

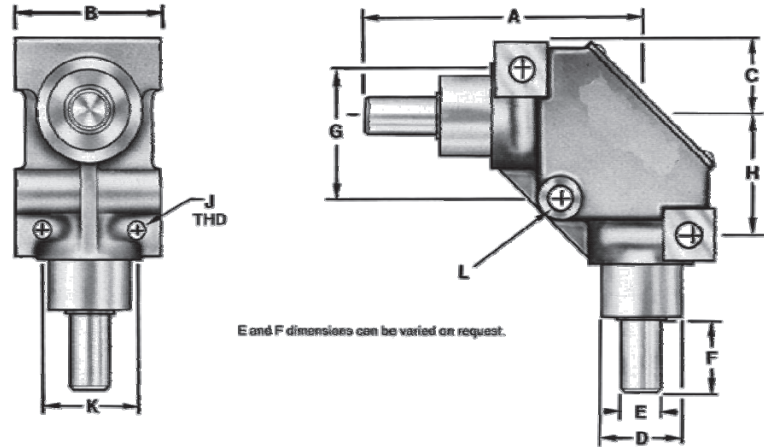


BFG Marine, Inc.

Tel: (631) 586-5500, Fax: (631) 586-5501, Email: sales@bfgmarine.com

90® GEAR BOX

The 90® Gear Box transmits torque around sharp bends in either rigid rod or flex shaft systems, or a combination of the two. It features a variety of mounting holes that enable it to be mounted easily in almost any position.



BILL OF MATERIALS

Description	Material	Description	Material
Housing	Bronze or Aluminum	Retaining Ring	Steel
Spindle	Steel	Thrust Washer	Steel
Gear	Steel	Bearing	Steel
Square Key	Steel	Shim	Steel
Seal	Syn. Compound	Washer Head Screw ≅	Brass
Bearing	Steel	Woodruff Key ≅	Steel
Cover	Brass	≅Supplied with flex shaft units only.	
Gasket	Vellumoid		
Rnd. Hd. Screw	Brass		

Part Number		Type	A	B	C	D	E	F	G	H	J	K	L
Bronze	Aluminum												
VCG-3100	VCG-2100	½" Rod	4.69	2.50	1.19	1.499 1.497	.50	1.31	1.94	1.75	3/8"-16	1.75	.44
VCG-3150	VCG-2150	5/8" Rod	4.69	2.50	1.19	1.499 1.497	.62	1.31	1.94	1.75	3/8"-16	1.75	.44
VCG-3200	VCG-2200	¾" Rod	5.94	3.00	1.63	2.123 2.121	.75	1.50	2.75	2.63	½"-13	2.00	.56
VCG-3250	VCG-2250	1" Rod	5.94	3.00	1.63	2.123 2.121	1.00	1.50	2.75	2.63	½"-13	2.00	.56
VCG-3300	VCG-2300	1-1/4" Rod	6.94	3.75	1.81	2.623 2.621	1.25	1.88	3.06	2.69	5/8"-11	2.50	.69
VCG-5100	VCG-4100	½" Flex	4.18	2.5	1.19	1.186 1.184	.38	.81	1.94	1.75	3/8"-16	1.75	.44
VCG-5150	VCG-4150	¾" Flex	4.69	2.50	1.19	1.499 1.497	.56	1.31	1.94	1.75	3/8"-16	1.75	.44
VCG-5200	VCG-4200	1" Flex	5.75	3.00	1.63	1.810 1.808	.75	1.31	2.75	2.63	½"-13	2.00	.56
VCG-5250	VCG-4250	1-1/4" Flex	5.75	3.00	1.63	2.123 2.121	1.00	1.31	2.75	2.63	½"-13	2.00	.56
VCG-5300	VCG-4300	1-5/8" Flex	7.00	3.75	1.81	2.623 2.621	1.12	1.94	3.06	2.69	5/8"-11	2.50	.69

Don't see what you need? Contact us with your special requirements. We may be able to help.

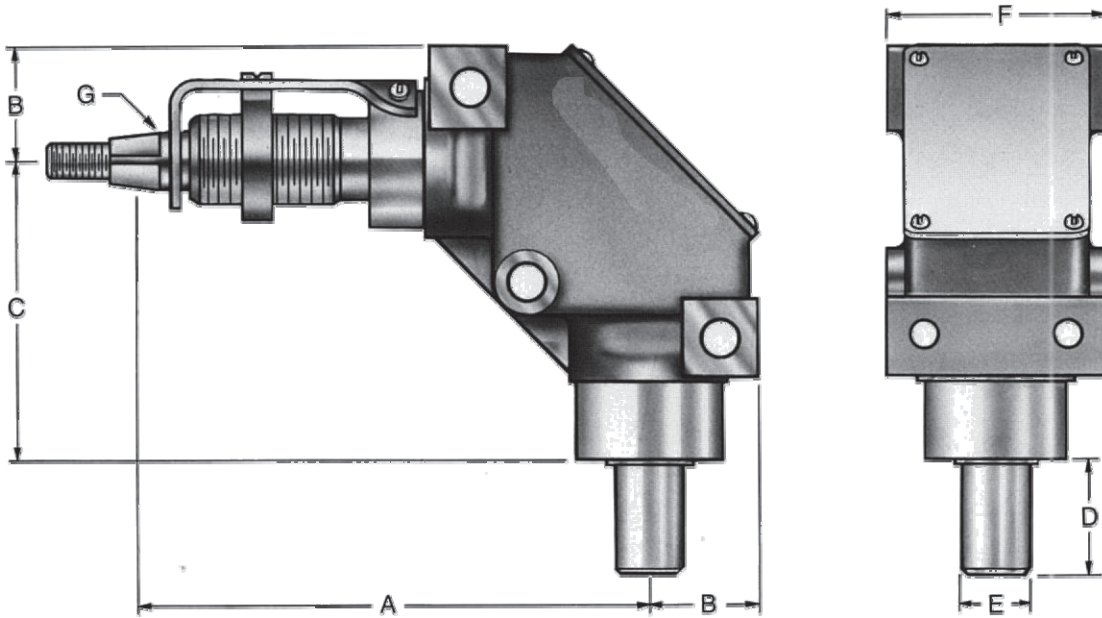


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90® GEAR BOX WITH INDICATION

The 90® Gear Box w/ Indicator provides a convenient means to control valves from a remote location and may be mounted on a wall or other vertical surface.



Part Number		Type	A	B	C	D	E	F	G	Usable Turns
Bronze	Aluminum									
VCGI-3100	VCGI-2100	1/2" Rod	5.73	1.19	3.38	1.31	.50	2.50	.375	11
VCGI-3200	VCGI-2200	3/4" Rod	7.41	1.62	4.38	1.50	.75	3.00	.750	14
VCGI-3250	VCGI-2250	1" Rod	8.08	1.62	4.38	1.50	1.00	3.00	1.188	17
VCGI-3251	VCGI-2251									34
VCGI-5100	VCGI-4100	1/2" Flex	5.73	1.19	3.38	.81	.38	2.50	.375	11
VCGI-5101	VCGI-4101									10
VCGI-5150	VCGI-4150	3/4" Flex	5.73	1.19	3.38	1.31	.56	2.50	.562	10
VCGI-5200	VCGI-4200	1" Flex	7.41	1.62	4.38	1.31	.75	3.00	.750	14
VCGI-5201	VCGI-4201									21
VCGI-5250	VCGI-4250	1-1/4" Flex	8.08	1.62	4.38	1.31	1.00	3.00	1.188	34

BILL OF MATERIALS	
Description	Materials
Gear Box Housing	Bronze/Aluminum
Spindle	Steel
Gear	Steel
Square Key	Steel
Seal	Syn. Compound
Bearing	Steel
Cover	Brass
Gasket	Vellumoid
Rd. Hd. Screw	Brass
Lockwasher	Brass
Retaining Ring	Steel
Thrust Washer	Steel
Thrust Bearing	Steel
Shim	Steel
Indicator Plate	Bronze
Indicator Nut	Bronze
Washer Head Screw	Brass
Woodruff Key	Steel
≅For Flex Shaft Only	

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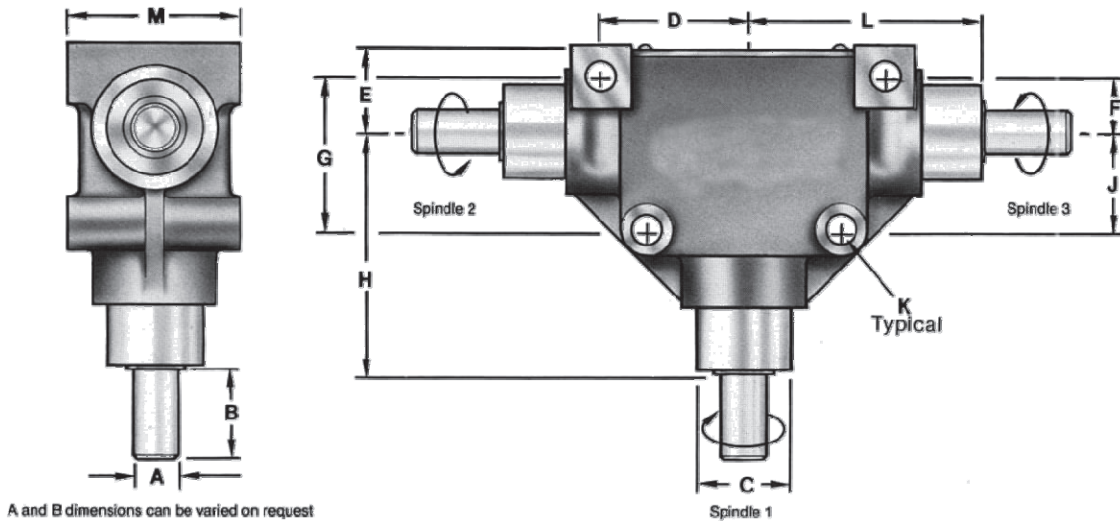


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THREE-SPINDLE GEAR BOX

Three-Spindle Gear Boxes allow input from two remote operators or to two remote valves. They have three individual spindles. The relative rotation of each is shown below.



Bill of Materials			
Description	Material	Description	Material
Housing	Bronze/Aluminum	Rd. Hd. Screw	Brass
Spindle	Steel	Retaining Ring	Steel
Gear	Steel	Thrust Washer	Steel
Square Key	Steel	Shim	Steel
Seal	Syn. Compound	Washer Head Screw [≡]	Brass
Bearing	Steel	Woodruff Key [≡]	Steel
Cover	Brass	[≡] Supplied w/ Flex Sizes Only	
Gasket	Vellumoid		

Part No.		Type	A	B	C	D	E	F	G	H	J	K	L	M
Bronze	Aluminum													
VCGT-3100	VCGT-2100	1/2" Rod	.50	1.31	1.499 1.497	1.75	1.19	.75	1.94	3.38	1.19	.44	3.25	2.50
VCGT-3150	VCGT-2150	5/8" Rod	.62	1.31	1.499 1.497	1.75	1.19	.75	1.94	3.38	1.19	.44	3.25	2.50
VCGT-3200	VCGT-2200	3/4" Rod	.75	1.50	2.123 2.121	2.62	1.62	1.06	2.75	4.38	1.69	.56	4.25	3.00
VCGT-3300	VCGT-2300	1" Rod	1.00	1.50	2.123 2.121	2.62	1.62	1.06	2.75	4.38	1.69	.56	4.25	3.00
VCGT-3400	VCGT-2400	1-1/4" Rod	1.25	1.88	2.623 2.621	2.69	1.81	1.12	3.06	5.06	1.94	.69	5.12	3.75
VCGT-5100	VCGT-4100	1/2" Flex	.38	.81	1.186 1.184	1.75	1.19	.75	1.94	3.38	1.19	.44	3.25	2.50
VCGT-5150	VCGT-4150	3/4" Flex	.56	1.31	1.499 1.497	1.75	1.19	.75	1.94	3.38	1.19	.44	3.25	2.50
VCGT-5200	VCGT-4200	1" Flex	.75	1.31	1.810 1.808	2.62	1.62	1.06	2.75	4.38	1.69	.56	4.25	3.00
VCGT-5300	VCGT-4300	1-1/4" Flex	1.00	1.31	2.123 2.121	2.62	1.62	1.06	2.75	4.38	1.69	.56	4.25	3.00
VCGT-5400	VCGT-4400	1-5/8" Flex	1.12	1.94	2.623 2.621	2.69	1.81	1.12	3.06	5.06	1.94	.69	5.12	3.75

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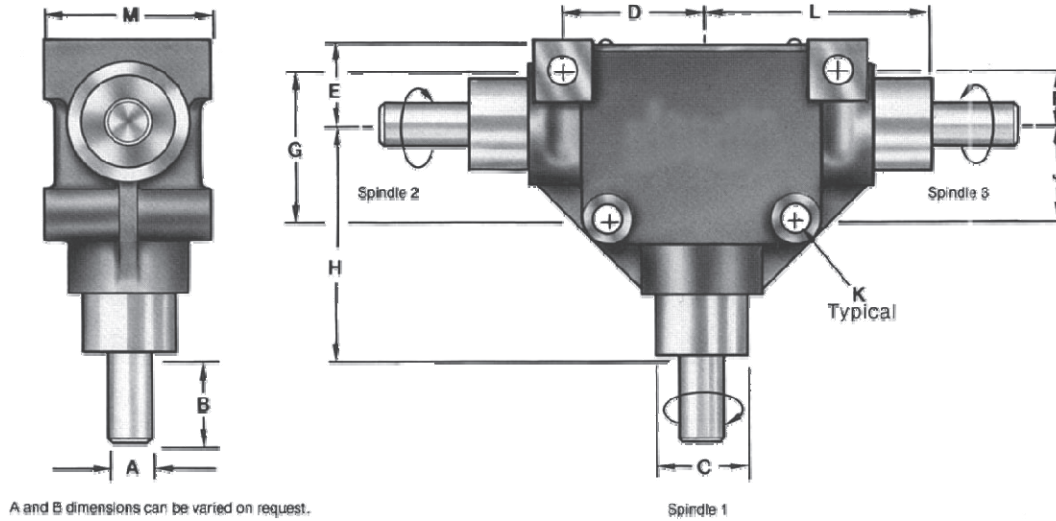


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THRU-SPINDLE GEAR BOX

Thru-Spindle Gear Boxes allow input from two remote operators or to two remote valves. They have one standard spindle and one thru-spindle. The relative rotation of each is shown below.



Bill of Materials

Description	Material	Description	Material
Housing	Bronze/Aluminum	Rd. Hd. Screw	Brass
Spindle	Steel	Retaining Ring	Steel
Gear	Steel	Thrust Washer	Steel
Square Key	Steel	Shim	Steel
Seal	Syn. Compound	Washer Head Screw [≡]	Brass
Bearing	Steel	Woodruff Key [≡]	Steel
Cover	Brass	≡Supplied w/ Flex Sizes Only	
Gasket	Vellumoid		

Part No.		Type	A	B	C	D	E	F	G	H	J	K	L	M
Bronze	Aluminum													
VCGT-7100	VCGT-6100	½" Rod	.50	1.31	1.499	1.75	1.19	.75	1.94	3.38	1.19	.44	3.25	2.50
					1.497									
VCGT-7150	VCGT-6150	5/8" Rod	.62	1.31	1.499	1.75	1.19	.75	1.94	3.38	1.19	.44	3.25	2.50
					1.497									
VCGT-7200	VCGT-6200	¾" Rod	.75	1.50	2.123	2.62	1.62	1.06	2.75	4.38	1.69	.56	4.25	3.00
					2.121									
VCGT-7300	VCGT-6300	1" Rod	1.00	1.50	2.123	2.62	1.62	1.06	2.75	4.38	1.69	.56	4.25	3.00
					2.121									
VCGT-7400	VCGT-6400	1-1/4" Rod	1.25	1.88	2.623	2.69	1.81	1.12	3.06	5.06	1.94	.69	5.12	3.75
					2.621									
VCGT-9100	VCGT-8100	½" Flex	.38	.81	1.186	1.75	1.19	.75	1.94	3.38	1.19	.44	3.25	2.50
					1.184									
VCGT-9150	VCGT-8150	¾" Flex	.56	1.31	1.499	1.75	1.19	.75	1.94	3.38	1.19	.44	3.25	2.50
					1.497									
VCGT-9200	VCGT-8200	1" Flex	.75	1.31	1.810	2.62	1.62	1.06	2.75	4.38	1.69	.56	4.25	3.00
					1.808									
VCGT-9300	VCGT-8300	1-1/4" Flex	1.00	1.31	2.123	2.62	1.62	1.06	2.75	4.38	1.69	.56	4.25	3.00
					2.121									
VCGT-9400	VCGT-8400	1-5/8" Flex	1.12	1.94	2.623	2.69	1.81	1.12	3.06	5.06	1.94	.69	5.12	3.75
					2.621									

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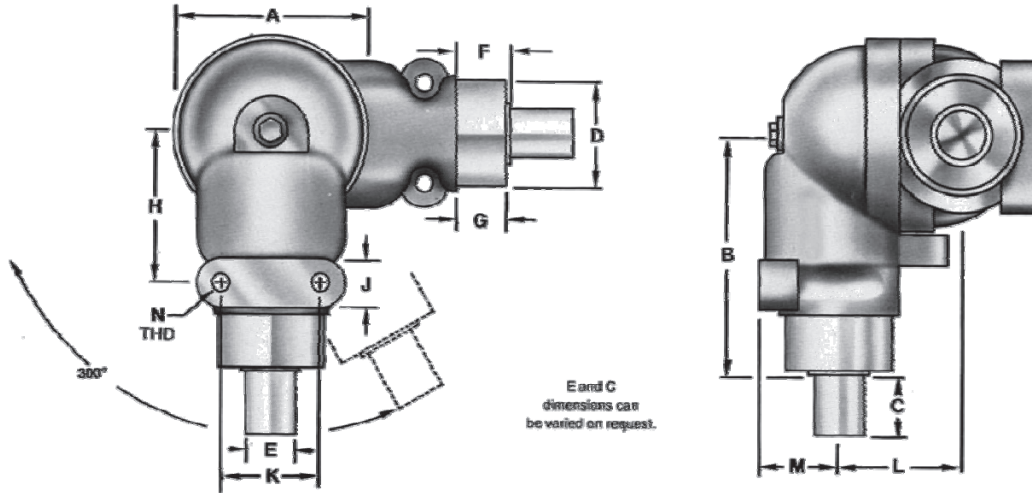


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300® SWIVEL GEAR JOINT

Swivel Gear Joints are used to transmit torque of a rigid rod or flexible shaft system around sharp bends from 30® to 330®. Mounting holes are provided for a variety of mounting positions.



Bill of Materials			
Description	Material	Description	Material
Housing	Bronze/Aluminum	Cap Screw	Stainless Steel
Locking Bolt	Steel	Bearing	Steel
Spindle	Steel	Bearing	Steel
Seal	Syn. Compound	Bearing	Steel
Pinion Gear	Steel	Thrust Washer	Steel
Bevel Gear	Steel	Thrust Washer	Steel
Square Key	Steel	Shim	Steel
Set Screw	Stainless Steel	Retaining Ring	Steel
O-ring	Syn. Compound	Washer Head Screw	Brass
O-ring	Syn. Compound	Woodruff Key	Steel
Washer	Stainless Steel	≅Supplied w/ Flex Sizes Only	

Part No.		Type	A	B	C	D	E	F	G	H	J	K	L	M	N
Bronze	Aluminum														
VCGS-3100	VCGS-2100	1/2" Rod	2.94	3.69	1.31	1.499 1.497	.50	1.15	1.03	2.12	.75	1.75	1.81	1.12	3/8"-16
VCGS-3150	VCGS-2150	5/8" Rod	2.94	3.69	1.31	1.499 1.497	.62	1.15	1.03	2.12	.75	1.75	1.81	1.12	3/8"-16
VCGS-3200	VCGS-2200	3/4" Rod	3.88	4.62	1.50	2.123 2.121	.75	1.15	1.09	3.00	1.00	2.00	2.44	1.50	7/16"-14
VCGS-3300	VCGS-2300	1" Rod	3.88	4.62	1.50	2.123 2.121	1.00	1.15	1.09	3.00	1.00	2.00	2.44	1.50	7/16"-14
VCGS-3400	VCGS-2400	1-1/4" Rod	4.25	5.38	1.88	2.623 2.621	1.25	1.65	1.59	3.12	1.12	2.50	2.88	1.75	9/16"-12
VCGS-5100	VCGS-4100	1/2" Flex	2.94	3.69	.81	1.186 1.184	.38	1.15	1.03	2.12	.75	1.75	1.81	1.12	3/8"-16
VCGS-5150	VCGS-4150	3/4" Flex	2.94	3.69	1.31	1.499 1.497	.56	1.15	1.03	2.12	.75	1.75	1.81	1.12	3/8"-16
VCGS-5200	VCGS-4200	1" Flex	3.88	4.62	1.31	1.810 1.808	.75	1.15	1.09	3.00	1.00	2.00	2.44	1.50	7/16"-14
VCGS-5300	VCGS-4300	1-1/4" Flex	3.88	4.62	1.31	2.123 2.121	1.00	1.15	1.09	3.00	1.00	2.00	2.44	1.50	7/16"-14
VCGS-5400	VCGS-4400	1-5/8" Flex	4.25	5.38	1.94	2.623 2.621	1.12	1.65	1.59	3.12	1.12	2.50	2.88	1.75	9/16"-12

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