

FASTENINGS

WASHERS

Light Flat Washers Zinc

Code	Size
WA0307Z	M3 X 7
WA0409Z	M4 X 9
WA0510Z	M5 X 10
WA0616Z	M6 X 16
WA0819Z	M8 X 19
WA1021Z	M10 X 21
WA1024Z	M10 X 24
WA1224Z	M12 X 24
WA1226Z	M12 X 26
WA1228Z	M12 X 28
WA1432Z	M14 X 32
WA1630Z	M16 X 30
WA1634Z	M16 X 34
WA2037Z	M20 X 37
WA2444Z	M24 X 44



Heavy Round Washer Galvanised

Code	Size
WAHRO0822G	M8 X 22
WAHRO1025G	M10 X 25
WAHRO1232G	M12 X 32
WAHRO1638G	M16 X 38
WAHRO2044G	M20 X 44.5
WAHRO2247G	M22 X 47.5
WAHRO2454G	M24 X 54
WAHRO3060G	M30 X 60



Structural Washers Class 8 Galvanised

Code	Size
WAHS12G	M12
WAHS16G	M16
WAHS18G	M18
WAHS20G	M20
WAHS22G	M22
WAHS24G	M24
WAHS27G	M27
WAHS30G	M30
WAHS33G	M33
WAHS36G	M36
WAHS42G	M42
WAHS48G	M48
WAHS52G	M52



FASTENINGS

WASHERS

Spring Washers		
Code - Zinc	Code - Gavanised	Size
WAS06Z		M6
WAS08Z	WAS08G	M8
WAS10Z	WAS10G	M10
WAS12Z	WAS12G	M12
WAS14Z		M14
WAS16Z	WAS16G	M16
WAS20Z	WAS20G	M20
WAS22Z		M22
WAS24Z	WAS24G	M24
WAS30Z	WAS30G	M30



Square Washers Galvanised	
Code	Size
WASQ08403G	M8 X 40 X 3
WASQ10403G	M10 X 40 X 3
WASQ10503G	M10 X 50 X 3
WASQ12403G	M12 X 40 X 3
WASQ12503G	M12 X 50 X 3
WASQ12506G	M12 X 50 X 6
WASQ16503G	M16 X 50 X 3
WASQ16506G	M16 X 50 X 6
WASQ16606G	M16 X 60 X 6
WASQ16806G	M16 X 80 X 6
WASQ20503G	M20 X 50 X 3
WASQ20506G	M20 X 50 X 6
WASQ20606G	M20 X 60 X 6
WASQ20806G	M20 X 80 X 6
WASQ24503G	M24 X 50 X 3
WASQ24506G	M24 X 50 X 6
WASQ24806G	M24 X 80 X 6
WASQ2410010G	M24 X 100 X 10



FASTENINGS

NUTS

Hex Nut Class 8		
Code - Zinc	Code - Galvanised	Size
HN03Z		M3
HN04Z		M4
HN05Z		M5
HN06Z		M6
HN08Z		M8
HN10Z	HN10G	M10
HN12Z	HN12G	M12
HN14Z		M14
	HN16G	M16
HN18Z	HN18G	M18
HN20Z	HN20G	M20
HN24Z	HN24G	M24
	HN27G	M27
HN30Z	HN30G	M30
	HN33G	M33
HN36Z	HN36G	M36
	HN42G	M42
	HN48G	M48
	HN52G	M52



Structural Nut Class 8 Galvanised	
Code	Size
HNST12G	M12
HNST16G	M16
HNST20G	M20
HNST22G	M22
HNST24G	M24
HNST27G	M27
HNST30G	M30
HNST36G	M36



Nyloc Nuts		
Code - Zinc	Code - Galvanised	Size
NN05Z		M5
NN06Z		M6
NN08Z	NN08G	M8
NN10Z	NN10G	M10
NN12Z	NN12G	M12
NN14Z		M14
NN16Z	NN16G	M16
NN18Z		M18
NN20Z	NN20G	M20
NN24Z	NN24G	M24
NN30Z	NN30G	M30



FASTENINGS

NUTS

Coupling Nut Class 8 Galvanised

Code	Size
TRCHT12G	M12 X 40
TRCHT16G	M16 X 50
TRCHT20G	M20 X 50
TRCHT24G	M24 X 72
TRCHT27G	M27 X 81
TRCHT30G	M30 X 90
TRCHT33G	M33 X 99
TRCHT36G	M36 X 108



Coupling Nut Galvanised

Code	Size
TRC10G	M10 X 40
TRC12G	M12 X 40
TRC16G	M16 X 50
TRC20G	M20 X 50
TRC24G	M24 X 50
TRC30G	M30 X 90
TRC33G	M33 X 99



Coupling Nut Yellow Zinc

Code	Size
TRC06Z	M6 X 25
TRC08Z	M8 X 25
TRC1040Z	M10 X 40
TRC1050Z	M10 X 50
TR12Z	M12 X 40
TR16Z	M16 X 50
TR20Z	M20 X 50
TR24Z	M24 X 50



FASTENINGS

BOLTS

Please note, all codes are for galvanised.

When ordering, please replace the XX in the code with the diameter required (e.g. 08, 10, 12, 16, 20, 24).

Bolts High Tensile - Class 8.8									
Code	Length	M6	M8	M10	M12	M14	M16	M20	M24
BHXX012Z	12	•							
BHXX016Z	16	•	•						
BHXX020Z	20	•	•	•	•				
BHXX025Z	25	•	•	•	•				
BHXX030Z	30	•	•	•	•		•		
BHXX035Z	35	•	•	•	•		•		
BHXX040Z	40	•	•	•	•	•	•		
BHXX045Z	45	•	•	•	•		•		
BHXX050Z	50	•	•	•	•	•	•	•	
BHXX055Z	55	•	•	•			•		
BHXX060Z	60	•	•	•	•	•	•	•	
BHXX065Z	65	•	•	•	•		•	•	
BHXX070Z	70	•	•	•	•	•	•		
BHXX075Z	75	•	•	•	•		•	•	
BHXX080Z	80	•	•	•	•	•	•		
BHXX090Z	90	•	•	•	•	•	•	•	•
BHXX100Z	100	•	•	•	•		•	•	•
BHXX110Z	110	•		•	•		•		
BHXX120Z	120	•	•	•	•		•	•	•
BHXX130Z	130		•	•	•		•		
BHXX140Z	140			•	•		•	•	•
BHXX150Z	150		•	•	•		•		•
BHXX160Z	160			•			•	•	
BHXX170Z	170								
BHXX180Z	180			•				•	
BHXX200Z	200			•				•	•
BHXX220Z	220								
BHXX240Z	240								
BHXX260Z	260								
BHXX280Z	280								
BHXX300Z	300								



FASTENINGS

BOLTS

Please note, all codes are for galvanised.
When ordering, please replace the XX in the code with the diameter required (e.g. 08, 10, 12, 16, 20, 24).



Bolts High Tensile - Class 4.8							
Code	Length	M8	M10	M12	M16	M20	M24
BEXX020G	20	•	•				
BEXX025G	25	•	•	•			
BEXX030G	30	•	•	•	•		
BEXX035G	35	•	•	•	•	•	
BEXX040G	40	•	•	•	•	•	
BEXX045G	45	•	•	•	•	•	
BEXX050G	50	•	•	•	•	•	•
BEXX055G	55	•	•	•	•	•	
BEXX060G	60	•	•	•	•	•	•
BEXX065G	65	•	•	•	•	•	•
BEXX070G	70	•	•	•	•	•	
BEXX075G	75	•	•	•	•	•	•
BEXX080G	80	•	•	•	•	•	•
BEXX090G	90	•	•	•	•	•	•
BEXX100G	100	•	•	•	•	•	•
BEXX110G	110		•	•	•	•	•
BEXX120G	120	•	•	•	•	•	•
BEXX130G	130		•	•	•	•	•
BEXX140G	140		•	•	•	•	•
BEXX150G	150		•	•	•	•	•
BEXX160G	160		•	•	•	•	•
BEXX180G	180		•	•	•	•	•
BEXX200G	200		•	•	•	•	•
BEXX220G	220				•	•	•
BEXX240G	240			•	•	•	•
BEXX260G	260			•	•	•	
BEXX280G	280			•	•	•	
BEXX300G	300			•	•	•	

FASTENINGS

BOLTS

Please note, all codes are for galvanised.

When ordering, please replace the XX in the code with the diameter required (e.g. 12, 16, 20, 22, 24, 27, 30, 33, 36).

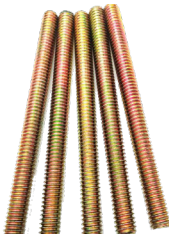
Structural Assemblies										
Code	Length	M12	M16	M20	M22	M24	M27	M30	M33	M36
SB12040G	40	•	•	•						
SBXX045G	45	•	•	•						
SBXX050G	50	•	•	•		•				
SBXX055G	55	•	•	•		•				
SBXX060G	60	•	•	•	•	•				
SBXX065G	65	•	•	•	•	•				
SBXX070G	70	•	•	•	•	•				
SBXX075G	75	•	•	•	•	•	•	•		
SBXX080G	80	•	•	•		•		•		
SBXX085G	85			•		•		•		
SBXX090G	90	•	•	•	•	•	•	•	•	•
SBXX100G	100	•	•	•	•	•	•	•	•	•
SBXX110G	110	•	•	•		•		•		
SBXX120G	120	•	•	•		•	•	•	•	•
SBXX130G	130		•	•	•	•	•	•	•	•
SBXX140G	140		•	•		•	•	•		•
SBXX150G	150	•	•	•	•	•	•	•	•	•
SBXX160G	160		•	•	•	•		•	•	•
SBXX180G	180	•	•	•	•	•	•	•	•	•
SBXX200G	200	•	•	•	•	•	•	•	•	•
SBXX220G	220		•	•		•	•		•	
SBXX240G	240		•	•		•	•	•	•	•
SBXX250G	250		•	•						
SBXX260G	260		•	•		•	•	•	•	•
SBXX280G	280		•	•		•		•	•	
SBXX300G	300		•	•		•	•	•	•	•
SBXX325G	325			•		•		•		
SBXX350G	350		•	•		•		•		•
SBXX375G	375			•		•		•		
SBXX400G	400		•	•		•		•		•



FASTENINGS

THREADED ROD

High Tensile Zinc Yellow 8.8		
Code	Diameter	Length
		1m
TRHT05Z	M5	•
TRHT06Z	M6	•
TRHT08Z	M8	•
TRHT10Z	M10	•
TRHT12Z	M12	•
TRHT14Z	M14	•
TRHT16Z	M16	•
TRHT18Z	M18	•
TRHT20Z	M20	•
TRHT24Z	M24	•
TRHT30Z	M30	•
TRHT36Z	M36	•



High Tensile Metric Fine Zinc Yellow 8.8		
Code	Diameter	Length
		1m
TRHTF1012ZC	M10 (1.25P)	•
TRHTF1212ZC	M12 (1.25P)	•
TRHTF1215ZC	M12 (1.50P)	•
TRHTF1415ZC	M14 (1.50P)	•
TRHTF1615ZC	M16 (1.50P)	•
TRHTF1815ZC	M18 (1.50P)	•
TRHTF2015ZC	M20 (1.50P)	•
TRHTF2215ZC	M22 (1.50P)	•
TRHTF2420ZC	M24 (2.00P)	•
TRHTF2720ZC	M27 (2.00P)	•
TRHTF3020ZC	M30 (2.00P)	•



High Tensile UNC Zinc Yellow Grade 5		
Code	Diameter	Length
		2ft/610mm
TRHTUNC1/4Z	1/4"	•
TRHTUNC5/16Z	5/16"	•
TRHTUNC3/8Z	3/8"	•
TRHTUNC7/16Z	7/16"	•
TRHTUNC1/2Z	1/2"	•
TRHTUNC5/8Z	5/8"	•
TRHTUNC3/4Z	3/4"	•
TRHTUNC1Z	1"	•
TRHTUNC11/4Z	1.1/4"	•
TRHTUNC11/2Z	1.1/2"	•



FASTENINGS

THREADED ROD

When ordering, please replace the X with the length of the rod.

Mild Steel Zinc 4.8				
Code	Diameter	Length		
		1m	2m	3m
TR05XZ	M5	•		
TR06XZ	M6	•	•	
TR08XZ	M8	•	•	
TR10XZ	M10	•	•	•
TR12XZ	M12	•	•	•
TR14XZ	M14	•		
TR16XZ	M16	•	•	•
TR20XZ	M20	•	•	•
TR24XZ	M24	•		
TR30XZ	M30	•		
TR36XZ	M36	•		



High Tensile Galvanised 8.8				
Code	Diameter	Length		
		1m	2m	3m
TR10XG	M10	•		
TR12XG	M12	•	•	•
TR16XG	M16	•	•	•
TR18XG	M18	•		
TR20XG	M20	•	•	•
TR22XG	M22	•		
TR24XG	M24	•	•	•
TR27XG	M27	•		
TR30XG	M30	•	•	•
TR33XG	M33	•		•
TR36XG	M36	•	•	•
TR39XG	M39	•		•
TR42XG	M42	•		•
TR48XG	M48	•		•
TR52XG	M52	•		•



FASTENINGS

RUBBER BELLOWS

A Rubber bellow is a flexible joint made from heat resisting synthetic elastomers and moulded in a spherical shape with metal floating flanges.

Rubber Bellows (Flexible Rubber Joints) are installed in piping systems to absorb movements in three directions:

1. Axial – the movement of elongation and compression along the centre line
2. Lateral – offset movement from the centre line
3. Angular – offset bending about the centre line

Applications – Air, Compressed Air, Water, Sea Water, Hot Water, Weak Acid.

Single Sphere Style 10

Single sphere expansion joint style 10 is capable of handling water, warm water, seawater, weak acids, alkalies, etc. The product comes with a wide selection of flange drilling: JIS, DIN, ANSI, BS, and other standard drilling. Style 10 is manufactured with any of the following material: Neoprene, Butyl, Nitrile, EPDM, Hypalon, Natural Rubber, etc. Not only does style 10 give you many choices, it is so strong that it can withstand burst pressure 60 bars for size 5/4" to 8" and 40 bars for sizes 10" to 24".

Double Sphere Style 20 without Root Ring

The double sphere connector of Style 20 allows greater compression, elongation, and deflection, and it requires little force to cause movement. With this product, you will not have problem installing it, because Style 20 is easy to install and uses floating-flanges. Style 20 is capable of handling water, warm water, seawater, weak acids, alkalies, etc.. The product comes with a wide selection of flange drilling: JIS, DIN, ANSI, BS, and other standard drilling. It is manufactured with any of the following material: Neoprene, Butyl, Nitrile, EPDM, Hypalon, Natural Rubber, etc.

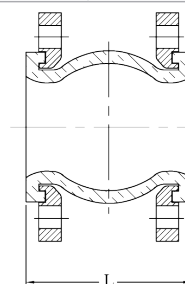
Not only does style 20 give you many choices, it is so strong that it can withstand burst pressure 60kg/cm² for size 5/4" to 8" and 40kg/ cm² for sizes 10" to 12".

Double Sphere Threaded Unions Style 30 without Root Ring

The double sphere threaded unions style 30 product provides the benefits of superb absorption of vibration, low cost installation, and operation. It is effective for large eccentricity thermal and bending angle. Style 30 is available in BS and ANSI unions. For more information regarding the different flanges used, please refer to the 'Flanges' section.

Single Sphere Expansion Joint - AS2129 Table E

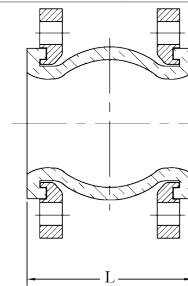
Code	NB (mm)	Length (mm)	Allowable Movement (mm)				Operating Condition		
			Axial Compression	Axial Elongation	Transverse Deflection	Angular Deflection	Max Pressure bar	Max Temperature	Vacuum Rating
FLFLEX/032TE	32	95	10	6	10	25	16	80°C	700
FLFLEX/050TE	50	105	10	6	10	25	16	80°C	700
FLFLEX/065TE	65	115	15	8	12	25	16	80°C	700
FLFLEX/080TE	80	135	15	8	12	25	16	80°C	700
FLFLEX/100TE	100	150	20	12	16	15	16	80°C	700
FLFLEX/125TE	125	165	20	12	16	15	16	80°C	700
FLFLEX/150TE	150	180	20	12	16	15	16	80°C	700
FLFLEX/200TE	200	210	20	12	16	15	16	80°C	700
FLFLEX/250TE	250	230	30	14	25	8	16	80°C	700
FLFLEX/300TE	300	230	30	14	25	8	16	80°C	700
FLFLEX/350TE	350	265	30	14	25	8	16	80°C	700



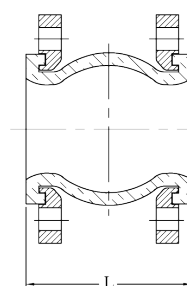
FASTENINGS

RUBBER BELLOWS

Single Sphere Expansion Joint - EN1092-1 PN16									
Code	NB (mm)	Length (mm)	Allowable Movement (mm)				Operating Condition		
			Axial Compression	Axial Elongation	Transverse Deflection	Angular Deflection	Max Pressure bar	Max Temperature	Vacuum Rating
FLFLEX/050/PN16	50	105	10	6	10	25	16	80°C	700
FLFLEX/065/PN16	65	115	15	8	12	25	16	80°C	700
FLFLEX/080/PN16	80	135	15	8	12	25	16	80°C	700
FLFLEX/100/PN16	100	150	20	12	16	15	16	80°C	700
FLFLEX/125/PN16	125	165	20	12	16	15	16	80°C	700
FLFLEX/150/PN16	150	180	20	12	16	15	16	80°C	700
FLFLEX/200/PN16	200	210	20	12	16	15	16	80°C	700
FLFLEX/250/PN16	250	230	30	14	25	8	16	80°C	700



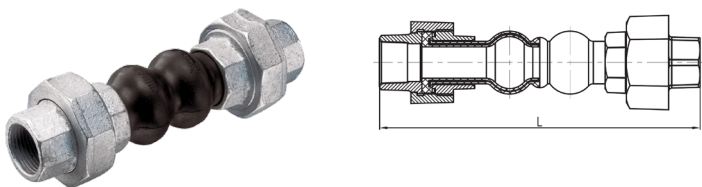
Single Sphere Expansion Joint - AS2129 Table E - EN1092-1 PN16									
Code	NB (mm)	Length (mm)	Allowable Movement (mm)				Operating Condition		
			Axial Compression	Axial Elongation	Transverse Deflection	Angular Deflection	Max Pressure bar	Max Temperature	Vacuum Rating
FLFLEX/080TE16	80	135	15	8	12	25	16	80°C	700
FLFLEX/100TE16	100	150	20	12	16	15	16	80°C	700
FLFLEX/150TE16	150	180	20	12	16	15	16	80°C	700
FLFLEX/200TE16	200	210	20	12	16	15	16	80°C	700



FASTENINGS

RUBBER BELLOWS

Double Sphere BSP Threaded Unions									
Code	NB (mm)	Length (mm)	Allowable Movement (mm)				Operating Condition		
			Axial Compression	Axial Elongation	Transverse Deflection	Angular Deflection	Max Pressure bar	Max Temperature	Vacuum Rating
FLFLEX/025BSP	25	200	22	6	22	40	16	80	500
FLFLEX/032BSP	32	200	22	6	22	40	16	80	500
FLFLEX/040BSP	40	200	22	6	22	40	16	80	500
FLFLEX/050BSP	50	200	22	6	22	40	16	80	500



Double Sphere Expansion Joint - AS2129 Table E									
Code	NB (mm)	Length (mm)	Allowable Movement (mm)				Operating Condition		
			Axial Compression	Axial Elongation	Transverse Deflection	Angular Deflection	Max Pressure bar	Max Temperature	Vacuum Rating
FLFLEX/080TED	80	175	50	35	40	30	16	80	650
FLFLEX/100TED	100	225	50	35	40	30	16	80	650
FLFLEX/150TED	150	225	60	35	35	15	16	80	650
FLFLEX/200TED	200	325	60	35	35	15	16	80	650
FLFLEX/250TED	250	325	60	35	35	15	16	80	650
FLFLEX/300TED	300	325	60	35	35	15	16	80	650

