

Tianjin Beifang Valve Actuator company (BF) in conjunction with their agent Betta Fluid Control company offer a range of mechanical and electrical gearboxes (Betta-BF range) for the isolation and control of gate valves and other similar operating valves.

Each Betta valve and gearbox assembly is factory tested to ensure performance and compliance.

APPLICATIONS

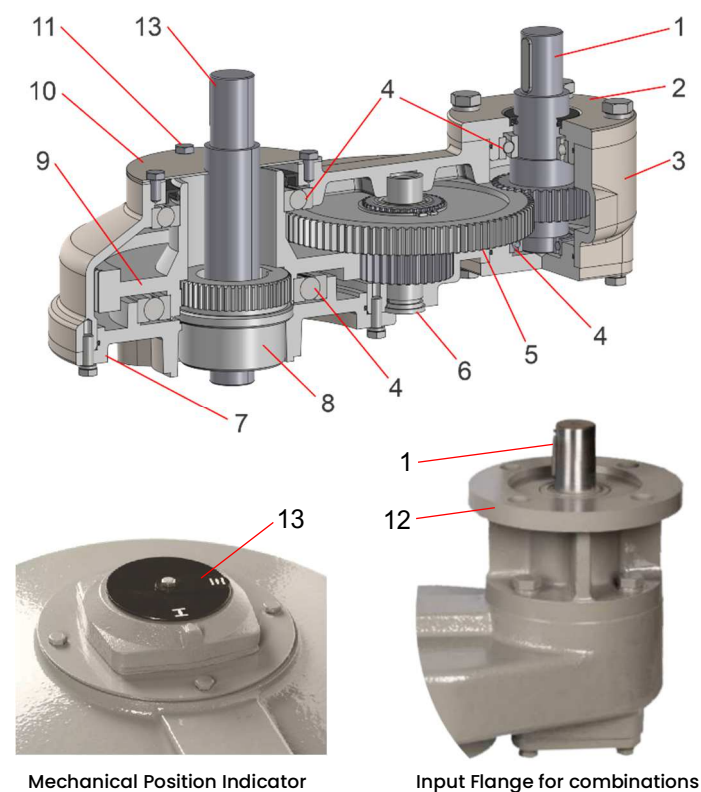
Betta-BF gate valve actuators comply with the performance requirements of AS/NZS 2638.1 and AS/NZS 2638.2.

The Betta-BF spur gearbox, depending on the gearing option, can be operated manually using a handwheel or by a portable actuator connected to a stem cap.

The gearbox can be provided with an ISO input flange that allows for connection to another manual or electric gearbox for even greater reduction in input torque.

TECHNICAL DATA

Standards:	AS/NZS 2638 Performance compliance
Model Series:	BETTA-BF Model BSG SPUR Multi-Turn Manual Gearbox
Drive:	Multilevel SPUR gear pairs
Output Torque:	800 Nm – 50,000 Nm
Mounting Flanges:	ISO 5211 F10 – F48 flange patterns
Gear Reductions:	2:1 to 24:1
Actuation:	Handwheel, or Stem Cap for portable actuation
Temperatures:	-20 deg C to 70 deg C
Coating:	Fusion Bonded coating or High Build Epoxy option
Protection:	IP 68 standard. IP 65 & IP 67 options available.
Other Options:	Mechanical Position Indicator, Dual Input shaft for 1:1 drive actuation, Input mounting flange for combination assemblies.



FEATURES

High strength and corrosion resistant materials

The gearbox is watertight and fully sealed with O-rings and protected to IP 65, IP67 or IP68 as required.

All internal drive members are permanently lubricated with molybdenum disulfide grease.

Input and output shafts are supported with ball bearing units to ensure a high efficiency operation.

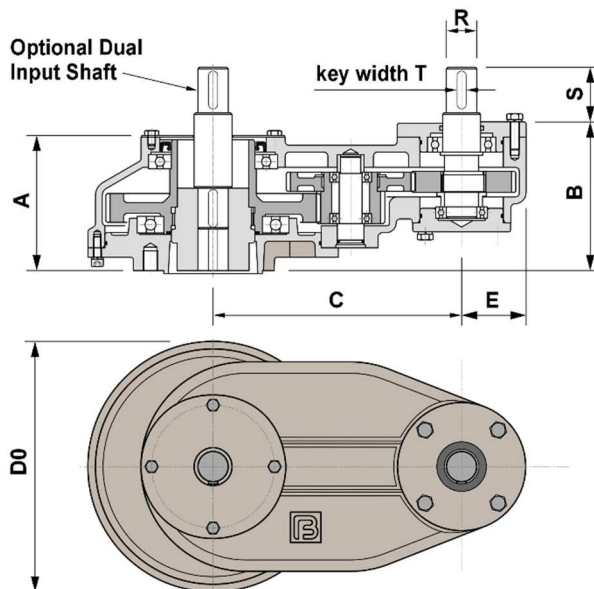
The gearbox can be combined with other manual or electric actuators to greatly reduce the input torque and provide either a horizontal or vertical point of actuation.

5 Year Manufacturer's Warranty against Defects.

COMPONENTS

ITEM	PART	MATERIAL	GRADE
1	Input Shaft Geared	Structural Carbon Steel	45 Steel
2	Cover Plate	Cast Iron FBE Coated	GG25
3	Body	Cast Iron FBE Coated	GG25
4	Bearings		
5	Drive Gear	Structural Carbon Steel	45 Steel
6	Drive Shaft	Structural Carbon Steel	45 Steel
7	Output Flange	Cast Iron FBE Coated	GG25
8	Drive Sleeve (Std) **	Structural Carbon Steel	45 Steel
9	Output Gear	Structural Carbon Steel	45 Steel
10	Cover Plate	Cast Iron FBE Coated	GG25
11	Fasteners	Stainless Steel	Gr 316
12	Input Mounting Flange option for combination assemblies		
13	Actuator Options: – Dual Input Shaft 1:1 Ratio, – Mechanical Position Indicator, – Blank Cover Plate (Standard)		
**	Output Drive options: 1. Drive Sleeve with keyway for non-rising stem valves. (Std) 2. A threaded stem nut for rising stem valves.		

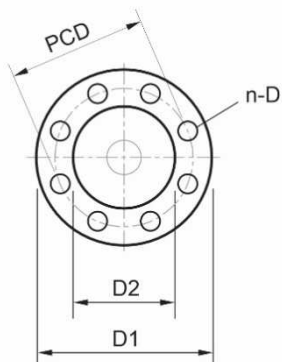
DIMENSIONS



MODEL	OUTPUT FLANGE	DIMENSIONS mm								PRODUCT CODES **	
	ISO 5211	A	B	C	D0	E	R	S	T	Single Input	Dual Input
BSG2	F10	118	112	202	262	54	30	50	8	VGA-BSG2-F10	VGA-BSG2-F10-D
	F14	135	129	202	262	54	30	50	8	VGA-BSG2-F14	VGA-BSG2-F14-D
BSG3	F14	140	134	289	330	76	30	50	8	VGA-BSG3-F14	VGA-BSG3-F14-D
	F16	144	138	289	330	76	30	50	8	VGA-BSG3-F16	VGA-BSG3-F16-D
BSG4	F16	201	193	328	330	86	30	50	8	VGA-BSG4-F16	VGA-BSG4-F16-D
	F25	208	200	328	330	86	40	60	12	VGA-BSG4-F25	VGA-BSG4-F25-D
BSG5	F25	230	222	356	412	88	40	60	12	VGA-BSG5-F25	VGA-BSG5-F25-D
	F30	242	234	356	412	88	50	60	14	VGA-BSG5-F30	VGA-BSG5-F30-D
BSG6	F30	297	285	384	496	88	40	60	12	VGA-BSG6-F30	VGA-BSG6-F30-D
	F35	356	344	384	496	88	50	60	14	VGA-BSG6-F35	VGA-BSG6-F35-D
BSG7	F35	372	360	456	580	88	50	60	2-14	VGA-BSG7-F35	VGA-BSG7-F35-D
	F40	419	393	456	580	88	50	60	2-14	VGA-BSG7-F40	VGA-BSG7-F40-D
BSG8	F40	596	584	610	705	95	60	80	2-18	VGA-BSG8-F40	VGA-BSG8-F40-D
	F48	632	620	610	705	95	60	80	2-18	VGA-BSG8-F48	VGA-BSG8-F48-D

** Gear Reduction ratio, IP rating and optional extras to be nominated when ordering

ISO 5211 FLANGES DIMENSIONS



ISO FLANGE	D1	PCD	D2	n-D
F10	125	102	70	4 - M10
F12	150	125	85	4 - M12
F14	175	140	100	4 - M16
F16	210	165	130	4 - M20
F25	300	254	200	8 - M16
F30	350	298	230	8 - M20
F35	415	356	260	8 - M30
F40	475	406	300	8 - M36
F48	560	483	370	12 - M36

MECHANICAL PARAMETERS

Two types of output drives are available:

Drive Sleeve type: The drive sleeve with keyway for connection to non-rising stem valves.

Stem Nut type: The threaded stem nut for connection to rising stem valves.

MODEL	MAX OUTPUT TORQUE Nm	GEAR REDUCTION RATIO OPTIONS	OUTPUT FLANGE ISO 5211	ALLOWABLE MAX THRUST kN		ALLOWABLE MAX STEM DIAMETER mm		WEIGHT kg
				Manual Operation	Motor Operation	Drive Sleeve Output type	Stem Nut Output type	
BSG2	800	2:1, 3:1, 4:1, 6:1	F10	54	40	52	30	30
			F14	170	130	52	50	34
BSG3	1,500	2:1, 3:1, 4:1, 6:1, 8:1	F14	170	130	70	50	38
			F16	350	260	70	65	45
BSG4	3,000	4:1, 6:1, 8:1, 10:1, 12:1, 15:1	F16	350	260	85	65	80
			F25	440	330	85	80	90
BSG5	6,000	4:1, 6:1, 8:1, 10:1, 12:1, 15:1	F25	440	330	95	80	100
			F30	670	500	95	90	125
BSG6	12,000	8:1, 10:1, 12:1, 15:1	F30	670	500	105	100	225
			F35	1100	825	105	100	380
BSG7	25,000	10:1, 12:1, 15:1, 20:1	F35	1100	825	130	110	400
			F40	1500	1125	130	130	425
BSG8	50,000	12:1, 15:1, 20:1, 24:1	F40	1500	1125	155	140	735
			F48	2200	1650	155	150	790

DRIVE PARAMETERS

BSG MODEL	GEAR REDUCTION RATIO	DRIVE EFFICIENCY	MECHANICAL ADVANTAGE
Drive Efficiency applies to all models: BSG2 BSG3 BSG4 BSG5 BSG6 BSG7 BSG8	2:1	0.9	1.8
	3:1	0.9	2.7
	4:1	0.9	3.6
	5:1	0.9	5.4
	8:1	0.9	7.2
	10:1	0.9	9.0
	12:1	0.9	10.8
	15:1	0.9	13.5
	20:1	0.9	18.0
	24:1	0.9	21.6

COMBINATION ACTUATORS

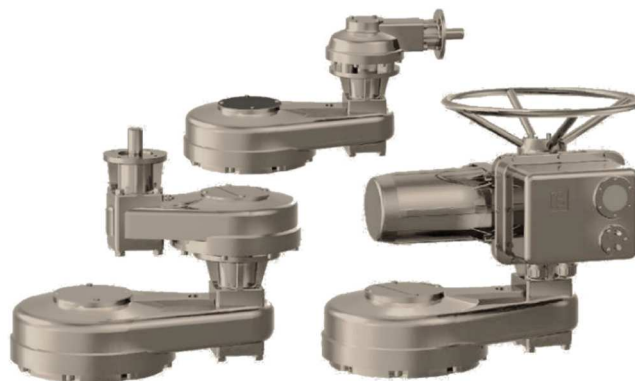
The BSG model with ISO input flange provides a versatile foundation for combining actuators.

The BSG model with Input Flange can be combined with:

- Other BSG model Spur multi-turn gearboxes,
- 603 model Bevel multi-turn gearboxes,
- 903 model Electric multi-turn actuators,
- 920 model Electric multi-turn actuators

Gearbox and actuator combinations greatly reduce the input torque and can be arranged to provide either a horizontal or vertical point of actuation.

Refer Civilpipes.com.au or contact Civilpipes Sales for further details.



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