



JAMES WALKER

HIGH PERFORMANCE SEALING TECHNOLOGY

WALKERSELE D6

The flexible rotary shaft lip seal profile



Introduction

The D6 design is the most popular of the Walkersele range of radial lip seals. It is the standard design and suitable for most applications, particularly the sealing of oil and grease lubricated bearings. Its main features include:-

- * lip geometry which is designed to minimise heat generation and shaft wear.
- * optimum spring position which ensures uniform contact of lip to shaft.
- * lip profile which offers great flexibility to accommodate varying conditions of misalignment or shaft eccentricity.
- * standard imperial and metric ranges to James Walker charts 56, 57, 104, 105 and 376 being available in stock in nitrile (NBR) based materials, as detailed on pages 6,7,8 & 9.
- * extensive range of moulds being available for non-standard sizes, see lists.
- * special high performance elastomers being available, including fluoroelastomers (FPM).
- * versions being available suitable for use with or without seal retaining plate.
- * fabric backed seals being available in split form to ease fitting.
- * availability of sizes from 10mm shaft diameter upwards; there is no maximum diameter limit for a moulded Walkersele but suitability of extremely large endless seals will depend upon the application.

Performance

SPEED - The seal material should be selected to suit the shaft surface speed. Standard nitrile based materials can be suitable for application speeds up to 18m/s. There are many factors such as surface finish, eccentricity, lubrication and fluid temperature which can limit this capability. If any doubt exists about a particular application please consult our Technical Advisory Service. Alternative materials should be considered for higher speeds, including fluoroelastomers which have been successfully used at speeds in excess of 25m/s.

PRESSURE - Walkersele D6 design is not intended as a pressure seal, and should not to be used unsupported for pressure differentials greater than 0.2 bar. However, the D6 design can be used in conjunction with lip support rings for pressures up to 2 bar. Machining details can be supplied on request. Where pressures exceed this, our D7 design should be used.

TEMPERATURE - Nitrile rubber based seals can be used for applications where the under-lip temperature does not exceed 120°C. However, even with good lubrication and high heat dissipation, the lip temperature will be higher than the environmental temperature, and therefore, care should be exercised at temperatures above 80°C. For higher temperatures, alternative materials should be considered.

N.B. The operating limits quoted are not an indication that these values can be applied simultaneously.

Materials, design and construction

The following table outlines the range of materials most commonly used.

Reference	Materials	Max. # Temp. (°C)	Max. Speed m/s	General Features
M1	Nitrile (NBR)	120	15	Our standard material suitable for most applications. A flexible rubberised fabric back and rubber lip.
M2	Nitrile (NBR)	120	10	Material combination comprising rubber lip and a rigid fibre back. A self-retaining seal suitable for open housings.
M5	Butyl (IIR)	120	5	Used in some fluids for which nitrile (NBR) is not chemically compatible.
M6	Nitrile (NBR)	120	12	Incorporates a steel band in the seal back. A self retaining seal suitable for open housings.
M8	Fluoroelastomer (FPM)	200	20	A self retaining seal suitable for open housings. Incorporates a stainless steel band located in the seal back.
M9	Fluoroelastomer (FPM)	140	25	As M1, but for applications which would preclude the selection of NBR materials, i.e. higher speeds, chemical compatibility.
NM28/80	Nitrile (NBR)	120	15	Rubber compounds incorporating lubricants to reduce seal wear and increase speed capability under adverse lubrication conditions.
NM48/80	Nitrile (NBR)	120	15	
Elast-O-Lion®	Hydrogenated Nitrile (HNBR)	150	15	High strength elastomer suitable for more aggressive applications including those where additional wear resistance is required.
Fluolion®	PTFE	260	3	Rigid plastic material used for chemical and food processing applications.

Also see comments under "Performance" on page 2

Other rubber compounds and material combinations are available to meet your exacting demands. If assistance in material selection is required, advice is freely available from James Walker's applications engineers and our materials specialists.

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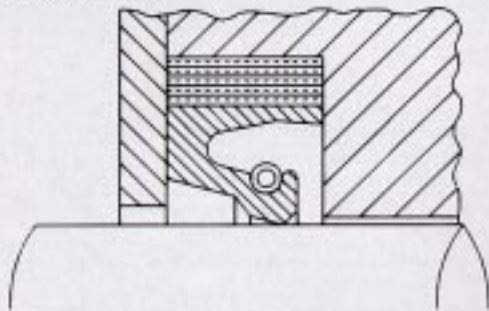
The above material designations in combination with the D6 design reference form a code which should be used for specifying Walkerseals e.g. M1/D6 Walkerseals are manufactured from M1 material (nitrile rubber lip with a rubberised fabric back). Separate literature is available for other designs such as the D7.



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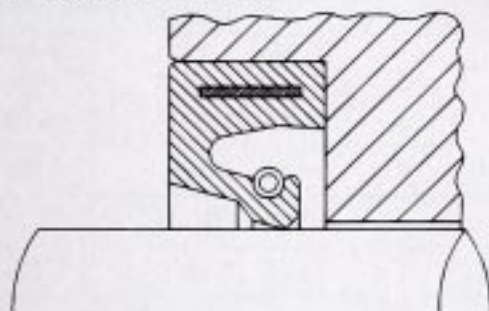
The D6 design of Walkersele is available to suit two types of housing:

Retained seals



These seals must be used in housings fitted with retaining plates. Our standard M1/D6 seals as indicated in charts 56 and 57 should be fitted in this way. Such seals can be supplied in either split or endless form as required. See pages 6 & 7.

Self-retained seals



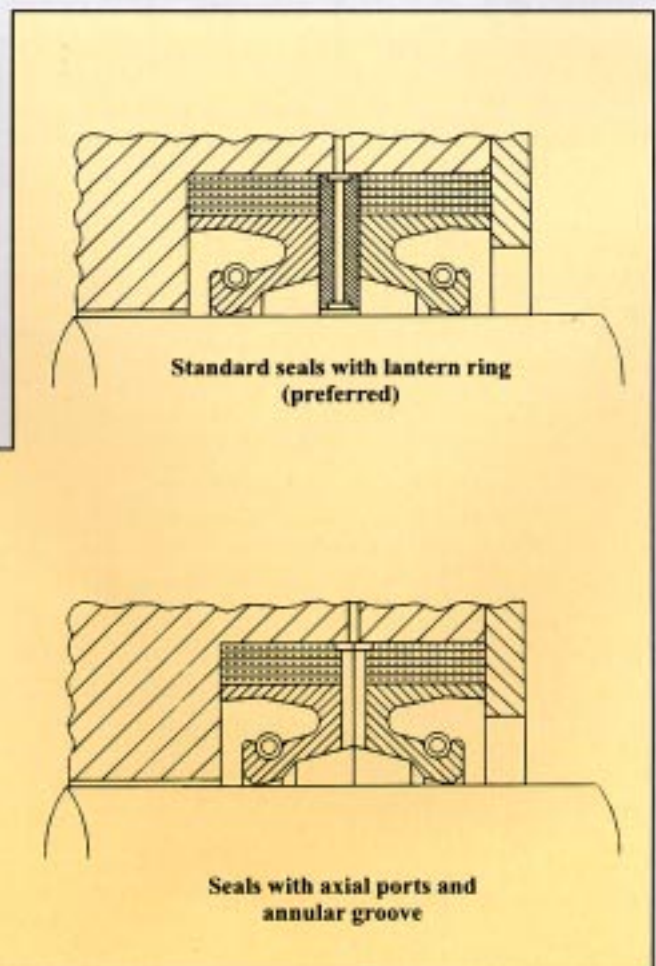
These seals may be fitted in open ended housings. Our standard M6/D6, as indicated in charts 104, 105 and 376 are normally fitted in this way. Supplied in endless form only. See pages 8 & 9.

Ease of fitting

Ease of installation is a prime consideration for all Walkersele products. Unlike rigid metal backed seals, the total flexibility of the Walkersele allows for easy fitting and removal. To reduce fitting time, retained seals can be supplied in split form. A solid rubber portion is included in the seal back through which the split is made. The close mating of the abutting ends ensures that a potential leakage path is closed. Walkersele OSJ (on-site join) is available where endless seal integrity is required but down-time costs associated with the fitting of endless seals would prove prohibitive. See separate brochure for details.

Seal lubrication

When two or more seals are fitted in the same housing and inter-seal lubrication is required, we strongly recommend that an inter-seal lantern-ring be fitted, suitably ported to allow access to the lubricating fluid. Where there is insufficient axial space to incorporate such a ring, access ports and where necessary an annular groove can be incorporated into the seal base. Seals featuring this design modification are available on request.



Availability and how to order

Stocked standard ranges

Charts JW56 and JW57 pages 6 & 7.

Our standard ranges of M1/D6 seals covering imperial and metric sizes respectively. All are available ex-stock without mould charge. When enquiring or ordering please state the re-order part number for a split or endless seals as shown.

Charts JW104 and JW105 page 8.

Our standard ranges of self retaining M6/D6/M seals covering imperial and metric sizes. All are available ex-stock without mould charge. When enquiring or ordering please state the re-order part number.

Chart JW376 page 9.

A standard range of self retaining M6/D6/M seals conforming to the widely used DIN3760 and its counterpart BS1399. All are available ex-stock without mould charge. When enquiring or ordering please state the re-order part number.

Non-standard sizes

Existing moulds

In addition to the above stocked ranges of seals an extensive inventory of permanent moulds is available, covering many more sizes. These seals are available on a short delivery time without mould charge.

When enquiring or ordering M1/D6 seals please specify whether they are required split or endless.

Specials

Non-standard sizes not appearing in the mould lists can be manufactured from new permanent moulds. Small quantities or prototypes can be made by use of our unique temporary mould facility. Seals to suit shaft diameters between 10mm and 2300mm can be produced using conventional moulding techniques. Larger sizes can be manufactured by utilising our sophisticated vulcanised joining methods.

When enquiring or ordering please state shaft diameter, housing diameter, housing depth, material/design combination and where applicable whether split or endless seals are required e.g. 304mm I/D x 350mm O/D x 22mm deep M1/D6 endless.

Special materials such as fluoroelastomers are available on request. If you have any doubt with respect to material selection, our Technical Advisory Service will be pleased to discuss your requirements.

Recommended sizes

For guidance purposes our recommended housing sizes for given shaft diameters are:-
(see page 10 for diagrams and recommended tolerances)

SEALS WITH RETAINING PLATE					
Shaft Dia 'A'		Nominal Housing Sizes			
		Depth 'C'		Section 'D'	
mm	inch	mm	inch	mm	inch
up to 35	up to 1 ³ / ₈	10	³ / ₈	11	⁷ / ₁₆
over 35 to 65	over 1 ³ / ₈ to 2 ¹ / ₂	11	⁷ / ₁₆	12.5	¹ / ₂
over 65 to 100	over 2 ¹ / ₂ to 4	12.5	¹ / ₂	16	⁵ / ₈
over 100 to 250	over 4 to 10	16	⁵ / ₈	20	³ / ₄
over 250 to 400	over 10 to 16	20	³ / ₄	22	⁷ / ₈
over 400 to 600	over 16 to 24	22	⁷ / ₈	25	1
over 600	over 24	25	1	32	1 ¹ / ₄

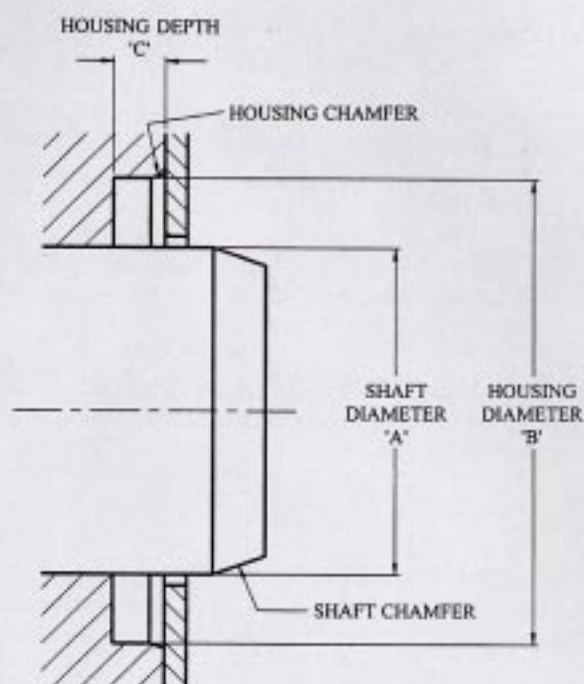
SELF RETAINING SEALS (M2, M6* & M8)					
Shaft Dia 'A'		Nominal Housing Sizes			
		Depth 'C'		Section 'D'	
mm	inch	mm	inch	mm	inch
up to 65	up to 2 ¹ / ₂	10	³ / ₈	10	³ / ₈
over 65 to 100	over 2 ¹ / ₂ to 4	12.5	¹ / ₂	12.5	¹ / ₂
over 100 to 250	over 4 to 10	15	⁵ / ₈	15	⁵ / ₈
over 250 to 400	over 10 to 16	20	³ / ₄	20	³ / ₄
over 400 to 600	over 16 to 24	22	⁷ / ₈	22	⁷ / ₈
over 600 to 900	over 24 to 35 ¹ / ₂	25	1	25	1

*Standard seals to charts 104, 105 and 376 will not necessarily conform to these recommendations - please use dimensions shown on pages 8 and 9.

Chart 56

Seal Type M1/D6

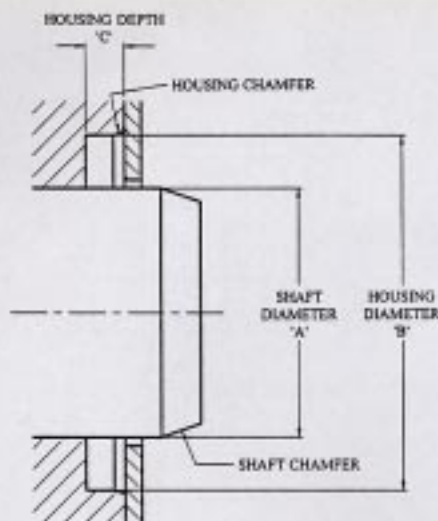
Available ex-stock



JW Part No.	Shaft Dia A	Housing Dia B	Housing Depth C	Re-order Part No. ENDLESS	Re-order Part No. SPLIT
56-100	1	1 ⁷ / ₈	³ / ₈	WG-000259	WG-010254
56-112	1 ¹ / ₄	2	³ / ₈	WG-000283	WG-010289
56-125	1 ¹ / ₄	2 ¹ / ₈	³ / ₈	WG-000313	WG-010319
56-137	1 ³ / ₈	2 ¹ / ₄	³ / ₈	WG-000348	WG-010343
56-150	1 ¹ / ₂	2 ¹ / ₂	⁷ / ₁₆	WG-000380	WG-010386
56-162	1 ³ / ₈	2 ³ / ₄	⁷ / ₁₆	WG-000410	WG-010416
56-175	1 ³ / ₄	2 ³ / ₄	⁷ / ₁₆	WG-000445	WG-010440
56-187	1 ⁷ / ₈	2 ⁷ / ₈	⁷ / ₁₆	WG-00047X	WG-010475
56-200	2	3	⁷ / ₁₆	WG-00050X	WG-010505
56-212	2 ¹ / ₈	3 ¹ / ₈	⁷ / ₁₆	WG-000534	WG-01053X
56-225	2 ¹ / ₄	3 ¹ / ₄	⁷ / ₁₆	WG-000577	WG-010572
56-237	2 ³ / ₈	3 ³ / ₈	⁷ / ₁₆	WG-000607	WG-010602
56-250	2 ¹ / ₂	3 ¹ / ₂	⁷ / ₁₆	WG-000631	WG-010637
56-275	2 ³ / ₄	4	¹ / ₂	WG-000690	WG-010696
56-300	3	4 ¹ / ₄	¹ / ₂	WG-000763	WG-010769
56-325	3 ¹ / ₄	4 ¹ / ₂	¹ / ₂	WG-000828	WG-010823
56-350	3 ¹ / ₂	4 ³ / ₄	¹ / ₂	WG-000887	WG-010882
56-375	3 ³ / ₄	5	¹ / ₂	WG-00095X	WG-010955
56-400	4	5 ¹ / ₄	¹ / ₂	WG-001018	WG-011013
56-425	4 ¹ / ₄	5 ³ / ₄	³ / ₈	WG-001077	WG-011072
56-450	4 ¹ / ₂	6	³ / ₈	WG-00114X	WG-011145
56-475	4 ³ / ₄	6 ¹ / ₄	³ / ₈	WG-001204	WG-01120X
56-500	5	6 ¹ / ₂	³ / ₈	WG-001271	WG-011277
56-525	5 ¹ / ₄	6 ³ / ₄	³ / ₈	WG-001336	WG-011331
56-550	5 ¹ / ₂	7	³ / ₈	WG-001395	WG-011390
56-575	5 ³ / ₄	7 ¹ / ₄	³ / ₈	WG-001468	WG-011463
56-600	6	7 ¹ / ₂	³ / ₈	WG-001522	WG-011528
56-625	6 ¹ / ₄	7 ³ / ₄	³ / ₈	WG-001581	WG-011587
56-650	6 ¹ / ₂	8	³ / ₈	WG-001654	WG-01165X
56-675	6 ³ / ₄	8 ¹ / ₄	³ / ₈	WG-001719	WG-011714
56-700	7	8 ¹ / ₂	³ / ₈	WG-001778	WG-011773
56-750	7 ¹ / ₂	9	³ / ₈	WG-001905	WG-011900
56-800	8	9 ¹ / ₂	³ / ₈	WG-002030	WG-012036
56-850	8 ¹ / ₂	10	³ / ₈	WG-002154	WG-01215X
56-900	9	10 ¹ / ₂	³ / ₈	WG-002286	WG-012281
56-950	9 ¹ / ₂	11	³ / ₈	WG-002413	WG-012419
56-1000	10	11 ¹ / ₂	³ / ₈	WG-002545	WG-012540
56-1050	10 ¹ / ₂	12 ¹ / ₄	³ / ₄	WG-002669	WG-012664
56-1100	11	12 ³ / ₄	³ / ₄	WG-002790	WG-012796
56-1150	11 ¹ / ₂	13 ¹ / ₄	³ / ₄	WG-002928	WG-012923
56-1200	12	13 ³ / ₄	³ / ₄	WG-003045	WG-013040
56-1300	13	14 ³ / ₄	³ / ₄	WG-003304	WG-01330X
56-1400	14	15 ³ / ₄	³ / ₄	WG-00355X	WG-013555
56-1500	15	16 ³ / ₄	³ / ₄	WG-003819	WG-013814

All dimensions in inches

Chart 57
Seal Type M1/D6
Available ex-stock

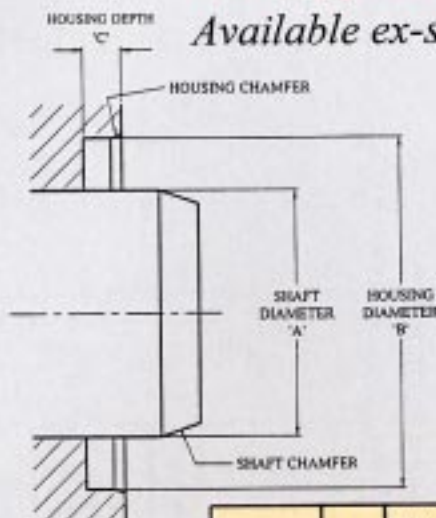


JW Part No.	Shaft Dia A	Housing Dia B	Housing Depth C	Re-order Part No. ENDLESS	Re-order Part No. SPLIT	JW Part No.	Shaft Dia A	Housing Dia B	Housing Depth C	Re-order Part No. ENDLESS	Re-order Part No. SPLIT
57-25	25	47	10	WG-02025X	WG-030255	57-230	230	270	16	WG-022309	WG-032304
57-30	30	52	10	WG-020306	WG-030301	57-235	235	275	16	WG-02235X	WG-032355
57-32	32	54	10	WG-020322	WG-030328	57-240	240	280	16	WG-022406	WG-032401
57-35	35	57	10	WG-020357	WG-030352	57-245	245	285	16	WG-022457	WG-032452
57-38	38	63	11	WG-020381	WG-030387	57-250	250	290	16	WG-022503	WG-032509
57-40	40	65	11	WG-020403	WG-030409	57-255	255	299	20	WG-022554	WG-03255X
57-42	42	67	11	WG-02042X	WG-030425	57-260	260	304	20	WG-022600	WG-032606
57-43	43	68	11	WG-020438	WG-030433	57-265	265	309	20	WG-022651	WG-032657
57-45	45	70	11	WG-020454	WG-03045X	57-270	270	314	20	WG-022708	WG-032703
57-50	50	75	11	WG-020500	WG-030506	57-275	275	319	20	WG-022759	WG-032754
57-53	53	78	11	WG-020535	WG-030530	57-280	280	324	20	WG-022805	WG-032800
57-55	55	80	11	WG-020551	WG-030557	57-285	285	329	20	WG-022856	WG-032851
57-58	58	83	11	WG-020586	WG-030581	57-290	290	334	20	WG-022902	WG-032908
57-60	60	85	11	WG-020608	WG-030603	57-295	295	339	20	WG-022953	WG-032959
57-65	65	90	11	WG-020659	WG-030654	57-296	296	340	20	WG-022961	WG-032967
57-68	68	100	12.5	WG-020683	WG-030689	57-300	300	344	20	WG-023003	WG-033009
57-70	70	102	12.5	WG-020705	WG-030700	57-305	305	349	20	WG-023054	WG-03305X
57-73	73	105	12.5	WG-02073X	WG-030735	57-310	310	354	20	WG-023100	WG-033106
57-75	75	107	12.5	WG-020756	WG-030751	57-320	320	364	20	WG-023208	WG-033203
57-80	80	112	12.5	WG-020802	WG-030808	57-325	325	369	20	WG-023259	WG-033254
57-82	82	114	12.5	WG-020829	WG-030824	57-330	330	374	20	WG-023305	WG-033300
57-85	85	117	12.5	WG-020853	WG-030859	57-340	340	384	20	WG-023402	WG-033408
57-88	88	120	12.5	WG-020888	WG-030883	57-350	350	394	20	WG-02350X	WG-033505
57-90	90	122	12.5	WG-02090X	WG-030905	57-360	360	404	20	WG-023607	WG-033602
57-93	93	125	12.5	WG-020934	WG-03093X	57-370	370	414	20	WG-023704	WG-03370X
57-95	95	127	12.5	WG-020950	WG-030956	57-380	380	424	20	WG-023801	WG-033807
57-97	97	129	12.5	WG-020977	WG-030972	57-390	390	434	20	WG-023909	WG-033904
57-100	100	132	12.5	WG-021000	WG-031006	57-400	400	444	20	WG-02400X	WG-034005
57-105	105	145	16	WG-021051	WG-031057	57-413	413	463	22	WG-024131	WG-034137
57-110	110	150	16	WG-021108	WG-031103	57-420	420	470	22	WG-024204	WG-03420X
57-115	115	155	16	WG-021159	WG-031154	57-430	430	480	22	WG-024301	WG-034307
57-120	120	160	16	WG-021205	WG-031200	57-440	440	490	22	WG-024409	WG-034404
57-125	125	165	16	WG-021256	WG-031251	57-450	450	500	22	WG-024506	WG-034501
57-130	130	170	16	WG-021302	WG-031308	57-455	455	505	22	WG-024557	WG-034552
57-135	135	175	16	WG-021353	WG-031359	57-460	460	510	22	WG-024603	WG-034609
57-140	140	180	16	WG-02140X	WG-031405	57-475	475	525	22	WG-024751	WG-034757
57-145	145	185	16	WG-021450	WG-031456	57-480	480	530	22	WG-024808	WG-034803
57-150	150	190	16	WG-021507	WG-031502	57-485	485	535	22	WG-024859	WG-034854
57-155	155	195	16	WG-021558	WG-031553	57-500	500	550	22	WG-025006	WG-035001
57-160	160	200	16	WG-021604	WG-03160X	57-530	530	580	22	WG-025308	WG-035303
57-165	165	205	16	WG-021655	WG-031650	57-540	540	590	22	WG-025405	WG-035400
57-166	166	206	16	WG-021663	WG-031669	57-560	560	610	22	WG-02560X	WG-035605
57-170	170	210	16	WG-021701	WG-031707	57-580	580	630	22	WG-025804	WG-03580X
57-175	175	215	16	WG-021752	WG-031758	57-600	600	650	22	WG-026002	WG-036008
57-180	180	220	16	WG-021809	WG-031804	57-650	650	714	25	WG-026509	WG-036504
57-185	185	225	16	WG-02185X	WG-031855	57-660	660	724	25	WG-026606	WG-036601
57-190	190	230	16	WG-021906	WG-031901	57-700	700	764	25	WG-027009	WG-037004
57-195	195	235	16	WG-021957	WG-031952	57-750	750	814	25	WG-027505	WG-037500
57-200	200	240	16	WG-022007	WG-032002	57-790	790	854	25	WG-027904	WG-03790X
57-205	205	245	16	WG-022058	WG-032053	57-800	800	864	25	WG-028005	WG-038000
57-210	210	250	16	WG-022104	WG-03210X	57-820	820	884	25	WG-02820X	WG-038205
57-215	215	255	16	WG-022155	WG-032150	57-830	830	894	25	WG-028307	WG-038302
57-220	220	260	16	WG-022201	WG-032207	57-970	970	1034	25	WG-029702	WG-039708
57-225	225	265	16	WG-022252	WG-032258	57-1000	1000	1064	25	WG-029990	WG-039996

All dimensions in mm

Chart 104
Seal Type M6/D6
 Available ex-stock

Chart 105
Seal Type M6/D6
 Available ex-stock



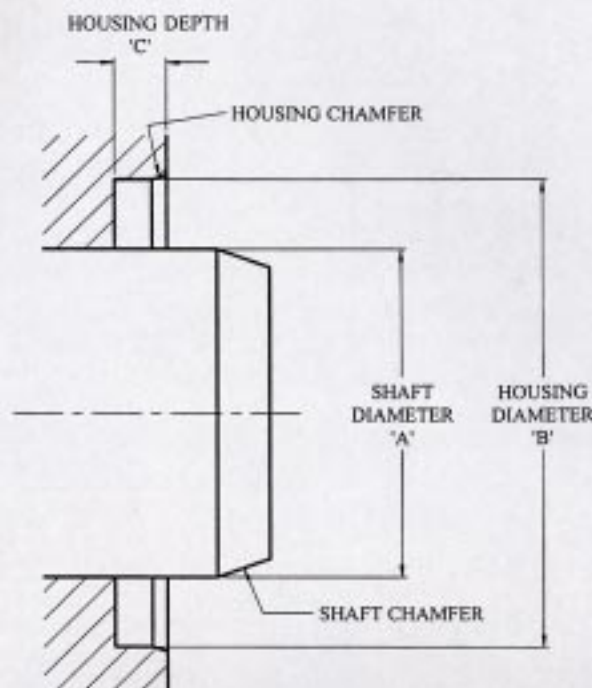
JW Part No.	Shaft Dia A	Housing Dia B	Housing Depth C	Re-order Part No.
104-200	2	3	3/16	WG-050507
104-212	2 1/8	3 1/8	7/16	WG-05054X
104-225	2 1/4	3 1/4	7/16	WG-050574
104-237	2 3/8	3 3/8	7/16	WG-050604
104-250	2 1/2	3 1/2	7/16	WG-050639
104-275	2 3/4	4	1/2	WG-050701
104-300	3	4 1/4	1/2	WG-050760
104-325	3 1/4	4 1/2	1/2	WG-050833
104-350	3 1/2	4 3/4	1/2	WG-050892
104-375	3 3/4	5	1/2	WG-050957
104-400	4	5 1/4	1/2	WG-051015
104-425	4 1/4	5 3/4	3/8	WG-051074
104-450	4 1/2	6	3/8	WG-051147
104-475	4 3/4	6 1/4	3/8	WG-051201
104-500	5	6 1/2	3/8	WG-051279
104-525	5 1/4	6 3/4	3/8	WG-051333
104-550	5 1/2	7	3/8	WG-051392
104-575	5 3/4	7 1/4	3/8	WG-051465
104-600	6	7 1/2	3/8	WG-05152X
104-625	6 1/4	7 3/4	3/8	WG-051589
104-650	6 1/2	8	3/8	WG-051651
104-675	6 3/4	8 1/4	3/8	WG-051716
104-700	7	8 1/2	3/8	WG-051775
104-750	7 1/2	9	3/8	WG-051902
104-800	8	9 1/2	3/8	WG-052038
104-850	8 1/2	10	3/8	WG-05216X
104-900	9	10 1/2	3/8	WG-052283
104-950	9 1/2	11	3/8	WG-052410
104-1000	10	11 1/2	3/8	WG-052542
104-1050	10 1/2	12 1/4	3/4	WG-052666
104-1100	11	12 3/4	3/4	WG-052798
104-1150	11 1/2	13 1/4	3/4	WG-052925
104-1200	12	13 3/4	3/4	WG-053042
104-1300	13	14 3/4	3/4	WG-053301
104-1400	14	15 3/4	3/4	WG-053557
104-1500	15	16 3/4	3/4	WG-053816

All dimensions in inches

JW Part No.	Shaft Dia A	Housing Dia B	Housing Depth C	Re-order Part No.
105-50	50	75	11	WG-060502
105-55	55	80	11	WG-060553
105-60	60	85	11	WG-06060X
105-65	65	90	11	WG-060650
105-70	70	102	12.5	WG-060707
105-75	75	107	12.5	WG-060758
105-80	80	112	12.5	WG-060804
105-85	85	117	12.5	WG-060855
105-90	90	122	12.5	WG-060901
105-95	95	127	12.5	WG-060952
105-100	100	132	12.5	WG-061002
105-105	105	145	16	WG-061053
105-110	110	150	16	WG-06110X
105-115	115	155	16	WG-061150
105-120	120	160	16	WG-061207
105-125	125	165	16	WG-061258
105-130	130	170	16	WG-061304
105-135	135	175	16	WG-061355
105-140	140	180	16	WG-061401
105-145	145	185	16	WG-061452
105-150	150	190	16	WG-061509
105-160	160	200	16	WG-061606
105-170	170	210	16	WG-061703
105-180	180	220	16	WG-061800
105-190	190	230	16	WG-061908
105-200	200	240	16	WG-062009
105-210	210	250	16	WG-062106
105-220	220	260	16	WG-062203
105-230	230	270	16	WG-062300
105-240	240	280	16	WG-062408
105-250	250	290	16	WG-062505
105-260	260	304	20	WG-062602
105-270	270	314	20	WG-06270X
105-280	280	324	20	WG-062807
105-290	290	334	20	WG-062904
105-300	300	344	20	WG-063005
105-310	310	354	20	WG-063102
105-320	320	364	20	WG-06320X
105-330	330	374	20	WG-063307
105-340	340	384	20	WG-063404
105-350	350	394	20	WG-063501
105-360	360	404	20	WG-063609
105-370	370	414	20	WG-063706
105-380	380	424	20	WG-063803
105-390	390	434	20	WG-063900
105-400	400	444	20	WG-064001
105-420	420	470	22	WG-064206
105-440	440	490	22	WG-064400
105-460	460	510	22	WG-064605
105-480	480	530	22	WG-06480X
105-500	500	550	22	WG-065008

All dimensions in mm

Chart 376
Seal Type M6/D6
Available ex-stock

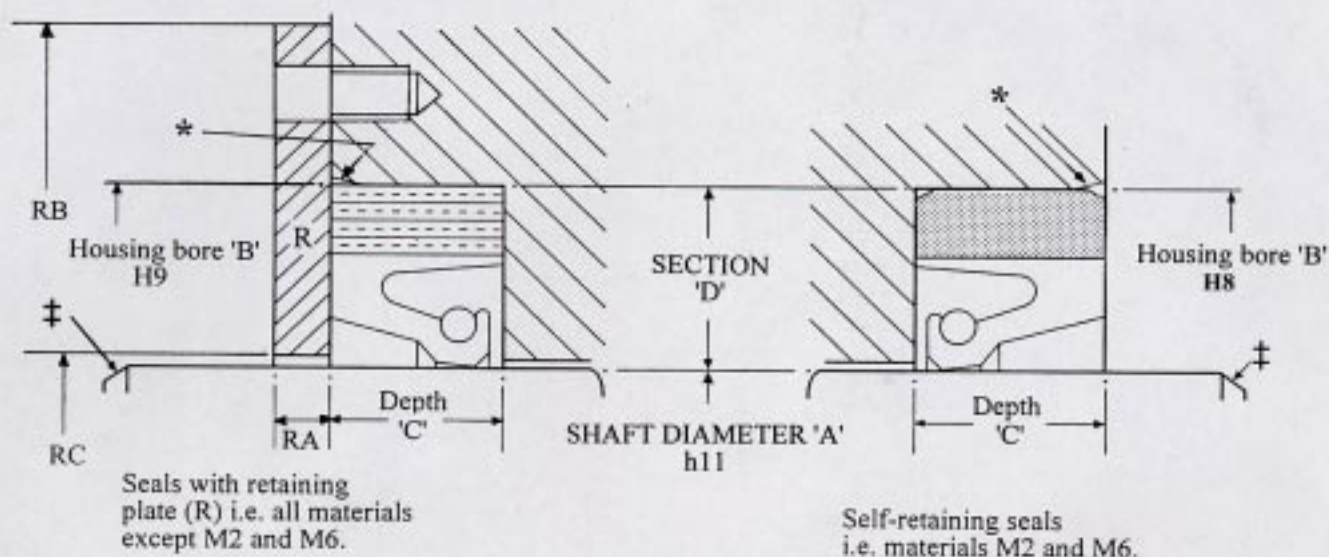


JW Part No.	Shaft Dia A	Housing Dia B	Housing Depth C	Re-order Part No.
376-062085	62	85	10	WG-040609
376-062090	62	90	10	WG-040625
376-063085	63	85	10	WG-040633
376-063090	63	90	10	WG-040641
376-065085	65	85	10	WG-04065X
376-065090	65	90	10	WG-040668
376-065100	65	100	10	WG-040676
376-068090	68	90	10	WG-040684
376-068100	68	100	10	WG-040692
376-070090	70	90	10	WG-040706
376-070095	70	95	10	WG-040714
376-070100	70	100	10	WG-040722
376-072095	72	95	10	WG-040730
376-072100	72	100	10	WG-040749
376-075095	75	95	10	WG-040765
376-075100	75	100	10	WG-040757
376-078100	78	100	10	WG-040781
376-080100	80	100	10	WG-040803
376-080110	80	110	10	WG-040811
376-085110	85	110	12	WG-040854
376-085120	85	120	12	WG-040862
376-090110	90	110	12	WG-040889
376-090120	90	120	12	WG-040900
376-095120	95	120	12	WG-040951
376-095125	95	125	12	WG-04096X
376-100120	100	120	12	WG-040986
376-100125	100	125	12	WG-041001
376-100130	100	130	12	WG-041028
376-105130	105	130	12	WG-041052
376-105140	105	140	12	WG-041060
376-110130	110	130	12	WG-041109
376-110140	110	140	12	WG-041117
376-115140	115	140	12	WG-04115X
376-115150	115	150	12	WG-041168

JW Part No.	Shaft Dia A	Housing Dia B	Housing Depth C	Re-order Part No.
376-120150	120	150	12	WG-041206
376-120160	120	160	12	WG-041222
376-125150	125	150	12	WG-041249
376-125160	125	160	12	WG-041257
376-130160	130	160	12	WG-041303
376-130170	130	170	12	WG-04132X
376-135170	135	170	12	WG-041354
376-140170	140	170	15	WG-041400
376-145175	145	175	15	WG-041451
376-150180	150	180	15	WG-041508
376-160190	160	190	15	WG-041605
376-170200	170	200	15	WG-041702
376-180210	180	210	15	WG-04180X
376-190220	190	220	15	WG-041907
376-200230	200	230	15	WG-042008
376-210240	210	240	15	WG-042105
376-220250	220	250	15	WG-042202
376-230260	230	260	15	WG-04230X
376-240270	240	270	15	WG-042407
376-250280	250	280	15	WG-042504
376-260300	260	300	20	WG-042601
376-280320	280	320	20	WG-042806
376-300340	300	340	20	WG-043004
376-320360	320	360	20	WG-043209
376-340380	340	380	20	WG-043403
376-360400	360	400	20	WG-043608
376-380420	380	420	20	WG-043802
376-400440	400	440	20	WG-044000
376-420460	420	460	20	WG-044205
376-440480	440	480	20	WG-04440X
376-460500	460	500	20	WG-044604
376-480520	480	520	20	WG-044809
376-500540	500	540	20	WG-045007

All dimensions in mm

Housing tolerances



Housing depth (C) limits		
Single seals	mm	inch
	± 0.1	± 0.004
Double seals	+0.2	+0.008
	-0	-0

‡ Shaft chamfer ‡					
mm			inch		
Shaft Dia 'A'		Chamfer min. axial depth	Shaft Dia 'A'		Chamfer min. axial depth
>	≤		>	≤	
3	50	8 x 15°	0.12	1.97	5/16 x 15°
50	250	10 x 15°	1.97	9.85	3/8 x 15°
250	800	15 x 15°	9.85	31.5	9/16 x 15°
800		20 x 15°	31.5		3/4 x 15°

*Housing chamfer

A chamfer should be provided at the entrance to the housing to facilitate assembly (particularly for M2 and M6 Walkersesles). Where the nominal housing depth is equal to the seal depth, the chamfer dimensions should not exceed 1mm x 30° for seals up to and including 10mm deep, 2mm x 30° for seals over 10mm deep and 0.080 in x 30° for seals over 3/8 in deep.

N.B. - M6 seals are not available below 50mm outside diameter.

Retaining plate (R) dimensions. All dimensions in mm

NOMINAL SHAFT DIAMETER A		MINIMUM THICKNESS (RA)		(RB) Min	(RC) Max	BOLTING		
Above	Up to & Inc.	Single Seals	Double Seals			Size	No.	P.C.D.
	35	3	4.5	B + 28	A + 0.75C	M 5	4	B+13
35	65	4	6	B + 30	A + 0.75C	M 5	6	B+13
65	100	5	7.5	B + 43	A + 0.75C	M 8	6	B+20
100	250	7	10.5	B + 45	A + 0.75C	M 8	8	B+20
250	400	8	12	B + 56	A + 0.75C	M10	8	B+24
400	600	10	15	B + 65	A + 0.75C	M12	12	B+30
600	900	12.5	18.8	B + 76	A + 0.75C	M14	16	B+34
900	1200	12	22.5	B + 76	A + 0.75C	M14	20	B+34

Shaft surfaces

The sealing area of the shaft should be a fine ground finish of 0.4 to 0.8 μ m Ra (16 to 32 μ in CLA) for most applications but, for higher speeds it is recommended that the surface finish be improved to 0.2 to 0.4 μ m Ra (8 to 16 μ in CLA). In all cases it is important that the shaft sealing area is free from machining marks, dents, burrs, scratches and single pass grinding wetness patterns.

Quality

The stringent demands of modern engineering emphasise the value of quality. No effort is spared at James Walker manufacturing sites to achieve the highest possible standard where quality is concerned. Our designs, materials and workmanship are subjected to the strictest quality management systems with rigorous quality control at every stage of production. Our quality systems are third party registered to BS EN ISO 9002.

Technical advice

Advice on application and supply of our products is available from our extensive network of regional sales centres and offices throughout the U.K. and our overseas companies and distributors.

If you have an application which you wish to discuss in detail, then phone our technical advisory service at Cockermouth on 01900-822888. This free service is manned by experienced engineers and material technologists who have the knowledge, practical experience and understanding to help optimise your product selection.

For those who wish to know more about the technical background to the Walkersele family of radial lip seals, we have prepared a technical manual entitled:-

Walkersele Radial Lip Seals - A Technical Guide

This is available from our technical advisory service at Cockermouth and Woking or through our sales outlets.

Seal storage

Seals should be stored in a cool, dry and dark place. They should be laid flat, and not tied together with string or suspended from hooks as this may impair the sealing efficiency of the lips. Your attention is drawn to BS3574 "Controlled storage and packaging of vulcanised rubber and rubber products".

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