

**tyco**

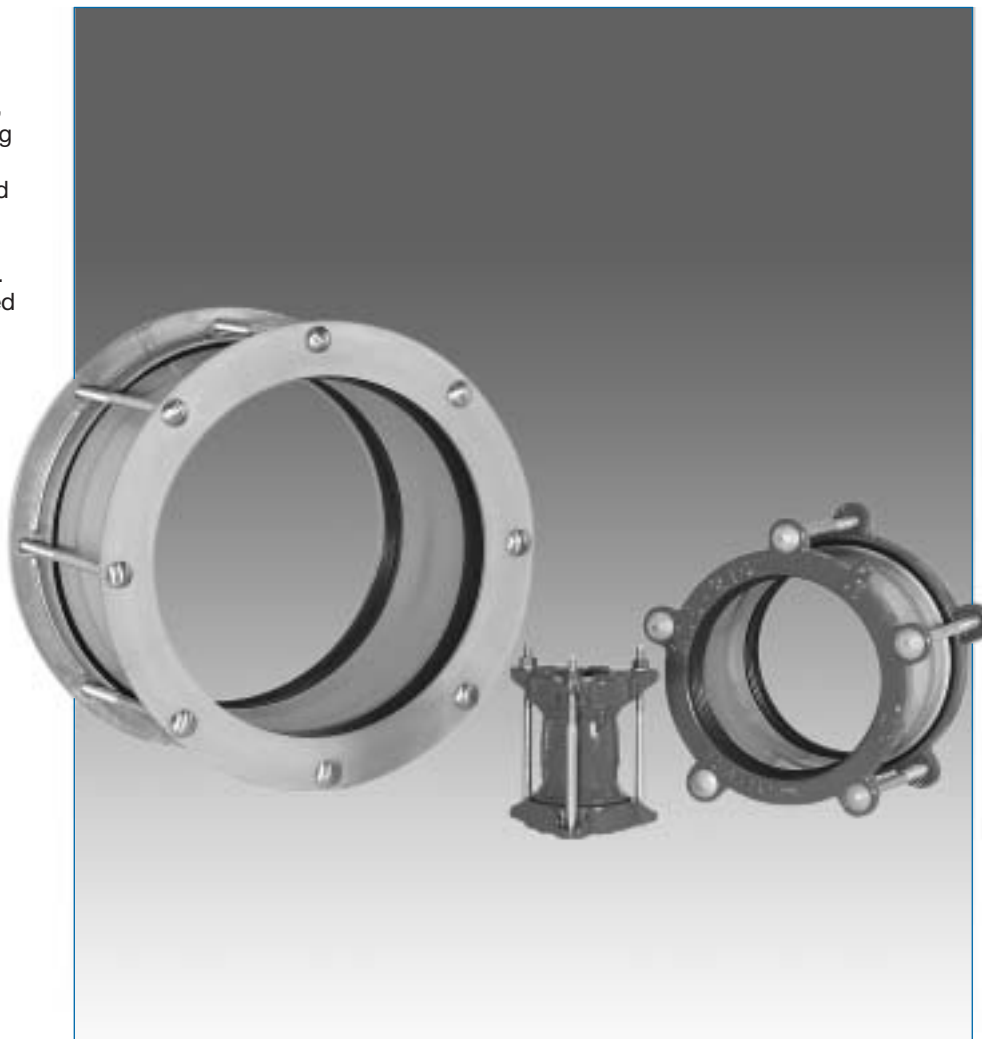
Flow Control

**Tyco Water**

Vari-Gib non-restrained mechanical couplings are manufactured to WSA 105 and provide an effective method for connecting pipes with equal or unequal diameters.

### Features

- One coupling fits a wide range of pipe OD's (up to 24mm variation), significantly reducing stockholding requirements.
- Specially designed wedge shaped nitrile seal for use with water, wastewater and gas mediums.
- Compatible with most pipe types.
- Vari-Gib couplings can be installed without the need to disassemble, significantly improving speed and ease of installation.
- Fasteners have a captive head configuration to enable single spanner operation, facilitating ease of field assembly.
- Fasteners are 316 stainless steel for long life operation, or galvanised mild steel is available in sizes up to DN300.
- Components are pre-lubricated during assembly to provide low torque installation.
- Three bolt design is used on DN150 and smaller for ease of installation.



### General Applications

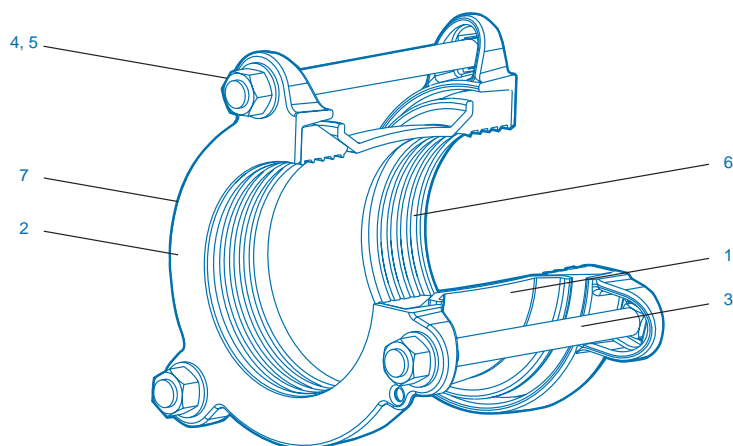
Vari-Gib couplings are ideal for joining two pipe ends together and are predominantly used in a maintenance situation where a burst or damaged pipeline is repaired by a cut-out and replace method. Suitable for drinking water, wastewater and gas applications.

### Technical Data

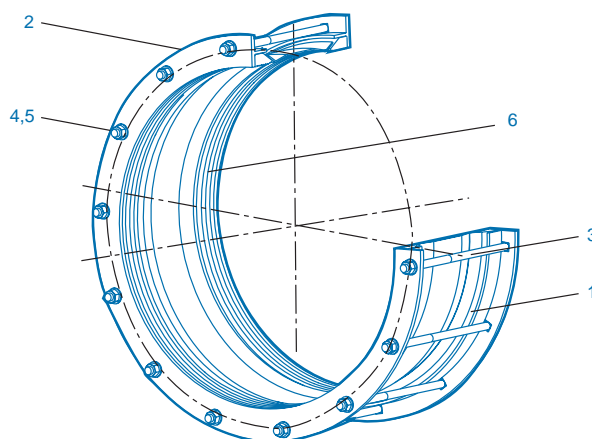
**Size range:** DN40 - DN600  
(Other sizes available on request)  
**Allowable Operating Pressure:** 1600 kPa  
**Allowable Test Pressure:** 2400 kPa  
**Max. Temperature:** 60°C  
**Approvals:**  
WSAA Appraisal No. 98/31  
Certified to AS 4020  
(Products in contact with potable water).  
Please contact your Tyco distributor for information on alternative specifications.

# Vari-Gib Couplings

DN40 - DN600



**Note:** DN100 Coupling Illustrated.



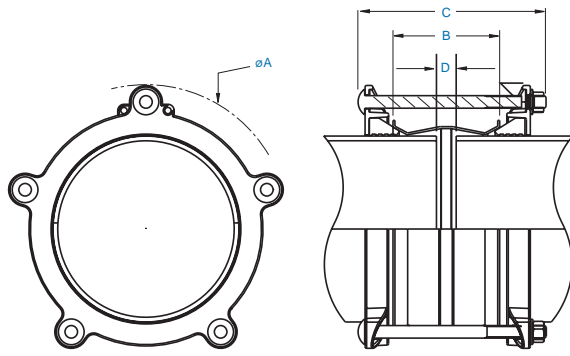
**Note:** DN600 Coupling Illustrated.

## Parts List

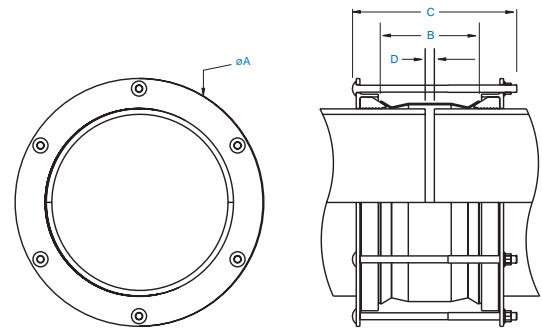
No	Description	Material	Standard
1	Barrel	Ductile Iron 316 Stainless Steel	AS 1831 ASTM A240M
2	Flanges	Ductile Iron 316 Stainless Steel	AS 1831 ASTM A276
3	Bolts	316 Stainless Steel Mild Steel - Galvanised	DIN 603
4	Nuts	316 Stainless Steel Mild Steel - Galvanised	AS 1112.1
5	Washers	316 Stainless Steel Mild Steel - Galvanised	ISO 887/ISO 7089
6	Gasket	Nitrile (NBR) Compound	AS 1646 and AS/NZS 4020
7	Coating	Fusion Coated Fusion Coated (Black Epoxy)	AS/NZS 4158

# Vari-Gib Couplings

## DN40 - DN600



**Note:** Vari-Gib illustrated with Ductile-Iron Flanges



**Note:** Vari-Gib illustrated with Stainless Steel Flanges

### Dimensions

Start of Range	End of Range	Flange OD A	Bolt Qty	Bolt Size	Angular Defl	Barrel Length B		Bolt Length C		Max Allow Pipe Gap D		Rec. Min Setting Gap		Approx kg
						Short	Long	Short	Long	Short	Long	Short	Long	
45	69	191	3	M12	6	110		200		15		10		4
52	76	198	3	M12	6	110		200		15		10		4
63	87	213	3	M12	6	110		200		15		10		5
84	108	238	3	M16	6	110	176	200	270	15	50	10	10	5.5
109	133	263	3	M16	6	110	176	200	270	15	50	10	10	6.5
123	147	277	3	M16	6	110		200		15		10		8
158	182	312	3	M16	6	110	176	200	270	15	50	12	12	7.5
170	194	324	3	M16	6	110		200		15		12		8.5
178	202	332	4	M16	6	110		200		15		12		10
214	238	371	5	M16	6		176		270		50		12	11
240	264	399	5	M16	6		176		270		50		15	13
272	296	431	5	M16	6		176		270		50		15	14
310	334	490	5	M16	6		216		350		80		15	24
330	354	510	5	M16	6		216		350		80		15	26
346	370	504	5	M16	6		216		350		80		15	30
396	420	554	8	M16	5		216		350		80		15	37
410	434	568	8	M16	5		216		350		80		15	38
436	460	594	8	M16	4		216		350		80		15	42
444	468	602	8	M16	4		216		350		80		15	45
488	512	646	10	M16	4		216		350		80		15	49.5
498	522	656	10	M16	4		216		350		80		15	51
530	554	688	12	M16	4		216		350		80		15	57
542	566	700	12	M16	4		216		350		80		20	58
552	576	710	12	M16	4		216		350		80		20	59
574	598	732	12	M16	4		216		350		80		20	60
596	620	754	14	M16	4		216		350		80		25	65
630	654	788	14	M16	3		216		350		80		25	70
648	672	806	14	M16	3		216		350		80		25	71.5
658	682	816	14	M16	3		216		350		80		25	72

### Stepped Couplings

Nom Size	Small End	Flange		Large End	Flange		Bolt Qty	Bolt Size	Angular Defl	Barrel Lengths B	Bolt Lengths C	Max Allow Pipe Gap D	Rec Min Setting Gap	Approx kg
		OD A	Bolt Qty		OD A	Bolt Qty								
80-100	84-108	238	3	109-133	263	3	M16	6	110	200	15	10	7.5	
200-225	214-238	371	5	240-264	399	5	M16	6	216	300	80	15	21	

**Note:**

"Short" and "Long" Vari-Gib barrels as per Australian WSA 105-2002  
Couplings for other pipe OD ranges may be available on request.  
Vari-Gib Couplings DO NOT provide axial restraint

Vari-Gib Selection Chart

DN	Pressure Pipe										
	DICL	Steel		UPVC		ABS		Hobas	Copper	CICL	
	AS/NZS 2280	MSCL AS 1579	GWJ AS 1074	Series 1 AS/NZS 1477	Series 2 AS/NZS 4441	Series 1 AS 3518	Series 2 AS 3518	AS 3571	AS 1432	B AS 1724	C AS 2
40			0045	0045		0045					
			<b>48mm</b>	<b>48mm</b>		<b>48mm</b>			<b>38mm</b>		
50			0045	0045		0045					
			0052	0052		0052			0045		
65			0052	0052		0052			0052		
			0063	0063		0063			0063		
80			0084	0084		0084			0052		
	0084		0084	0084		0084			0063		0084
100			0109	0109		0109			0084	0109	0109
	<b>96mm</b>		<b>89mm</b>	<b>89mm</b>		<b>89mm</b>			<b>76mm</b>		<b>96mm</b>
125		0109	0109	0109	0109	0109	0109	0109	0084	0109	0109
	<b>122mm</b>	<b>114mm</b>	<b>114mm</b>	<b>114mm</b>	<b>122mm</b>	<b>114mm</b>	<b>122mm</b>	<b>122mm</b>	<b>101mm</b>	<b>122mm</b>	<b>122mm</b>
150		0123	0123	0123		0123			0123		NA
		<b>140mm</b>	<b>140mm</b>	<b>140mm</b>		<b>140mm</b>			<b>127mm</b>		<b>149mm</b>
175		0158			0158		0158	0158		0158	0158
	0170	0158	0158	0158	0170	0158	0170	0170		0170	0170
200		<b>177mm</b>	<b>168mm</b>	<b>168mm</b>	<b>160mm</b>	<b>177mm</b>	<b>168mm</b>	<b>177mm</b>	<b>177mm</b>	<b>152mm</b>	<b>177mm</b>
				0178							
225				<b>200mm</b>							
	0214	0214		0214	0214	0214	0214	0214		0214	0214
250		<b>232mm</b>	<b>218mm</b>	<b>225mm</b>	<b>232mm</b>	<b>225mm</b>	<b>232mm</b>	<b>232mm</b>	<b>203mm</b>	<b>232mm</b>	<b>232mm</b>
	0240	0240		0240	0240	0240	0240	0240	0214	0240	0240
275		<b>259mm</b>	<b>257mm</b>	<b>250mm</b>	<b>259mm</b>	<b>250mm</b>	<b>259mm</b>	<b>259mm</b>	<b>229mm</b>	<b>259mm</b>	<b>259mm</b>
	0272	0272		0272	0272		0272	0272		0272	0272
300		<b>286mm</b>	<b>273mm</b>	<b>280mm</b>	<b>286mm</b>		<b>286mm</b>	<b>286mm</b>		<b>286mm</b>	<b>286mm</b>
										0310	
350		0330	0310	0310	0330	0310	0330	0330		0330	0330
	<b>345mm</b>	<b>324mm</b>		<b>315mm</b>	<b>345mm</b>	<b>315mm</b>	<b>345mm</b>	<b>345mm</b>		<b>334mm</b>	<b>345mm</b>
375				0346		0346		0396			
		<b>355mm</b>		<b>355mm</b>		<b>355mm</b>		<b>399mm</b>			
400		0410	0396	0396	0410	0396	0410	0410		0410	0410
	<b>426mm</b>	<b>406mm</b>		<b>400mm</b>	<b>426mm</b>	<b>400mm</b>	<b>426mm</b>	<b>426mm</b>		<b>413mm</b>	<b>426mm</b>
450		0436		0436		0436		0436			
		0444		0444		0444		0444			
500		<b>457mm</b>		<b>450mm</b>		<b>450mm</b>		<b>453mm</b>			
	0488	0488		0488	0488	0488	0488	0488			0488
525		0498		0498	0498	0498	0498	0498		0488	0488
	<b>507mm</b>	<b>508mm</b>		<b>500mm</b>	<b>507mm</b>	<b>500mm</b>	<b>507mm</b>	<b>507mm</b>		<b>492mm</b>	<b>507mm</b>
550		0542	0542	0542		0542		0542		0530	0530
		0552	0552	0552		0552		0552		0542	0542
575		<b>560mm</b>	<b>559mm</b>	<b>560mm</b>		<b>560mm</b>		<b>560mm</b>		<b>545mm</b>	<b>560mm</b>
					0542		0542				
600					0552		0552	0574			
		<b>610mm</b>		<b>560mm</b>		<b>560mm</b>		<b>587mm</b>			
650		0658	0648		0658		0658	0658		0648	0648
		0648	0658	0630	0648	0630	0648	0648		0630	0630
700		<b>667mm</b>	<b>660mm</b>	<b>630mm</b>	<b>667mm</b>	<b>630mm</b>	<b>667mm</b>	<b>667mm</b>		<b>650mm</b>	<b>667mm</b>

**Note:** Vari-Gib couplings are not recommended for use on Polyethylene pipe

**Note:** Other sizes may be available on request.

Top Number = Vari-Gib Option 1  
Vari-Gib Option 2

Bottom Number = Pipe OD (mm)

	Asbestos		RC
	AB	CD	
	AS 1711	AS 1711	AS 4058
544			
	0045		
	0052		
	<b>69mm</b>		
	0063		
	<b>79mm</b>		
84	0084	0084	
<b>mm</b>	<b>96mm</b>	<b>96mm</b>	
09	0109	0109	
<b>mm</b>	<b>122mm</b>	<b>122mm</b>	
A			
<b>mm</b>			
58	0158	0158	
70	0170	0170	0178
<b>mm</b>	<b>177mm</b>	<b>177mm</b>	<b>197mm</b>
14	0214	0214	
<b>mm</b>	<b>232mm</b>	<b>232mm</b>	
40	0240	0240	0272
<b>mm</b>	<b>259mm</b>	<b>259mm</b>	<b>279mm</b>
72	0272	0272	
<b>mm</b>	<b>286mm</b>	<b>286mm</b>	
	0310		
30	0330	0330	0346
<b>mm</b>	<b>334mm</b>	<b>345mm</b>	<b>362mm</b>
10	0410	0410	0444
<b>mm</b>	<b>413mm</b>	<b>426mm</b>	<b>445mm</b>
88		0488	
98	0488	0498	0530
<b>mm</b>	<b>492mm</b>	<b>507mm</b>	<b>533mm</b>
42			
52			
<b>mm</b>			
	0552	0574	0600
	<b>572mm</b>	<b>587mm</b>	<b>616mm</b>
58	0648	0658	
48	0630	0648	
<b>mm</b>	<b>650mm</b>	<b>667mm</b>	

Recommended Specification

- Couplings shall be manufactured in conformance with WSA 105 and shall accommodate a wide range of pipes of the same nominal size.
- The design shall incorporate a wedge shaped Nitrile rubber seal manufactured in accordance with AS 1646
- Couplings shall be un-restrained.
- Coupling components shall be manufactured from Grade 316 Stainless Steel to ASTM A 240M or Ductile Iron to AS 1831
- Ductile barrels shall be coated with a thermal bonded polymeric coating in accordance with AS/NZS 4158
- Ductile Iron flanges shall utilise the following coatings:
  - \* Thermal bonded polymeric coating to AS/NZS 4158
  - \* Thermal bonded polymeric coating (Fusion Coated Black Epoxy)

Material Options Table

	Barrel		Flanges			Fasteners		Gasket Nitrile Rubber
	Ductile Iron Fusion Coated AS/NZS 4158	316 Stainless Steel	Ductile Iron FC Black Epoxy	Ductile Iron Coated to AS/NZS 4158	316 Stainless Steel	Galv Mild Steel	316 Stainless Steel	
Start of Range	End of Range							
45	69	✓		✓		✓	✓	✓
52	76	✓		✓		✓	✓	✓
63	87	✓		✓		✓	✓	✓
84	108		✓	✓	✓	✓	✓	✓
109	133		✓	✓	✓	✓	✓	✓
123	147	✓		✓	✓	✓	✓	✓
158	182		✓	✓	✓	✓	✓	✓
170	194	✓		✓	✓	✓	✓	✓
178	202	✓		✓	✓	✓	✓	✓
214	238		✓	✓	✓	✓	✓	✓
240	264		✓	✓	✓	✓	✓	✓
272	296		✓	✓	✓	✓	✓	✓
310	334		✓	✓	✓	✓	✓	✓
330	354		✓	✓	✓	✓	✓	✓
346	370		✓		✓		✓	✓
396	420		✓		✓		✓	✓
410	434		✓		✓		✓	✓
436	460		✓		✓		✓	✓
444	468		✓		✓		✓	✓
488	512		✓		✓		✓	✓
498	522		✓		✓		✓	✓
530	554		✓		✓		✓	✓
542	566		✓		✓		✓	✓
552	576		✓		✓		✓	✓
574	598		✓		✓		✓	✓
596	620		✓		✓		✓	✓
630	654		✓		✓		✓	✓
648	672		✓		✓		✓	✓
658	682		✓		✓		✓	✓

Stepped couplings

84-108/109-133	✓		✓		✓		✓	✓
214-238/240-264	✓		✓		✓		✓	✓

## Typical Specifying Sequence

<b>Example</b>	<b>KV</b>	<b>0109</b>	<b>A</b>	<b>A</b>	<b>S</b>
<b>Vari-Gib</b>					
<b>OD Range</b> (Select code from Vari-Gib Selection Chart)					
<b>Material Options</b> (Select from Material Options Table) <b>A</b> = 316S/S Barrel/DI-Fusion Coated Flanges <b>B</b> = 316S/S Barrel/DI-Black Epoxy Flanges <b>C</b> = 316S/S Barrel/316 S/S Flanges <b>D</b> = DI Fusion Coated Barrel/DI-Fusion Coated Flanges					
<b>Barrel Length</b> (Select length from Dimensions Table) <b>A</b> = 110 <b>B</b> = 136 <b>C</b> = 176 <b>D</b> = 216					
<b>Fastener Material</b> (Select from Material Options Table) <b>G</b> = Galv <b>S</b> = 316 S/S					

### Example:

You require a Vari-Gib for a DN100 Ductile Iron pipe.

- Determine the coupling size from the Vari-Gib Selection Chart & add prefix.**  
Find the intersection of pipe Dia. DN 100 & D1CL.  
**Vari-Gib = 0109**  
**Add prefix = KV0109**
- Determine the Material for the Barrel & Flanges:**  
Refer to 109-133 on Material Options Chart. Find preferred materials & match to combinations offered in "Typical Specifying Sequence" above.  
**A = 316 S/S Barrel/DI-Fusion coated flanges = KV0109A**
- Determine the Barrel Length:**  
Find the intersection of Code No.109 & Barrel Lengths B from the Dimensions Chart.  
**Short = 110mm**  
**= KV0109AA**
- Determine the Material for the Fasteners from the Material Options Chart:**  
Find the Start of Range No.109 and select from the available options.  
**S = 316 S/S**

Therefore the Vari-Gib ordering code would be: **KV0109 AAS**