.087	3	0.504
60853	53.97	76.2	11.11	2.125	3	0.437
40396	53.97	76.2	12.5	2.125	3	0.492
60854	53.97	85.62	11.11	2.125	3.371	0.437
38485	55.56	77.78	9.52	2.187	3.062	0.375
75271	55.56	77.79	9.52	2.187	3.063	0.375
38486	57.15	74.42	12.7	2.25	2.93	0.5
49504	57.15	76.2	11.11	2.25	3	0.437
60855	57.15	76.2	12.7	2.25	3	0.5
80736	57.15	77.78	11.11	2.25	3.062	0.437
48739	57.15	79.38	9.65	2.25	3.125	0.38
60856	57.15	80.96	11.11	2.25	3.187	0.437
60857	57.15	82.55	12.7	2.25	3.25	0.5
60858	57.15	85.09	11.11	2.25	3.35	0.437
83470	57.15	85.09	11.9	2.25	3.35	0.469
143837	57.15	88.9	12.7	2.25	3.5	0.5
21143	57.15	92.07	11.11	2.25	3.625	0.437
40402	58.73	85.22	7.93	2.312	3.355	0.312
60859	58.73	88.9	12.7	2.312	3.5	0.5
75275	60.02	88.9	12.7	2.363	3.5	0.5
60860	60.32	86.38	11.11	2.375	3.401	0.437
60861	60.32	88.4	11.11	2.375	3.48	0.437
118307	60.32	92.07	11.11	2.375	3.625	0.437
40503	60.32	92.07	12.7	2.375	3.625	0.5
60862	60.32	98.42	11.91	2.375	3.875	0.469
60863	63.5	80.96	11.11	2.5	3.187	0.437
40455	63.5	82.55	12.7	2.5	3.25	0.5
42550	63.5	85.72	9.52	2.5	3.375	0.375
60864	63.5	88.9	11.11	2.5	3.5	0.437
60865	63.5	92.07	11.91	2.5	3.625	0.469
60866	63.5	95.25	11.11	2.5	3.75	0.437
48741	68.26	95.25	12.7	2.687	3.75	0.5
60867	69.85	95.25	11.11	2.75	3.75	0.437
40411	69.85	95.25	12.7	2.75	3.75	0.5
60868	69.85	95.65	11.11	2.75	3.766	0.437
60869	69.85	98.42	11.11	2.75	3.875	0.437
60870	71.43	95.25	11.11	2.812	3.75	0.437
40444	72.24	101.8	12.7	2.844	4.008	0.5
83472	73.02	98.42	11.11	2.875	3.875	0.437
74041	73.02	98.43	11.11	2.875	3.875	0.437
41526	73.02	101.6	9.52	2.875	4	0.375
42560	73.02	101.6	12.7	2.875	4	0.5
60871	73.02	114.3	11.11	2.875	4.5	0.437
38373	74.61	101.6	16.27	2.937	4	0.641
60872	74.61	104.77	9.52	2.937	4.125	0.375
59532	76.2	98.43	11.11	3	3.875	0.437
42571	76.2	98.6	12	3	3.882	0.472
60873	76.2	101.6	9.52	3	4	0.375
24663	76.2	101.6	11.11	3	4	0.437
40439	76.2	101.6	12.7	3	4	0.5

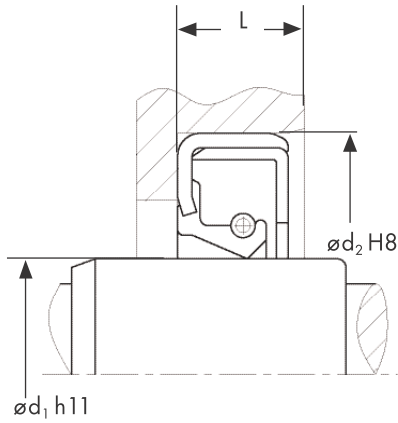
**WC**

**Sizes  
inch**

Part No.	Dimensions in mm			Dimensions in inch		
	ød <sub>1</sub>	ød <sub>2</sub>	L	ød <sub>1</sub>	ød <sub>2</sub>	L
60874	76.2	114.3	11.11	3	4.5	0.437
48745	79.37	117.47	12.7	3.125	4.625	0.5
134607	82.55	107.95	11.9	3.25	4.25	0.469
48748	82.55	107.95	15.87	3.25	4.25	0.625
36273	82.55	133.35	12.7	3.25	5.25	0.5
60875	84.13	114.3	11.91	3.312	4.5	0.469
60876	85.72	114.3	11.11	3.375	4.5	0.437
37681	85.72	117.47	12.7	3.375	4.625	0.5
42807	87.5	111.12	12.7	3.445	4.375	0.5
40430	88.9	111.12	12.7	3.5	4.375	0.5
48749	88.9	114.3	11.9	3.5	4.5	0.469
60877	88.9	117.47	9.52	3.5	4.625	0.375
60878	88.9	117.47	12.7	3.5	4.625	0.5
38497	88.9	120.65	10	3.5	4.75	0.394
69152	88.9	120.7	10	3.5	4.752	0.394
38498	90.09	119.86	24.34	3.547	4.719	0.958
38499	92.07	117.47	15.87	3.625	4.625	0.625
69553	92.2	126.7	11.6	3.63	4.988	0.457
42811	92.25	114.45	12.7	3.632	4.506	0.5
40425	93.66	114.45	12.7	3.687	4.506	0.5
40426	93.66	130.18	12.7	3.687	5.125	0.5
38500	93.66	142.87	12.7	3.687	5.625	0.5
37694	95.25	111.12	8.33	3.75	4.375	0.328
74868	95.25	127	11.11	3.75	5	0.437
48759	100	136.53	12.7	3.937	5.375	0.5
38502	101.6	127	12.7	4	5	0.5
69029	101.6	133.35	15.87	4	5.25	0.625
48762	101.6	136.68	11.13	4	5.381	0.438
48763	101.6	139.7	14.29	4	5.5	0.563
59435	101.6	146.05	14.28	4	5.75	0.562
83474	107.95	139.7	14.28	4.25	5.5	0.562
60879	111.12	152.4	12.7	4.375	6	0.5
48765	111.25	136.65	12.7	4.38	5.38	0.5
83479	114.3	139.7	12.7	4.5	5.5	0.5
68161	114.3	146.05	22.22	4.5	5.75	0.875
40418	114.3	152.4	19.05	4.5	6	0.75
35927	117.47	146.05	14.28	4.625	5.75	0.562
84945	117.47	152.4	15.87	4.625	6	0.625
60880	119.06	149.23	12.7	4.687	5.875	0.5
38508	127	152.4	12.7	5	6	0.5
43083	127	158.75	14.28	5	6.25	0.562
48491	127	158.75	15.87	5	6.25	0.625
60881	129.77	155.32	12.7	5.109	6.115	0.5
60181	130.17	161.92	12.7	5.125	6.375	0.5
77867	133.35	158.75	12.7	5.25	6.25	0.5
134608	133.35	158.75	14.28	5.25	6.25	0.562
83485	133.35	165.1	12.7	5.25	6.5	0.5
83486	139.7	165.1	12.7	5.5	6.5	0.5
83487	139.7	174.6	14.28	5.5	6.874	0.562
74369	139.7	184.15	15.87	5.5	7.25	0.625
37610	146.05	171.45	12.7	5.75	6.75	0.5
38512	146.05	174.5	12.7	5.75	6.87	0.5
60882	146.05	177.8	15.87	5.75	7	0.625
60883	152.4	180.98	15.87	6	7.125	0.625
38540	152.4	182.56	19.05	6	7.187	0.75

**WC**

**Sizes  
inch**



Part No.	Dimensions in mm			Dimensions in inch		
	ød <sub>1</sub>	ød <sub>2</sub>	L	ød <sub>1</sub>	ød <sub>2</sub>	L
38541	152.4	190.7	15	6	7.508	0.591
60233	157.1	190.55	6.35	6.185	7.502	0.25
83494	158.75	190.5	12.7	6.25	7.5	0.5
83495	158.75	196.85	15.87	6.25	7.75	0.625
48782	160.33	187.32	12.7	6.312	7.375	0.5
92871	165.1	190.5	14.28	6.5	7.5	0.562
77866	165.1	196.85	12.7	6.5	7.75	0.5
60884	168.28	206.38	15.87	6.625	8.125	0.625
48787	171.4	209.5	15.8	6.748	8.248	0.622
60885	171.45	203.2	15.87	6.75	8	0.625
43098	173	200.3	15.87	6.811	7.886	0.625
48788	177.8	203.2	15.88	7	8	0.625
48789	177.8	222.25	19.05	7	8.75	0.75
48790	179.95	209.55	18.25	7.085	8.25	0.719
92876	180.97	206.38	15.87	7.125	8.125	0.625
48791	180.97	219.3	19.05	7.125	8.634	0.75
39581	184.15	215.9	15.87	7.25	8.5	0.625
92877	184.15	222.25	14.28	7.25	8.75	0.562
92880	190.5	215.9	15.75	7.5	8.5	0.62
60886	190.5	215.9	15.87	7.5	8.5	0.625
92881	190.5	228.6	19.05	7.5	9	0.75
48794	193.67	219.07	14.28	7.625	8.625	0.562
92882	193.7	219.08	12.7	7.626	8.625	0.5
38547	190.5	222.25	15	7.5	8.75	0.591
48795	196.85	234.95	14.28	7.75	9.25	0.562
48796	196.85	241.3	19.05	7.75	9.5	0.75
60887	200.03	241.3	19.05	7.875	9.5	0.75
39582	203.2	228.6	15.87	8	9	0.625
92885	203.2	241.3	19.05	8	9.5	0.75
60888	209.55	241.3	15.87	8.25	9.5	0.625
92887	209.55	249.8	15.08	8.25	9.835	0.594
37682	212.72	247.65	19.05	8.375	9.75	0.75
48801	212.72	250.82	14.28	8.375	9.875	0.562
92889	215.9	241.3	12.7	8.5	9.5	0.5
60889	215.9	241.3	15.87	8.5	9.5	0.625
92891	215.9	247.65	19.05	8.5	9.75	0.75
34875	215.9	254	14.28	8.5	10	0.562
92893	219.1	244.5	12.7	8.626	9.626	0.5
92896	225.43	257.18	19.05	8.875	10.125	0.75
38556	228.6	254	19.05	9	10	0.75
48809	234.95	273.05	15.88	9.25	10.75	0.625
75062	241.3	279.4	19.05	9.5	11	0.75
39572	241.3	280	30	9.5	11.024	1.181
60273	241.3	292.1	25.4	9.5	11.5	1
92899	241.3	317.7	20.6	9.5	12.508	0.811
48812	247.65	279.4	15.87	9.75	11	0.625
92900	247.65	282.58	19.05	9.75	11.125	0.75
92901	254	279.4	12.7	10	11	0.5
60890	254	292.1	19.05	10	11.5	0.75
75279	254	304.8	15.87	10	12	0.625
75280	263.53	295.28	22.22	10.375	11.625	0.875
92903	263.53	295.28	22.23	10.375	11.625	0.875
48818	266.7	304.8	19.05	10.5	12	0.75
75281	266.7	317.5	15.87	10.5	12.5	0.625
48821	273.05	323.85	25.4	10.75	12.75	1

**WC**

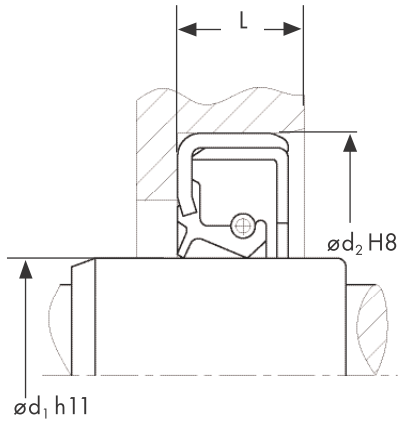
**Sizes  
inch**

Part No.	Dimensions in mm			Dimensions in inch		
	ød <sub>1</sub>	ød <sub>2</sub>	L	ød <sub>1</sub>	ød <sub>2</sub>	L
75283	279.4	304.8	12.7	11	12	0.5
59571	279.4	317.5	19.05	11	12.5	0.75
37322	285.75	323.85	19.05	11.25	12.75	0.75
37640	298.45	336.55	22.22	11.75	13.25	0.875
48834	304.8	330.2	12.7	12	13	0.5
48835	304.8	355.6	25.4	12	14	1
38568	317.5	349.25	19.05	12.5	13.75	0.75
92908	317.5	349.25	19.5	12.5	13.75	0.768
21560	330.2	381	23.79	13	15	0.937
56354	349.25	381	19.05	13.75	15	0.75
38572	361.95	400.05	19.05	14.25	15.75	0.75
38573	361.95	412.75	25.4	14.25	16.25	1
59471	366.72	406.4	17.46	14.438	16	0.687
127110	374.65	419.1	22.22	14.75	16.5	0.875
74447	381	431.8	25.4	15	17	1
44606	381	438.15	22.22	15	17.25	0.875
92912	393.7	444.5	20.57	15.5	17.5	0.81
36559	400	451	17.46	15.748	17.756	0.687
26906	412.75	450.85	17.46	16.25	17.75	0.687
155760	412.75	457.2	19.05	16.25	18	0.75
48865	425.45	463.55	17.46	16.75	18.25	0.687
35847	457	508	25.4	18	20	1
42643	457.2	495.3	19.05	18	19.5	0.75
38595	500.06	549.91	19.84	19.687	21.65	0.781
49490	508	558.8	25.4	20	22	1
21639	520.7	571.5	22.5	20.5	22.5	0.886
37089	533.4	584.2	22.22	21	23	0.875
36545	546	596.9	19.05	21.496	23.5	0.75
44334	549.28	600.08	25.4	21.625	23.625	1
38605	609.6	660.4	22.22	24	26	0.875
48908	850.9	914.4	22.2	33.5	36	0.874
92249	933.45	984.25	22.22	36.75	38.75	0.875
48911	1181.1	1231.9	22.23	46.5	48.5	0.875



**WCS**

**Sizes  
metric**



Part No.	Dimensions in mm			Part No.	Dimensions in mm		
	ød <sub>1</sub>	ød <sub>2</sub>	L		ød <sub>1</sub>	ød <sub>2</sub>	L
19686	15	30	10	17688	45	65	12
41422	22	42	11	80801	46	65	13
17053	25	40	10	39062	47	65	12
17061	25	42	10	39063	48	62	9
41423	25	45	12.5	40391	50	68	9
19702	25	47	10	40392	50	70	7
17092	25	52	10	68263	50	70	8
118860	25	62	10	40393	50	73	9
40452	28.6	40	8	56900	50	80	10
41424	29	43	8	17804	50	80	13
44360	30	43	8	42091	54	79.2	12.8
17177	30	45	10	40397	55	72	12
17189	30	47	10	19756	55	76.2	10
40368	30	50	7	17892	55	80	10
17199	30	50	10	61799	55	80	13
17203	30	50	12	75274	60	80	8
17213	30	52	10	19990	60	80	12
17217	30	52	12	44359	60	82	12
17225	30	55	10	144025	60	85	13
17230	30	55	12	131150	60	90	12
17238	30	60	10	6449	62	80	16
17242	30	60	12	39066	62	85	10
17251	30	62	10	42543	62	85	13
17255	30	62	12	42545	62	100	13
17262	30	72	12	56587	63	85	10
144026	34	62	15	61731	64	90	13
41419	35	45	12	41411	65	90	12
17364	35	50	10	44406	65	100	13
17368	35	50	12	40408	68	88	10
41420	35	51	12	40409	68	90	10
17377	35	52	9	40410	68	90	13
38747	35	52	10	42555	69	88	10
17384	35	52	12	36573	70	90	10
17397	35	56	10	18080	70	90	12
17402	35	56	12	38616	70	95	13
17429	35	62	12	19872	72	90	10
118861	35	72	12	18128	75	100	10
40376	36	50	7	18134	75	100	13
75263	36	63	12	48743	75	105	12
40449	37	62	14	92939	75	115	13
41421	38	52	8	42568	76	101.8	12
39060	40	52	7	35534	78	100	10
41734	40	54	11	48746	80	100	10
38749	40	55	12	38703	80	100	13
38748	40	60	10	65445	80	108	10
17557	40	62	10	38740	80	110	13
61343	40	65	10	107920	80	120	13
17571	40	65	12	42804	82.5	108	11
40385	40	72	10	126961	85	105	12
38750	40	80	13	38617	85	110	12
40386	41	53	7	18198	85	110	13
17675	45	62	10	35653	87	110	10
17679	45	62	12	18229	90	110	13
34353	45	64	12	42809	90	115	13
144528	45	65	10	40429	90	118	12

**WCS**

**Sizes  
metric**

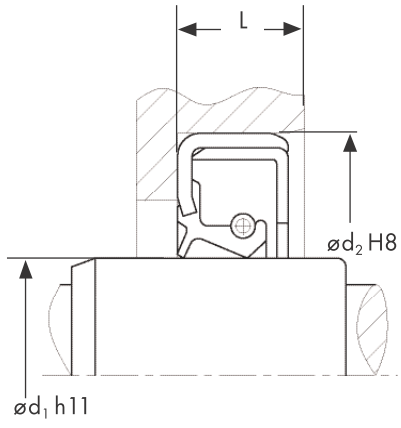
Part No.	Dimensions in mm			Part No.	Dimensions in mm		
	ød <sub>1</sub>	ød <sub>2</sub>	L		ød <sub>1</sub>	ød <sub>2</sub>	L
18240	90	120	13	76592	170	200	13
69555	90	120	15	123128	170	200	15
56970	90	130	13	48784	170	200	16
40428	90	135	15	92930	175	210	15
69554	92	120	10	156932	180	210	15
20851	95	120	13	38621	180	215	15
48756	95	125	12	48792	180	220	15
74390	98	130	13	92933	190	220	12
61826	100	120	10	74060	190	230	15
67999	100	125	13	20757	200	230	15
87165	100	130	13	92934	200	230	18
39067	100	130	15	92925	200	240	15
19653	105	140	13	48797	200	240	20
144024	110	130	15	92926	203	230	12
38741	110	135	13	63078	210	240	15
18338	110	140	13	92928	210	250	15
46202	110	160	16	48798	210	250	20
20756	115	140	13	40469	220	250	15
48768	115	145	16	43101	220	250	16
40417	115	150	13	48805	220	250	18
83324	115	150	15	48806	220	260	22
43079	117.5	152	16	92929	230	250	20
48770	118	150	12	62329	230	270	16
34693	120	140	13	21078	240	270	15
38742	120	150	15	62330	240	280	16
48771	120	155	16	34393	240	280	20
85481	125	143	13	38622	250	280	15
92940	125	150	10	43104	250	290	16
38743	125	150	13	149406	260	280	16
56010	125	152.4	15	92923	260	290	16
38744	125	160	15	75278	260	300	20
92941	125	162	12	48817	260	320	25
43084	127	160	16	56652	270	310	16
38745	130	155	10	62331	280	310	16
22220	130	160	15	38623	280	320	16
21953	130	170	15	38624	280	320	20
38746	132	160	13	22844	300	332	16
43087	133	165	16	35589	300	340	20
143325	135	180	15	43112	320	360	18
48774	140	160	13	48837	320	360	20
92943	140	170	12	56449	330	370	18
107939	140	170	13	62332	340	372	16
19761	140	170	15	62333	340	380	20
85482	145	167	13	48842	350	390	18
48776	145	180	15	48843	350	390	20
37909	148	170	14.5	48848	360	392	20
29076	148	180	15	74889	360	400	20
92945	149	170	14.5	22843	370	410	20
82952	150	170	15	155168	380	420	16
19666	150	180	13	62334	380	430	19
19668	150	180	15	92924	390	425	18
56237	160	180	15	48856	390	435	18
19763	160	190	15	38580	400	450	25
27383	165	190	13	46484	420	460	20
38620	165	190	15	48876	480	520	20

**WCS**

Part No.      Dimensions in mm  
                   $\varnothing d_1$        $\varnothing d_2$       L

**Sizes  
metric**

87130      530      580      22  
92935      600      640      22



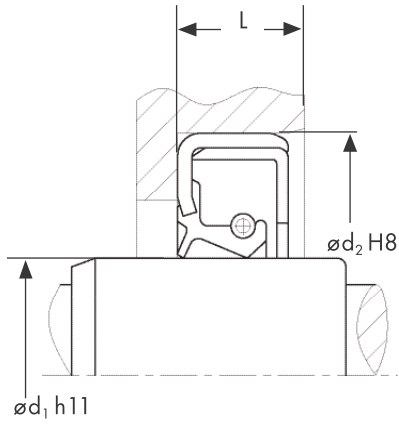
## WCS

Sizes  
inch

Part No.	Dimensions in mm			Dimensions in inch		
	ød <sub>1</sub>	ød <sub>2</sub>	L	ød <sub>1</sub>	ød <sub>2</sub>	L
36775	12.7	25.4	9.52	0.5	1	0.375
61038	14.28	35.03	10.31	0.562	1.379	0.406
60891	15.87	34.92	7.93	0.625	1.375	0.312
106824	22.22	34.92	7.93	0.875	1.375	0.312
20657	31.75	53.38	11.11	1.25	2.102	0.437
75262	34.92	53.38	11.11	1.375	2.102	0.437
60892	38.1	57.4	10.31	1.5	2.26	0.406
36779	39.68	57.15	9.52	1.562	2.25	0.375
36778	39.68	60.32	9.52	1.562	2.375	0.375
85400	39.68	60.32	12.7	1.562	2.375	0.5
36776	44.45	63.5	12.7	1.75	2.5	0.5
36777	44.45	66.67	12.7	1.75	2.625	0.5
42082	50	73.03	15.7	1.969	2.875	0.618
75270	50.4	76.2	12.7	1.984	3	0.5
130471	50.8	69.09	11.89	2	2.72	0.468
60895	50.8	77.78	12.7	2	3.062	0.5
148587	50.8	85.72	9.52	2	3.375	0.375
42090	54.1	77.72	15.87	2.13	3.06	0.625
75273	57.15	76.2	12.7	2.25	3	0.5
130174	57.15	80.96	11.11	2.25	3.187	0.437
157000	60.32	85.09	11.11	2.375	3.35	0.437
60896	60.32	85.72	11.11	2.375	3.375	0.437
60897	60.32	88.4	11.11	2.375	3.48	0.437
60898	60.32	88.9	9.52	2.375	3.5	0.375
60899	63.5	82.55	11.11	2.5	3.25	0.437
36207	63.5	85.72	12.7	2.5	3.375	0.5
60900	63.5	88.9	11.11	2.5	3.5	0.437
60901	63.5	88.9	12.7	2.5	3.5	0.5
60902	63.5	95.25	12.7	2.5	3.75	0.5
60903	65.08	91.89	12.7	2.562	3.618	0.5
60904	66.67	85.72	9.52	2.625	3.375	0.375
60905	69.85	89.99	11.11	2.75	3.543	0.437
144028	69.85	92	14	2.75	3.622	0.551
60906	69.85	95.25	12.7	2.75	3.75	0.5
60907	69.85	101.6	11.11	2.75	4	0.437
60908	69.85	107.95	11.11	2.75	4.25	0.437
60909	73.02	95.25	11.11	2.875	3.75	0.437
24104	74.61	101.6	15.87	2.937	4	0.625
38372	74.61	101.6	16.27	2.937	4	0.641
60910	74.61	104.77	9.52	2.937	4.125	0.375
42570	76	98.58	12	2.992	3.881	0.472
60911	76.2	101.6	11.11	3	4	0.437
155758	76.2	101.8	11.88	3	4.008	0.468
42573	76.2	104.78	14.28	3	4.125	0.562
42575	79.37	101.6	11.11	3.125	4	0.437
60912	79.37	114.3	12.7	3.125	4.5	0.5
37030	82.55	107.95	9.52	3.25	4.25	0.375
42803	82.55	114.3	11.5	3.25	4.5	0.453
133303	82.55	117.47	12.7	3.25	4.625	0.5
60913	85.72	117.47	11.11	3.375	4.625	0.437
60914	88.9	114.3	11.11	3.5	4.5	0.437
90329	92.07	114.3	12	3.625	4.5	0.472
60915	95.25	114.3	11.91	3.75	4.5	0.469
60916	95.25	136.52	13.46	3.75	5.375	0.53
37201	101.6	127	12.7	4	5	0.5

**WCS**

**Sizes  
inch**



Part No.	Dimensions in mm			Dimensions in inch		
	$\varnothing d_1$	$\varnothing d_2$	L	$\varnothing d_1$	$\varnothing d_2$	L
48761	101.6	127.1	12.7	4	5.004	0.5
46004	101.6	136.53	12.7	4	5.375	0.5
38618	101.6	139.7	12.7	4	5.5	0.5
124576	106.36	127	9.52	4.187	5	0.375
127688	107.95	133.38	11	4.25	5.251	0.433
38619	117.47	152.4	12.7	4.625	6	0.5
43081	123.82	158.75	14.28	4.875	6.25	0.562
78175	127	152.4	12.7	4.875	6	0.5
60917	127	158.75	14.28	5	6.25	0.562
60918	133.35	165.1	15.87	5.25	6.5	0.625
60919	139.7	160.35	30.17	5.5	6.313	1.188
92942	139.7	165.1	12.7	5.5	6.5	0.5
43089	139.7	171.45	15	5.5	6.75	0.591
83813	146.05	168.28	15.87	5.75	6.625	0.625
92944	146.05	168.28	19.05	5.75	6.625	0.75
83558	146.05	171.5	14.28	5.75	6.752	0.562
92932	165.1	234.95	19.05	6.5	9.25	0.75
56546	184.15	215.9	15.87	7.25	8.5	0.625
92927	203.2	254	15.87	8	10	0.625
61825	209.55	270.23	19.05	8.25	10.639	0.75
155759	234.95	285.75	19.05	9.25	11.25	0.75
60920	241.3	317.5	20.64	9.5	12.5	0.813
39368	266.7	304.8	19.05	10.5	12	0.75
60921	273.05	339.73	31.75	10.75	13.375	1.25
48823	279.4	330	19.05	11	12.992	0.75
38821	342.9	368.3	12.7	13.5	14.5	0.5
35590	431.8	469.9	19.05	17	18.5	0.75