

GLE range of  
**component**

environmental  
multispring mechanical seals

SMI™ and SME™ series



GLE range of  
**component**  
multispring mechanical seals

The SMI™ and SME™ are high quality, multi-spring, balanced mechanical seals.

The SMI™ has a rigid compact construction, with springs outside the pumped media. This enables it to be used in demanding product applications.

The SME™ has a rigid unitised construction and has no metal parts in contact with the pumped media. It is therefore suitable for use in corrosive applications.

A range of stationaries, including self-aligning DIN and L shaped, can be matched with the SMI™ and SME™ to provide high duty sealing solutions.

first4seals plc, mount street, bradford, west yorkshire. bd3 9sn united kingdom  
Tel: +44 (0) 1274 720775 Fax: +44 (0) 1274 729022  
email: seals@first4seals.com - web: www.first4seals.com

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Atlas® - Asahi Glass Co., Chemraz® - Greene Tweed., Kalrez® Viton® - DuPont Dow Elastomers.

# GLE SMI™

## internal balanced seals

### SMI™ - design features

#### Secured rotary face

Shrink fitting improves durability and face retention under extreme operating conditions.

#### Positive clamping

Grub-screwed directly to the pump shaft or sleeve to ensure effective drive to the rotary face.

#### No fretting of pump shaft

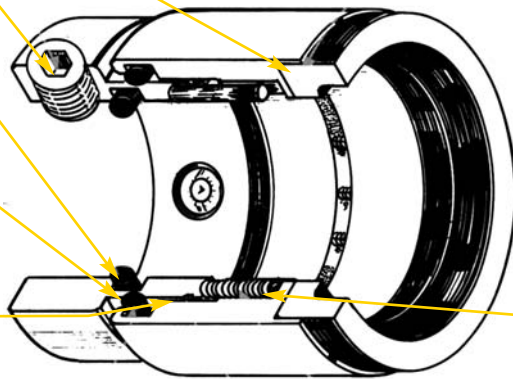
The seal internal o-ring is static on the shaft and guaranteed never to fret the pump shaft or sleeve.

#### Anti clog

The dynamic o-ring moves onto a clean area as seal faces wear. Components remain free for longer seal life.

#### Balanced

Hydraulic balance is achieved within the seal design and does not require a stepped shaft. Face loading is reduced to give cooler running and longer seal life.



#### Springs out of fluid

The Alloy 276 springs are not in the pumped fluid where they could corrode or clog and so remain effective for the whole of the seal life.

# GLE SME™

## external balanced seals

### SME™ - design features

#### Secured rotary face

Shrink fitting improves durability and face retention under extreme operating conditions.

#### External clamping

Easily set to the correct working length, enabling pump efficiency adjustments to be made without dismantling the pump.

#### Non metallic wetted parts

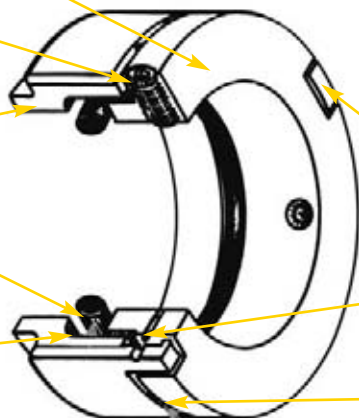
No metal parts in contact with pumped media, therefore able to operate in corrosive applications.

#### Anti clog

The dynamic o-ring moves onto a clean area as seal faces wear. Components remain free for longer seal life.

#### Balanced

Hydraulic balance is achieved within the seal design and does not require a stepped shaft. Face loading is reduced to give cooler running and longer seal life.



#### Positive drive lugs

Drive forces are evenly distributed around the rotary face to reduce stress.

#### Springs out of fluid

The Alloy 276 springs are not in the pumped fluid where they could corrode or clog, so remain effective for the whole of the seal life.

#### Visual examination

Visible spring gap allows monitoring of face wear.

### SMI™ & SME™ - technical specification

<b>metal parts</b>	316 Stainless Steel as standard, other materials also available.
<b>o-rings</b>	Viton® (Fluorocarbon) as standard. Ethylene Propylene, Kalrez®, Chemraz® and other elastomers available to order.
<b>rotary face</b>	R-Carbon as standard, with A-Carbon, Silicon Carbide and Tungsten Carbide* (*SMI only) available.

<b>springs</b>	Alloy 276
<b>temperature limits</b>	-30°C to 260°C (-22°F to 500°F) dependent upon specified elastomer and system configuration.
<b>pressure limits</b>	- 711mm HG Vacuum to 30 Bar (-28" HG - 440 PSI).

As the conditions of use are outside the control of first4seals the information contained within this brochure is given in good faith but without warranty. The above temperature and pressure limits are individual maximum values for SOFT/HARD seal face combinations only. The values are provided for guidance only and are intended for use by suitably qualified application engineers. It is recommended that all users contact the first4seals Technical Department for advice on any new application.

# GLE SMIT™

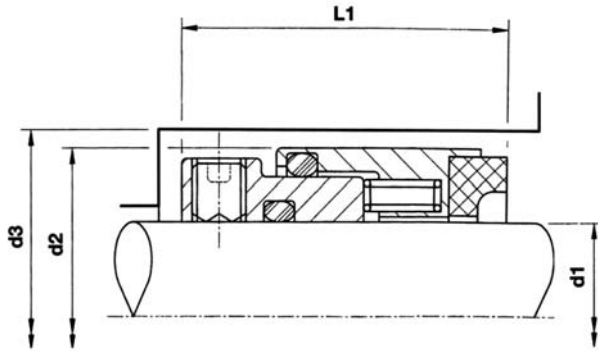
internal balanced seals

# GLE SME™

external balanced seals

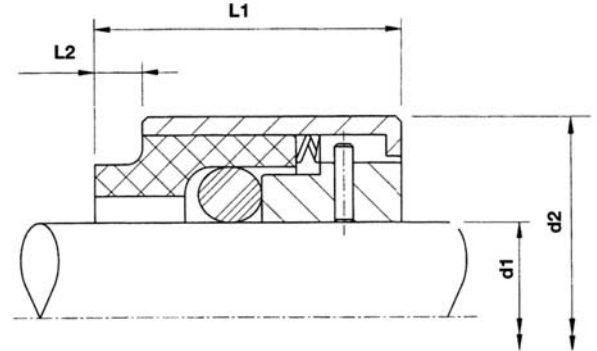
## GLE SMIT™

dimensional information



## GLE SME™

dimensional information



### SMIT™ - size chart

	d1	d2	d3	L1
Imp.#	Met.	Seal O.D.	S/B I.D.	Working length
-	19	33.0	34.9	32.5
-	20	34.0	36.0	32.5
7/8	22	36.2	38.1	32.5
-	24	38.0	40.0	32.5
-	25	39.0	41.0	32.5
1	-	39.4	41.3	32.5
-	28	42.0	44.0	32.5
1 1/8	-	42.6	44.5	32.5
-	30	44.0	46.0	32.5
1 1/4	32	45.6	48.0	32.5
-	33	47.0	49.0	32.5
1 3/8	35	49.0	51.0	32.5
1 1/2	38	52.8	54.0	33.5
-	40	54.8	56.0	33.5
1 5/8	-	56.0	57.2	33.5
-	43	57.8	59.0	33.5
1 3/4	-	59.2	60.3	33.5
-	45	59.8	61.0	33.5
1 7/8	-	62.4	63.5	33.5
-	48	62.8	64.0	33.5
-	50	64.8	66.0	33.5
2	-	65.5	66.7	33.5
-	53	67.8	69.0	33.5
2 1/8	-	68.7	69.9	33.5
-	55	69.8	71.0	33.5
2 1/4	-	71.9	73.0	33.5
-	58	72.8	74.0	33.5
-	60	74.8	76.0	33.5
2 3/8	-	75.1	76.2	33.5
-	63	78.2	79.0	33.5
2 1/2	-	78.2	79.4	33.5
-	65	82.5	84.0	36.5
2 5/8	-	84.2	85.7	36.5
-	68	85.5	87.0	36.5
2 3/4	-	87.4	88.9	36.5
-	70	87.5	89.0	36.5
2 7/8	-	90.5	92.1	36.5
-	75	92.5	94.0	36.5
3	-	93.7	95.3	36.5
3 1/8	-	96.9	98.4	36.5
-	80	97.5	99.0	36.5
3 1/4	-	100.1	101.6	36.5
-	85	102.5	104.0	36.5
3 3/8	-	103.2	104.8	36.5
3 1/2	-	106.4	108.0	36.5
-	90	107.5	109.0	36.5
3 5/8	-	109.6	111.1	36.5
3 3/4	95	112.8	114.0	36.5
3 7/8	-	115.9	117.5	36.5
-	100	117.5	119.0	36.5
4	-	119.1	120.7	36.5

All dimensions in (mm) except #

### SME™ - size chart

	d1	d2	L1	L2
Imp.#	Met.	Rotary O.D.	Working Lgth.	Nose Extn.
-	25	45.0	28.5	4.5
1	-	45.4	28.5	4.5
-	28	48.0	28.5	4.5
1 1/8	-	46.8	28.5	4.5
-	30	50.0	28.5	4.5
1 1/4	32	52.0	28.5	4.5
1 3/8	35	55.0	28.5	4.5
1 1/2	38	58.1	28.5	4.5
-	40	60.0	28.5	4.5
1 5/8	-	61.3	28.5	4.5
-	43	63.0	28.5	4.5
1 3/4	-	64.5	28.5	4.5
-	45	65.0	28.5	4.5
1 7/8	-	67.6	28.5	4.5
-	48	68.0	28.5	4.5
-	50	70.0	28.5	4.5
2	-	70.8	28.5	4.5
-	53	73.0	28.5	4.5
2 1/8	-	74.0	28.5	4.5
-	55	75.0	28.5	4.5
2 1/4	-	77.2	28.5	4.5
-	58	78.0	28.5	4.5
2 3/8	60	80.3	28.5	4.5
2 1/2	63	83.5	28.5	4.5
-	65	90.4	35	6.5
2 5/8	-	92.1	35	6.5
-	68	93.4	35	6.5
2 3/4	70	95.3	35	6.5
-	-	98.5	35	6.5
2 7/8	-	98.5	35	6.5
-	75	100.4	35	6.5
3	-	101.6	35	6.5
3 1/8	-	104.8	35	6.5
-	80	105.4	35	6.5
3 1/4	-	108.0	35	6.5
-	85	110.4	35	6.5
3 3/8	-	111.2	35	6.5
3 1/2	-	114.3	35	6.5
-	90	115.4	35	6.5
3 5/8	-	117.5	35	6.5
3 3/4	95	120.7	35	6.5
3 7/8	-	123.8	35	6.5
-	100	125.4	35	6.5
4	-	127.0	35	6.5

All dimensions in (mm) except #