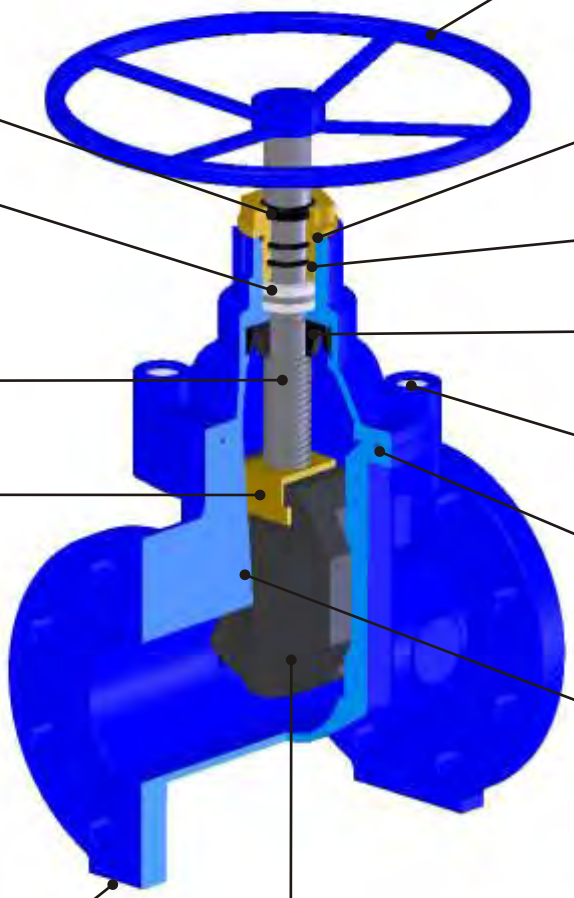
FEATURES & MATERIALS OF CONSTRUCTION

KINGER TECH introduces a light weight, Epoxy Powder Coated, Resilient Seated Gate Valve design in conformance to SABS 664 requirements. The design incorporates a fully encapsulated rubber wedge and low torque operation. Each aspect of the design has been carefully researched and extensively tested on four different continents and in many thousands of applications. The result is a highly reliable design that can be confidently specified and will ensure years of trouble free operation.



Operator - Epoxy Coated Ductile Iron
Valves are supplied with either captop or handwheel operators. Valves are also available in Rising and Non Rising Spindle Designs

Scraper Ring - EPDM
To prevent the ingress of dust

O Ring Seals - Nitrile
The RARE TECH design utilises a series of O-Ring seals to ensure a watertight seal

Thrust Washers - Polyacetal
chemically inert, high load resistant and self lubricating to reduce operating torque

Bush - Dezinctified Bronze
chemically inert - self lubricating

Spindle - Stainless Steel 316
Heat treated and liberally sized spindle with integral forged collar for greater resistance to operating forces and superfine finish on sealing surface to minimise friction and wear

Rubber Manchet - EPDM
to increase the integrity of the seal under all pressure conditions

Bonnet Screws - Stainless Steel
Recessed into body and screw heads wax sealed to prevent corrosion.

Spindle Nut - Dezinctified Bronze
Long spindle nut to withstand higher loads without failure and to reduce operating torque.

Loose Spindle Nut in conformance to SABS 664

Bonnet Gasket - EPDM
Specifically shaped around screw holes to prevent rupture and increase sealing. Fits into recess to prevent Seal Blowout

Sealing
Sealiing angles are designed for optimum sealing under all operating conditions

End Connections
Valves supplied in either socketed or flanged ends with Face to Face dimensions in full conformance to SABS 664 requirements.

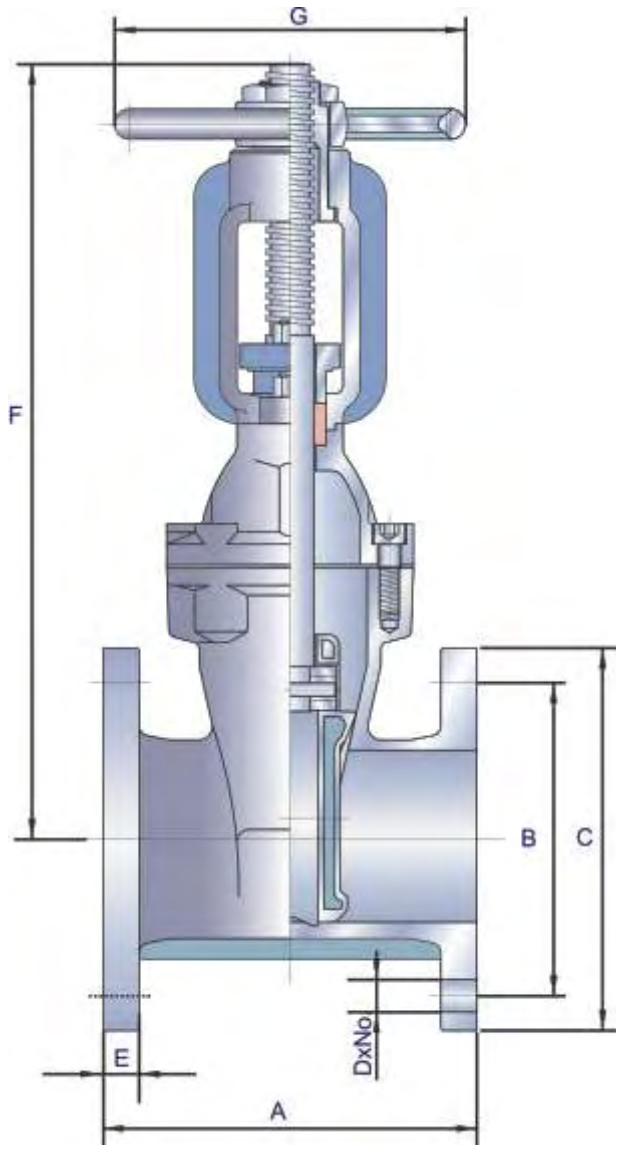
Flanged valves are also available in SABS 665 Face to Face Dimensions.

Fully Rubber Encapsulated Wedge - EPDM
Fully encapsulated wedge , specifically distributed and excellently vulcanized to ensure minimum deformation and excellent sealing

RISING SPINDLE VALVES TO SABS 665

GENERAL SPECIFICATIONS

Size Range:	DN50 to DN300
Pressure Range:	PN16
Face to Face:	SABS 664
Test Pressure:	Body - 1.5 times working presure
	Seat 1.1 times working pressure



MATERIALS OF CONSTRUCTION

Description	Material
Body	Ductile Iron Sg42
Wedge	Ductile Iron EPDM Coated
Bonnet	Ductile Iron Sg42
Stem	Stainless Steel 410/316
Wedge Nut	Dezinctified Brass
Seal Retainer	Dezinctified Brass
Bearing	Polymide
Handwheel/Captop	Ductile Iron Sg42
Dust Ring	EPDM
O-Ring Seals	EPDM
Bonnet Seal	EPDM
Bonnet Bolts	Stainless Steel

OVERALL DIMENSIONS AND WEIGHTS

DN	A PN16	B PN16	C PN16	D PN16	E PN16	F CLOSE	F OPEN	G	Weight Kg
50	178	125	165	4xF19	19	330	385	132	15
80	203	160	200	4xF19	19	435	518	132	23
100	229	180	220	8xF19	19	465	570	156	29
150	267	240	285	8xF23	19	630	790	211	54
200	292	295	340	12xF23	20	780	990	266	95
250	330	355	405	12xF28	22	915	1175	319	153
300	356	410	460	12xF28	24.5	1080	1390	370	241

WHY KINGER VALVES?

Wedge Gate Design

The wedge in the KINGER design is fully rubber encapsulated and the rubber is specifically distributed across the gate to ensure minimum deformation. This factor and the excellently vulcanisation process ensures driptight sealing. Rubber utilised in the coating of the wedge is totally inert and therefore does not impart any odour, taste or colour in conformance to WRAS and NSF specifications.

The wedge has a large through bore with no hollows in the core, preventing stagnant water or impurities from collecting.

The wedge nut is replaceable in full accordance to SABS 664 requirements.

Body Design

Guides in the wedge and on the valve body ensure a uniform closure irrespective of pressure differentials across the valve. Safe operation is ensured as the guides prevent overloading of the stems.

Low Torque Operation

The KINGER design utilises high load resistant, self lubricating polyamide thrust bearings to reduce operating torque. Stem threads edges are smooth and the wedge nuts are liberally sized to further reduce torque.

Stem

Stems in the KINGER design is made of stainless steel for optimum elongation and tensile resistance.

Bonnet Seal

The rubber bonnet gasket fits in a recess in the valve bonnet preventing blow out of the seal under surge conditions. In addition, the seal is specifically formed around the bolt holes to prevent rupture and increase sealing.

Epoxy Powder Coated

Every KINGER RSV valve is epoxy powder coated as standard. Valves are blasted to a near white finish to ensure optimum adhesion. Epoxy is electrostatitically applied to the specifically heated components for best corrosion protection. Maximum impact resistance and adhesion strength is ensured through correct control of layer thickness.

Full Compliance to SABS Specifications

Each KINGER valve is in full compliance to SABS 664 specifications including the loose wedge nut arrangement and face to face dimension requirements.

Quality

Every KINGER valve is produced and tested to the most stringent local and international standards ensuring consistently, a product that works at the point of application.

Stock

KINGER carries large volumes of the KINGER stock to comfortably service the entire Southern African market on a an ex works basis.

Product Range

KINGER provides the most extensive range of RSV valves in sizes DN50 to DN600 and pressure ratings of PN16 and PN25. Valves in addition, are available in flanged and socketed designs and Rising and Non Rising Spindle configurations.

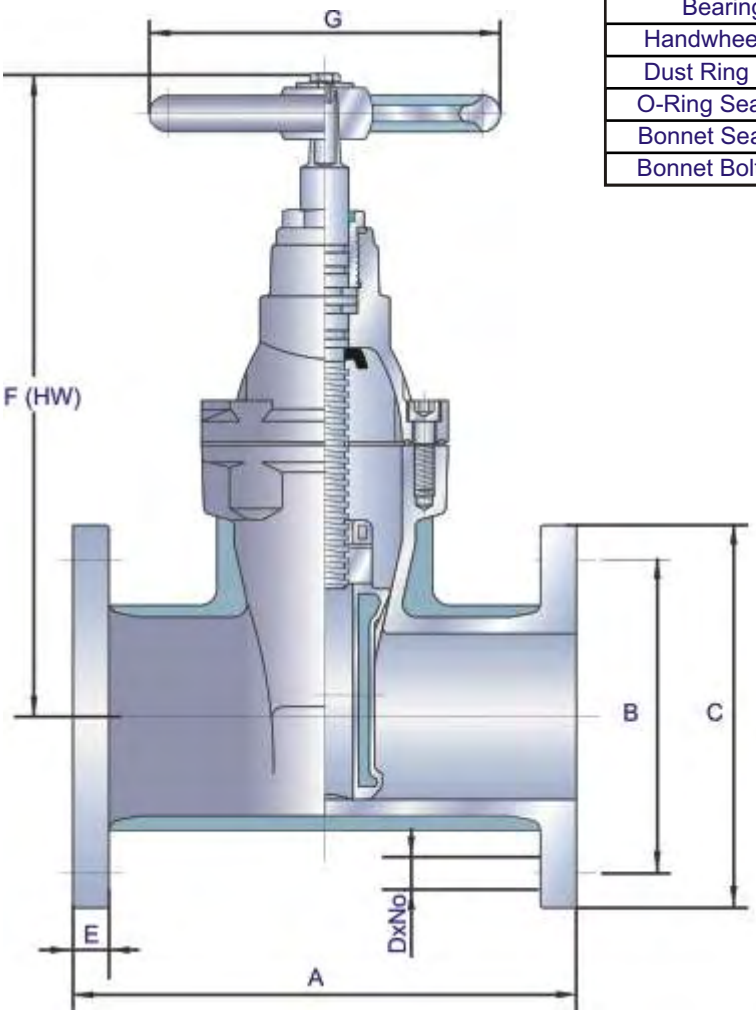
FLANGED NON RISING SPINDLE VALVES TO SABS 664

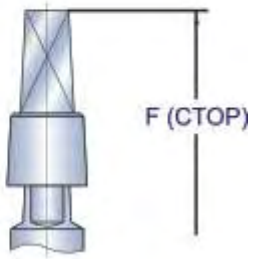
GENERAL SPECIFICATIONS

Size Range:	DN50 to DN600
Pressure Range:	PN16 sizes DN50 to DN600
	PN25 Sizes DN50 to DN300
Flange Alignment:	SABS 1123 - BS10 on Request
Test Pressure:	Body 1.5 Times Working Pressure
	Seat 1.1 Times Working Pressure

MATERIALS OF CONSTRUCTION

Description	Material
Body	Ductile Iron Sg42
Wedge	Ductile Iron EPDM Coated
Bonnet	Ductile Iron Sg42
Stem	Stainless Steel 410/316
Wedge Nut	Dezinctified Brass
Seal Retainer	Dezinctified Brass
Bearing	Polymide
Handwheel/Captop	Ductile Iron Sg42
Dust Ring	EPDM
O-Ring Seals	EPDM
Bonnet Seal	EPDM
Bonnet Bolts	Stainless Steel





OVERALL DIMENSIONS AND WEIGHTS

DN	A		B		C		D		E		F		G	Weight kg	
	PN16	PN25	PN16	PN25	PN16	PN25	PN16	PN25	PN16	PN25	HW	CTOP		PN16	PN25
50	216	216	125	125	165	165	4xF19	4xF19	19	19	290	360	132	15	16
80	229	283	160	160	200	200	4xF19	4xF19	19	19	340	410	132	23	29
100	254	305	180	190	220	220	8xF19	8xF19	19	19	370	440	156	29	36
150	280	403	240	220	285	285	8xF23	8xF23	19	19	465	535	211	54	65
200	317	419	295	250	340	340	12xF23	12xF23	20	20	580	650	266	95	123
250	356	457	355	370	405	405	12xF28	12xF28	22	22	665	735	319	153	179
300	380	502	410	430	460	460	12xF28	12xF28	24.5	24.5	785	855	370	241	290
350	470		470		520		12xF28		26.5		970	1040	429	355	
400	470		525		580		16xF31		28		1020	1120	480	475	
450	485		585		640		20xF31		30		1120	1200	548	590	
500	510		650		715		20xF34		31.5		1220	1300	609	730	
600	600		770		840		20xF37		36		1270	1470	720	890	

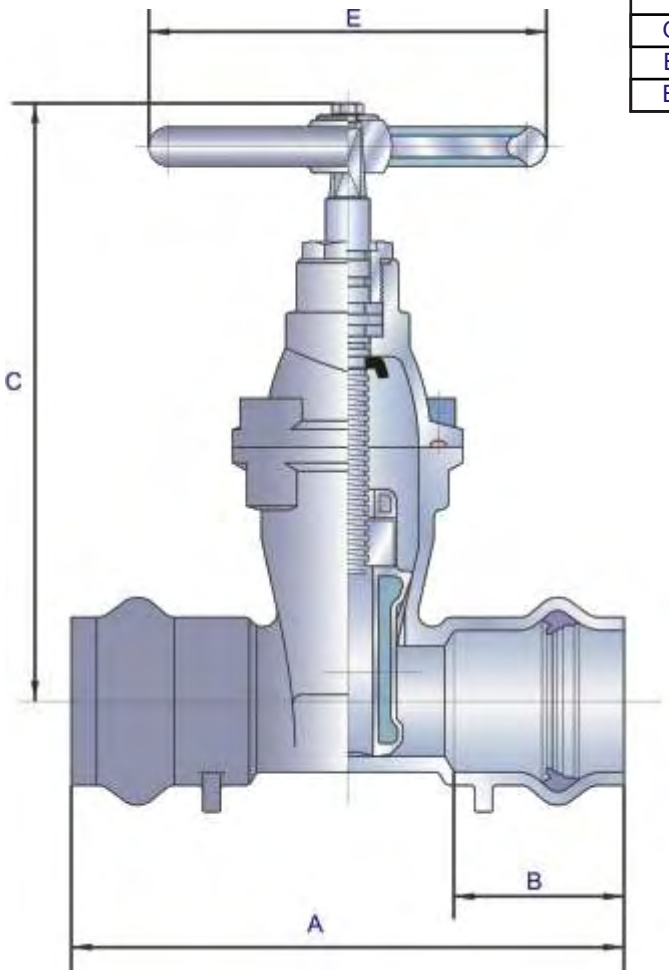
SOCKETED VALVES TO SABS 664

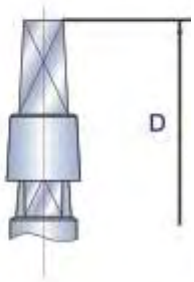
GENERAL SPECIFICATIONS

Size Range:	DN50 to DN300
Pressure Range:	PN16
Face to Face:	SABS 664
Test Pressure:	Body - 1.5 times working presure
	Seat 1.1 times working pressure

MATERIALS OF CONSTRUCTION

Description	Material
Body	Ductile Iron Sg42
Wedge	Ductile Iron EPDM Coated
Bonnet	Ductile Iron Sg42
Stem	Stainless Steel 410/316
Wedge Nut	Dezinctified Brass
Seal Retainer	Dezinctified Brass
Bearing	Polymide
Handwheel/Captop	Ductile Iron Sg42
Dust Ring	EPDM
O-Ring Seals	EPDM
Bonnet Seal	EPDM
Bonnet Bolts	Stainless Steel





OVERALL DIMENSIONS AND WEIGHTS

Size	A	B	C	D	E	WEIGHT KG
50/63	282	77	300	370	180	11
65/75	308	80	310	380	180	12
80/90	316	84	350	420	205	18
100/110	345	88	380	450	240	23
150/160	408	94	470	540	280	47
200	454	100	590	660	320	74
250	516	125	680	750	360	127
300/315	584	140	790	860	450	191

WHICH ISOLATING VALVE TO USE?

Selling Solutions

KINGER is focused on satisfying the demand for pipeline systems, which will consistently perform in the most economical way, year after year across their entire ***Life Cycle***. To perform as required, a pipeline component must be selected relative to application, availability, initial cost and total **Cost of Ownership**. Enclosed below is a brief guide of the best suited isolating valve for various pipeline applications, taking the **Life Cycle** of the system into account.

Pump Suction Isolation Valves

Gate valves are most suited as pump suction isolators because the full flow area of this design offers no resistance to flow thereby preventing turbulence in the suction pipe. A **Rising Spindle Gate Valve** is preferred by pump operators because the operator can at a glance see if the valve is opened or closed before pump startup.

Butterfly valves can be utilised as cost effective pump suction isolators in applications larger than DN600 provided attention is paid to the possibility of vortexes which may impact on the pump NPSH behaviour, power output and general pump performance. Rare-Tech can provide the design engineer assistance in the most efficient design of pump suction layouts.

Pump Discharge Isolators

An isolating valve is installed subsequent to a pump check valve to allow for pump maintenance. In addition, pumps are normally started against a closed isolating valve to prevent motor burnout.

RSV Gate Valves are most suited for low pressure applications of up to PN16 and for diameters of up to DN600. In addition, due to the advancement in RSV design and the excellent guiding of the wedge in designs such as Rare Tech; RSV's can be utilised in small diameter applications up to DN300 for pressures of up to PN25.

Butterfly valves, based on **Cost of Ownership**, are the most ideal for large bore applications. In high pressure applications, and where the opening and shutting sequence of the valve may lead to surges and/orwhere the valve should act as both isolator and check valve; specialised needle valves, modified butterfly valves or hydraulic control valves should be considered. Considerations are dependant on initial cost, flow and pressure and operation. Rare Tech can provide assistance in selecting the most appropriate valve for the application.

Isolating Valves along the Length of the Pipeline

The decision as to which isolating valve design to utilise along the length of a pipeline is dependant on cost, pipeline diameter, and pipeline pressure and pipeline material. The decision can be simplified as follows:

Low Pressure Pipelines

RSV Gate Valves are the most cost effective and reliable choice for pipelines up to 600NB and for pipeline pressures of up to PN16.

Large Diameter Pipelines

The advancement of **Butterfly Valve** technology and their cost effectiveness makes them the obvious choice for large bore isolating applications.

Scour Valves/ Line End Valves

RSV Gate Valves can be utilsed as scour valves provided the the scour outlet has a flap valve installed. To prevent the entry of rodents and keeps the sealing surface of the cool and damp to prevent the perishing of the rubber seal.

For high differential pressures and high velocities across the valve under scour conditions, **Metal-to-Metal Wedge Gate Valves** can be utilised. However, needle valves and/or wedge gate valves in combination with energy dissipating cones are most suited unless the scour chamber and discharge point is designed to dissipate the discharge energy. Rare Tech can provide assistance in the most effect valve chamber and discharge configuration.

Air Valve Isolators

RSV Gate Valves are cost effective air valve isolators in pressure applications of up to PN25. **Metal to Metal Wedge Gate** valves or high pressure **Ball Valves** can be considered in high pressure applications. Butterfly valves are not suited as the disc in the flow arrangement of the butterfly valve design can create turbulence and restrict the air valve's performance capacity

Rare Tech supplies a wide range of valves, pipes and pipeline related products and is focused on selling a solution. We can to this end assist the designer in every aspect of pipeline design to ensure the most suitable component is selected relevant to the application and taking into account the pipeline system's entire **Life Cycle - Try Us!**