



Vulcan Water Pump Type Seals



Section 10



INTRODUCTION

Vulcan supply a substantial range of cost effective and reliable water pump seals, that are commonly utilised in high volume commercial, domestic and industrial water systems. These seal types generally serve applications such as swimming pools, spa pools, shower pumps, central heating systems, irrigation and light fluid duties.

Seal performance and life is frequently compromised by the nature of these applications and the fact that water is a poor lubricator of seal faces. As such, our standard stock product as shown on the following pages, incorporates superior seal face materials. That's our ethos, focusing upon seal performance. We can also manufacture and supply to enquires in more competitive standard materials.

VULCAN® ADVANCED DESIGN WATER PUMP SEALS

Types 60 and 65

Sleeve mounted, rubber bellows seals of compact unitised design. Suitable for small shaft diameter, general low pressure applications. These rubber driven, rotary seal types are easily fitted and mass produced, under Vulcan's stringent quality procedures.

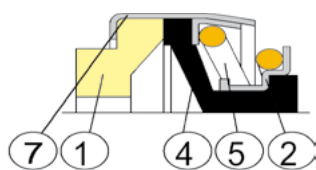
Types 70 and 75

Stationary based, unitised elastomer bellows seals, utilised in small shaft diameter applications. Compact, unitised design, provides excellent flexibility in accommodating shaft mis-alignment and with quality seal face materials, to extend seal performance and life. The adequate shaft clearance enables one size to be used on a number of shaft sizes, whilst being stationary based increases the seals bi-directional rotational speed capabilities.

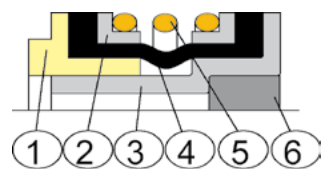
Type 18

Enclosed rubber bellows seal, with short axial fitting length, ideal for equipment where space is restricted. In addition to the standard Carbon face, Vulcan also offer hard face alternatives for more demanding applications. The seal is also fitted with an internal plug as standard to aid assembly, this should be removed before the seal is installed.

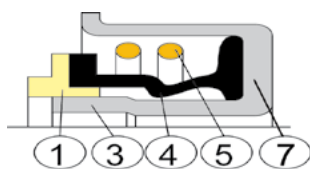
STANDARD COMPONENTS



Type 18



Types 60/65



Types 70/75

NO	DESCRIPTION	4	BELLOWS
1	FACE	5	COIL
2	RETAINING PLATES	6	DRIVE RING
3	SLEEVE	7	RETAINER

SWIMMING POOL / SPA SEALS

With several decades extensive specific experience, Vulcan are leading manufacturers of seals for the International Swimming Pool / Spa Industry. We have a comprehensive range of seal assemblies and designs, backed by an ex-stock service.

Vulcan seal and seat face materials, as standard, are superior to industry norms. Exact designs, excellent materials, a wide stock range and the ability to manufacture to any industry design or requirement, complement the Vulcan Swimming Pool Seal Range.

VULCAN® DESIGN ADVANTAGES

Material Quality

Wide range of high quality elastomers and seal face materials readily available. Superior seal face material selection, especially Ceramic purity and Carbon quality, increases reliability, capability, performance and life.

Design

The Vulcan Water Pump seals are high quality, bi-directional, seal designs containing positively designed material benefits and features.

For instance, the Vulcan Type 18;



The Type 18 is supplied with a fitting plug, as standard, which provides support to the elastomer bellows prior to fitting these seals.



The Type 18 is of robust bellows design, compared to some competitors' equivalents, which are prone to falling apart on assembly.



Type 18 is designed to eliminate bellows wear during operation, which can be a fault in competitors designs.



The Type 18 is fitted with our M106K+ Carbon seal face, which provides superior performance and life.

Cost Effective

These proven, mass produced seals, with their additional benefits and superior material quality, result in an exceptional, cost effective choice of seal.

VULCAN® WATER PUMP TYPE SEALS PV CHART

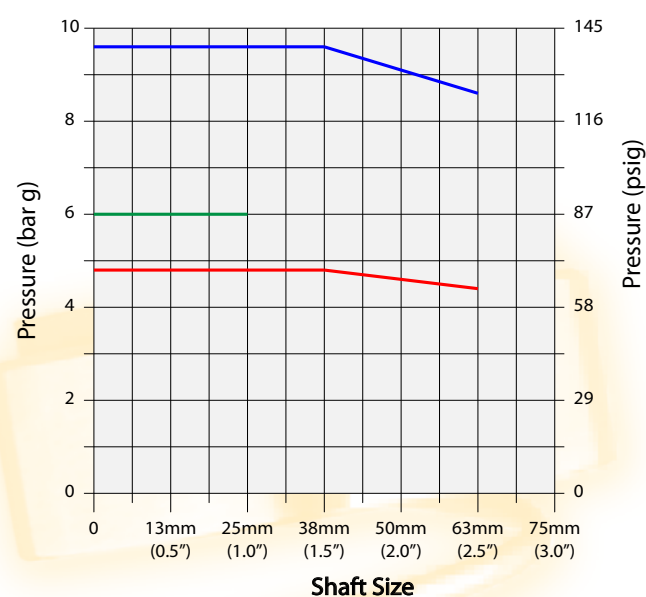


CHART BASED UPON: CARBON VS CERAMIC SEAL FACES

18 - SLEEVED

18 - WITHOUT SLEEVE

60, 65, 70, 75

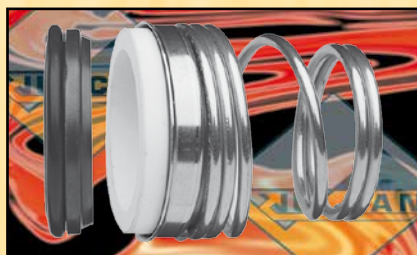


VULCAN® SEALS TO SUIT SWIMMING POOL AND SPA PUMP APPLICATIONS

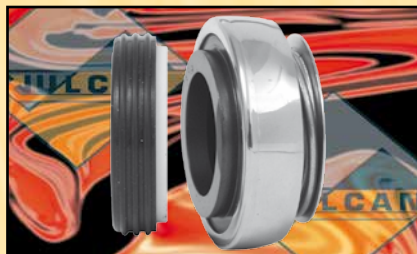
With over twenty five years specific experience, Vulcan are leading manufacturers of seals for the International Swimming Pools / Spa Industry. We have a comprehensive range of seals assemblies and designs, backed by an ex-stock service. Water is a poor lubricant and this in combination with the frequent high shaft speeds, possible dry running and the chemicals utilised in pool systems, creates demanding environments for mechanical seal faces. Vulcan seal and stationary face materials, as standard, are superior to industry norms. Please see our Face Material Section. In addition, we have specialist Carbon Grades available to exceed the requirements of difficult applications and duties. Exact designs, excellent materials, a wide stock range and the ability to manufacture to any industry design or requirement further enhance the Vulcan Swimming Pool Range.



For American Products® 397102, Premier® 31-813 & P19-0, Swim-Rite®, Waterway® & Wet Institute® models.



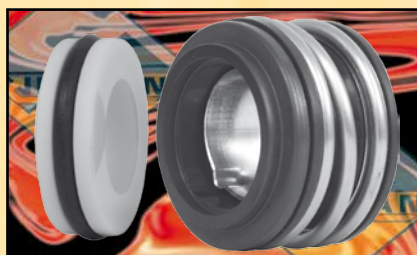
For Calpeda® & I.T.T. Lowara® models.



For Doll®, Hydronaut® 100, Kripsol® Ondina, & Structural® 100.



For Hayward® Cup Mount, Jacuzzi® 10.486 & 10.487, Showertux® 0755L, Vico® & Premier®.



For Sta-Rite® 5P2R.

Acura Spa Systems®

American Products®

Ampro-Diadear®

Anthony®

Aqua-Flo®

Arneson®

Astral®

Badu®

Baker-Hydro®

Calpeda®

Certikin®

Challenger®

Christ Kennicott®

Columbia®

D.A.B.®

Doll®

Doughboy®

Dynamo®

Ebara®

Espa®

Eurostar®

Fibrepool®

Fluvo®

G.G. Industries®

Goldcoast®

Grundfos®

Hayward®

Hydra-Bath®

Hydronaut®

Hydrotech®

I.T.T. Argonaut®

I.T.T. Gemini®

I.T.T. Hydro-Air®

I.T.T. Lowara®

I.T.T. Marlow®

Jacuzzi®

Jandy®

Jet Stream®

Kripsol®

Lee Howl®

Lomart®

Mega®

Modern®

Muskin®

Nocchi®

Pacific Fabrications®

Pentair®

Plastica®

Polaris®

Premier®

Purex®

Showertux®

Speck®

Sta-Rite Industries®

Structural®

Stuart Turner®

Swim-Rite®

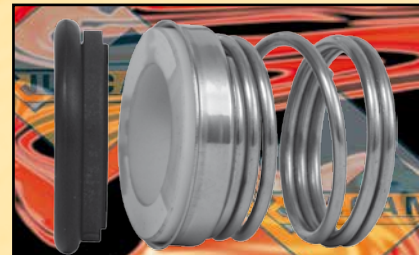
Swim-Quip®

Vico®

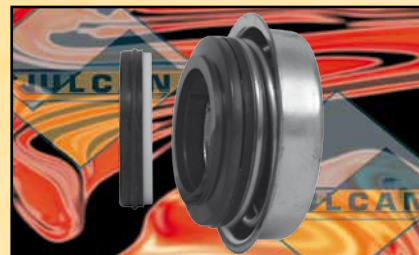
Waterco®

Waterway Plastics®

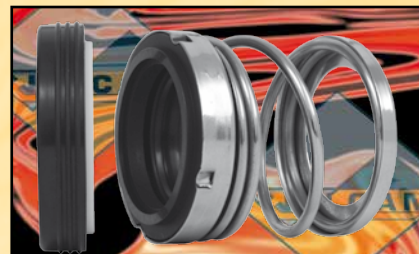
Wet Institute®



For Astral® Flipper® (post 1986) & Sprint®



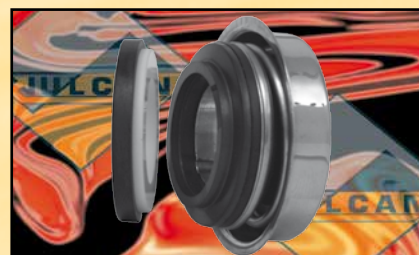
For Lee Howl® 4277 & 4278



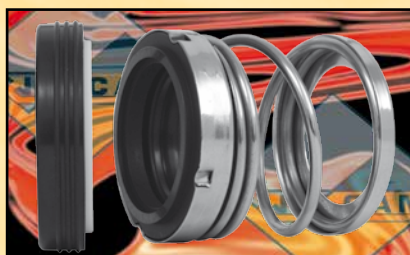
For Modern® models



For Purex® P28280



For Sta-Rite® U109-136SS



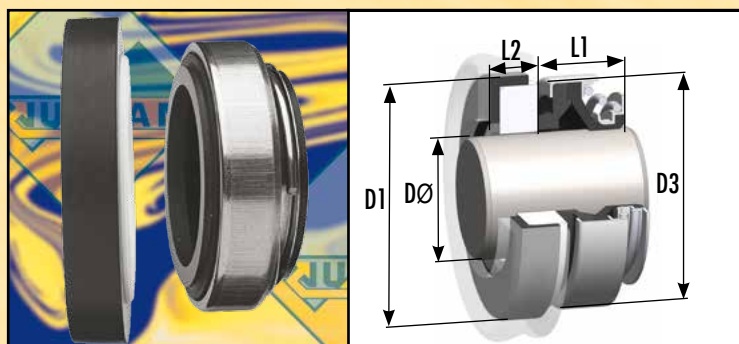
For Sta-Rite® U109-220

Vulcan Seals for the all the above Pump Models shown are Guaranteed Ex-Stock.

For stock codes, prices and guaranteed stock information, please refer to the Web Portal O.E.M. database and relevant section of the O.E.M. pricelist.



TYPE 18



Compact, enclosed rubber bellows seal, with a boot mounted stationary with a smooth outer profile. The very short working length makes the Type 18 ideal for equipment where seal chamber space is restricted.

Our Type 18 rotaries are supplied with a “top hat” metal retainer inserted in the tail of the seal, to provide support to the bellows, prior to fitting. Please remove this prior to installation.

VULCAN STANDARD SIZES

Metric Shaft Size DØ	Size Code	D1	D3	L1	L2
8	0080	26.00	24.00	11.00	8.00
8*	0080.A	17.95	20.00	11.00	4.80
10	0100	26.00	24.00	11.00	8.00
11	0110	26.00	24.00	11.00	8.00
12	0120	26.00	24.00	11.00	8.00
12*	0120.B	26.00	24.00	13.00	8.00
12*	0120.C	35.00	32.00	13.00	8.00
13	0130	26.00	24.00	13.00	8.00
13*	0130.C	26.00	24.00	13.00	5.50
14	0140	35.00	32.00	13.00	8.00
14*	0140.A	38.00	32.00	13.00	8.00
14*	0140.B	29.50	32.00	13.00	7.95
15	0150	38.00	35.00	13.00	8.00
15*	0150.B	29.50	32.00	13.00	7.95
16	0160	38.00	35.00	13.00	8.00
16*	0160.B	42.00	39.00	13.00	8.00
17	0170	42.00	39.00	13.00	8.00
18	0180	42.00	39.00	13.00	8.00
19	0190	42.00	39.00	13.00	8.00
20	0200	42.00	39.00	13.00	8.00
20*	0200.A	35.00	35.00	17.00	7.50
20*	0200.B	45.00	42.00	13.00	10.00
22	0220	45.00	42.00	13.00	10.00
23	0230	50.00	47.00	14.00	10.00
24	0240	50.00	47.00	14.00	10.00
24*	0240.B	42.00	42.00	13.00	9.00
25	0250	50.00	47.00	14.00	10.00
25*	0250.A	50.00	42.00	14.00	10.00
25*	0250.B	39.50	42.00	14.00	8.00
27	0270	50.00	47.00	15.00	10.00
28	0280	57.00	54.00	15.00	10.00
30	0300	57.00	54.00	15.00	10.00
32	0320	57.00	54.00	15.00	10.00
35	0350	63.00	60.00	16.00	10.00
38	0380	68.00	65.00	17.00	12.00
40	0400	68.00	65.00	17.00	12.00
45	0450	73.00	70.00	20.00	12.00
50	0500	88.00	85.00	23.00	15.00
55	0550	88.00	85.00	23.00	15.00
60	0600	110.00	105.00	30.00	15.00
65	0650	110.00	105.00	30.00	15.00
70	0700	110.00	105.00	32.00	15.00

Please note: Type 18 is guaranteed ex-stock in every size and material shown, except Tungsten Carbide. The asterisked sizes relate solely to special dimensions which are stocked in some, but not all, materials.

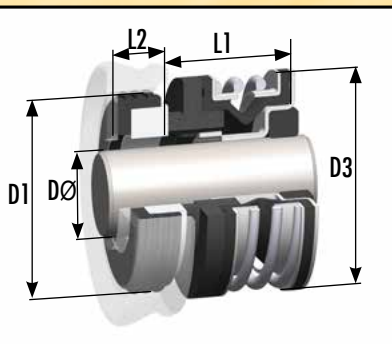
Suggested Operating Limits

Maximum Operating Pressure Limits primarily depend upon Face Materials, Shaft Size, Speed and Media. Please refer to the Seal Type Specific PV Chart, found at the front of this Brochure Section, in combination with the Vulcan Multiplying Factors found in Technical and Material Standards Section 2.

GUARANTEED STOCK MATERIALS AND FACE MATERIAL CODE					
Seal And Seat Assembly		Rotary Face		Stationary Face	
Face Reference Term	Code	Material	Code	Material	Code
SOFT	C	M106K Carbon	C	99% Ceramic	A
SOFT VS HARD	D	M106K Carbon	C	VES2 RB SiC	S
HARD VS SOFT	G	VES2 RB SiC	S	99% Ceramic	A
HARD	S	VES2 RB SiC	S	VES2 RB SiC	S
HARD 1st ALT	H	Tungsten Carbide*	H	Tungsten Carbide*	H
Guaranteed Stock Elastomers: Viton®, E.P. and Nitrile			Guaranteed Stock Metallurgy: 304SS		



TYPE 60



Sleeve mounted, rubber bellows seal, of compact unitised designed, with elastomer shaft drive ring.

Effective design and easily installed, this is a common seal for low pressure, general duty applications on small diameter shafts. Supplied as standard with boot mounted seats, but also available with 'O'-Ring mounted seats to the same installation dimensions.

VULCAN STANDARD SIZES

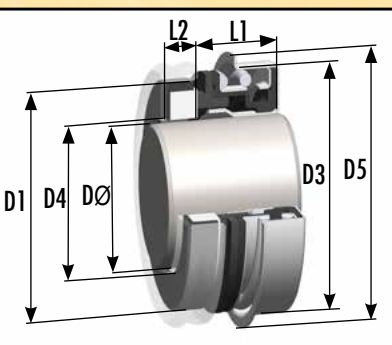
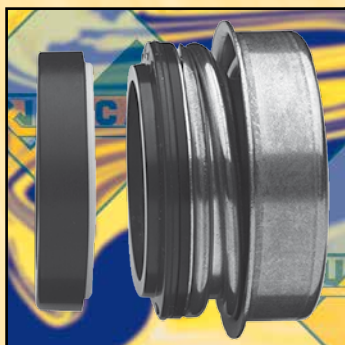
IMPERIAL SHAFT SIZE DØ	SIZE CODE	D1		D3		L1		L2	
		Imperial	Metric	Imperial	Metric	Imperial	Metric	Imperial	Metric
0.375	0095	0.875	22.23	0.937	23.80	0.631	16.02	0.244	6.20
0.500	0127	1.000	25.40	1.062	26.97	0.654	16.60	0.244	6.20
0.625	0158	1.250	31.75	1.218	30.94	0.737	18.71	0.405	10.29
0.750	0191	1.375	34.93	1.343	34.11	0.737	18.71	0.405	10.29
1.000	0254	1.625	41.28	1.732	44.00	0.812	20.63	0.437	11.10

Suggested Operating Limits

Maximum Operating Pressure Limits primarily depend upon Face Materials, Shaft Size, Speed and Media. Please refer to the Seal Type Specific PV Chart, found at the front of this Brochure Section, in combination with the Vulcan Multiplying Factors found in Technical and Material Standards Section 2.

GUARANTEED STOCK MATERIALS AND FACE MATERIAL CODE					
Seal And Seat Assembly		Rotary Face		Stationary Face	
Face Reference Term	Code	Material	Code	Material	Code
SOFT	C	M106K Carbon	C	99% Ceramic	A
SOFT VS HARD	D	M106K Carbon	C	VES2 RB SiC	S
HARD VS SOFT	G	VES2 RB SiC	S	99% Ceramic	A
HARD	S	VES2 RB SiC	S	VES2 RB SiC	S
Guaranteed Stock Elastomers: Viton®, E.P. and Nitrile			Guaranteed Stock Metallurgy: 304SS		

TYPE 70



Stationary based, unitised elastomer bellows seals, utilised in small shaft diameter applications. Compact, unitised design, provides excellent flexibility in accommodating shaft mis-alignment and with quality seal face materials, to extend seal performance and life. The adequate shaft clearance enables one size to be used on a number of shaft sizes, whilst being stationary based increases the seals bi-directional rotational speed capabilities.

VULCAN STANDARD SIZES

IMPERIAL SHAFT SIZE DØ	SIZE CODE	D1		D3		D4		D5		L1		L2	
		Imperial	Metric	Imperial	Metric	Imperial	Metric	Imperial	Metric	Imperial	Metric	Imperial	Metric
0.500	0127	0.984	25.00	1.124	28.56	0.559	14.20	1.248	31.70	0.520	13.20	0.197	5.00
0.625	0158	1.220	31.00	1.435	36.45	0.717	18.20	1.625	41.27	0.583	14.80	0.197	5.00
0.750	0191	1.378	35.00	1.575	40.00	0.843	21.40	1.720	43.70	0.610	15.50	0.197	5.00
1.125	0286	1.890	48.00	2.047	52.00	1.220	31.00	2.250	57.15	0.748	19.00	0.315	8.00

Suggested Operating Limits

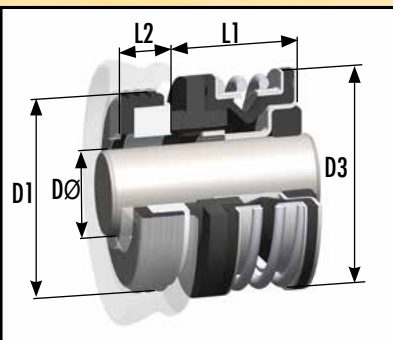
Maximum Operating Pressure Limits primarily depend upon Face Materials, Shaft Size, Speed and Media. Please refer to the Seal Type Specific PV Chart, found at the front of this Brochure Section, in combination with the Vulcan Multiplying Factors found in Technical and Material Standards Section 2.

GUARANTEED STOCK MATERIALS AND FACE MATERIAL CODE					
Seal And Seat Assembly		Rotary Face		Stationary Face	
Face Reference Term	Code	Material	Code	Material	Code
SOFT	C	M106K Carbon	C	99% Ceramic	A
SOFT VS HARD	D	M106K Carbon	C	VES2 RB SiC	S
HARD VS SOFT	G	VES2 RB SiC	S	99% Ceramic	A
HARD	S	VES2 RB SiC	S	VES2 RB SiC	S
Guaranteed Stock Elastomers: Viton®, E.P. and Nitrile			Guaranteed Stock Metallurgy: 304SS		

All types, sizes and materials shown are part of Vulcan's Guaranteed Ex-Stock Range, unless marked with an asterisk*. However, the asterisked seal and / or seat face materials are stocked in many, but not all, sizes.

Please refer to the Technical and Material Standards Section for advice and information on our full range of materials, guaranteed stock policies and more advice on operating limits.

TYPE 65



Sleeve mounted, rubber bellows seal with shaft drive ring. Similar to Type 60 but with dimensions to suit common American standards.

Effective design and easily installed, this is a common seal for low pressure, general duty applications on small diameter shafts. Supplied as standard with boot mounted seats, but also available with 'O'-Ring mounted seats to the same installation dimensions.

VULCAN STANDARD SIZES

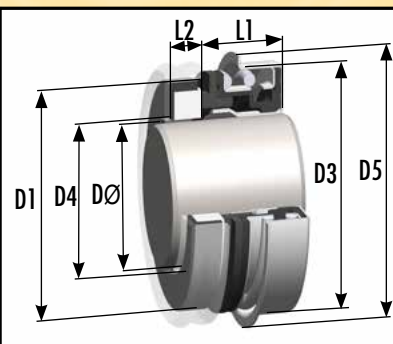
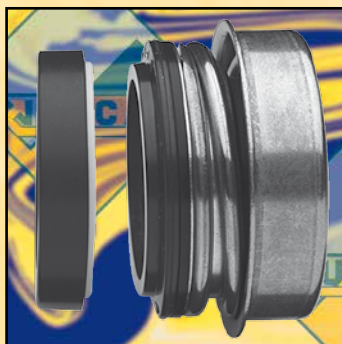
IMPERIAL SHAFT SIZE DØ	SIZE CODE	D1		D3		L1		L2	
		Imperial	Metric	Imperial	Metric	Imperial	Metric	Imperial	Metric
0.375	0095	1.000	25.40	1.062	26.97	0.656	16.66	0.312	7.92
0.500	0127	1.000	25.40	1.062	26.97	0.656	16.66	0.312	7.92
0.625	0158	1.250	31.75	1.218	30.94	0.718	18.24	0.406	10.31
0.750	0191	1.375	34.93	1.343	34.11	0.718	18.24	0.406	10.31
1.000	0254	1.625	41.28	1.732	44.00	0.812	20.62	0.437	11.10

Suggested Operating Limits

Maximum Operating Pressure Limits primarily depend upon Face Materials, Shaft Size, Speed and Media. Please refer to the Seal Type Specific PV Chart, found at the front of this Brochure Section, in combination with the Vulcan Multiplying Factors found in Technical and Material Standards Section 2.

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SOFT VS HARD	D	M106K Carbon	C	VES2 RB SiC	S
HARD VS SOFT	G	VES2 RB SiC	S	99% Ceramic	A
HARD	S	VES2 RB SiC	S	VES2 RB SiC	S
Guaranteed Stock Elastomers: Viton®, E.P. and Nitrile			Guaranteed Stock Metallurgy: 304SS		

TYPE 75



Stationary based, unitised elastomer bellows seals, utilised in small shaft diameter applications. Compact, unitised design, provides excellent flexibility in accommodating shaft mis-alignment and with quality seal face materials, to extend seal performance and life. The adequate shaft clearance enables one size to be used on a number of shaft sizes, whilst being stationary based increases the seals bi-directional rotational speed capabilities.

VULCAN STANDARD SIZES

IMPERIAL SHAFT SIZE DØ	SIZE CODE	D1		D3		D4		D5		L1		L2	
		Imperial	Metric	Imperial	Metric	Imperial	Metric	Imperial	Metric	Imperial	Metric	Imperial	Metric
0.500	0127	1.000	25.40	1.124	28.56	0.559	14.20	1.248	31.70	0.543	13.79	0.312	7.93
0.625	0158	1.250	31.75	1.435	36.45	0.717	18.20	1.625	41.27	0.605	15.36	0.406	10.31
0.750	0191	1.375	34.93	1.575	40.00	0.843	21.40	1.720	43.70	0.605	15.36	0.406	10.31

Suggested Operating Limits

Maximum Operating Pressure Limits primarily depend upon Face Materials, Shaft Size, Speed and Media. Please refer to the Seal Type Specific PV Chart, found at the front of this Brochure Section, in combination with the Vulcan Multiplying Factors found in Technical and Material Standards Section 2.

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Seal And Seat Assembly		Rotary Face		Stationary Face	
Face Reference Term	Code	Material	Code	Material	Code
SOFT	C	M106K Carbon	C	99% Ceramic	A
SOFT VS HARD	D	M106K Carbon	C	VES2 RB SiC*	S
HARD VS SOFT	G	VES2 RB SiC*	S	99% Ceramic	A
HARD	S	VES2 RB SiC*	S	VES2 RB SiC*	S
Guaranteed Stock Elastomers: Viton®, E.P. and Nitrile			Guaranteed Stock Metallurgy: 304SS		

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