

WB/WBS

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

Areas of application

Sealing of rotating machine elements such as shafts, hubs and axles.

Function

The WB/WBS is a single action rotary shaft seal for rotating or pivoting shafts with optional protective lip sealing action (WBS) on the side facing away from the medium, against dirt accumulation from the outside. Tight and accurate fitting is achieved by the metal outer surface. The WB/WBS 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 outer surface.

Media

Good chemical resistance to diverse 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 (°C): -40 to $+100$

Peripheral speed (m/s): ≤ 12

Please also refer to our rotational speed diagram on page 20 of this catalogue.

Installation

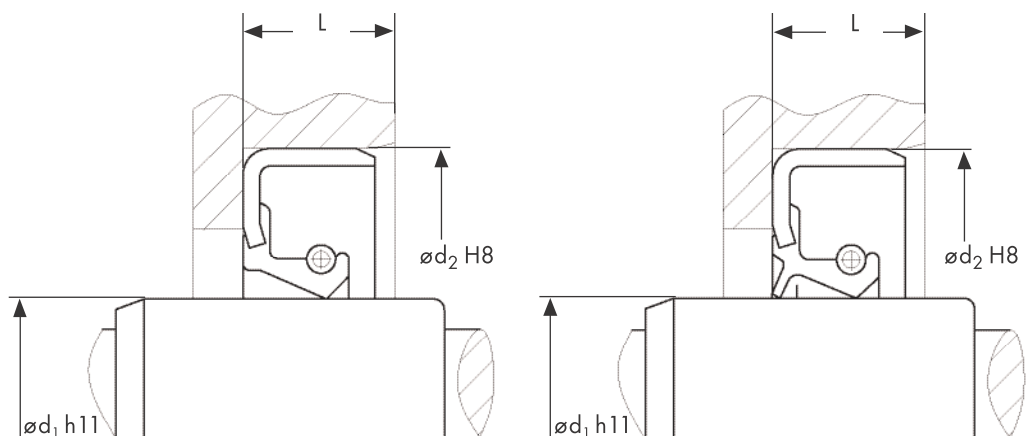
Suitable tools should be used for installation. It is recommended that the installation housing is designed to provide the rotary shaft seal with axial support. Please also refer to our general installation instructions on page 30 of this catalogue.

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. WB/WBS are available with an additional coat of paint.

Minimum quantities may be obligatory for dimensions outside of the standard.



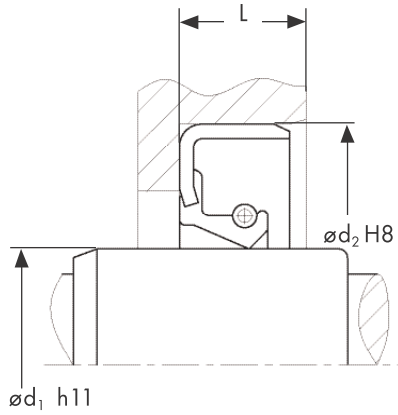
WB

Sizes
metric

Part No.	Dimensions in mm			Part No.	Dimensions in mm		
	ød ₁	ød ₂	L		ød ₁	ød ₂	L
18602	5	16	6	57044	14.8	30	5
18603	6	13	5	16827	15	24	7
18604	6	16	7	16828	15	25	5
40102	7	16	7	41352	15	25	7
19403	8	14.5	6.5	41353	15	25	10
75093	8	15	5	18500	15	26	7
18491	8	16	7	18668	15	28	7
44271	8	22	8	16835	15	30	7
38643	8	24	7	18507	15	30	8
57039	9	17	4.5	16839	15	30	10
34811	9	22	7	18669	15	32	7
21110	10	15	3	18671	15	35	7
77691	10	16	6	18670	15	35	10
18599	10	17	5	73049	15	40	10
19742	10	18	6	18518	16	22	4
16775	10	19	7	18519	16	24	4
130627	10	20	5	16851	16	24	6
44272	10	22	8	20251	16	24	7
40103	10	24	7	18522	16	24	7.5
18665	10	26	7	18618	16	26	7
74867	10	30	7	38644	16	28	7
46293	10	30	8	16855	16	30	4.5
18611	10	30	10	16857	16	30	7
73085	11	17	4	44275	16	30	8
18570	12	18	4	16859	16	30	10
41348	12	19	5	19688	16	32	7
115626	12	20	3	16861	16	32	10
18572	12	20	5	18672	16	35	7
18576	12	22	4	41354	16	35	7.5
16792	12	22	7	18623	16	35	10
134951	12	22	10	38645	16	52	7
18584	12	24	7	18630	17	28	5
18588	12	25	5	16870	17	28	6
18590	12	25	8	16873	17	28	7
16803	12	28	7	16876	17	30	7
16804	12	30	5	44276	17	30	8
18549	12	30	7	18707	17	32	7
18666	12	32	7	83379	17	32	7.5
61724	12	37	7	18709	17	32	10
60310	12	37	10	16884	17	33	7
18555	13	22	5	16885	17	34	4
41351	13	22.2	7	40104	17	35	5.5
41350	13	23	6.5	18714	17	35	7
57040	13	25	7	18715	17	35	8
44273	13	26	9	44277	17	35	10
18563	14	20	5	18718	17	37	10
18565	14	22	5	16898	17	40	7
18523	14	24	5	38646	17	40	10
44992	14	24	6	60303	17	43	7
18525	14	24	7	18723	17	47	7
18530	14	26	7	18727	18	25	4
18532	14	28	7	21865	18	25	6
44274	14	30	8	18731	18	28	7
18667	14	32	7	18675	18	30	7
16822	14	35	10	18676	18	32	7

WB

**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
60301	18	35	7	148707	24	34	5
18741	18	35	8	41358	24	35	5
18749	19	27	6	21595	24	35	7
36626	19	30	8	18860	24	36	5
21664	19	32	7	18863	24	36	9
16925	19	37	10	18864	24	37	7
60300	19.5	31	6	41357	24	38	10
18756	20	26	4	76564	24	40	7
16927	20	30	4.5	17020	24	40	10
18760	20	30	5	18678	24	47	7
16931	20	30	7	72652	25	32	7
41355	20	30	9	18876	25	34	5
18764	20	31	7	41359	25	34	10
57209	20	31.2	7	37877	25	35	4
117544	20	32	6	18878	25	35	5
16934	20	32	7	18880	25	35	6
18767	20	32	8.5	17032	25	35	7
19692	20	33	10	44278	25	35	8
16939	20	35	7	18883	25	35	10
18778	20	35	8	18884	25	36	7
18780	20	35	10	18889	25	37	7
93130	20	37	6	17042	25	38	7
41373	20	37	6.5	18896	25	40	5
21086	20	37	7	18679	25	40	6
16947	20	40	4	17046	25	40	7
16951	20	40	7	18680	25	40	8
16955	20	40	10	17050	25	40	10
16959	20	42	7	18907	25	42	7
16961	20	42	10	18833	25	42	8
16967	20	47	7	18681	25	42	10
16970	20	47	10	135068	25	42.9	9.5
16973	20	52	7	18910	25	45	10
16975	20	52	10	17070	25	47	7
18812	21	30	6.5	18917	25	47	8
18814	21	32	5	17076	25	47	10
18821	22	30	7	38648	25	50	12
18824	22	32	6	17085	25	52	7
16982	22	32	7	17087	25	52	8
16987	22	35	7	17090	25	52	10
18832	22	35	8	17094	25	52	12
18834	22	35	10	35715	25	62	7
18677	22	37	7	17098	25	62	10
38647	22	40	7	18931	25	62	12
19695	22	40	8	41361	25.3	35	5
19696	22	40	8.5	41362	25.5	47.5	7.5
16996	22	40	10	17102	26	35	7
18846	22	42	10	41363	26	36	8
41356	22	43	15	18933	26	37	7
17002	22	45	8	18943	26	40	7
60296	22	47	7	75250	26	42	7
17006	22	47	10	18697	26	42	10
41374	23	31.8	7	18952	26	45	10
40111	23	32	5	17109	26	52	8
17012	23	40	10	124959	27	37	7
125290	24	32	5	17120	27	42	10

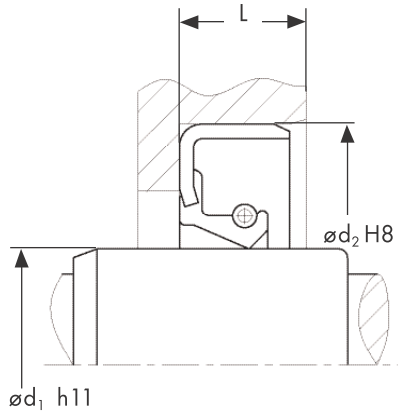
WB

Sizes
metric

Part No.	Dimensions in mm			Part No.	Dimensions in mm		
	ød ₁	ød ₂	L		ød ₁	ød ₂	L
40123	27	43	9	20238	30	72	10
17126	27	52	8	144356	31	42	7
150406	28	37	6	41366	31	42	12
17130	28	38	7	41367	31	44.6	6.7
40124	28	39	7	19041	32	42	7
38649	28	40	7	117514	32	42	10
40125	28	40	8	40259	32	43	8
44279	28	40	10	19042	32	43	10
117513	28	42	8	19043	32	44	9
17139	28	43	10	41372	32	44.5	6.5
17141	28	45	8	17273	32	45	7
17144	28	45	10	41371	32	46	8
36625	28	47	7	17276	32	47	7
17147	28	47	8	17280	32	47	10
18682	28	47	10	17283	32	48	7
24266	28	48	8	40260	32	48	8
82086	28	50	12	19712	32	50	7
82174	28	52	7	17292	32	52	7
60204	28	58	7	38357	32	52	8
17153	29	40	7	17296	32	52	10
19786	29	42.9	9.5	40261	32	52	12
19792	29	45	9.5	17302	32	55	10
17156	29	45	10	17307	32	56	10
65004	30	38	5	17309	32	60	10
41364	30	39	7	17315	32	65	10
17165	30	40	7	34861	34	46	8
17168	30	42	7	40266	34	47	9
41368	30	42	8	17330	34	52	7
17169	30	43	8	40267	34	52	8
41369	30	43	10	19082	34	52	10
40128	30	43.6	9	41377	35	45	5
17172	30	45	7	17347	35	45	7
17175	30	45	8	40270	35	46	8
19706	30	45	9.5	39248	35	47	5
17182	30	47	7	17349	35	47	6
59612	30	47	8	17352	35	47	7
17186	30	47	10	17354	35	47	10
93325	30	48	10	41378	35	47.5	5.5
17193	30	50	7	41379	35	49.4	4.5
17196	30	50	10	40272	35	49.5	9.5
17200	30	50	12	17358	35	50	7
41365	30	51	6	44281	35	50	8
17206	30	52	7	17361	35	50	10
17210	30	52	10	17365	35	50	12
16990	30	52	12	17371	35	52	7
17222	30	55	10	40274	35	52	8.7
17227	30	55	12	19805	35	52	8.8
19748	30	56	6	19714	35	52	9
17235	30	60	10	19715	35	52	10
17239	30	60	12	19716	35	52	12
18477	30	62	6	17386	35	55	8
17245	30	62	7	17389	35	55	10
37907	30	62	10	41376	35	55	11
44280	30	62	12	17391	35	55	12
41370	30	62	13	19717	35	56	10

WB

**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
19106	35	56	12	17528	40	55	10
19850	35	57.15	10	24431	40	55	12
17405	35	58	10	95575	40	55.5	9
17408	35	58	13	17530	40	56	7
17411	35	60	10	17534	40	56	10
27574	35	62	5	19147	40	57.15	10
17415	35	62	5.5	17538	40	58	9
17417	35	62	7	17539	40	58	10
17419	35	62	8	17542	40	58	12
19109	35	62	10	17547	40	60	10
19721	35	62	12	24267	40	60	12
17431	35	65	10	19730	40	62	7
17434	35	65	12	41735	40	62	8
17439	35	70	10	17555	40	62	10
17441	35	70	12	41737	40	62	11
17445	35	72	10	17560	40	62	12
17450	35	72	12	17562	40	65	9
44282	35.8	68	10	17565	40	65	10
20226	36	47	7	17568	40	65	12
117884	36	50.8	8	22168	40	67	8
151462	36	52	7	17572	40	68	7
40278	36	52	9	38652	40	68	10
44283	36	54	10	40307	40	68	12
17464	36	56	10	17578	40	70	10
40281	36	62	8	17582	40	72	7
17471	36	68	10	17583	40	72	9
41380	37	57	10	17586	40	72	10
151452	37	62	8	17588	40	72	12
41381	38	47.7	4.8	17591	40	80	10
19750	38	50	7	17595	40	80	12
41382	38	50	8	19725	40	80	13
19722	38	52	7	17599	40	90	12
38650	38	52	8	40310	41	56	7
17481	38	52	10	17603	41	56	10
17484	38	54	10	41740	41	60.3	6.5
17487	38	55	7	20660	42	52	10
19723	38	55	10	17605	42	55	7
40283	38	55.5	9	38062	42	55	8
44284	38	56	10	40314	42	55	9
38651	38	56	12	17608	42	56	7
44285	38	58	10	40315	42	56	8
19726	38	62	7	19193	42	57.15	10
40288	38	62	8	19195	42	58	7
27001	38	62	12	17610	42	58	9
40291	38	65	12	17612	42	58	10
17503	38	70	10	19201	42	60	9
61728	38	70	12	17615	42	60	10
17507	38	72	10	17619	42	62	7
17509	38	72	12	40316	42	62	8
19859	38	74	10	17622	42	62	10
40296	39	55.5	9	17625	42	62	12
17516	40	52	7	17628	42	65	10
19141	40	52	8	17631	42	65	12
17522	40	55	7	41745	42	67	10
17525	40	55	8	17635	42	70	10

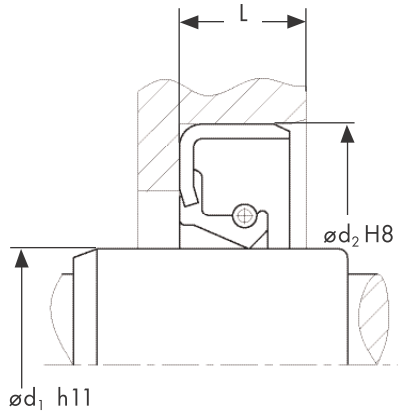
WB

Sizes
metric

Part No.	Dimensions in mm			Part No.	Dimensions in mm		
	ød ₁	ød ₂	L		ød ₁	ød ₂	L
17639	42	72	10	40341	48	62	9
17641	42	72	12	17732	48	62	10
19846	42.4	55	7	17734	48	65	10
40322	43	61	9	17737	48	65	14
19217	44	56	7	17738	48	66	10
35471	44	58	7	17739	48	68	10
49539	44	58.2	7	19284	48	70	12
41744	44	60	6	38666	48	72	8
19220	44	60	10	17747	48	72	10
19226	44	62	10	17749	48	72	12
19228	44	62	12	133715	50	62	5
40324	44	65	10	17762	50	62	7
41749	45	54	6.35	17763	50	62	10
18478	45	55	7	17766	50	65	8
41750	45	55	8	17768	50	65	10
41753	45	57	4	17770	50	65	12
81235	45	58	9	19755	50	68	8
19238	45	59.13	10	25968	50	68	10
19694	45	60	7	17778	50	68	14
17661	45	60	8	40351	50	70	8
42068	45	60	9	40352	50	70	9
17664	45	60	10	17780	50	70	10
17667	45	61	10	17783	50	70	12
38653	45	62	7	19306	50	70	14
40330	45	62	8	38667	50	72	8
42069	45	62	9	17787	50	72	10
17673	45	62	10	17790	50	72	12
17677	45	62	12	40196	50	75	9
42070	45	63.5	6.5	64113	50	75	10
18479	45	65	8	35791	50	80	8
17683	45	65	10	17797	50	80	10
17027	45	65	12	17799	50	80	12
17691	45	68	10	40198	50	80	13
17693	45	68	12	61729	50	85	10
17695	45	70	10	17807	50	85	12
17698	45	70	12	17812	50	90	10
38654	45	72	8	38668	50	90	13
17704	45	72	10	17818	52	68	7
17707	45	72	12	17819	52	68	8
17712	45	75	10	44287	52	68	13
19731	45	80	10	81238	52	70	9
19753	45	80	13	18483	52	72	8
38655	45	85	8	18481	52	72	10
17722	45	85	10	18482	52	72	12
2072	46	56	9	61730	52	75	10
19754	46	60	7	17834	52	80	10
19820	46	78	10	44288	52	85	10
42073	47	63	12	17845	53	68	10
42075	47	69.9	9	38669	54	70	10
40338	47	72	8	17847	54	72	10
18480	47	72	12	17849	54	72	12
57287	47.96	60	6	27008	54	74	8
44286	48	58	4	17853	54	80	10
19853	48	62	7	17855	54	80	12
25964	48	62	8	17857	54	80	13

WB

**Sizes
metric**



Part No.	Dimensions in mm			Part No.	Dimensions in mm		
	ød ₁	ød ₂	L		ød ₁	ød ₂	L
17862	55	68	8	18010	64	80	8
17866	55	70	8	18017	65	80	8
17868	55	70	10	18019	65	80	10
18484	55	72	8	18022	65	80	12
17874	55	72	10	40241	65	85	8
17876	55	72	12	18027	65	85	10
38670	55	75	10	18030	65	85	12
17881	55	75	12	18033	65	85	13
18485	55	80	8	18035	65	90	10
17890	55	80	10	18038	65	90	12
17894	55	80	12	18041	65	90	13
17898	55	80	13	18045	65	95	10
17901	55	85	8	18051	65	100	10
19359	55	85	13	42102	68	80	8
17911	55	90	13	57696	68	80	10
42097	56	68	11	17374	68	85	10
17916	56	72	8	118397	68	90	8
17921	56	90	13	40248	68	90	10
42099	57	73.5	14	19436	68	90	13
42101	57	75	9	18068	70	85	8
120794	57	85	12	18070	70	85	10
84202	58	70	8	18074	70	90	10
17927	58	72	8	18078	70	90	12
17928	58	75	8	18081	70	90	13
62961	58	75	10	21115	70	92	10
44289	58	80	10	18488	70	95	13
17935	58	85	10	18089	70	100	10
19388	58	90	13	68897	70	100	12
69627	60	70	7	19450	70	100	13
82238	60	72	7	18098	70	110	10
40216	60	72	7.5	22838	70	110	12
17941	60	72	8	18100	70	110	13
40217	60	74	7.5	38672	70	120	13
19861	60	74	8	18489	72	84	7
84884	60	75	7	40252	72	85.6	18
17943	60	75	8	38673	72	90	10
18486	60	80	8	40254	72	95	10
17951	60	80	10	40253	72	100	10
17954	60	80	12	26538	74	90	10
17957	60	80	13	40140	74	95	13
42538	60	82	12	19460	74	100	13
17960	60	85	8	18113	75	90	7
152996	60	85	10	25823	75	95	5
18487	60	85	13	18119	75	95	10
17967	60	90	8	18122	75	95	12
19738	60	90	10	60331	75	95	13
17970	60	90	12	18126	75	100	10
17973	60	90	13	18130	75	100	12
40224	61	75	8	19759	75	100	13
38671	62	75	10	18490	75	105	13
17986	62	80	10	35510	75	110	10
40225	62	85	8	38674	75	110	12
17991	62	85	10	18138	75	110	13
17997	62	90	10	19830	75	122	12
44290	62	90	13	59603	80	95	8

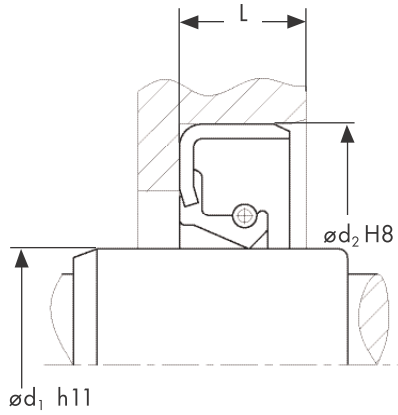
WB

Sizes
metric

Part No.	Dimensions in mm			Part No.	Dimensions in mm		
	ød ₁	ød ₂	L		ød ₁	ød ₂	L
40145	80	100	9	42820	100	120	15
18147	80	100	10	18294	100	125	12
18150	80	100	12	18295	100	125	13
18153	80	100	13	19522	100	130	12
18157	80	105	13	18300	100	130	13
76625	80	105	15	61398	100	150	12
18161	80	110	10	70888	100	150	13
18164	80	110	12	75014	105	120	7
18167	80	110	13	124705	105	120	15
18174	80	120	13	18306	105	125	10
18177	80	125	13	18307	105	125	12
18185	85	100	9	18309	105	125	13
18188	85	105	10	18312	105	130	12
40150	85	105	12	36624	105	130	13
18191	85	105	13	40167	105	135	14
18194	85	110	12	18317	105	140	12
18493	85	110	13	18319	105	140	13
18199	85	111	16	18322	105	145	13
18201	85	120	12	40168	105	145	15
75065	85	120	13	38677	110	128	9
42802	85	120	15	18328	110	130	12
18208	85	130	13	44291	110	130	13
70516	85	150	13	40130	110	130	15
40155	86	110	13	40131	110	132	12
18215	88	126	12	19536	110	135	12
18218	90	110	8	18334	110	140	12
18220	90	110	10	18336	110	140	13
18224	90	110	12	40133	110	142	12
18226	90	110	13	43078	110	145	15
24197	90	115	9	21566	112	130	8
40157	90	115	13	18349	115	130	13
38675	90	120	10	27685	115	135	13
18235	90	120	12	18351	115	140	12
18237	90	120	13	18354	115	140	13
18241	90	125	13	38678	115	140	15
18250	95	110	9	38026	115	190	15
18252	95	110	10	18363	118	136	13
18255	95	110	12	120688	118	140	13
18257	95	110	13	18365	120	140	13
18261	95	115	13	18368	120	150	12
18266	95	120	12	18370	120	150	13
18268	95	120	13	19658	120	150	15
18271	95	125	12	26037	120	160	12
18273	95	125	13	38679	125	150	12
17115	95	130	13	19659	125	150	13
40161	98	120	13	81884	125	160	12
27681	98	130	13	57315	125	160	13
42817	100	114	7	40170	128	150	15
40162	100	114	10	43085	130	150	10
18287	100	115	9	59789	130	155	10
19829	100	118	12	18389	130	160	12
38676	100	120	8	44292	130	160	13
18289	100	120	10	40171	130	160	15
19671	100	120	12	79318	130	160	16
36623	100	120	13	40173	130	170	15

WB

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
18396	130	180	15	43105	255	315	25
44987	135	160	13	60276	260	300	15
18401	135	160	15	43107	260	300	18
75120	135	170	12	27688	260	300	20
40175	135	170	15	13291	260	300	22
40176	135	175	15	20794	270	300	15
44940	140	160	12	133752	275	294	12
18407	140	160	13	133170	280	320	15
18414	140	170	15	60281	280	320	18
42628	140	175	15	27689	280	320	20
18416	145	170	13	69924	290	330	20
40181	145	170	15	21116	315	360	18
35287	145	175	13	20879	320	360	15
40185	146	170	18	69926	335	375	25
18423	150	168	13	84441	340	372	16
18426	150	180	13	43110	340	380	16
40186	150	180	14	127386	340	380	20
19667	150	180	15	43109	350	380	16
18430	150	190	16	44917	360	400	20
40191	155	190	15	133608	370	410	15
35328	160	180	10	36561	380	410	12
18673	160	185	10	35420	390	430	18
19670	160	190	13	69927	400	425	15
19762	160	190	15	69928	400	440	18
18441	160	200	15	60923	400	440	20
23728	170	200	15	21315	420	460	20
18448	170	210	15	88201	435	465	18
26428	180	210	15	74550	440	480	20
27686	180	215	16	121315	460	500	22
20231	185	215	13	69929	470	520	25
69918	185	230	16	69930	480	520	20
43099	190	200	16	135144	500	540	20
35106	190	220	15	83598	520	580	25
40355	190	225	15	151637	580	630	25
40356	190	230	15	74551	710	760	20
75013	192	210	10				
35105	200	230	15				
60263	200	240	15				
44852	205	230	15				
57305	212	245	16				
19745	220	250	11				
40358	220	250	15				
69919	225	270	16				
43102	225	315	25				
40359	230	255	10				
18467	230	260	15				
69920	235	270	16				
27687	240	270	15				
90482	240	275	18				
20912	240	280	14				
69921	240	280	16				
40360	245	270	16				
26429	250	280	15				
69922	250	285	18				
69923	250	290	16				

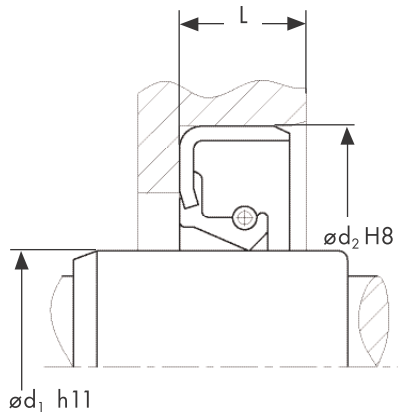
WB

Sizes
inch

Part No.	Dimensions in mm			Dimensions in inch		
	ød ₁	ød ₂	L	ød ₁	ød ₂	L
149617	6.35	19.05	6.35	0.25	0.75	0.25
60026	9.52	22.22	6.35	0.375	0.875	0.25
41204	10.71	20.14	4.76	0.422	0.793	0.187
121530	11.11	22.22	6.35	0.437	0.875	0.25
60027	12.7	25.06	6.35	0.5	0.987	0.25
41496	12.7	25.4	6.35	0.5	1	0.25
22235	12.7	25.4	7.93	0.5	1	0.312
41349	12.8	28.8	6.5	0.504	1.134	0.256
57042	13	27.2	6.3	0.512	1.071	0.248
60028	14.28	25.4	6.35	0.562	1	0.25
60029	14.28	26.98	4.76	0.562	1.062	0.187
60030	14.28	26.98	6.35	0.562	1.062	0.25
60031	15.87	23.81	4.76	0.625	0.937	0.187
60032	15.87	25.4	4.76	0.625	1	0.187
40238	15.87	25.4	6.35	0.625	1	0.25
56892	15.87	28.57	4.76	0.625	1.125	0.187
60033	15.87	28.57	6.35	0.625	1.125	0.25
46823	15.87	28.57	9.52	0.625	1.125	0.375
60034	15.87	31.75	6.35	0.625	1.25	0.25
60035	15.87	33.33	6.35	0.625	1.312	0.25
39729	15.87	34.92	7.93	0.625	1.375	0.312
60036	15.87	34.92	9.52	0.625	1.375	0.375
60037	16.67	34.92	7.93	0.656	1.375	0.312
149419	17.46	34.13	7.93	0.687	1.344	0.312
40105	17.46	34.92	7.93	0.687	1.375	0.312
60038	17.46	34.92	9.52	0.687	1.375	0.375
60039	19.05	28.57	4.76	0.75	1.125	0.187
60040	19.05	28.57	6.35	0.75	1.125	0.25
60041	19.05	31.75	4.76	0.75	1.25	0.187
60042	19.05	34.92	6.35	0.75	1.375	0.25
60043	19.05	34.92	9.52	0.75	1.375	0.375
60044	19.05	38.1	7.93	0.75	1.5	0.312
60045	19.05	38.1	9.52	0.75	1.5	0.375
60046	19.05	41.27	9.52	0.75	1.625	0.375
60047	19.45	31.5	4.76	0.766	1.24	0.187
60048	19.99	34.92	6.35	0.787	1.375	0.25
60050	22.22	28.57	4.76	0.875	1.125	0.187
60049	22.22	28.57	6.35	0.875	1.125	0.25
60051	22.22	31.75	6.35	0.875	1.25	0.25
60052	22.22	34.92	6.35	0.875	1.375	0.25
60053	22.22	38.1	9.52	0.875	1.5	0.375
60054	22.22	40.01	6.35	0.875	1.575	0.25
60055	23.81	41.27	6.35	0.937	1.625	0.25
75248	23.81	41.27	9.52	0.937	1.625	0.375
60056	24.13	34.52	6.99	0.95	1.359	0.275
60057	24.61	52.02	9.52	0.969	2.048	0.375
60058	25.4	31.75	3.17	1	1.25	0.125
75386	25.4	36.51	4.76	1	1.437	0.187
34956	25.4	38.1	6.35	1	1.5	0.25
60060	25.4	38.1	9.52	1	1.5	0.375
60061	25.4	41.27	6.35	1	1.625	0.25
60062	25.4	41.27	9.52	1	1.625	0.375
60063	25.4	42.86	6.35	1	1.687	0.25
60064	25.4	44.45	9.52	1	1.75	0.375
41360	25.4	50.8	6.35	1	2	0.25

WB

Sizes
inch



Part No.	Dimensions in mm			Dimensions in inch		
	$\varnothing d_1$	$\varnothing d_2$	L	$\varnothing d_1$	$\varnothing d_2$	L
60065	25.4	50.8	9.52	1	2	0.375
60066	25.4	50.8	12.7	1	2	0.5
60067	25.4	52.38	6.35	1	2.062	0.25
60068	26.04	42.86	7.14	1.025	1.687	0.281
60069	26.98	41.27	9.52	1.062	1.625	0.375
60070	26.98	50.8	6.35	1.062	2	0.25
57056	27.2	41.3	6.7	1.071	1.626	0.264
60071	28.57	41.27	6.35	1.125	1.625	0.25
60072	28.57	44.45	6.35	1.125	1.75	0.25
60073	28.57	44.45	7.93	1.125	1.75	0.312
60074	28.57	47.62	6.35	1.125	1.875	0.25
60075	28.57	47.62	9.52	1.125	1.875	0.375
60076	28.57	50.8	12.7	1.125	2	0.5
60077	29.44	55.68	6.35	1.159	2.192	0.25
37878	30.16	42.86	4.76	1.187	1.687	0.187
60078	30.16	44.45	9.52	1.187	1.75	0.375
60080	31.75	39.69	3.81	1.25	1.563	0.15
60081	31.75	42.8	6.35	1.25	1.685	0.25
60082	31.75	42.86	6.35	1.25	1.687	0.25
60079	31.75	42.86	7.93	1.25	1.687	0.312
79506	31.75	42.86	9.52	1.25	1.687	0.375
60083	31.75	44.45	6.35	1.25	1.75	0.25
60084	31.75	44.45	9.52	1.25	1.75	0.375
60086	31.75	47.62	7.93	1.25	1.875	0.312
60087	31.75	47.62	9.52	1.25	1.875	0.375
60088	31.75	49.68	11.11	1.25	1.956	0.437
60089	31.75	50.8	6.35	1.25	2	0.25
60090	31.75	50.8	9.52	1.25	2	0.375
60091	31.75	50.8	12.7	1.25	2	0.5
60092	31.75	53.97	6.35	1.25	2.125	0.25
60093	31.75	57.15	7.93	1.25	2.25	0.312
60094	31.75	57.15	9.52	1.25	2.25	0.375
60095	31.75	57.15	12.7	1.25	2.25	0.5
60096	31.75	61.91	6.35	1.25	2.437	0.25
60097	31.75	63.5	7.93	1.25	2.5	0.312
40263	32.54	51.43	9.52	1.281	2.025	0.375
60098	33.33	50.8	8.05	1.312	2	0.317
60099	33.33	50.8	9.52	1.312	2	0.375
60100	33.33	57.15	7.93	1.312	2.25	0.312
144053	33.33	57.94	12.7	1.312	2.281	0.5
27532	33.33	58.04	12.7	1.312	2.285	0.5
60101	33.58	56.57	9.52	1.322	2.227	0.375
60102	34.67	52.86	11.05	1.365	2.081	0.435
60486	34.92	47.62	6.35	1.375	1.875	0.25
60487	34.92	47.62	7.93	1.375	1.875	0.312
60488	34.92	50.4	7.93	1.375	1.984	0.312
37746	34.92	50.8	7.93	1.375	2	0.312
60489	34.92	50.8	8.33	1.375	2	0.328
60490	34.92	50.8	9.52	1.375	2	0.375
60491	34.92	53.97	7.93	1.375	2.125	0.312
35306	34.92	53.97	9.52	1.375	2.125	0.375
60492	34.92	57.15	9.52	1.375	2.25	0.375
60493	34.92	62	7.93	1.375	2.441	0.312
60494	34.92	63.5	17.46	1.375	2.5	0.687
60495	34.92	76.2	9.52	1.375	3	0.375

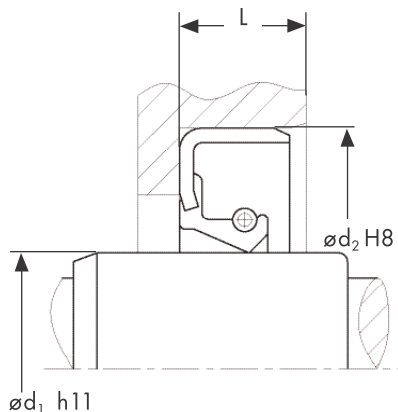
WB

Sizes
inch

Part No.	Dimensions in mm			Dimensions in inch		
	ød ₁	ød ₂	L	ød ₁	ød ₂	L
37744	36.51	50.8	7.93	1.437	2	0.312
60496	36.51	63.5	12.7	1.437	2.5	0.5
60497	38.1	47.62	6.35	1.5	1.875	0.25
60498	38.1	50.4	7.93	1.5	1.984	0.312
60499	38.1	50.8	6.35	1.5	2	0.25
60500	38.1	52.38	6.35	1.5	2.062	0.25
60501	38.1	53.97	9.52	1.5	2.125	0.375
79893	38.1	54.96	7.14	1.5	2.164	0.281
60502	38.1	57.15	7.93	1.5	2.25	0.312
20678	38.1	57.15	9.52	1.5	2.25	0.375
60503	38.1	60.32	12.7	1.5	2.375	0.5
60504	38.1	61.91	7.93	1.5	2.437	0.312
60505	38.1	63.5	9.52	1.5	2.5	0.375
60506	38.1	63.5	12.7	1.5	2.5	0.5
60507	38.1	65.08	7.93	1.5	2.562	0.312
60508	39.68	53.97	9.52	1.562	2.125	0.375
60510	39.68	57.15	7.93	1.562	2.25	0.312
60509	39.68	57.15	9.52	1.562	2.25	0.375
60244	39.68	62	11.91	1.562	2.441	0.469
60511	41.27	50.8	6.35	1.625	2	0.25
72916	41.27	52.38	6.98	1.625	2.062	0.275
60512	41.27	53.97	6.35	1.625	2.125	0.25
60513	41.27	60.32	7.93	1.625	2.375	0.312
60253	41.27	60.4	9.25	1.625	2.378	0.364
26431	41.27	61.91	9.52	1.625	2.437	0.375
60514	41.27	63.5	7.93	1.625	2.5	0.312
60515	41.27	63.5	12.7	1.625	2.5	0.5
60516	41.27	65.08	9.52	1.625	2.562	0.375
60517	41.27	73.02	7.93	1.625	2.875	0.312
60518	41.27	73.02	12.7	1.625	2.875	0.5
60519	42.77	65.08	13.08	1.684	2.562	0.515
60520	43.26	78.13	12.7	1.703	3.076	0.5
60521	44.45	58.73	6.35	1.75	2.312	0.25
125702	44.45	60.32	7.93	1.75	2.375	0.312
60522	44.45	60.32	9.52	1.75	2.375	0.375
60523	44.45	61.91	7.93	1.75	2.437	0.312
26430	44.45	61.91	9.52	1.75	2.437	0.375
60524	44.45	63.5	7.93	1.75	2.5	0.312
60525	44.45	63.5	12.7	1.75	2.5	0.5
60526	44.45	65.08	7.93	1.75	2.562	0.312
60527	44.45	69.85	7.93	1.75	2.75	0.312
60528	44.45	69.85	12.7	1.75	2.75	0.5
60529	44.45	71.12	9.52	1.75	2.8	0.375
60530	44.45	73.02	9.52	1.75	2.875	0.375
41748	44.45	73.02	12.7	1.75	2.875	0.5
60531	44.45	80.96	7.93	1.75	3.187	0.312
60533	46.03	61.91	7.93	1.812	2.437	0.312
59470	46.03	63.5	9.52	1.812	2.5	0.375
60532	46.03	69.85	12.7	1.812	2.75	0.5
3995	47.62	60.32	6.35	1.875	2.375	0.25
60534	47.62	60.91	6.35	1.875	2.398	0.25
35365	47.62	66.67	7.93	1.875	2.625	0.312
60535	47.62	66.67	9.52	1.875	2.625	0.375
38368	47.62	66.67	11.51	1.875	2.625	0.453
60536	47.62	69.85	7.93	1.875	2.75	0.312

WB

**Sizes
inch**



Part No.	Dimensions in mm			Dimensions in inch		
	$\varnothing d_1$	$\varnothing d_2$	L	$\varnothing d_1$	$\varnothing d_2$	L
60537	47.62	69.85	9.52	1.875	2.75	0.375
81365	47.62	69.85	11.91	1.875	2.75	0.469
60538	47.62	69.85	12.7	1.875	2.75	0.5
60539	47.62	73.02	7.93	1.875	2.875	0.312
37745	47.62	76.2	9.52	1.875	3	0.375
28010	49	77.5	11.23	1.929	3.051	0.442
60540	49.02	76.2	12.7	1.93	3	0.5
60543	49.21	61.91	6.35	1.937	2.437	0.25
60541	49.21	63.5	9.52	1.937	2.5	0.375
60542	49.21	76.2	7.93	1.937	3	0.312
156533	50.8	66.67	7.93	2	2.625	0.312
60544	50.8	68.26	12.7	2	2.687	0.5
60545	50.8	69.85	6.35	2	2.75	0.25
60546	50.8	69.85	12.7	2	2.75	0.5
60547	50.8	73.02	7.93	2	2.875	0.312
60548	50.8	73.02	12.7	2	2.875	0.5
60549	50.8	76.2	6.35	2	3	0.25
60550	50.8	76.2	7.93	2	3	0.312
42086	50.8	76.2	9.52	2	3	0.375
60551	50.8	76.2	12.7	2	3	0.5
60552	52.38	80.96	9.52	2.062	3.187	0.375
60553	53.97	73.02	9.52	2.125	2.875	0.375
60554	53.97	73.02	12.7	2.125	2.875	0.5
60555	53.97	76.2	9.52	2.125	3	0.375
60556	53.97	76.2	12.7	2.125	3	0.5
60557	53.97	82.55	9.52	2.125	3.25	0.375
60558	53.97	85.62	9.52	2.125	3.371	0.375
60559	53.97	88.9	9.52	2.125	3.5	0.375
60560	53.97	88.9	12.7	2.125	3.5	0.5
60561	55.56	82.55	9.52	2.187	3.25	0.375
35308	57.15	73.02	9.52	2.25	2.875	0.375
60562	57.15	76.2	9.52	2.25	3	0.375
60563	57.15	76.2	12.7	2.25	3	0.5
60564	57.15	82.55	12.7	2.25	3.25	0.5
60565	57.15	85.09	7.93	2.25	3.35	0.312
60724	57.15	85.72	12.7	2.25	3.375	0.5
60568	58.73	79.5	9.52	2.312	3.13	0.375
20225	58.73	84.93	7.93	2.312	3.344	0.312
60566	58.73	85.09	7.93	2.312	3.35	0.312
60567	58.73	85.32	7.93	2.312	3.359	0.312
60569	60.32	76.2	9.52	2.375	3	0.375
60570	60.32	79.37	9.52	2.375	3.125	0.375
60347	60.32	79.53	9.52	2.375	3.131	0.375
60571	60.32	85.72	12.7	2.375	3.375	0.5
60572	60.32	88.9	9.52	2.375	3.5	0.375
60573	60.32	88.9	12.7	2.375	3.5	0.5
60574	63.5	79.37	12.7	2.5	3.125	0.5
36622	63.5	80.16	7.93	2.5	3.156	0.312
42547	63.5	82.55	9.52	2.5	3.25	0.375
60575	63.5	82.55	12.7	2.5	3.25	0.5
60577	63.5	88.9	9.52	2.5	3.5	0.375
60578	63.5	88.9	10.32	2.5	3.5	0.406
60580	63.5	88.9	12.7	2.5	3.5	0.5
60581	63.5	89.9	12.7	2.5	3.539	0.5
60582	63.5	95.25	12.7	2.5	3.75	0.5

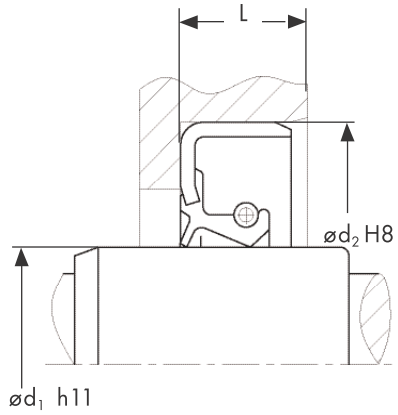
WB

Sizes
inch

Part No.	Dimensions in mm			Dimensions in inch		
	ød ₁	ød ₂	L	ød ₁	ød ₂	L
60583	66.67	88.9	12.7	2.625	3.5	0.5
60584	68.26	95.25	12.7	2.687	3.75	0.5
60586	69.85	88.9	12.7	2.75	3.5	0.5
60587	69.85	95.25	12.7	2.75	3.75	0.5
20234	69.85	98.42	11.91	2.75	3.875	0.469
60588	69.85	101.6	12.7	2.75	4	0.5
60589	69.85	104.78	11.11	2.75	4.125	0.437
60590	71.65	89	9.52	2.821	3.504	0.375
60591	73.02	92.07	9.52	2.875	3.625	0.375
60593	73.02	101.6	12.7	2.875	4	0.5
60594	73.02	104.85	14.68	2.875	4.128	0.578
60595	74.3	100.01	12.7	2.925	3.937	0.5
49463	76.2	101.6	12.7	3	4	0.5
60596	76.2	114.3	12.7	3	4.5	0.5
40148	82.5	108	12.7	3.248	4.252	0.5
60597	82.55	101.6	12.7	3.25	4	0.5
60598	82.55	107.95	12.7	3.25	4.25	0.5
60599	82.55	114.3	12.7	3.25	4.5	0.5
60600	85.72	111.12	15.87	3.375	4.375	0.625
60601	88.9	114.3	12.7	3.5	4.5	0.5
39235	88.9	120.65	15.87	3.5	4.75	0.625
60602	92.07	114.3	12.7	3.625	4.5	0.5
60603	93.66	142.87	12.7	3.687	5.625	0.5
37693	95.25	111.12	8.33	3.75	4.375	0.328
60604	95.25	120.65	12.7	3.75	4.75	0.5
60605	100.01	136.52	17.46	3.937	5.375	0.687
42821	101.6	127	7.1	4	5	0.28
60606	101.6	127	12.7	4	5	0.5
36204	107.95	133.35	12.7	4.25	5.25	0.5
60607	114.3	139.7	12.7	4.5	5.5	0.5
60608	114.3	146.05	12.7	4.5	5.75	0.5
60609	120.65	146.05	12.7	4.75	5.75	0.5
60610	120.65	152.4	14.28	4.75	6	0.562
60611	127	158.75	14.28	5	6.25	0.562
60612	133.35	155.57	13.95	5.25	6.125	0.549
40174	133.35	155.57	14.28	5.25	6.125	0.562
60613	133.35	158.75	14.28	5.25	6.25	0.562
44459	146.05	177.8	12.7	5.75	7	0.5
60614	177.8	203.2	12.7	7	8	0.5
60615	177.8	215.9	19.05	7	8.5	0.75
60616	196.85	222.25	12.7	7.75	8.75	0.5
36484	215.9	247.65	19.05	8.5	9.75	0.75
36485	225.43	257.18	19.05	8.875	10.125	0.75
39573	241.3	279.4	19.05	9.5	11	0.75
40900	247.65	282.58	19.05	9.75	11.125	0.75
40901	263.53	295.28	22.23	10.375	11.625	0.875
36483	298.45	336.55	22.22	11.75	13.25	0.875
69925	323.85	374.65	19.05	12.75	14.75	0.75

WBS

**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
70446	12	18	4.5	17034	25	35	8.5
85234	12	20	5	84507	25	35	10
41205	12	21	5	40115	25	38	7
41383	12	28	7	19699	25	40	7
38680	12	30	7	19746	25	40	8
46490	12	32	4.5	17051	25	40	10
19685	12	32	7	40116	25	41.2	7
36812	13	22	5	40117	25	41.25	7
74435	14	24	7	17056	25	42	7
18537	15	21	4.5	19700	25	42	10
36647	15	24	7	40118	25	45	8
130880	15	26	4	19989	25	45	10
149208	15	26	6	19701	25	47	7
37873	15	26	7	17077	25	47	10
16836	15	30	7	18498	25	52	7
117732	15	32	10	19704	25	52	10
18494	15	35	7	82206	26	35	7
149258	16	26	7	151453	26	37	7
18620	16	28	7	40121	26	40	7
41384	16	28.7	12.8	40122	26	45	10
82355	16	30	7	149064	26	47	10
37314	17	28	7	41387	27	37	5
16899	17	40	7	18964	27	43	9
16906	18	30	7	45084	28	35	5
16909	18	32	8	18974	28	40	8
18740	18	35	7	40126	28	43	6.5
64959	20	28	6	40127	28	44	7
41385	20	29	9.5	18978	28	44	8
134061	20	30	5	18499	28	47	10
130876	20	30	6	18985	28	48	11
89905	20	30	7	41390	28.5	36	8
19691	20	32	7	57061	28.6	43	6.5
18772	20	35	4.5	18999	30	42	7
40106	20	35	7	64978	30	43.5	10
18496	20	35	10	57063	30	43.7	9.5
40107	20	40	7	61727	30	44	7
16956	20	40	10	40129	30	44	9
19693	20	42	7	40256	30	45	6
16971	20	47	10	19708	30	45	10
78156	22	32	7	19709	30	47	7
38681	22	35	7	17184	30	47	8
18835	22	35	10	17187	30	47	10
41386	22	36	9	18638	30	50	7
18841	22	40	7	17197	30	50	10
40108	22	41.25	6	41394	30	50	11
40109	22	41.5	7	17201	30	50	12
40110	22	42	10	38682	30	52	7
74569	23	40	7	17211	30	52	10
35979	24	32	7	17215	30	52	12
40112	24	45	10	17220	30	55	7
18869	24	48	11	17223	30	55	10
69980	25	32	7	17228	30	55	12
40113	25	34	7	17236	30	60	10
40114	25	35	6	17240	30	60	12
19698	25	35	7	19710	30	62	7

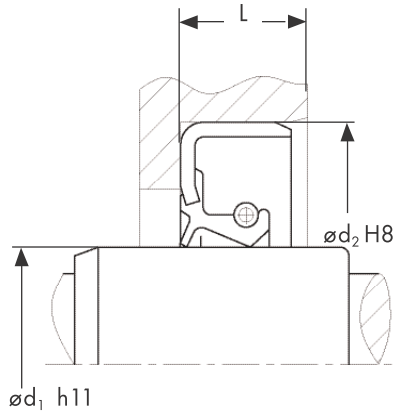
WBS

**Sizes
metric**

Part No.	Dimensions in mm			Part No.	Dimensions in mm		
	ød ₁	ød ₂	L		ød ₁	ød ₂	L
17249	30	62	10	41427	37	51	8
17253	30	62	12	39519	37	62	14
26357	30	72	7	17478	38	52	7
17257	30	72	10	40282	38	54	6
17260	30	72	12	41429	38	54	11
17268	31	52	12	40284	38	56	11
44665	32	40	5	40285	38	58	8
151986	32	42	5	40286	38	58	11
78248	32	42	7	41430	38	60	13
74445	32	44	10	40287	38	62	7
37579	32	47	7	17497	38	62	10
25966	32	47	10	40289	38	62	11
19052	32	52	10	40290	38	65	9
41395	32	52	11	40292	38	74	11
17299	32	52	12	40295	39	50.4	7
40262	32	58	12	55935	39	50.5	7
40264	33	50	8	41431	40	47	4
17323	33	50	12	151985	40	50	4
125797	33	52	10	19138	40	52	7
40265	33.5	55	9.5	40297	40	53	7
40268	35	44	7	19142	40	54	5.5
40269	35	45	6	40298	40	54	7
23724	35	47	7	40299	40	55	6
40271	35	48	8	40300	40	55	7
40273	35	49.5	12.5	40301	40	55	8
38683	35	50	7	19143	40	55	9
17362	35	50	10	40302	40	56	7
17366	35	50	12	38685	40	60	10
41425	35	51	9.5	40303	40	60	12
69012	35	52	7	18640	40	62	7
130877	35	52	8.8	40304	40	62	8
17375	35	52	9	39355	40	62	10
39047	35	52	10	41736	40	62	11
17382	35	52	12	18639	40	62	12
40275	35	55	8	40305	40	65	10
40276	35	55	11	17569	40	65	12
17395	35	56	10	40306	40	68	11
17400	35	56	12	17592	40	80	10
130878	35	57.15	10	18497	41	53	7
19720	35	62	7	40308	41	55	6
17423	35	62	10	40309	41	55	9
17427	35	62	12	19178	41	56	9
40277	35	65	12	41739	41	60	10
17443	35	72	7	40312	42	55	6
17446	35	72	10	40313	42	55	7
17451	35	72	12	18641	42	55	9
38684	35	80	13	19187	42	55	10
39048	36	50	7	19189	42	56	7
43928	36	50.8	8	19191	42	56	10
41426	36	51	12	19192	42	57	8
40279	36	54	7	17609	42	58	7
40280	36	55	11	17620	42	62	7
17462	36	56	9	38686	42	62	10
17472	36	68	10	40317	42	65	9
41428	37	50.8	8	40318	42	65	13

WBS

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
40319	42	72	10	56679	50	70	10
40320	42	72.5	12	40353	50	72	8
55936	43	54	7.5	40195	50	72	12
40321	43	61	9	40197	50	76	13
40323	44	60	7	122197	50	90	10
19230	44	65	10	40199	51	65	7
40326	44.5	70	10	40200	51	65	9
40327	45	58	9	19323	52	65	9
108508	45	60	6	46285	52	68	7
40328	45	60	10	18643	52	68	8
40329	45	61	10	40201	52	68	10
19242	45	62	7	72972	52	68	13.5
38687	45	62	8	40202	52	70	9
40331	45	62	9	78372	52	72	12
18642	45	62	10	26163	52	80	13
40332	45	62	12	19335	54	65	13
40333	45	63	7	19339	54	72.5	9
19247	45	65	8	144027	54	73	12.7
118624	45	65	10	19340	54	74	8
17686	45	65	12	40205	55	70	8
40334	45	68	12	40206	55	72	9
17701	45	72	8	44047	55	72	10
17708	45	72	12	39050	55	73	10
40335	45	74	12	40207	55	75	9
17710	45	75	8	40208	55	75	10
19697	45	75	10	42096	55	75	12
19256	45	75	12	40209	55	78	12
40336	45	75	12.5	68985	55	80	8
83756	45	80	13	17891	55	80	10
77686	47	66	6	40210	55	80	12
19267	47	68	13	18644	55	80	13
19269	48	62	7	40211	55	82	10
82728	48	62	8	17043	55	85	13
40340	48	62	9	40212	55	85	14
42077	48	62	12	40213	56	70	12
40342	48	65	10	18645	56	72	8
19275	48	65	12	60364	56	72	10
19277	48	66	13	7600	57	68	9
40343	48	70	9.5	40214	57	72	12
153258	48	70	12	19371	58	72	8
40344	48	74	11	20629	58	80	8
40345	48	82	12	155725	58	80	12
40346	48	82	13	40215	58	102	12
38688	50	62	10	42103	59	85	19
72659	50	65	8	40218	60	75	8
40347	50	65	9	150316	60	75	10
44046	50	65	9.8	40219	60	77	12
40348	50	65	10	19396	60	80	8
108507	50	68	8	38689	60	80	10
40349	50	68	9	40220	60	80	12
19736	50	68	10	40221	60	80	13
42081	50	68	12	40222	60	82	10
40350	50	68	14	42540	60	82	13
19303	50	70	8	40223	60	85	8
39049	50	70	9	38690	60	85	13

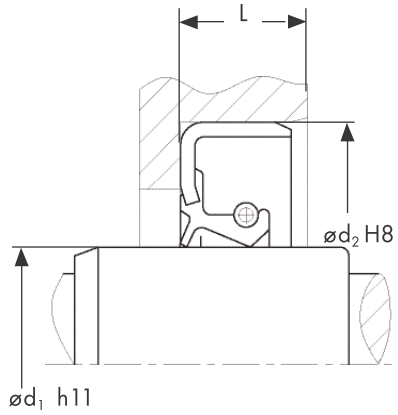
WBS

**Sizes
metric**

Part No.	Dimensions in mm			Part No.	Dimensions in mm		
	ød ₁	ød ₂	L		ød ₁	ød ₂	L
42539	60	85	18	18650	75	100	13
19740	60	90	10	18135	75	105	12
17974	60	90	13	38694	75	110	12
19741	61	85	13	40142	75	110	13
40226	62	80	10	42566	75	120	13
40227	62	85	8	40143	75	121	13
42544	62	85	13	42567	76	94	10
42546	63	75	6	40144	77	93	10
125416	63	80	12	42581	80	95	11
153820	63	85	9	18148	80	100	10
42549	63.5	82.7	15	44458	80	100	12
18011	64	80	8	19760	80	100	13
25969	64	90	13	77126	80	105	12
42551	64	92	13	25972	80	105	13
40239	64.5	89.2	13	40146	80	110	12
40240	65	78	12	18168	80	110	13
38691	65	80	8	40147	80	130	13
42553	65	83	10	40149	85	105	10
40242	65	85	10	40151	85	105	13
40243	65	85	12	19487	85	110	12
40244	65	88	12	40152	85	110	13
19743	65	90	10	42584	85	120	13
18647	65	90	13	42806	86	110	13
40245	65	90	15	40156	88	115	9.5
18646	65	100	13	18227	90	110	13
40246	67	89	13	18233	90	115	13
81277	68	85	8	40158	90	118	12
40247	68	88	9.5	18236	90	120	12
65402	68	90	10	18238	90	120	13
40249	68	90	12	42810	90	125	17
18061	68	92	12	121580	90	130	13
38692	68	110	13	117855	95	110	10
74240	69	85	10	42812	95	120	13
40250	69	85	12	42813	95	120	14
24346	70	85	8	40159	95	130	13
42556	70	86	10	42815	95	130	15
40251	70	88	12	135126	97	114	12
18075	70	90	10	40160	98	120	13
39051	70	92	14	42818	100	120	5.5
18648	70	95	13	40163	100	120	11
18092	70	100	12	60188	100	120	12
38693	72	84	7	60333	100	120	13
17055	72	90	10	40164	100	125	11
18649	72	95	13	40165	100	125	13
149252	72	105	10	55974	100	130	13
40255	72	105	13	74272	100	130	15
40139	73	90	8	40166	102	116	14
124792	73	90	10	133609	105	125	13
18111	74	90	10	60191	105	130	13
40141	75	90	13	42823	105	135	14
25971	75	95	10	19842	108	152.6	13
79361	75	95	12	36783	110	130	13
89351	75	96	11	40132	110	140	13
42564	75	100	8	19655	110	150	13
19463	75	100	10	69915	115	140	13

WBS

**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
63442	115	140	16	18452	180	200	15
40134	115	150	13	56709	180	200	16
40135	115	150	15	40354	180	210	16
40136	116	132	12	153809	190	225	16
40137	120	140	10.5	40357	200	230	15
135100	120	140	12	38391	230	285	23
38695	120	140	13	80856	250	310	25
56009	120	145	15	56446	280	305	17
38696	120	150	12	60284	290	330	18
40138	120	150	13	43103	295	305	28
107929	120	180	15				
18379	125	150	13				
40169	125	150	14				
43082	125	155	14				
43086	130	150	13				
39052	130	150	14				
37111	130	160	13				
39053	130	160	14				
40172	130	170	13				
19229	135	162	13				
40177	140	160	13				
40178	140	160	14				
40179	140	165	14				
40180	140	170	14				
38697	140	175	13				
81016	140	180	15				
18417	145	170	13				
43091	145	170	14				
43090	145	170	18				
40182	145	175	13				
19555	145	175	14				
40183	145	180	15				
40184	146	170	18				
90050	150	170	15				
153806	150	180	14				
27382	150	180	15				
49614	150	190	13				
27690	150	190	15				
40187	155	172	14				
40188	155	180	14				
56024	155	180	15				
40189	155	180	17				
40190	155	185	14				
40192	155	190	17				
74107	160	180	10				
40193	160	180	15				
18435	160	185	13				
56517	160	190	13				
153807	160	190	16				
43096	160	200	14				
36817	165	190	13				
43097	170	195	18				
40194	170	200	15				
153808	170	200	16				
37453	180	200	13				

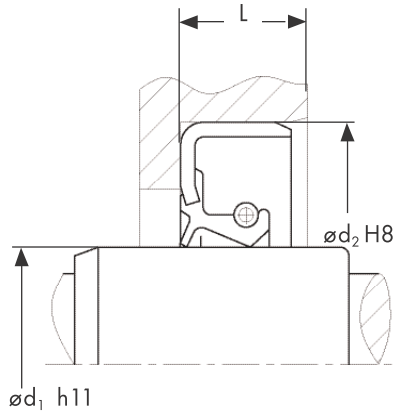
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**Sizes
inch**

Part No.	Dimensions in mm			Dimensions in inch		
	ød ₁	ød ₂	L	ød ₁	ød ₂	L
60617	11.07	23.01	6.3	0.436	0.906	0.248
60618	11.11	23.06	6.35	0.437	0.908	0.25
60619	12.7	19.05	4.76	0.5	0.75	0.187
60620	12.7	25.4	6.35	0.5	1	0.25
60621	12.7	28.57	6.35	0.5	1.125	0.25
156532	14.28	25.4	6.35	0.562	1	0.25
60622	15.87	25.4	6.35	0.625	1	0.25
60623	17.46	30.16	8.13	0.687	1.187	0.32
60624	19.05	31.75	6.35	0.75	1.25	0.25
60625	19.05	34.92	6.35	0.75	1.375	0.25
60626	19.05	41.27	6.35	0.75	1.625	0.25
60627	19.05	63.5	12.7	0.75	2.5	0.5
149420	20.24	34.92	6.35	0.797	1.375	0.25
60628	20.63	34.92	7.93	0.812	1.375	0.312
60629	22.22	34.92	6.35	0.875	1.375	0.25
60630	22.22	38.1	6.35	0.875	1.5	0.25
60631	22.22	38.1	9.52	0.875	1.5	0.375
60632	23.81	38.1	6.35	0.937	1.5	0.25
75025	23.81	42.86	7.93	0.937	1.687	0.312
60633	24.61	35.71	6.35	0.969	1.406	0.25
60634	24.99	38.07	6.35	0.984	1.499	0.25
60635	25.4	38.1	6.35	1	1.5	0.25
124960	25.4	38.1	7.93	1	1.5	0.312
60636	25.4	38.1	9.52	1	1.5	0.375
40119	25.4	41.27	7.5	1	1.625	0.295
40120	25.4	42.2	7.93	1	1.661	0.312
75024	25.4	42.86	6.35	1	1.687	0.25
60637	25.4	44.45	6.35	1	1.75	0.25
60638	25.4	50.38	7.93	1	1.983	0.312
60639	25.4	50.8	6.35	1	2	0.25
60640	25.4	50.8	9.52	1	2	0.375
60641	28.57	41.27	6.35	1.125	1.625	0.25
60642	28.57	41.27	7.93	1.125	1.625	0.312
60643	28.57	46.43	6.35	1.125	1.828	0.25
60644	28.57	47.62	6.35	1.125	1.875	0.25
41389	28.57	47.62	7.13	1.125	1.875	0.281
60645	28.57	50.8	12.7	1.125	2	0.5
60646	30.16	42.86	7.93	1.187	1.687	0.312
20254	30.16	43.65	12.7	1.187	1.719	0.5
60656	31.75	42.86	7.93	1.25	1.687	0.312
60657	31.75	44.45	6.35	1.25	1.75	0.25
60658	31.75	47.62	9.52	1.25	1.875	0.375
60659	31.75	50.4	6.35	1.25	1.984	0.25
40257	31.75	50.8	6.35	1.25	2	0.25
60660	31.75	50.8	11.11	1.25	2	0.437
60661	31.75	52.38	6.35	1.25	2.062	0.25
60662	31.75	53.97	6.35	1.25	2.125	0.25
60663	31.75	63.5	6.35	1.25	2.5	0.25
60664	33.05	51.99	12.45	1.301	2.047	0.49
60665	33.33	53.97	9.52	1.312	2.125	0.375
60666	33.33	55.56	9.52	1.312	2.187	0.375
60667	34.92	50.8	7.93	1.375	2	0.312
60668	34.92	53.49	7.93	1.375	2.106	0.312
60669	34.92	53.97	7.93	1.375	2.125	0.312
60670	34.92	57.15	7.93	1.375	2.25	0.312

WBS

**Sizes
inch**



Part No.	Dimensions in mm			Dimensions in inch		
	$\varnothing d_1$	$\varnothing d_2$	L	$\varnothing d_1$	$\varnothing d_2$	L
60671	34.92	57.25	7.93	1.375	2.254	0.312
60672	34.92	63.5	9.52	1.375	2.5	0.375
60673	34.92	63.5	12.7	1.375	2.5	0.5
60674	34.92	68.99	7.93	1.375	2.716	0.312
60762	36.51	52.38	7.93	1.437	2.062	0.312
24848	36.51	55.66	12.7	1.437	2.191	0.5
60675	37.85	59.06	9.83	1.49	2.325	0.387
157028	38.1	47.62	4.76	1.5	1.875	0.187
60677	38.1	50.8	9.52	1.5	2	0.375
60676	38.1	59.13	9.83	1.5	2.328	0.387
60679	38.1	60.32	11.5	1.5	2.375	0.453
60678	38.1	60.32	14.28	1.5	2.375	0.562
60680	38.1	63.5	9.52	1.5	2.5	0.375
60681	38.1	63.55	7.93	1.5	2.502	0.312
60682	38.1	65.08	7.93	1.5	2.562	0.312
40294	38.1	65.08	12	1.5	2.562	0.472
60684	39.68	63.5	7.93	1.562	2.5	0.312
60685	39.68	73.02	9.52	1.562	2.875	0.375
60686	41.27	57.15	7.93	1.625	2.25	0.312
60687	41.27	60.32	7.93	1.625	2.375	0.312
60688	41.27	60.32	9.52	1.625	2.375	0.375
60689	41.27	61.91	7.93	1.625	2.437	0.312
60691	41.27	63.5	7.93	1.625	2.5	0.312
60692	41.27	63.5	9.52	1.625	2.5	0.375
40311	41.27	66.67	12.7	1.625	2.625	0.5
60694	42.86	59.13	7.93	1.687	2.328	0.312
60695	42.86	62.23	8.99	1.687	2.45	0.354
107898	42.86	69.85	9.52	1.687	2.75	0.375
60696	43.66	65.08	12.7	1.719	2.562	0.5
60697	44.45	57.15	9.52	1.75	2.25	0.375
60698	44.45	57.15	12.7	1.75	2.25	0.5
60699	44.45	60.32	9.52	1.75	2.375	0.375
81669	44.45	63.5	9.52	1.75	2.5	0.375
40325	44.45	65	10	1.75	2.559	0.394
60700	44.45	65.08	7.93	1.75	2.562	0.312
60701	44.45	69.85	7.93	1.75	2.75	0.312
41746	44.45	69.85	12.7	1.75	2.75	0.5
76506	44.45	70.15	9.52	1.75	2.762	0.375
60702	44.45	71.38	7.93	1.75	2.81	0.312
41747	44.45	76.2	12.7	1.75	3	0.5
130879	45	59.13	10	1.772	2.328	0.394
40337	46	81.03	10	1.811	3.19	0.394
60703	46.03	66.67	9.52	1.812	2.625	0.375
60704	46.84	69.85	9.52	1.844	2.75	0.375
60706	47.62	66.67	7.93	1.875	2.625	0.312
60707	47.62	69.85	7.93	1.875	2.75	0.312
60705	47.62	69.85	9.52	1.875	2.75	0.375
40339	47.62	70.65	13.5	1.875	2.781	0.531
60708	47.62	77.75	7.93	1.875	3.061	0.312
60709	47.98	62.99	8.99	1.889	2.48	0.354
60710	49.21	76.2	7.93	1.937	3	0.312
60711	50.8	66.67	7.93	2	2.625	0.312
60712	50.8	69.85	7.93	2	2.75	0.312
60713	50.8	69.85	9.52	2	2.75	0.375
60714	50.8	76.2	7.93	2	3	0.312

WBS

Sizes
inch

Part No.	Dimensions in mm			Dimensions in inch		
	ød ₁	ød ₂	L	ød ₁	ød ₂	L
60715	50.8	76.2	9.52	2	3	0.375
42085	50.8	76.2	12.7	2	3	0.5
116386	53.97	69.85	9.52	2.125	2.75	0.375
60716	53.97	73.02	11.11	2.125	2.875	0.437
40203	53.97	85.13	10	2.125	3.352	0.394
60717	53.97	85.62	11.91	2.125	3.371	0.469
40204	53.98	81	11.9	2.125	3.189	0.469
19857	56	73.15	10	2.205	2.88	0.394
42100	57	82.6	12.8	2.244	3.252	0.504
60718	57.15	76.2	9.52	2.25	3	0.375
60719	57.15	76.2	11.11	2.25	3	0.437
60720	57.15	80.96	11.11	2.25	3.187	0.437
42098	57.15	85.09	15.08	2.25	3.35	0.594
60721	57.15	85.72	9.52	2.25	3.375	0.375
60722	57.15	85.72	12.7	2.25	3.375	0.5
60723	58.73	79.37	9.52	2.312	3.125	0.375
60725	58.73	85.09	7.93	2.312	3.35	0.312
60726	59.92	85.72	12.7	2.359	3.375	0.5
124708	60.32	79.37	9.52	2.375	3.125	0.375
42541	60.32	79.37	12.7	2.375	3.125	0.5
42542	60.32	79.5	10	2.375	3.13	0.394
60727	60.32	85.09	11.11	2.375	3.35	0.437
60728	69.85	95.25	11.11	2.75	3.75	0.437
49464	69.85	95.25	15.87	2.75	3.75	0.625
60729	73.02	92.07	9.52	2.875	3.625	0.375
37876	73.02	98.58	9.52	2.875	3.881	0.375
60731	74.61	95.25	9.52	2.937	3.75	0.375
60730	74.61	101.6	12.7	2.937	4	0.5
42562	74.61	101.6	16.91	2.937	4	0.666
42569	76.2	101.6	11	3	4	0.433
42572	76.2	104.78	14.28	3	4.125	0.562
42574	79.37	104.77	14.28	3.125	4.125	0.562
78292	82.55	120.65	12.7	3.25	4.75	0.5
60732	85.72	114.3	15.87	3.375	4.5	0.625
60733	88.9	111.12	15.87	3.5	4.375	0.625
60734	92.07	127	9.52	3.625	5	0.375
60735	95.25	120.65	12.7	3.75	4.75	0.5
60736	98.02	136.52	12.7	3.859	5.375	0.5
42816	99.87	150.2	12.7	3.932	5.913	0.5
42822	101.6	133.35	12.7	4	5.25	0.5
60737	101.6	133.35	15.87	4	5.25	0.625
60738	107.95	133.35	12.7	4.25	5.25	0.5
43088	133.35	165.1	15.87	5.25	6.5	0.625
60739	139.7	158.75	12.7	5.5	6.25	0.5
43095	152.4	171.45	11.9	6	6.75	0.469
36880	158.75	190.5	15.87	6.25	7.5	0.625
60740	171.45	196.85	19.05	6.75	7.75	0.75