





### Background



Jubilee® Clips were manufactured as the first worm drive hose clamp in 1921, the company held the first patent for worm drive hose clips and has been manufacturing hose clips in Great Britain ever since. The name Jubilee® Clip, remains a registered trademark throughout the world.

Jubilee® Clips offer a wide range of clamping solutions which are available at RS Components (shown opposite).

## Types of Hose Clip

### Original Range (Worm Drive Clips)



The Original Jubilee® Clip, the product that started it all! For the vast majority of applications this sturdy worm drive hose clip is more than suitable. Available as a mild steel zinc protected or stainless steel clamp in both 304 (18/8) and 316 (18/10) grades of stainless steel; this product also has a band that is continuously threaded enabling extra flexibility when adjusting the clip to the correct size. The smooth inside profile of the band and rolled edges give protection for all types of hoses including soft hoses made from rubber or silicone.

All our original Jubilee® Clips are independently tested by the British Standards Institute (BSi) and carry the British Standard Kitemark™, which is universally regarded as the most stringent standard there is for a hose clip. Both grades of stainless steel clips are also accredited by Lloyd's Register for marine use.

Industry Recommendations =









### Jubilee High Torque (Heavy Duty Clip)

This stainless sleel clip has twice the tightening torque the original British Standard worm drive hose clips which creates more than twice the band tension for stubborn leakage or vibration applications. They have a two part housing and cut through band, keeping the band straight at the point of engagement and fully engaging all of the screw thread; giving a superior tightening torque.





### Jubilee® Juniors (Mini Clips)

These mini clips, also known as nut & bolt clips, are ideal for small bore hoses with relatively low pressures, where little clamping force is required. Used in low pressure applications such as a fuel line. Adjusted by a single bolt.

Industry Recommendations =

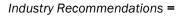






### Jubilee® Superclamps (Heavy Duty Clips)

A Heavy duty clamp, offering the highest tightening torques with 8.8 high tensile bolts allowing an impressive maximum recommended torque of 25Nm. Naturally with the smaller clamps using a smaller bolt the torques are lower, but even so, the torques are impressive by comparison to alternative clip types for the same size range. Suitable for a wide range of applications, including marine and offshore oil and gas installations.





Stainless Steel 304 & 316 also









# Types of Hose Clip



#### Jubilee® Multiband (Self Assembly Clips)

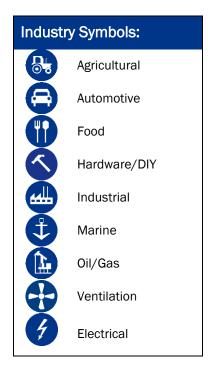
A self-assembly, endless banding, or screw band system, which allows the user to cut the band to the desired length.

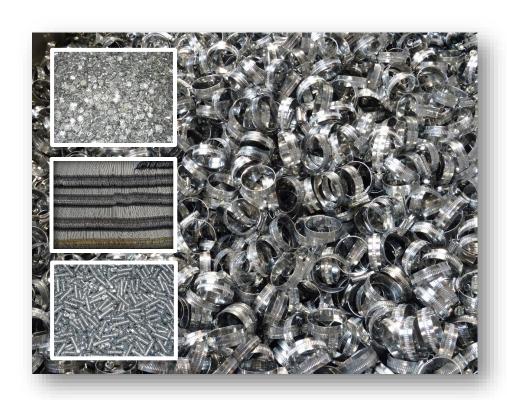
Used in areas such as heating, ventilation and air conditioning (HVAC), sign fixing, conduit and cable retention and lagging, this product is very versatile. A number of screw and housing designs are available to suit any application.













# **Fastening Types**



### Worm Drive e.g. Jubilee Original Range

The screw in a worm drive hose clip adjusts the diameter of the clip to suit the size of hose it secures and is directly engaged with the band.



#### Nut & Bolt e.g. Jubilee Juniors & Jubilee Superclamps

Here the bolt used to adjust the diameter of the clip is not engaged in the band, instead it is connected to a nut or trunnion.



#### Pinch

No screws or bolts are used for this type of clip; the adjustment is performed by permanently deforming (crimping) 'ears' on the clip using a special tool.

## **Industry Standards**



#### BS5315:1991

The British Standard for the manufacture of hose clamps (worm drive type) for general purpose use (metric series). It is the only standard that uses a pressure test and is universally regarded as the most stringent Standard for a hose clip in the world. To carry the Kitemark™ the clips must also pass independent testing.



### Lloyd's Type Approved

A Type Approval from Lloyd's Register (LR), a marine classification society, demonstrates that the product conforms to recognised industry quality standards, International Conventions and/or the LR Rules, through a process of independent design review, sample testing and verification of production controls. Essential for products used in marine applications.



#### **DIN 3017**

DIN 3017-1 is a dimensional norm for hose clips type: worm drive by the Deutsches Institut für Normung e.V. (German Institute for Standardization).



#### SAE

SAE Standard J1508 is an American standard and covers 32 types of hose clips (clamps) most commonly and suitably being used on coolant, fuel, oil, vacuum, and emission systems, describing the basic characteristics and minimum performance requirements recommended.

## **Hose Clip Materials**



### W1 (Mild Steel Zinc Protected/Zinc Plated)

All parts of the clip are mild steel zinc protected/plated which is the most common material for hose clips. Mild steel (also known as carbon steel) has a low to moderate natural resistance to corrosion which is overcome by coating with zinc. Corrosion resistance even with zinc coating is lower than 304 & 316 grades of stainless steel.

#### W4 (304 Grade Stainless Steel / A2 / 18/8)

All component parts of the hose clip are 304 grade. The clips have a higher corrosion resistance, making them suitable for outdoor applications as well as having good general corrosion resistance to slightly acidic as well as caustic media. 304 grade stainless steel is also known as 18/8 stainless due to its chemical composition which includes approximately 18% chromium and 8% nickel by weight. This material is magnetic.

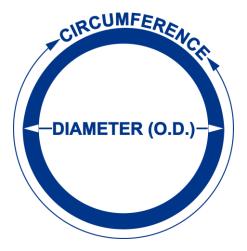
### W5 (316 Grade Stainless Steel / A4)

All parts of the hose clips are 316 "marine grade" stainless steel, offering an even higher corrosion resistance than 304 grade in most acidic conditions, especially at higher temperatures and or with chlorides present. Suitable for marine, offshore and food industries.

316 grade stainless steel is known as 18/10 stainless or High Nickel Stainless Steel (HNSS) due to the increased percentage of 10% nickel in the alloy's chemical composition. Non-magnetic.

# How to select the correct size hose clip for your application?

- 1. Obtain the outside diameter (O.D.) of your hose ensuring that the hose is assembled on the pipe or tube fitting for accurate measurement.
  - a. Measure the outside diameter (O.D.) of the hose & fitting using a caliper.  $\ensuremath{\text{OR}}$
  - b. Measure the circumference of the hose and then calculate the diameter using the formula below:



Outside Diameter (O.D.) = Circumference (C)  $\div$  3.1416 (Pi)

- 2. Select hose clip size remembering that hose clip sizes always refer to the diameter.
- 3. Aim to select a clip with the hose diameter matching the middle of the clip's adjustment range





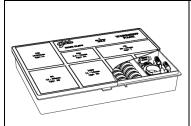




# JUBILEE ORIGINAL RANGE - WORM DRIVE CLIPS

British Standard (BS) No.	Adjustment				Mat	erial									
			BZP / MS / W1		304 / A2 / W4		316 / A4 / W5		Fastening	Screw	Band	Band	Recommended	Max.	Max.
			Jubilee	lee RS Part Jub	Jubilee	RS Part	Jubilee	RS Part	Туре	Sciew	Width	Thickness	Torque	Torque	Pressure
			Part No	No.	Part No	No.	Part No	No.							
	mm	inches			<b>Q</b>				A morava	mm	mm	mm	Nm	Nm	Psi
12	9.5- 12	3/8 - 1/2	000MS	9088961	000SS	9089100	000SS316	1245638	Worm Drive	Slotted Hex Head 7mm A/F	9.9	0.762	3.4	4.5	203
16	11- 16	1/2 - 5/8	MOOMS	9088970	MOOSS	9089119	M00SS316	1245639	Worm Drive	Slotted Hex Head 7mm A/F	9.9	0.762	3.4	4.5	203
20	13- 20	1/2 - 3/4	00MS	9088973	00SS	9089112	00SS316	1245640	Worm Drive	Slotted Hex Head 7mm A/F	9.9	0.762	3.4	4.5	203
22	16- 22	5/8 - 7/8	OMS	9088977	0SS	9089116	0SS316	1245641	Worm Drive	Slotted Hex Head 7mm A/F	13	0.914	4.2	5.6	203
25	18- 25	3/4 - 1	0XMS	9088986	0XSS	9089125	0XSS316	1245643	Worm Drive	Slotted Hex Head 7mm A/F	13	0.914	4.2	5.6	203
30	22- 30	7⁄8 - 1 1∕8	1AMS	9088989	1ASS	9089128	1ASS316	1245644	Worm Drive	Slotted Hex Head 7mm A/F	13	0.914	5.1	6.8	203
35	25- 35	1 - 1%	1MS	9088983	1SS	9089122	1SS316	1245645	Worm Drive	Slotted Hex Head 7mm A/F	13	0.914	5.1	6.8	102
40	30- 40	1½ - 1½	1XMS	9088992	1XSS	9089131	1XSS316	1245646	Worm Drive	Slotted Hex Head 7mm A/F	13	0.914	5.1	6.8	102
45	32- 45	11/4 - 13/4	1MMS	9088995	1MSS	9089134	1MSS316	1245647	Worm Drive	Slotted Hex Head 7mm A/F	13	0.914	5.1	6.8	102
50	35- 50	1% - 2	2AMS	9088999	2ASS	9089138	2ASS316	1245648	Worm Drive	Slotted Hex Head 7mm A/F	13	0.914	5.9	7.9	102
55	40- 55	1% - 21/8	2MS	9089002	2SS	9089147	2SS316	1245649	Worm Drive	Slotted Hex Head 7mm A/F	13	0.914	5.9	7.9	102
60	45- 60	13/4 - 23/8	2XMS	9089005	2XSS	9089140	2XSS316	1245650	Worm Drive	Slotted Hex Head 7mm A/F	13	0.914	5.9	7.9	102
70	55- 70	21/8 - 23/4	3MS	9089009	388	9089144	3SS316	1245651	Worm Drive	Slotted Hex Head 7mm A/F	13	0.914	6.7	9	102

- For larger sizes see next page
- All products listed above are Kitemarked ™ to BS5315:1991 and the stainless steel 304 & 316 grade products are Lloyd's Type Approved.



Jubilee Workshop Pack Mild Steel 143 Jubilee clips Manuf. Code: HCP143MS RS Code: 9089071



Jubilee Workshop Pack 304 Stainless Steel\* 143 Jubilee clips Manuf. code.: HCP143SS RS Code: 9089080



Jubilee Handy Pack
Mild Steel
100 Jubilee clips
Manuf. Code: HP100MS
RS Code: 9089103



Jubilee Handy Pack 304 Stainless Steel\* 100 Jubilee clips Manuf. Code: HP100SS RS Code: 9089106



Jubilee Pocket Pack Mild Steel 32 Jubilee clips Manuf. Code: PPMS RS Code: 9089087



Jubilee Pocket Pack 304 Stainless Steel\* 32 Jubilee clips Manuf. Code: PPSS RS Code: 9089096









## JUBILEE ORIGINAL RANGE - WORM DRIVE CLIPS

British Standard (BS) No.	Adjustment				Mat	erial									
			BZP / MS / W1		304 / A2 / W4		316 / A4 / W5		Fastening	Screw	Band	Band	Recommended	Maximum	Maximum
			Jubilee	Jubilee RS Part Jubil	Jubilee	RS Part	Jubilee RS P	RS Part	Туре	Sciew	Width	Thickness	Torque	Torque	Pressure
			Part No	No.	Part No	No.	Part No	No.							
	mm	inches							A LANCAS DE LA CONTRACTOR DE LA CONTRACT	mm	mm	mm	Nm	Nm	Psi
80	60- 80	1% - 31/8	3XMS	9089018	3XSS	9089153	3XSS316	1245652	Worm Drive	Slotted Hex Head 7mm A/F	13	0.914	6.7	9	44
90	70- 90	23/4 - 31/2	4MS	9089011	4SS	9089156	4SS316	1245653	Worm Drive	Slotted Hex Head 7mm A/F	13	0.914	6.7	9	44
100	85-100	31/4 - 4	4XMS	9089015	4XSS	9089150	4XSS316	1245654	Worm Drive	Slotted Hex Head 7mm A/F	13	0.914	6.7	9	44
120	90-120	3½ - 4¾	5MS	9089024	5SS	9089169	5SS316	1245655	Worm Drive	Slotted Hex Head 7mm A/F	13	0.914	6.7	9	44
140	110-140	43/8 - 51/2	6MS	9089027	6SS	9089162	6SS316	1245656	Worm Drive	Slotted Hex Head 7mm A/F	13	0.914	6.7	9	44
150	120-150	43/4 - 57/8	6XMS	9089021	6XSS	9089166	6XSS316	1245657	Worm Drive	Slotted Hex Head 7mm A/F	13	0.914	5.9	7.9	18
165	135-165	51/4 - 61/2	7MS	9089030	7SS	9089175	7SS316	1245659	Worm Drive	Slotted Hex Head 7mm A/F	13	0.914	5.9	7.9	18
190	158-190	61/4 - 71/2	7.5MS	9089033	7.5SS	9089178	7.5SS316	1245660	Worm Drive	Slotted Hex Head 7mm A/F	13	0.914	5.9	7.9	18
216	184-216	71/4 - 81/2	8.5MS	9089037	8.5SS	9089172	8.5SS316	1245661	Worm Drive	Slotted Hex Head 7mm A/F	13	0.914	5.9	7.9	18
242	210-242	81/4 - 91/2	9.5MS	1245666	9.5SS	1245671	9.5SS316	1245662	Worm Drive	Slotted Hex Head 7mm A/F	13	0.914	5.9	7.9	18
267	235-267	91/4 - 101/2	10.5MS	1245667	10.5SS	1245672	10.5SS316	1245663	Worm Drive	Slotted Hex Head 7mm A/F	13	0.914	5.9	7.9	18
292	260-292	101/4 - 111/2	11.5MS	1245668	11.5SS	1245673	11.5\$\$316	1245664	Worm Drive	Slotted Hex Head 7mm A/F	13	0.914	5.9	7.9	18
318	286-318	111/4 - 121/2	12.5MS	1245669	12.5SS	1245674	12.5\$\$316	1245665	Worm Drive	Slotted Hex Head 7mm A/F	13	0.914	5.9	7.9	18

- For smaller sizes see previous page
- All products listed above are Kitemarked ™ to BS5315:1991 and the stainless steel 304 & 316 grade products are Lloyd's Type Approved.



Jubilee Workshop Pack Mild Steel 143 Jubilee clips Manuf. Code: HCP143MS RS Code: 9089071



Jubilee Workshop Pack 304 Stainless Steel\* 143 Jubilee clips Manuf. code.: HCP143SS RS Code: 9089080



Jubilee Handy Pack Mild Steel 100 Jubilee clips Manuf. Code: HP100MS RS Code: 9089103



Jubilee Handy Pack 304 Stainless Steel\* 100 Jubilee clips Manuf. Code: HP100SS RS Code: 9089106



Jubilee Pocket Pack Mild Steel 32 Jubilee clips Manuf. Code: PPMS RS Code: 9089087



Jubilee Pocket Pack 304 Stainless Steel\* 32 Jubilee clips Manuf. Code: PPSS RS Code: 9089096

