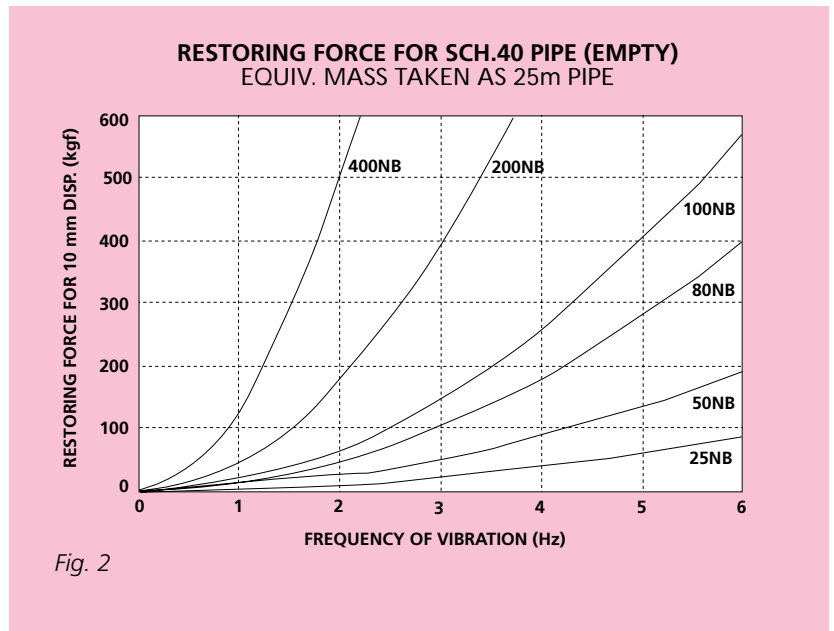
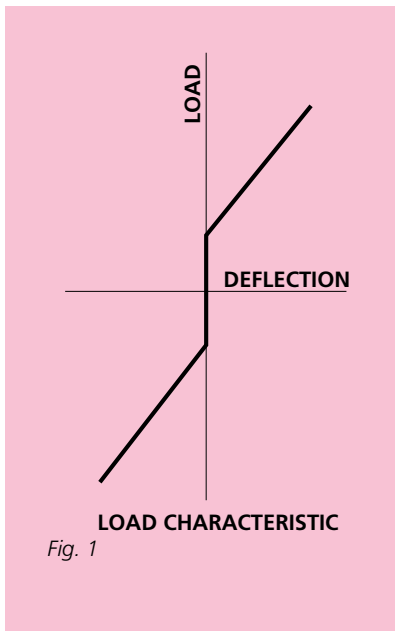


## SWAY BRACES



### DESCRIPTION

Sway Braces are essentially a double-acting spring, housed in a canister. Unlike variable effort supports, Sway Braces are not intended to carry the weight of pipework; their purpose is to limit undesirable movement.

Sway Braces act like a rigid strut until a small preload is reached, whereafter the restraining force increases in proportion to the applied deflection. Fig. 1

Undesirable movement can occur due to many phenomena, such as wind loading, sympathetic vibration, rapid valve closure, relief valves opening, two phase flow or earthquake. It may be necessary to limit this type of deflection to prevent the generation of unacceptable stresses and equipment loadings.

The Sway Brace is a cost-effective means of limiting pipework deflection. It should be noted however that it does provide some resistance to the thermal movement of the pipework and care should be taken when specifying to ensure that this is acceptable. Installation of Sway Braces will have the effect of raising the fundamental frequency of vibration of a pipework system; this is likely to reduce undesirable deflections.

Sway Braces are often used to solve unforeseen problems of resonant vibration.

For situations where the resistance to thermal movement provided by Sway Braces is unacceptable, you are referred to Pipe Supports Limited's range of hydraulic snubbers and dampers.

### THE PIPE SUPPORTS RANGE OF SWAY BRACES

Pipe Supports Limited offer a range of eight Sway Braces, all of which limit movement to a maximum of 70mm in either direction. Preloads range from 14 kgf to 1040 kgf and corresponding maximum loads from 85 to 6170 kgf.

### SELECTION

Care should be taken when selecting to ensure the Sway Brace provides sufficient force to limit the deflection caused by the dynamic occurrence, but not so much as to unduly restrain the thermal movement of the piping. Ideally selections should be checked by analysis.

The following notes are intended only as a guide:

1. Calculate the load imposed upon the pipework by the Sway Brace if the pipework expands in its normal (unrestrained) manner.

$$P = L_p + K x$$

Where  $L_p$  is the preload (kgf)

$K$  is the spring rate (kgf/mm)

$x$  is the deflection at the attachment position (mm) in the axis of the brace

2. Check whether this is acceptable; as a guide, consider what change in effort would be acceptable at a spring support location on the pipework: this may be 25% of the load at a support location.

3. Estimate the force required to restrain the pipework. If the pipework is vibrating with frequency  $f$  Hz at a maximum displacement (half amplitude) of  $x$  mm then, in simple harmonic motion, the **restoring force** exerted by the pipework at maximum displacement (kgf)

$$= \frac{4\pi^2 f^2 m x}{1000 g}$$

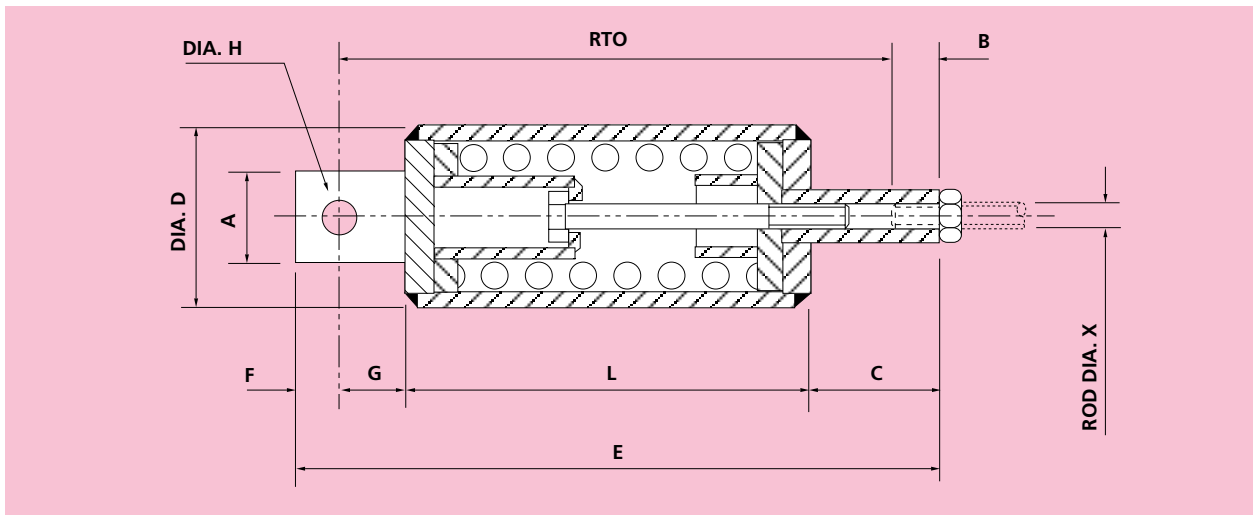
Where  $m$  is the equivalent mass of the pipework in kg.

It is likely that a Sway Brace having a preload greater than this value will fully restrain the pipe at the support location, while a Sway Brace for which this value is greater than the preload, but less than the max. load will have a significant effect.

Given a pipe which is vibrating at a known frequency with a known maximum displacement, the restoring force can be estimated if an assessment of the equivalent mass of the pipe can be made. Unfortunately, it is not very easy to do this with such accuracy without performing a dynamic analysis of the pipework. The equivalent mass will depend upon the length of pipework between anchors, the route of the pipework and the mode of vibration. Obviously any additional masses such as valves or flanged connections will also have an effect.

Figure 2 shows restoring forces for a 10mm deflection of empty unlagged schedule 40 pipe, for which the equivalent mass is arbitrarily taken as 25m of pipe.

## SWAY BRACES



SIZE	SB1	SB2	SB3	SB4	SB5	SB6	SB7	SB8
PRELOAD kgf	14	45	140	300	400	535	770	1040
MAX LOAD kgf	85	260	800	1860	2470	3340	4620	6170
RATE kgf/mm	1.0	3.1	9.5	22.3	29.6	40.1	55.1	73.2
PRELOAD N	137	441	1370	2940	3920	5250	7550	10200
MAX. LOAD N	834	2550	7850	18240	24220	32750	45310	60510
RATE N/mm	9.8	30.4	93.2	219	290	393	540	718
RTO mm	308	305	311	359	395	406	447	495
ROD SIZE X	M20	M24	M24	M30	M36	M36	M42	M48
A mm	80	80	80	100	100	100	110	130
B mm	25	30	30	38	45	45	53	60
C mm	80	80	78	75	95	90	100	105
DIA. D mm	102	102	152	168	168	219	219	219
E mm	378	380	386	462	505	516	575	640
F mm	45	45	45	65	65	65	75	85
G mm	60	60	60	80	80	80	90	105
DIA. H mm	26	26	26	39	39	39	45	52
L mm	193	195	203	242	265	281	310	345
WEIGHT kgf	6.8	7.6	16	27	31	51	60	73

### STANDARD DESIGN FEATURES

1. Rugged construction.
2. Compact design.
3. Spring preloaded.
4. 70 mm of travel in both directions.
5. Painted finish as standard.

### NON STANDARD DESIGN FEATURES

1. Sway Braces are available in all the corrosion-resistant materials and finishes which are applicable to our range of variable effort supports.
2. Special units to suit particular preload and spring rate requirements are available. Please contact our design department for details.

### ORDERING INFORMATION

1. Size
2. Finish if other than PSL standard.
3. Thread form if other than isometric coarse.
4. Mark No. (if known).

### INSTALLATION AND ERECTION

1. It is recommended that Sway Braces are installed in conjunction with a tubular strut, since they work both in tension and compression.
2. The unit should be installed so that it does not apply undue force in the installed (hot condition). The imposed loads will then apply in the cold condition.

### MAINTENANCE

Periodic inspection should be made at intervals to suit the operating environment. Check for visual damage, corrosion and wear.

**DYNAMIC RESTRAINTS**



Rigid Strut



Hydraulic Snubbers

9

10

11

## DYNAMIC RESTRAINTS

Pipework systems which are subject to purely static loading are generally supported on single acting vertical supports such as a hanger rod and pipe clamp or sliding base and, if the pipework is subject to change in temperature, some or all of these vertical supports may be spring supports, either variable or constant effort type. A supporting arrangement such as this is generally not suitable for pipework subject to dynamic loading.

Dynamic loading may occur for a number of reasons. Unsteady flow, such as that caused by valve closure, produces dynamic forces and is referred to as water hammer. In an earthquake, a piping system is also subject to dynamic forces.

Where the pipework system is subject to dynamic forces, vibration of the pipework will occur. This may be injurious to the pipework and connected equipment and plant. Pipework systems which are supported on single acting vertical restraints and springs with no lateral restraint will have low natural frequencies of vibration and will experience large dynamic deflections when subject to vibration; this will generally be unacceptable. Pipework stress analysis either by response spectrum or time history analysis can be used to show the need for dynamic restraints.

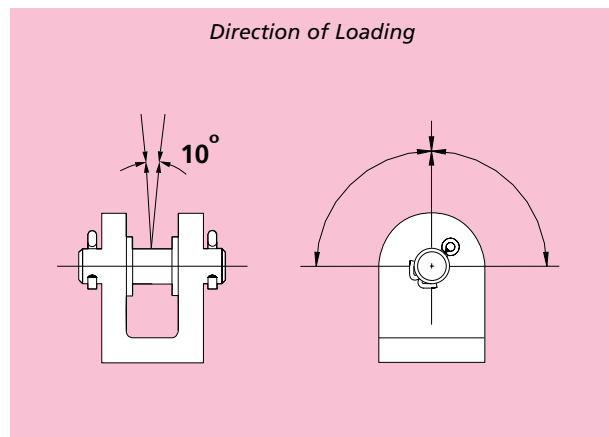
In pipework systems which are subject to dynamic loading, it may be necessary to use rigid struts, which act in both directions, rather than hanger rods, which only support downward acting loads. Rigid struts are also used to provide lateral restraint where this is required. Snubbers are used where dynamic restraint is required, but the pipe has to be allowed to move thermally.

### RIGID STRUT — FIG. 511

Pipe Supports manufacture a comprehensive range of rigid struts covering loading up to more than 90 tonnes with lengths up to 6 metres (12'8"). The struts are designed for ease of use and to provide a cost-effective dynamic restraint. Rigid struts use spherical bearings to permit angulation and they provide length adjustment of +/- 100mm (4") by means of right and left hand threaded rod ends so that the adjustment can be made without disconnection. Maximum loadings are tabulated in kilograms, Newtons and pounds and weights and axial stiffnesses are also given. Having selected the size of strut that you need, the numbering system used makes the selection of the associated welding clevis and clamp a simple matter.

### WELDING CLEVIS — FIG. 512

The welding clevis provides means of attachment of rigid struts and snubbers to steelwork. The welding clevis is designed to provide +/- 5 degrees and +/- 90 degrees of angulation as shown below.



### SNUBBER — FIG. 516 AND FIG. 517

Pipe Supports range of hydraulic snubbers cover loadings up to more than 85 tonnes with cylinder stroke up to 20" (508mm). The snubbers are to a well proven design; the numbering system and sizes of end fittings are compatible with the other dynamic restraint components. The Fig. 517 Adjustable Strut Snubber incorporates a tubular extension with a length adjustment of +/- 50 mm. The Fig. 516 Short Snubber is for use where available space is limited; there is no adjustment of length other than by moving the piston.

The hydraulic snubber is a standard 3000 psi hydraulic cylinder with a built-in fluid reservoir. The fluid is ported via the end blocks to the external valve block. The valve block contains two regulating valves with bleed grooves. The connection of the manifold to the reservoir and the valve block to the manifold is by use of "O" ring seals.

In operation, normal thermal expansion of the pipework causes the piston rod to extend or retract at a velocity less than the lock-up velocity. In this situation the snubber is inactive and the device has minimal effect on the behaviour of the pipework. In a dynamic situation, shock or vibration forces which cause the rate of displacement of the piston to exceed the lock-up velocity will cause the regulating valves to close and the snubber limits the velocity. The resistive capacity of the unit transfers the force to the structure and reduces the possibility of overstressing the pipe or associated equipment connections.

The function of the bleed grooves is to control the velocity after lock-up. For prolonged thrust, the bleed grooves are eliminated and the unit becomes a rigid strut during lock-up.

### CLAMPS FOR RIGID STRUTS AND SNUBBERS

#### FIG. 513, FIG. 514 AND FIG. 515

Pipe Supports offer a very comprehensive range of clamps for rigid struts and Snubbers. The Fig. 513 clamp is a single plate stiff clamp incorporating a sheathed U-bolt. The Fig. 514 clamp is a double plate stiff clamp, again incorporating a single sheathed U-bolt and having the axis of the connecting pin parallel to

## DYNAMIC RESTRAINTS

the axis of the pipe. The Fig. 515 clamp is a conventional type pipe clamp. It should be noted that when using type 515 clamps, because of the tolerance on pipe outside diameter, it may be necessary to use shim stock between the pipe and clamp to grip the pipe tightly and provide good dynamic restraint.

All three types of clamps use close tolerance load pins and are designed to operate within a 10 degree cone of load application.

The clamps are designed in four temperature ranges to suit maximum design temperatures of 400 °C (752 °F), 490 °C (914 °F), 530 °C (986 °F), and 570 °C (1058 °F). Maximum loadings and pin sizes are compatible with those for the struts and snubbers.

### SELECTION — RIGID STRUTS

Rigid struts are selected on the basis of maximum applied load and length between pin centres. The loading shown at 1 metre (39.4") pin centres is the maximum applicable for the size of strut in question. Loadings at longer lengths are also shown at 1 metre intervals. For intermediate lengths, maximum loadings can be derived by interpolation. Do not specify strut sizes where no loading is shown for the required length. If a minimum stiffness of rigid strut is required, make reference to the tabulation of stiffnesses. The lengths of rigid struts should be such that the maximum angulation is not exceeded, the attachment can be offset on installation if necessary to help achieve this.

### SELECTION — SNUBBERS

Determine the minimum required stroke by taking the anticipated design movement and adding an allowance for excess travel. This allowance should normally be at least 20% of the anticipated design movement. Then select a snubber where the cylinder stroke is greater than or equal to the minimum required stroke and the applied loadings in tension and compression are less than the allowable maximum loadings in tension and compression for the size and length of snubber as shown in the catalogue. For intermediate lengths, allowable compressive loadings may be determined by interpolation. The length of the snubber must be such that the maximum angulation is not exceeded. To calculate the required closed centres for the snubber, use the following formulae:

Closed Centres = Installed Centres — X

where

$X = (\text{Stroke} - \text{Design Movement in Extension}) / 2$

or

$X = (\text{Stroke} + \text{Design Movement in Compression}) / 2$

This method will result in the spare travel being distributed evenly on either side of the design movement.

### SELECTION — WELDING CLEVIS

Welding clevises are selected to suit the size of strut or snubber: e.g. for rigid strut Fig. 511-4 or snubber Fig. 517-4-10, use welding clevis Fig. 512-4.

### SELECTION — PIPE CLAMP FOR RIGID STRUT AND SNUBBER

- 1) Find the page relating to the appropriate pipe size.
- 2) Find the section relating to clamp maximum temperature just greater than or equal to the pipework temperature.
- 3) Look at the clamp part numbers; the number after the pipe size is the clamp load designation which corresponds to the strut or snubber size; e.g. for 150 NB pipe at 500 °C and using rigid strut size 3, choice of clamps is:

Fig. 513-150-3-530

Fig. 514-150-3-530

Fig. 515-150-3-530

You may select any of the above 3 clamps.

In most circumstances, Fig. 515 clamps will be the least expensive and Fig. 514 clamps the most expensive.

### STANDARD FEATURES — RIGID STRUT

- 1) A choice of eleven standard sizes.
- 2) Length adjustment of +/- 100mm without disconnection.
- 3) Sight holes to check thread engagement.
- 4) Painted finish — one coat of zinc phosphate primer.
- 5) +/- 5 degrees permissible angulation.

### OPTIONAL FEATURES — RIGID STRUT

- 1) Corrosion resistant specification with strut body painted with Carbo-Zinc 11 and rod ends zinc plated.

### STANDARD FEATURES — WELDING CLEVIS

- 1) +/- 5 degrees and +/- 90 degrees permissible angulation as shown.
- 2) Painted finish — one coat of zinc phosphate primer.
- 3) Designed to suit maximum strut and snubber loadings.

### OPTIONAL FEATURES — WELDING CLEVIS

- 1) Corrosion resistant specification with clevis body painted with Carbo-Zinc 11 and martensitic stainless steel pin.

## DYNAMIC RESTRAINTS

### STANDARD FEATURES — HYDRAULIC SNUBBER

- 1) Offers little resistance to normal thermal movement.
- 2) Compact — furnished as a complete functional unit.
- 3) Can be used in compression or in tension.
- 4) Has a built-in reservoir with a transparent window for viewing fluid level.
- 5) No external piping — unit is completely manifolded.
- 6) Units have special fluid and seals suitable for installation in radiation areas.
- 7) Assessment of travel position by measuring the length of exposed piston rod.
- 8) Standard finish — painted one coat of zinc phosphate primer.
- 9) Chromium plated piston rod.

### OPTIONAL FEATURES — HYDRAULIC SNUBBER

- 1) Boot or gaiter covering the exposed piston rod.
- 2) Direct reading travel scale.
- 3) Corrosion resistant finish painted with Carbo-Zinc 11 and rod ends zinc plated.

### STANDARD FEATURES — CLAMPS

- 1) Cost-effective designs to suit the standard strut and snubber sizes.
- 2) Choice of three styles of clamp.
- 3) Loading within a 10 degree cone of application of force.
- 4) Standard finish — self colour.

### MATERIAL SPECIFICATIONS\* — CLAMPS FOR RIGID STRUTS AND SNUBBERS

#### Clamps for use up to 400 °C

Item	UK Material	US Material
Clamp Body	BS EN10025 Grade S275JR	ASTM A36
Clamp Bolts	BS 4190 Grade 4.6	ASTM A307 Grade B
U-Bolt	BS EN10025 Grade S275JR	ASTM A36
Nuts	BS 4190 Grade 4	ASTM A563 Grade A
Pin	BS 970 Grade 709M40" T"	ASTM A193 Grade B7
Spacers (Clamp)	BS 1387	ASTM A106 Grade B
Spacers (Pin)	BS 970 Grade 230M07	AISI 1213

#### Clamps for use in the Range 400 °C to 530 °C

Item	UK Material	US Material
Clamp Body	BS EN10028-2 Grade 13CrMo4-5	ASTM A387 Grade 12 Class 2
Clamp Bolts	BS 4882 Grade B16	ASTM A193 Grade B16
U-Bolt	BS EN10028-2 Grade 13CrMo4-5	ASTM A182 Grade F12 Class 2
Nuts	BS 4882 Grade 4	ASTM A194 Grade 4
Pin	BS 970 Grade 709M40" T"	ASTM A193 Grade B7
Spacers (Clamp)	BS 3604 Grade 620-440	ASTM A335 Grade P12
Spacers (Pin)	BS 970 Grade 230M07	AISI 1213

#### Clamps for use in the Range 530 °C to 570 °C

Item	UK Material	US Material
Clamp Body	BS EN10028-2 Grade 10CrMo9-10	ASTM A387 Grade 22 Class 2
Clamp Bolts	BS 4882 Grade B16	ASTM A193 Grade B16
U-Bolt	BS EN10028-2 Grade 13 CrMo4-5	ASTM A182 Grade F12 Class 2
Nuts	BS 4882 Grade 4	ASTM A194 Grade 4
Pin	BS 970 Grade 709M40" T"	ASTM A193 Grade B7
Spacers (Clamp)	BS 3604 Grade 620-440	ASTM A335 Grade P12
Spacers (Pin)	BS 970 Grade 230M07	AISI 1213

\* Equivalent Indian and Japanese specifications are shown on page 5. Detailed erection and maintenance procedures for rigid struts and hydraulic snubbers are available on request.

### OPTIONAL FEATURES — CLAMPS

- 1) Hot dipped galvanized finish.
- 2) Corrosion resistant paint finish.
- 3) High temperature paint finish.

### ORDERING INFORMATION:

#### RIGID STRUT

Specify part number and pin to pin dimension. If applicable, specify any optional features.

#### WELDING CLEVIS

Specify part number. If applicable, specify any optional features.

#### HYDRAULIC SNUBBER

Specify part number, installed pin to pin dimension and design movement in tension or compression. Specify whether the loading is dynamic bi-directional, e.g. seismic or water hammer, or sustained unidirectional, e.g. relief valve discharge. If applicable, specify any optional features.

#### PIPE CLAMP FOR RIGID STRUT AND SNUBBER

Specify part number. If applicable, specify any optional features.

#### SPECIAL ITEMS

In addition to the range of standard items shown in this catalogue, we design and manufacture dynamic restraints for applications not covered by the standard designs shown. Examples of special items are:

- 1) Stainless steel clamps.
- 2) Riser clamps for rigid struts.
- 3) Clamps for rigid struts with inclined loading.
- 4) Double clamps.

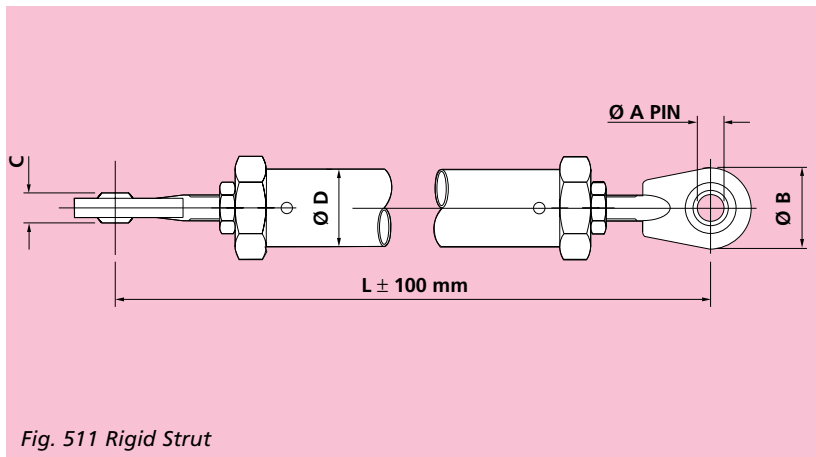


Fig. 511 Rigid Strut

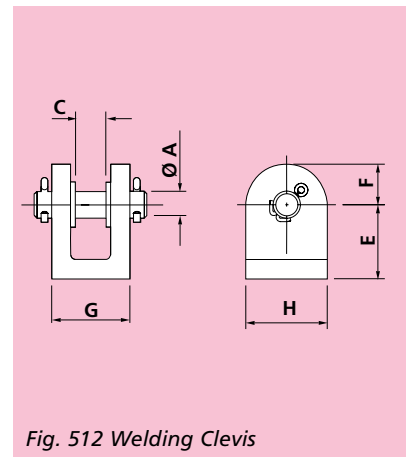


Fig. 512 Welding Clevis

**LOAD CARRYING CAPACITIES OF RIGID STRUTS**

**Fig. 511 Rigid Struts**

SIZE	Max. Load @ L= 1m	Max. Load @ L= 2m	Max. Load @ L= 3m	Max. Load @ L= 4m	Max. Load @ L= 5m	Max. Load @ L= 6m
	kgf	kgf	kgf	kgf	kgf	kgf
511-1	423	171				
511-2	985	356	158			
511-3	2125	2125	1034	567		
511-4	4293	3708	1664	948	552	
511-5	6324	6324	3632	2069	1288	809
511-6	12754	12414	7867	4448	2811	1913
511-7	18132	18132	15042	8860	5672	3875
511-8	25524	25524	25524	20643	13911	9812
511-9	55135	55135	50963	39364	27952	20225
511-10	70330	70330	70330	64670	50450	38065
511-11	90785	90785	90785	90785	90785	84373

**DIMENSIONS OF RIGID STRUTS**

**Fig. 511 Rigid Struts**

SIZE	PIN DIA. A	DIA. B	C	DIA. D	L (Min.)*	L (Max.)
	mm	mm	mm	mm	mm	mm
511-1	10	38	9	21	442	2000
511-2	10	38	9	27	456	3000
511-3	15	50	12	42	510	4000
511-4	20	70	16	48	552	5000
511-5	25	82	20	60	604	6000
511-6	35	110	25	73	670	6000
511-7	40	130	28	89	722	6000
511-8	50	150	35	114	826	6000
511-9	70	220	49	141	980	6000
511-10	80	250	55	168	1054	6000
511-11	90	280	60	219	1136	6000

\*For reduced adjustment of +/- 50mm, L (Min.) can be reduced by 150mm

**WEIGHTS OF RIGID STRUTS**

**Fig. 511 Rigid Struts**

SIZE	WEIGHT @ L = Min.	WEIGHT @ L = 1m	WEIGHT @ L = 2m	WEIGHT @ L = 3m	WEIGHT @ L = 4m	WEIGHT @ L = 5m	WEIGHT @ L = 6m
	kgf	kgf	kgf	kgf	kgf	kgf	kgf
511-1	0.8	1.6	2.8				
511-2	1.1	2.0	3.7	5.4			
511-3	2.8	5.0	9.5	13.9	18.4		
511-4	4.5	6.9	12.3	17.8	23.2	28.6	
511-5	7.1	10.1	17.6	25.0	32.5	40.0	47.5
511-6	12.8	16.6	28.0	39.4	50.9	62.3	73.7
511-7	20.0	24.2	39.5	54.8	70.1	85.4	100.7
511-8	34.6	38.5	60.8	83.2	105.5	127.9	150.2
511-9	78.3	78.9	109.9	140.9	171.8	202.8	233.8
511-10	112.6	110.3	153.0	195.6	238.2	280.8	323.4
511-11	175.3	166.5	231.2	295.9	360.7	425.4	490.1

**AXIAL STIFFNESSES**

**Fig. 511 Rigid Struts in Tension**

SIZE	Stiffness @ L = Min.	Stiffness @ L = 1m	Stiffness @ L = 2m	Stiffness @ L = 3m	Stiffness @ L = 4m	Stiffness @ L = 5m	Stiffness @ L = 6m
	kgf/mm X 1000	kgf/mm X 1000	kgf/mm X 1000	kgf/mm X 1000	kgf/mm X 1000	kgf/mm X 1000	kgf/mm X 1000
511-1	6.6	3.1	1.6				
511-2	9.5	4.4	2.2	1.5			
511-3	16.8	9.9	5.4	3.7	2.8		
511-4	22.2	13.1	6.9	4.7	3.5	2.8	
511-5	30.5	19.0	9.7	6.5	4.9	3.9	3.3
511-6	43.8	29.7	15.0	10.0	7.6	6.0	5.0
511-7	57.7	41.4	20.5	13.6	10.2	8.2	6.8
511-8	79.6	64.6	31.0	20.4	15.2	12.1	10.0
511-9	117.3	114.0	47.8	30.3	22.1	17.4	14.4
511-10	143.9	154.4	65.4	41.5	30.4	23.9	19.8
511-11	183.7	214.9	95.6	61.5	45.3	35.9	29.7

**LOAD CARRYING CAPACITIES OF WELDING CLEVISES**

**Fig. 512 Welding Clevis**

SIZE	Max. Load
	kgf
512-1	423
512-2	985
512-3	2125
512-4	4293
512-5	6324
512-6	12754
512-7	18132
512-8	25524
512-9	55135
512-10	70330
512-11	90785

**DIMENSIONS OF WELDING CLEVISES**

**Fig. 512 Welding Clevis**

SIZE	PIN DIA. A	C	E	F	G	H
	mm	mm	mm	mm	mm	mm
512-1	10	9	30	12.5	30	25
512-2	10	9	30	12.5	30	25
512-3	15	12	38	20	35	40
512-4	20	16	52	25	45	50
512-5	25	20	62	35	55	70
512-6	35	25	80	50	70	100
512-7	40	28	98	50	90	100
512-8	50	35	115	65	110	130
512-9	70	49	160	90	145	180
512-10	80	55	190	90	180	180
512-11	90	60	210	105	195	210

**WEIGHTS OF WELDING CLEVISES**

**Fig. 512 Welding Clevis**

SIZE	WEIGHT
	kgf
512-1	0.17
512-2	0.17
512-3	0.41
512-4	0.89
512-5	1.9
512-6	4.3
512-7	6.8
512-8	13.2
512-9	32.4
512-10	48.5
512-11	67.4



# RIGID STRUT AND WELDING CLEVIS

N, mm

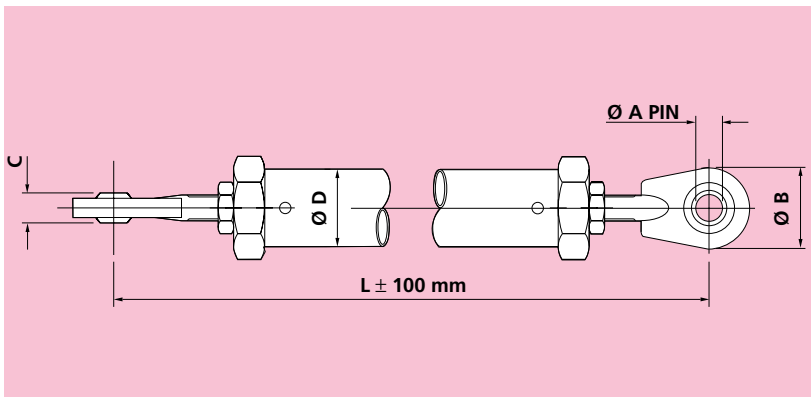


Fig. 511 Rigid Strut

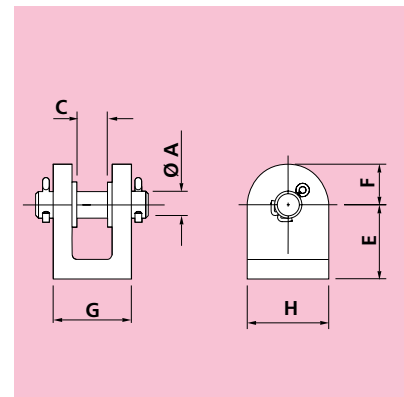


Fig. 512 Welding Clevis

## LOAD CARRYING CAPACITIES OF RIGID STRUTS

Fig. 511 Rigid Struts

SIZE	Max. Load @ L= 1m	Max. Load @ L= 2m	Max. Load @ L= 3m	Max. Load @ L= 4m	Max. Load @ L= 5m	Max. Load @ L= 6m
	kN	kN	kN	kN	kN	kN
511-1	4.15	1.67				
511-2	9.7	3.49	1.55			
511-3	20.8	20.8	10.1	5.56		
511-4	42.1	36.4	16.3	9.30	5.41	
511-5	62.0	62.0	35.6	20.3	12.6	7.94
511-6	125	122	77.1	43.6	27.6	18.8
511-7	178	178	148	86.9	55.6	38.0
511-8	250	250	250	202	136	96.2
511-9	541	541	500	386	274	198
511-10	690	690	690	634	495	373
511-11	890	890	890	890	890	827

## DIMENSIONS OF RIGID STRUTS

Fig. 511 Rigid Struts

SIZE	PIN DIA. A	DIA. B	C	DIA. D	L (Min.)*	L (Max.)
	mm	mm	mm	mm	mm	mm
511-1	10	38	9	21	442	2000
511-2	10	38	9	27	456	3000
511-3	15	50	12	42	510	4000
511-4	20	70	16	48	552	5000
511-5	25	82	20	60	604	6000
511-6	35	110	25	73	670	6000
511-7	40	130	28	89	722	6000
511-8	50	150	35	114	826	6000
511-9	70	220	49	141	980	6000
511-10	80	250	55	168	1054	6000
511-11	90	280	60	219	1136	6000

\*For reduced adjustment of +/- 50mm, L(Min.) can be reduced by 150mm

## WEIGHTS OF RIGID STRUTS

Fig. 511 Rigid Struts

SIZE	WEIGHT @ L= Min.	WEIGHT @ L= 1m	WEIGHT @ L= 2m	WEIGHT @ L= 3m	WEIGHT @ L= 4m	WEIGHT @ L= 5m	WEIGHT @ L= 6m
	N	N	N	N	N	N	N
511-1	8	15	28				
511-2	11	20	36	53			
511-3	27	49	93	137	181		
511-4	44	68	121	174	227	280	
511-5	70	99	172	246	319	393	466
511-6	126	163	275	387	499	611	723
511-7	196	237	387	537	687	837	987
511-8	339	377	596	816	1035	1254	1473
511-9	768	774	1078	1381	1685	1989	2293
511-10	1105	1082	1500	1918	2336	2754	3172
511-11	1719	1633	2267	2902	3537	4172	4806

## AXIAL STIFFNESSES

Fig. 511 Rigid Struts in Tension

SIZE	Stiffness @ L= Min.	Stiffness @ L= 1m	Stiffness @ L= 2m	Stiffness @ L= 3m	Stiffness @ L= 4m	Stiffness @ L= 5m	Stiffness @ L= 6m
	kN/mm	kN/mm	kN/mm	kN/mm	kN/mm	kN/mm	kN/mm
511-1	64	31	16				
511-2	93	43	22	15			
511-3	165	98	53	37	28		
511-4	218	129	67	46	35	28	
511-5	299	186	95	64	48	39	32
511-6	430	291	147	99	74	59	49
511-7	566	406	201	134	100	80	67
511-8	781	633	304	200	149	118	98
511-9	1150	1118	469	297	217	171	141
511-10	1411	1515	641	407	298	235	194
511-11	1802	2108	937	603	444	352	291

## LOAD CARRYING CAPACITIES OF WELDING CLEVISES

Fig. 512 Welding Clevis

SIZE	Max. Load
	kN
512-1	4.15
512-2	9.66
512-3	20.8
512-4	42.1
512-5	62.0
512-6	125
512-7	178
512-8	250
512-9	541
512-10	690
512-11	890

## DIMENSIONS OF WELDING CLEVISES

Fig. 512 Welding Clevis

SIZE	PIN DIA. A	C	E	F	G	H
	mm	mm	mm	mm	mm	mm
512-1	10	9	30	12.5	30	25
512-2	10	9	30	12.5	30	25
512-3	15	12	38	20	35	40
512-4	20	16	52	25	45	50
512-5	25	20	62	35	55	70
512-6	35	25	80	50	70	100
512-7	40	28	98	50	90	100
512-8	50	35	115	65	110	130
512-9	70	49	160	90	145	180
512-10	80	55	190	90	180	180
512-11	90	60	210	105	195	210

## WEIGHTS OF WELDING CLEVISES

Fig. 512 Welding Clevis

SIZE	WEIGHT
	N
512-1	1.7
512-2	1.7
512-3	4.1
512-4	8.8
512-5	19
512-6	43
512-7	66
512-8	130
512-9	317
512-10	476
512-11	661

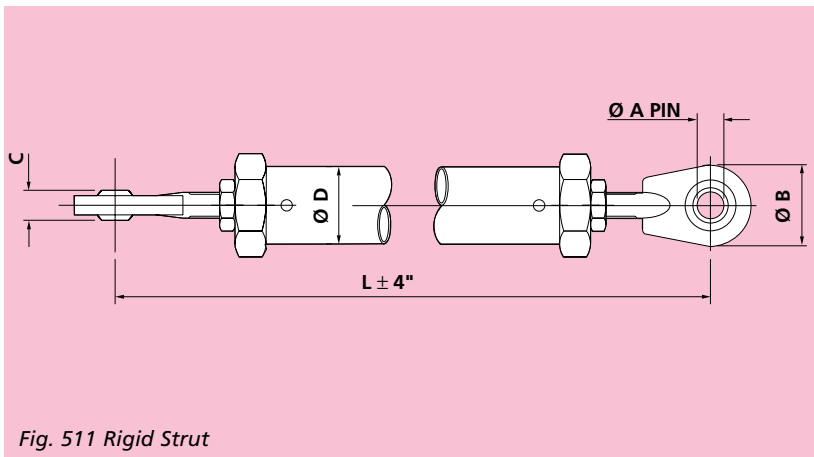


Fig. 511 Rigid Strut

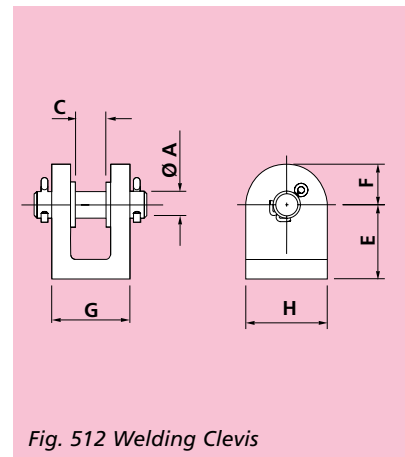


Fig. 512 Welding Clevis

**LOAD CARRYING CAPACITIES OF RIGID STRUTS**

**Fig. 511 Rigid Struts**

SIZE	Max. Load @ L= 39in	Max. Load @ L= 79in	Max. Load @ L= 118in	Max. Load @ L= 157in	Max. Load @ L= 197in	Max. Load @ L= 236in
	lbs	lbs	lbs	lbs	lbs	lbs
511-1	933	376				
511-2	2173	786	349			
511-3	4685	4865	2279	1251		
511-4	9465	8174	3669	2091	1217	
511-5	13942	13942	8006	4561	2840	1784
511-6	28117	27368	17343	9807	6197	4217
511-7	39974	39974	33162	19534	12504	8544
511-8	56269	56269	56269	45509	30668	21632
511-9	121552	121552	112352	86781	61623	44589
511-10	155050	155050	155050	142572	111223	83919
511-11	200144	200144	200144	200144	200144	186010

**DIMENSIONS OF RIGID STRUTS**

**Fig. 511 Rigid Struts**

SIZE	PIN DIA. A	DIA. B	C	DIA. D	L (Min.)*	L (Max.)
	in	in	in	in	in	in
511-1	0.39	1.50	0.35	0.83	17.4	78.7
511-2	0.39	1.50	0.35	1.06	18.0	118.1
511-3	0.59	1.97	0.47	1.65	20.1	157.5
511-4	0.79	2.76	0.63	1.89	21.7	196.9
511-5	0.98	3.23	0.79	2.36	23.8	236.2
511-6	1.38	4.33	0.98	2.87	26.4	236.2
511-7	1.57	5.12	1.10	3.50	28.4	236.2
511-8	1.97	5.91	1.38	4.49	32.5	236.2
511-9	2.76	8.66	1.93	5.55	38.6	236.2
511-10	3.15	9.84	2.17	6.61	41.5	236.2
511-11	3.54	11.02	2.36	8.62	44.7	236.2

\*For reduced adjustment of +/- 2in, L(Min.) can be reduced by 6in

**WEIGHTS OF RIGID STRUTS**

**Fig. 511 Rigid Struts**

SIZE	WEIGHT @ L = Min.	WEIGHT @ L = 39in	WEIGHT @ L = 79in	WEIGHT @ L = 118in	WEIGHT @ L = 157in	WEIGHT @ L = 197in	WEIGHT @ L = 236in
	lbs	lbs	lbs	lbs	lbs	lbs	lbs
511-1	1.9	3.4	6.2				
511-2	2.4	4.5	8.2	11.9			
511-3	6.2	11.0	20.9	30.7	40.6		
511-4	9.9	15.2	27.2	39.1	51.1	63.0	
511-5	15.6	22.2	38.7	55.2	71.7	88.2	104.8
511-6	28.3	36.6	61.8	87.0	112.1	137.3	162.5
511-7	44.0	53.4	87.1	120.8	154.5	188.2	222.0
511-8	76.2	84.8	134.1	183.4	232.6	281.9	331.2
511-9	172.6	173.9	242.2	310.5	378.8	447.1	515.4
511-10	248.3	243.2	337.2	431.2	525.1	619.1	713.0
511-11	386.4	367.0	509.7	652.4	795.1	937.8	108.5

**AXIAL STIFFNESSES**

**Fig. 511 Rigid Struts in Tension**

SIZE	Stiffness @ L = Min.	Stiffness @ L = 39in	Stiffness @ L = 79in	Stiffness @ L = 118in	Stiffness @ L = 157in	Stiffness @ L = 197in	Stiffness @ L = 236in
	kips/in	kips/in	kips/in	kips/in	kips/in	kips/in	kips/in
511-1	368	176	91				
511-2	534	248	125	83			
511-3	943	557	303	208	159		
511-4	1245	736	385	261	197	158	
511-5	1710	1064	545	366	276	221	184
511-6	2453	1662	841	563	423	339	282
511-7	3231	2317	1149	764	572	457	381
511-8	4460	3616	1733	1140	849	676	562
511-9	6566	6384	2678	1694	1239	977	806
511-10	8056	8649	3661	2322	1700	1341	1107
511-11	10288	12035	5352	3442	2536	2008	1662

**LOAD CARRYING CAPACITIES OF WELDING CLEVISES**

**Fig. 512 Welding Clevis**

SIZE	Max. Load
	lbs
512-1	933
512-2	2173
512-3	4685
512-4	9465
512-5	13942
512-6	28117
512-7	39974
512-8	56269
512-9	121552
512-10	155050
512-11	200144

**DIMENSIONS OF WELDING CLEVISES**

**Fig. 512 Welding Clevis**

SIZE	PIN DIA. A	C	E	F	G	H
	in	in	in	in	in	in
512-1	0.39	0.35	1.18	0.49	1.18	0.98
512-2	0.39	0.35	1.18	0.49	1.18	0.98
512-3	0.59	0.47	1.50	0.79	1.38	1.57
512-4	0.79	0.63	2.05	0.98	1.77	1.97
512-5	0.98	0.79	2.44	1.38	2.17	2.76
512-6	1.38	0.98	3.15	1.97	2.76	3.94
512-7	1.57	1.10	3.86	1.97	3.54	3.94
512-8	1.97	1.38	4.53	2.56	4.33	5.12
512-9	2.76	1.93	6.30	3.54	5.71	7.09
512-10	3.15	2.17	7.48	3.54	7.09	7.09
512-11	3.54	2.36	8.27	4.13	7.68	8.27

**WEIGHTS OF WELDING CLEVISES**

**Fig. 512 Welding Clevis**

SIZE	WEIGHT
	lbs
512-1	0.38
512-2	0.38
512-3	0.91
512-4	2.0
512-5	4.2
512-6	9.6
512-7	14.9
512-8	29.2
512-9	71.3
512-10	107.0
512-11	148.5

10  
11

Fig. 516 Snubber (Short Type)

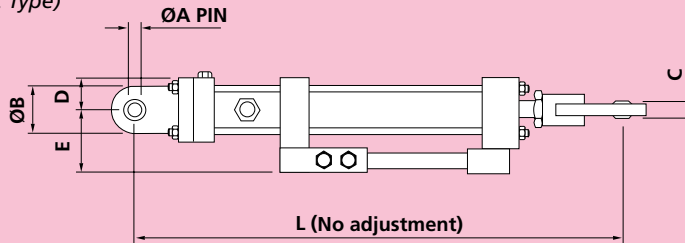
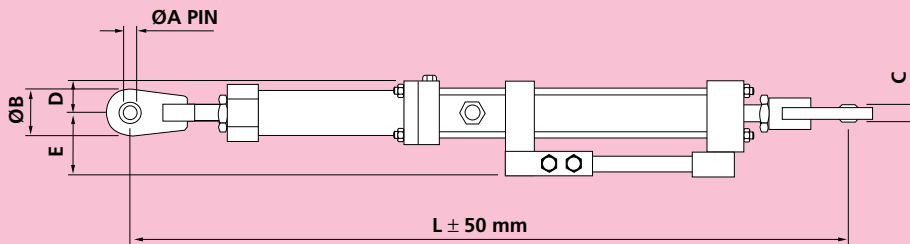


Fig. 517 Snubber (Adjustable Strut Type)



Snubber Size Fig.516- or Fig.517-	Cylinder Bore Size mm	Cylinder Stroke mm	Dia. A mm	Dia. B mm	C mm	D mm	E mm	Fig. 516 Short Snubber			Fig. 517 Adjustable Strut Snubber					
								L (mm)			Weight kgf	L (mm)			Weight @ L = Min. kgf	Weight @ L = Max. kgf
								Fully Closed	Mid Stroke	Fully Ext.		Min. Fully Closed	Min. Fully Ext.	Max. Fully Closed		
1-5	20	127	10	38	9	29	73	442	506	569	6	628	755	2000	6	8
1-10	20	254	10	38	9	29	73	633	760	887	7	819	1073	2000	7	9
2-5	25	127	10	38	9	35	79	463	526	590	8	655	782	2500	8	11
2-10	25	254	10	38	9	35	79	653	780	907	9	845	1099	2500	10	12
3-5	40	127	15	50	12	32	76	518	582	645	10	723	850	4500	11	28
3-10	40	254	15	50	12	32	76	709	836	963	12	914	1168	4000	13	27
3-15	40	381	15	50	12	32	76	899	1090	1280	15	1104	1485	4000	15	28
4-5	50	127	20	70	16	38	83	572	636	699	14	783	910	5000	15	38
4-10	50	254	20	70	16	38	83	763	890	1017	17	974	1228	5000	19	40
4-15	50	381	20	70	16	38	83	953	1144	1334	20	1164	1545	5000	22	43
4-20	50	508	20	70	16	38	83	1144	1398	1652	24	1355	1863	4500	25	42
5-5	65	127	25	82	20	44	89	618	681	745	20	844	971	6000	22	60
5-10	65	254	25	82	20	44	89	808	935	1062	24	1034	1288	6000	26	63
5-15	65	381	25	82	20	44	89	999	1189	1380	29	1225	1606	6000	31	67
5-20	65	508	25	82	20	44	89	1189	1443	1697	33	1415	1923	6000	35	70
6-5	80	127	35	110	25	57	102	741	805	868	38	976	1103	6000	41	98
6-10	80	254	35	110	25	57	102	941	1068	1195	45	1176	1430	6000	49	104
6-15	80	381	35	110	25	57	102	1141	1332	1522	53	1376	1757	6000	56	109
6-20	80	508	35	110	25	57	102	1341	1595	1849	61	1576	2084	6000	64	115
7-5	100	127	40	130	28	64	108	771	835	898	48	1030	1157	6000	53	129
7-10	100	254	40	130	28	64	108	962	1089	1216	56	1221	1475	6000	61	134
7-15	100	381	40	130	28	64	108	1152	1343	1533	65	1411	1792	6000	69	140
7-20	100	508	40	130	28	64	108	1343	1597	1851	73	1602	2110	6000	78	145
8-5	125	127	50	150	35	83	127	866	930	993	88	1144	1271	6000	97	206
8-10	125	254	50	150	35	83	127	1057	1184	1311	105	1335	1589	6000	113	218
8-15	125	381	50	150	35	83	127	1247	1438	1628	121	1525	1906	6000	130	230
8-20	125	508	50	150	35	83	127	1438	1692	1946	138	1716	2224	6000	146	243
9-5	150	127	70	220	49	95	140	1025	1088	1152	142	1343	1470	6000	158	304
9-10	150	254	70	220	49	95	140	1215	1342	1469	163	1533	1787	6000	180	319
9-15	150	381	70	220	49	95	140	1406	1596	1787	184	1724	2105	6000	201	335
9-20	150	508	70	220	49	95	140	1596	1850	2104	205	1914	2422	6000	222	350
10-5	200	127	80	250	55	121	165	1192	1255	1319	277	1528	1655	6000	301	494
10-10	200	254	80	250	55	121	165	1382	1509	1636	312	1718	1972	6000	337	521
10-15	200	381	80	250	55	121	165	1573	1763	1954	348	1909	2290	6000	372	549
10-20	200	508	80	250	55	121	165	1763	2017	2271	383	2099	2607	6000	408	576
11-5	250	127	90	280	60	160	205	1346	1410	1473	501	1699	1826	6000	544	826
11-10	250	254	90	280	60	160	205	1524	1651	1778	551	1877	2131	6000	595	865
11-15	250	381	90	280	60	160	205	1702	1892	2083	602	2055	2436	6000	645	904
11-20	250	508	90	280	60	160	205	1880	2134	2388	653	2233	2741	6000	696	943



Fig. 516 Snubber (Short Type)

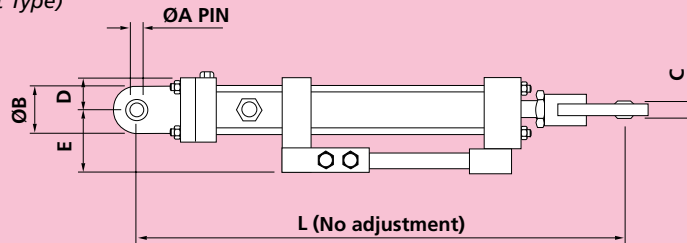
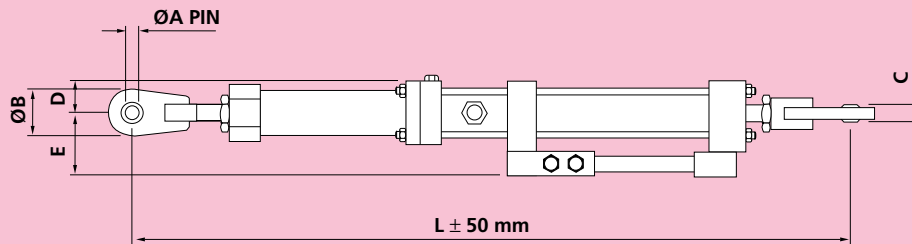


Fig. 517 Snubber (Adjustable Strut Type)



Snubber Size Fig.516- or Fig.517-	Cylinder Bore Size mm	Cylinder Stroke mm	Dia. A mm	Dia. B mm	C mm	D mm	E mm	Fig. 516 Short Snubber			Fig. 517 Adjustable Strut Snubber					
								L (mm)			Weight	L (mm)			Weight @ L = Min.	Weight @ L = Max.
								Fully Closed	Mid Stroke	Fully Ext.	N	Min. Fully Closed	Min. Fully Ext.	Max. Fully Closed	N	N
1-5	20	127	10	38	9	29	73	442	506	569	58	628	755	2000	61	78
1-10	20	254	10	38	9	29	73	633	760	887	67	819	1073	2000	70	84
2-5	25	127	10	38	9	35	79	463	526	590	78	655	782	2500	81	111
2-10	25	254	10	38	9	35	79	653	780	907	91	845	1099	2500	94	121
3-5	40	127	15	50	12	32	76	518	582	645	98	723	850	4500	108	273
3-10	40	254	15	50	12	32	76	709	836	963	120	914	1168	4000	130	264
3-15	40	381	15	50	12	32	76	899	1090	1280	142	1104	1485	4000	152	278
4-5	50	127	20	70	16	38	83	572	636	699	137	783	910	5000	151	374
4-10	50	254	20	70	16	38	83	763	890	1017	169	974	1228	5000	183	396
4-15	50	381	20	70	16	38	83	953	1144	1334	201	1164	1545	5000	215	418
4-20	50	508	20	70	16	38	83	1144	1398	1652	233	1355	1863	4500	246	413
5-5	65	127	25	82	20	44	89	618	681	745	192	844	971	6000	213	591
5-10	65	254	25	82	20	44	89	808	935	1062	237	1034	1288	6000	258	622
5-15	65	381	25	82	20	44	89	999	1189	1380	282	1225	1606	6000	303	653
5-20	65	508	25	82	20	44	89	1189	1443	1697	327	1415	1923	6000	348	684
6-5	80	127	35	110	25	57	102	741	805	868	369	976	1103	6000	402	965
6-10	80	254	35	110	25	57	102	941	1068	1195	445	1176	1430	6000	478	1018
6-15	80	381	35	110	25	57	102	1141	1332	1522	521	1376	1757	6000	553	1071
6-20	80	508	35	110	25	57	102	1341	1595	1849	596	1576	2084	6000	629	1124
7-5	100	127	40	130	28	64	108	771	835	898	470	1030	1157	6000	518	1264
7-10	100	254	40	130	28	64	108	962	1089	1216	552	1221	1475	6000	600	1317
7-15	100	381	40	130	28	64	108	1152	1343	1533	633	1411	1792	6000	681	1369
7-20	100	508	40	130	28	64	108	1343	1597	1851	714	1602	2110	6000	762	1422
8-5	125	127	50	150	35	83	127	866	930	993	865	1144	1271	6000	948	2018
8-10	125	254	50	150	35	83	127	1057	1184	1311	1027	1335	1589	6000	1110	2138
8-15	125	381	50	150	35	83	127	1247	1438	1628	1189	1525	1906	6000	1272	2258
8-20	125	508	50	150	35	83	127	1438	1692	1946	1351	1716	2224	6000	1434	2378
9-5	150	127	70	220	49	95	140	1025	1088	1152	1390	1343	1470	6000	1553	2982
9-10	150	254	70	220	49	95	140	1215	1342	1469	1597	1533	1787	6000	1761	3132
9-15	150	381	70	220	49	95	140	1406	1596	1787	1805	1724	2105	6000	1968	3282
9-20	150	508	70	220	49	95	140	1596	1850	2104	2013	1914	2422	6000	2176	3432
10-5	200	127	80	250	55	121	165	1192	1255	1319	2716	1528	1655	6000	2954	4845
10-10	200	254	80	250	55	121	165	1382	1509	1636	3064	1718	1972	6000	3302	5113
10-15	200	381	80	250	55	121	165	1573	1763	1954	3412	1909	2290	6000	3650	5381
10-20	200	508	80	250	55	121	165	1763	2017	2271	3759	2099	2607	6000	3998	5649
11-5	250	127	90	280	60	160	205	1346	1410	1473	4909	1699	1826	6000	5334	8097
11-10	250	254	90	280	60	160	205	1524	1651	1778	5406	1877	2131	6000	5830	8481
11-15	250	381	90	280	60	160	205	1702	1892	2083	5903	2055	2436	6000	6327	8865
11-20	250	508	90	280	60	160	205	1880	2134	2388	6399	2233	2741	6000	6824	9249

**LOAD CAPACITIES OF HYDRAULIC SNUBBERS IN TENSION AND COMPRESSION**

Snubber Size Fig. 516 – or Fig. 517 –	Fig. 516 Short Snubber				Fig. 517 Adjustable Strut Snubber																			
	Cylinder Bore Size mm	Cylinder Stroke mm	Max. Rated Tensile Load kN	Max. Rated Centres (L) mm	Max. Rated Comp. Load kN	Min. Closed Centres (L) mm	Max. Closed Centres (L) mm	Max. Closed Centres for Max. Comp. Load = Full Tensile Load mm	Max.	Max.	Max.	Max.	Max.	Max.	Max.	Max.	Max.	Max.	Max.	Max.	Max.			
									Comp. Load at Crns. = Min. kN	Comp. Load at Crns. = 1000 mm kN	Comp. Load at Crns. = 1500 mm kN	Comp. Load at Crns. = 2000 mm kN	Comp. Load at Crns. = 2500 mm kN	Comp. Load at Crns. = 3000 mm kN	Comp. Load at Crns. = 3500 mm kN	Comp. Load at Crns. = 4000 mm kN	Comp. Load at Crns. = 4500 mm kN	Comp. Load at Crns. = 5000 mm kN	Comp. Load at Crns. = 5500 mm kN	Comp. Load at Crns. = 6000 mm kN				
1-5	20	127	3.28	442	3.28	628	2000	1100	3.28	3.28	2.07	1.21												
1-10	20	254	3.28	633	2.07	819	2000	n/a	2.07	1.98	1.77	0.99												
2-5	25	127	6.38	463	6.38	655	2500	1200	6.38	6.38	4.59	2.80	1.76											
2-10	25	254	6.38	653	5.18	845	2500	n/a	5.18	5.04	3.85	2.39	1.49											
3-5	40	127	17.35	518	17.35	723	4500	2000	17.35	17.35	17.35	17.35	12.75	8.84	6.72	4.80	3.80							
3-10	40	254	17.35	709	10.98	914	4000	n/a	10.98	10.82	10.17	9.66	9.21	8.14	6.13	4.45								
3-15	40	381	17.35	899	5.57	1104	4000	n/a	5.57		5.15	4.73	4.37	4.04	3.73	3.43								
4-5	50	127	31.14	572	31.14	783	5000	1900	31.14	31.14	31.14	30.18	20.06	13.99	10.58	8.33	6.48	4.92						
4-10	50	254	31.14	763	27.96	974	5000	n/a	27.96	27.83	26.82	26.05	17.72	13.05	9.73	7.67	5.63	4.57						
4-15	50	381	31.14	953	16.00	1164	5000	n/a	16.00		15.49	14.79	14.21	11.48	8.86	7.00	5.24	4.29						
4-20	50	508	31.14	1144	9.70	1355	4500	n/a	9.70		9.55	8.94	8.42	7.97	7.56	6.25	4.84							
5-5	65	127	48.93	618	48.93	844	6000	2300	48.93	48.93	48.93	48.93	43.50	31.30	23.75	18.12	14.35	11.70	9.42	7.40				
5-10	65	254	48.93	808	48.93	1034	6000	2100	48.93		48.93	48.93	39.20	29.00	21.61	16.95	13.25	11.00	8.69	7.02				
5-15	65	381	48.93	999	35.32	1225	6000	n/a	35.32		34.50	33.38	32.45	25.80	19.44	15.74	12.13	10.19	8.39	6.58				
5-20	65	508	48.93	1189	22.93	1415	6000	n/a	22.93		22.69	21.66	20.81	20.06	18.12	14.50	11.71	9.45	7.29	6.13				
6-5	80	127	78.29	741	78.29	976	6000	2700	78.29	78.29	78.29	78.29	78.29	67.09	51.34	39.90	31.35	25.59	21.25	17.67				
6-10	80	254	78.29	941	78.29	1176	6000	2600	78.29		78.29	78.29	78.29	61.86	46.45	36.57	29.48	23.84	19.60	16.72				
6-15	80	381	78.29	1141	78.29	1376	6000	2400	78.29		78.29	78.29	76.58	56.74	42.82	34.47	27.56	22.06	17.93	15.62				
6-20	80	508	78.29	1341	77.07	1576	6000	n/a	77.07			75.14	70.57	51.97	40.64	31.08	25.57	20.24	17.41	14.60				
7-5	100	127	125.44	771	125.44	1030	6000	3000	125.44		125.44	125.44	125.44	125.44	101.04	79.83	62.60	51.04	43.20	35.56				
7-10	100	254	125.44	962	125.44	1221	6000	2900	125.44		125.44	125.44	125.44	121.11	94.40	73.50	60.06	48.64	40.92	33.39				
7-15	100	381	125.44	1152	125.44	1411	6000	2800	125.44		125.44	125.44	125.44	112.39	87.71	68.92	55.71	46.20	38.61	31.21				
7-20	100	508	125.44	1343	123.22	1602	6000	n/a	123.22			120.70	118.04	104.13	81.23	66.06	53.06	43.73	36.28	30.64				
8-5	125	127	195.72	866	195.72	1144	6000	3800	195.72		195.72	195.72	195.72	195.72	195.72	185.06	151.27	123.24	103.48	89.19				
8-10	125	254	195.72	1057	195.72	1335	6000	3700	195.72		195.72	195.72	195.72	195.72	195.72	174.71	141.42	119.00	99.51	82.91				
8-15	125	381	195.72	1247	195.72	1525	6000	3500	195.72			195.72	195.72	195.72	195.72	161.45	133.97	111.97	92.84	79.04				
8-20	125	508	195.72	1438	195.72	1716	6000	3300	195.72			195.72	195.72	195.72	186.92	153.61	126.33	104.77	88.54	75.04				
9-5	150	127	282.91	1025	282.91	1343	6000	4700	282.91		282.91	282.91	282.91	282.91	282.91	282.91	282.91	257.55	218.45	183.52				
9-10	150	254	282.91	1215	282.91	1533	6000	4500	282.91			282.91	282.91	282.91	282.91	282.91	282.91	243.75	205.16	177.83				
9-15	150	381	282.91	1406	282.91	1724	6000	4400	282.91			282.91	282.91	282.91	282.91	282.91	271.77	229.72	198.85	168.39				
9-20	150	508	282.91	1596	282.91	1914	6000	4200	282.91			282.91	282.91	282.91	282.91	282.91	257.16	219.06	188.73	158.82				
10-5	200	127	502.65	1192	502.65	1528	6000	4600	502.65			502.65	502.65	502.65	502.65	502.65	502.65	460.43	401.35	347.86				
10-10	200	254	502.65	1382	502.65	1718	6000	4400	502.65			502.65	502.65	502.65	502.65	502.65	502.49	434.03	380.93	328.32				
10-15	200	381	502.65	1573	502.65	1909	6000	4300	502.65			502.65	502.65	502.65	502.65	502.65	480.14	417.05	360.00	313.26				
10-20	200	508	502.65	1763	502.65	2099	6000	4100	502.65				502.65	502.65	502.65	502.65	458.85	395.76	343.78	297.72				
11-5	250	127	835.83	1346	835.83	1699	6000	5600	835.83			835.83	835.83	835.83	835.83	835.83	835.83	835.83	835.83	835.83	778.95			
11-10	250	254	835.83	1524	835.83	1877	6000	5400	835.83			835.83	835.83	835.83	835.83	835.83	835.83	835.83	835.83	835.83	827.13	753.82		
11-15	250	381	835.83	1702	835.83	2055	6000	5200	835.83				835.83	835.83	835.83	835.83	835.83	835.83	835.83	835.83	800.02	727.64		
11-20	250	508	835.83	1880	835.83	2233	6000	5000	835.83				835.83	835.83	835.83	835.83	835.83	835.83	835.83	835.83	773.88	694.09		

Fig. 516 Snubber (Short Type)

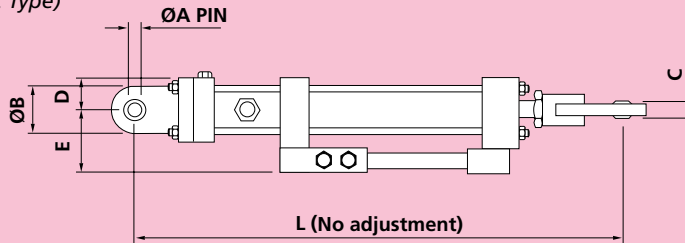
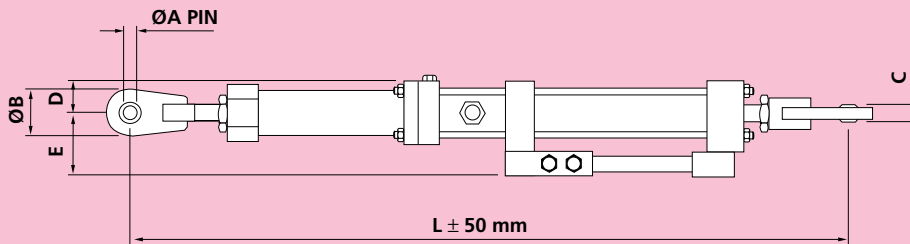


Fig. 517 Snubber (Adjustable Strut Type)



Snubber Size Fig.516- or Fig.517-	Cylinder Bore Size in	Cylinder Stroke in	Dia. A in	Dia. B in	C in	D in	E in	Fig. 516 Short Snubber			Fig. 517 Adjustable Strut Snubber					
								L (in)			Weight lbs	L (in)			Weight @ L = Min. lbs	Weight @ L = Max lbs
								Fully Closed	Mid Stroke	Fully Ext.		Min. Fully Closed	Min. Fully Ext.	Max. Fully Closed		
1-5	3/4	5	0.39	1.50	0.35	1.125	2.875	17.41	19.91	22.41	13	24.7	29.7	79	14	17
1-10	3/4	10	0.39	1.50	0.35	1.125	2.875	24.91	29.91	34.91	15	32.2	42.2	79	16	19
2-5	1	5	0.39	1.50	0.35	1.375	3.125	18.22	20.72	23.22	17	25.8	30.8	98	18	25
2-10	1	10	0.39	1.50	0.35	1.375	3.125	25.72	30.72	35.72	20	33.3	43.3	98	21	27
3-5	1 1/2	5	0.59	1.97	0.47	1.25	3.000	20.41	22.91	25.41	22	28.5	33.5	177	24	61
3-10	1 1/2	10	0.59	1.97	0.47	1.25	3.000	27.91	32.91	37.91	27	36.0	46.0	157	29	59
3-15	1 1/2	15	0.59	1.97	0.47	1.25	3.000	35.41	42.91	50.41	32	43.5	58.5	157	34	62
4-5	2	5	0.79	2.76	0.63	1.5	3.250	22.54	25.04	27.54	31	30.8	35.8	197	34	84
4-10	2	10	0.79	2.76	0.63	1.5	3.250	30.04	35.04	40.04	38	38.3	48.3	197	41	89
4-15	2	15	0.79	2.76	0.63	1.5	3.250	37.54	45.04	52.54	45	45.8	60.8	197	48	94
4-20	2	20	0.79	2.76	0.63	1.5	3.250	45.04	55.04	65.04	52	53.3	73.3	177	55	93
5-5	2 1/2	5	0.98	3.23	0.79	1.75	3.500	24.31	26.81	29.31	43	33.2	38.2	236	48	133
5-10	2 1/2	10	0.98	3.23	0.79	1.75	3.500	31.81	36.81	41.81	53	40.7	50.7	236	58	140
5-15	2 1/2	15	0.98	3.23	0.79	1.75	3.500	39.31	46.81	54.31	63	48.2	63.2	236	68	147
5-20	2 1/2	20	0.98	3.23	0.79	1.75	3.500	46.81	56.81	66.81	74	55.7	75.7	236	78	154
6-5	3 1/4	5	1.38	4.33	0.98	2.25	4.000	29.17	31.67	34.17	83	38.4	43.4	236	90	217
6-10	3 1/4	10	1.38	4.33	0.98	2.25	4.000	37.05	42.05	47.05	100	46.3	56.3	236	107	229
6-15	3 1/4	15	1.38	4.33	0.98	2.25	4.000	44.92	52.42	59.92	117	54.2	69.2	236	124	241
6-20	3 1/4	20	1.38	4.33	0.98	2.25	4.000	52.80	62.80	72.80	134	62.1	82.1	236	141	253
7-5	4	5	1.57	5.12	1.10	2.5	4.250	30.37	32.87	35.37	106	40.6	45.6	236	117	284
7-10	4	10	1.57	5.12	1.10	2.5	4.250	37.87	42.87	47.87	124	48.1	58.1	236	135	296
7-15	4	15	1.57	5.12	1.10	2.5	4.250	45.37	52.87	60.37	142	55.6	70.6	236	153	308
7-20	4	20	1.57	5.12	1.10	2.5	4.250	52.87	62.87	72.87	161	63.1	83.1	236	171	320
8-5	5	5	1.97	5.91	1.38	3.25	5.000	34.11	36.61	39.11	195	45.1	50.1	236	213	454
8-10	5	10	1.97	5.91	1.38	3.25	5.000	41.61	46.61	51.61	231	52.6	62.6	236	250	481
8-15	5	15	1.97	5.91	1.38	3.25	5.000	49.11	56.61	64.11	267	60.1	75.1	236	286	508
8-20	5	20	1.97	5.91	1.38	3.25	5.000	56.61	66.61	76.61	304	67.6	87.6	236	322	535
9-5	6	5	2.76	8.66	1.93	3.75	5.500	40.35	42.85	45.35	312	52.9	57.9	236	349	670
9-10	6	10	2.76	8.66	1.93	3.75	5.500	47.85	52.85	57.85	359	60.4	70.4	236	396	704
9-15	6	15	2.76	8.66	1.93	3.75	5.500	55.35	62.85	70.35	406	67.9	82.9	236	442	738
9-20	6	20	2.76	8.66	1.93	3.75	5.500	62.85	72.85	82.85	452	75.4	95.4	236	489	771
10-5	8	5	3.15	9.84	2.17	4.75	6.500	46.93	49.43	51.93	611	60.2	65.2	236	664	1089
10-10	8	10	3.15	9.84	2.17	4.75	6.500	54.43	59.43	64.43	689	67.7	77.7	236	742	1149
10-15	8	15	3.15	9.84	2.17	4.75	6.500	61.93	69.43	76.93	767	75.2	90.2	236	820	1210
10-20	8	20	3.15	9.84	2.17	4.75	6.500	69.43	79.43	89.43	845	82.7	102.7	236	899	1270
11-5	10	5	3.54	11.02	2.36	6.312	8.062	53.01	55.51	58.01	1104	66.9	71.9	236	1199	1820
11-10	10	10	3.54	11.02	2.36	6.312	8.062	60.01	65.01	70.01	1215	73.9	83.9	236	1311	1907
11-15	10	15	3.54	11.02	2.36	6.312	8.062	67.01	74.51	82.01	1327	80.9	95.9	236	1422	1993
11-20	10	20	3.54	11.02	2.36	6.312	8.062	74.01	84.01	94.01	1439	87.9	107.9	236	1534	2079

**LOAD CAPACITIES OF HYDRAULIC SNUBBERS IN TENSION AND COMPRESSION**

Snubber Size Fig. 516 – or Fig. 517 –	Cylinder Bore Size in	Cylinder Stroke in	Fig. 516 Short Snubber				Fig. 517 Adjustable Strut Snubber														
			Max. Rated Tensile Load lbs	Max. Closed Centres (L) in	Max. Rated Comp. Load lbs	Min. Closed Centres (L) in	Max. Closed Centres (L) in	Max. Closed Centres for Max. Comp. Load = Full Load at Closed	Max. Comp. Load at Closed	Max. Comp. Load at Closed	Max. Comp. Load at Closed	Max. Comp. Load at Closed	Max. Comp. Load at Closed	Max. Comp. Load at Closed	Max. Comp. Load at Closed	Max. Comp. Load at Closed	Max. Comp. Load at Closed	Max. Comp. Load at Closed	Max. Comp. Load at Closed	Max. Comp. Load at Closed	
								Tensile Load in	Crs. = Min. lbs	Crs. = 39 in lbs	Crs. = 59 in lbs	Crs. = 79 in lbs	Crs. = 98 in lbs	Crs. = 118 in lbs	Crs. = 138 in lbs	Crs. = 157 in lbs	Crs. = 177 in lbs	Crs. = 197 in lbs	Crs. = 217 in lbs	Crs. = 236 in lbs	
1-5	3/4	5	738	17.41	738	24.7	79	43.3	738	738	466	272									
1-10	3/4	10	738	24.91	465	32.2	79	n/a	465	446	398	222									
2-5	1	5	1434	18.22	1434	25.8	98	47.2	1434	1434	1031	629	396								
2-10	1	10	1434	25.72	1165	33.3	98	n/a	1165	1133	865	538	335								
3-5	1 1/2	5	3900	20.41	3900	28.5	177	78.7	3900	3900	3900	2866	1988	1510	1079	855					
3-10	1 1/2	10	3900	27.91	2468	36.0	157	n/a	2468	2432	2287	2172	2071	1830	1378	1001					
3-15	1 1/2	15	3900	35.41	1253	43.5	157	n/a	1253		1159	1064	982	908	838	772					
4-5	2	5	7000	22.54	7000	30.8	197	74.8	7000	7000	7000	6785	4510	3145	2379	1873	1457	1106			
4-10	2	10	7000	30.04	6285	38.3	197	n/a	6285	6257	6030	5856	3983	2935	2187	1725	1266	1028			
4-15	2	15	7000	37.54	3597	45.8	197	n/a	3597		3482	3325	3194	2581	1991	1573	1178	965			
4-20	2	20	7000	45.04	2180	53.3	177	n/a	2180		2147	2009	1894	1793	1700	1406	1087				
5-5	2 1/2	5	11000	24.31	11000	33.2	236	90.6	11000	11000	11000	11000	9780	7036	5340	4074	3226	2631	2118	1664	
5-10	2 1/2	10	11000	31.81	11000	40.7	236	82.7	11000		11000	11000	8812	6519	4857	3809	2978	2472	1953	1577	
5-15	2 1/2	15	11000	39.31	7941	48.2	236	n/a	7941		7756	7505	7294	5801	4370	3537	2727	2291	1887	1478	
5-20	2 1/2	20	11000	46.81	5155	55.7	236	n/a	5155		5102	4870	4678	4509	4074	3259	2633	2124	1639	1377	
6-5	3 1/4	5	17600	29.17	17600	38.4	236	106.3	17600	17600	17600	17600	17600	15082	11542	8971	7048	5753	4778	3973	
6-10	3 1/4	10	17600	37.05	17600	46.3	236	102.4	17600		17600	17600	17600	13906	10441	8221	6628	5360	4406	3759	
6-15	3 1/4	15	17600	44.92	17600	54.2	236	94.5	17600		17600	17600	17216	12755	9627	7748	6195	4959	4031	3511	
6-20	3 1/4	20	17600	52.80	17325	62.1	236	n/a	17325			16892	15865	11682	9136	6986	5749	4551	3914	3283	
7-5	4	5	28200	30.37	28200	40.6	236	118.1	28200		28200	28200	28200	28200	22714	17947	14074	11474	9712	7994	
7-10	4	10	28200	37.87	28200	48.1	236	114.2	28200		28200	28200	28200	28200	27226	21223	16522	13502	10935	9199	7507
7-15	4	15	28200	45.37	28200	55.6	236	110.2	28200		28200	28200	28200	25266	19719	15493	12523	10387	8679	7017	
7-20	4	20	28200	52.87	27701	63.1	236	n/a	27701			27135	26537	23410	18262	14851	11929	9831	8155	6888	
8-5	5	5	44000	34.11	44000	45.1	236	149.6	44000		44000	44000	44000	44000	44000	41603	34006	27704	23262	20051	
8-10	5	10	44000	41.61	44000	52.6	236	145.7	44000		44000	44000	44000	44000	44000	39275	31792	26752	22370	18640	
8-15	5	15	44000	49.11	44000	60.1	236	137.8	44000			44000	44000	44000	44000	36294	30117	25171	20872	17770	
8-20	5	20	44000	56.61	44000	67.6	236	129.9	44000			44000	44000	44000	42021	34533	28401	23554	19905	16869	
9-5	6	5	63600	40.35	63600	52.9	236	185.0	63600		63600	63600	63600	63600	63600	63600	63600	63600	57900	49108	41257
9-10	6	10	63600	47.85	63600	60.4	236	177.2	63600			63600	63600	63600	63600	63600	63600	63600	54796	46121	39977
9-15	6	15	63600	55.35	63600	67.9	236	173.2	63600			63600	63600	63600	63600	63600	61095	51643	44702	37854	
9-20	6	20	63600	62.85	63600	75.4	236	165.4	63600			63600	63600	63600	63600	63600	57811	49246	42428	35703	
10-5	8	5	113000	46.93	113000	60.2	236	181.1	113000			113000	113000	113000	113000	113000	113000	113000	103507	90227	78202
10-10	8	10	113000	54.43	113000	67.7	236	173.2	113000			113000	113000	113000	113000	113000	112964	97572	85636	73808	
10-15	8	15	113000	61.93	113000	75.2	236	169.3	113000			113000	113000	113000	113000	113000	107939	93755	80931	70422	
10-20	8	20	113000	69.43	113000	82.7	236	161.4	113000				113000	113000	113000	113000	103152	88970	77285	66929	
11-5	10	5	187900	53.01	187900	66.9	236	220.5	187900			187900	187900	187900	187900	187900	187900	187900	187900	187900	175112
11-10	10	10	187900	60.01	187900	73.9	236	212.6	187900			187900	187900	187900	187900	187900	187900	187900	187900	185944	169464
11-15	10	15	187900	67.01	187900	80.9	236	204.7	187900				187900	187900	187900	187900	187900	187900	187900	179849	163578
11-20	10	20	187900	74.01	187900	87.9	236	196.9	187900				187900	187900	187900	187900	187900	187900	187900	173973	156036



## CLAMPS FOR RIGID STRUTS AND SNUBBERS

N.B. 0.5" / 15mm

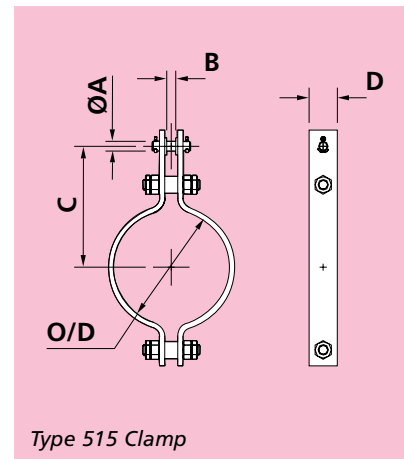
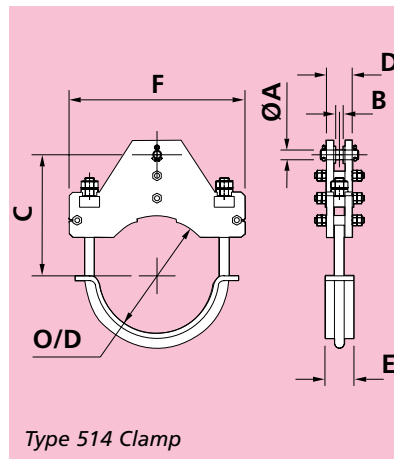
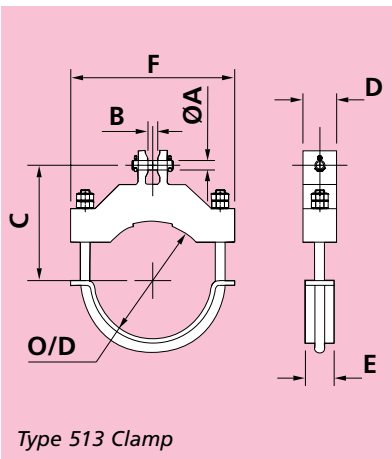


Fig. No.	Pipe O/D	Max. Pipe Temp	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				mm	N	lbs
513-15-1-400	21.3	400	423	4.15	933	10	9	85	3.35	20	20	65	0.6	6	1.3
515-15-1-400	21.3	400	423	4.15	933	10	9	85	3.35	40			0.7	6	1.4
515-15-2-400	21.3	400	985	9.66	2172	10	9	85	3.35	40			0.7	6	1.4
513-15-1-490	21.3	490	423	4.15	933	10	9	85	3.35	20	20	65	0.6	6	1.3
515-15-1-490	21.3	490	423	4.15	933	10	9	85	3.35	40			0.6	6	1.4
515-15-2-490	21.3	490	985	9.66	2172	10	9	85	3.35	40			0.6	6	1.4
513-15-1-530	21.3	530	423	4.15	933	10	9	85	3.35	20	30	72	0.7	7	1.5
515-15-1-530	21.3	530	423	4.15	933	10	9	85	3.35	40			0.6	6	1.4
515-15-2-530	21.3	530	985	9.66	2172	10	9	85	3.35	40			0.6	6	1.4
513-15-1-570	21.3	570	423	4.15	933	10	9	85	3.35	25	30	83	1.0	10	2.2
515-15-1-570	21.3	570	423	4.15	933	10	9	85	3.35	40			0.6	6	1.4
515-15-2-570	21.3	570	985	9.66	2172	10	9	85	3.35	40			0.6	6	1.4

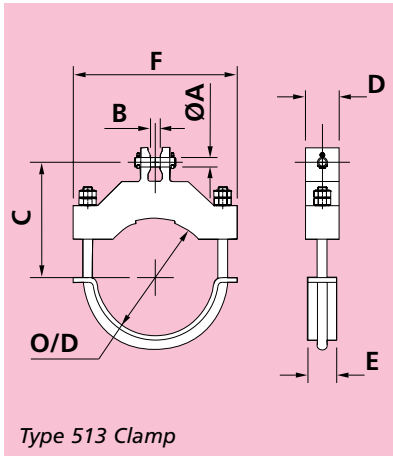
## CLAMPS FOR RIGID STRUTS AND SNUBBERS

N.B. 0.75" / 20mm

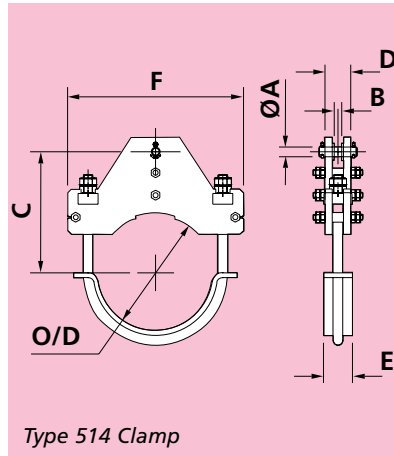
Fig. No.	Pipe O/D	Max. Pipe Temp	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				mm	N	lbs
513-20-1-400	26.7	400	423	4.15	933	10	9	87	3.43	20	20	70	0.6	6	1.3
515-20-1-400	26.7	400	423	4.15	933	10	9	85	3.35	40			0.7	7	1.5
513-20-2-400	26.7	400	985	9.66	2172	10	9	87	3.43	20	30	77	0.7	7	1.6
515-20-2-400	26.7	400	985	9.66	2172	10	9	85	3.35	40			0.7	7	1.5
513-20-1-490	26.7	490	423	4.15	933	10	9	87	3.43	20	20	70	0.6	6	1.3
515-20-1-490	26.7	490	423	4.15	933	10	9	85	3.35	40			0.7	7	1.5
513-20-2-490	26.7	490	985	9.66	2172	10	9	87	3.43	20	30	77	0.7	7	1.6
515-20-2-490	26.7	490	985	9.66	2172	10	9	85	3.35	40			0.7	7	1.5
513-20-1-530	26.7	530	423	4.15	933	10	9	87	3.43	20	30	77	0.7	7	1.5
515-20-1-530	26.7	530	423	4.15	933	10	9	85	3.35	40			0.7	7	1.5
513-20-2-530	26.7	530	985	9.66	2172	10	9	87	3.43	25	30	88	1.0	10	2.3
515-20-2-530	26.7	530	985	9.66	2172	10	9	85	3.35	40			0.7	7	1.5
513-20-1-570	26.7	570	423	4.15	933	10	9	87	3.43	25	30	88	1.0	10	2.2
515-20-1-570	26.7	570	423	4.15	933	10	9	85	3.35	40			0.7	7	1.5
513-20-2-570	26.7	570	985	9.66	2172	10	9	87	3.43	30	40	102	1.5	15	3.4
515-20-2-570	26.7	570	985	9.66	2172	10	9	85	3.35	50			1.3	13	3.0

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

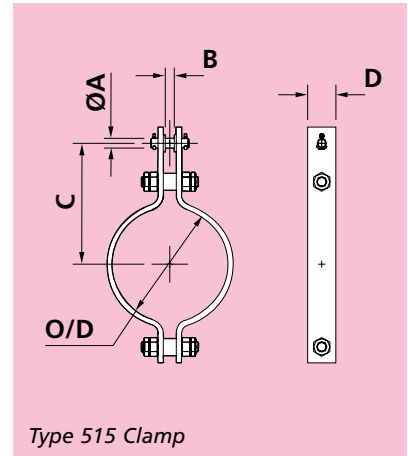
N.B. 1" / 25mm



Type 513 Clamp



Type 514 Clamp

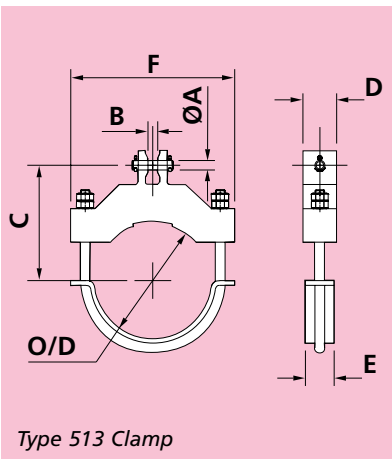


Type 515 Clamp

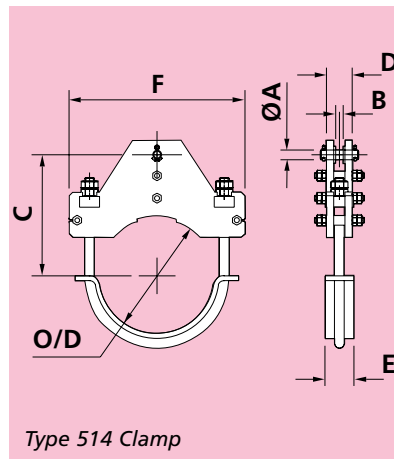
Fig. No.	Pipe O/D	Max. Pipe Temp	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				mm	N	lbs
513-25-1-400	33.4	400	423	4.15	933	10	9	106	4.17	20	20	78	0.7	7	1.6
515-25-1-400	33.4	400	423	4.15	933	10	9	105	4.13	40			0.8	8	1.7
513-25-2-400	33.4	400	985	9.66	2172	10	9	106	4.17	20	30	85	0.9	9	2.0
515-25-2-400	33.4	400	985	9.66	2172	10	9	105	4.13	40			0.8	8	1.7
513-25-1-490	33.4	490	423	4.15	933	10	9	106	4.17	20	20	78	0.7	7	1.6
515-25-1-490	33.4	490	423	4.15	933	10	9	105	4.13	40			0.8	8	1.7
513-25-2-490	33.4	490	985	9.66	2172	10	9	106	4.17	20	30	85	0.9	9	2.0
515-25-2-490	33.4	490	985	9.66	2172	10	9	105	4.13	40			0.8	8	1.7
513-25-1-530	33.4	530	423	4.15	933	10	9	106	4.17	20	30	85	0.9	8	1.9
515-25-1-530	33.4	530	423	4.15	933	10	9	105	4.13	40			0.8	8	1.7
513-25-2-530	33.4	530	985	9.66	2172	10	9	106	4.17	25	30	96	1.3	12	2.8
515-25-2-530	33.4	530	985	9.66	2172	10	9	105	4.13	50			1.6	15	3.4
513-25-1-570	33.4	570	423	4.15	933	10	9	106	4.17	25	30	96	1.2	12	2.7
515-25-1-570	33.4	570	423	4.15	933	10	9	105	4.13	40			0.8	8	1.7
513-25-2-570	33.4	570	985	9.66	2172	10	9	106	4.17	30	40	110	1.8	18	4.0
515-25-2-570	33.4	570	985	9.66	2172	10	9	105	4.13	50			1.6	15	3.4

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

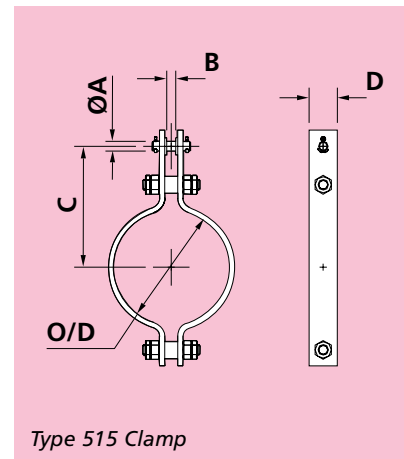
N.B. 1.25" / 32mm



Type 513 Clamp



Type 514 Clamp

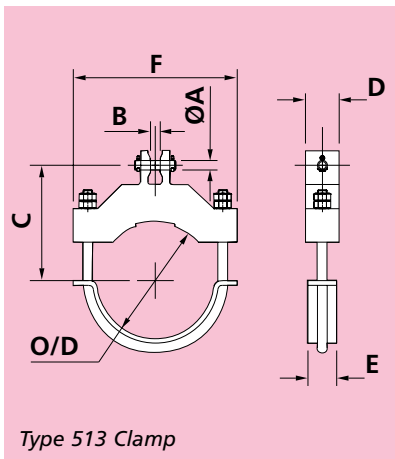


Type 515 Clamp

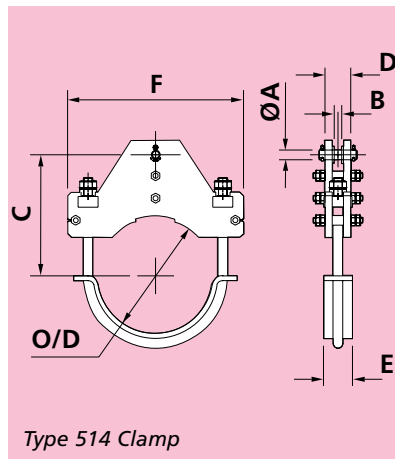
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				mm	N	lbs
513-32-1-400	42.2	400	423	4.15	933	10	9	110	4.33	20	20	86	0.8	8	1.8
515-32-1-400	42.2	400	423	4.15	933	10	9	110	4.33	40			0.8	8	1.8
513-32-2-400	42.2	400	985	9.66	2172	10	9	110	4.33	20	30	93	1.0	10	2.2
515-32-2-400	42.2	400	985	9.66	2172	10	9	110	4.33	50			1.7	16	3.6
513-32-3-400	42.2	400	2125	20.8	4684	15	12	117	4.61	30	40	118	2.2	21	4.8
515-32-3-400	42.2	400	2125	20.8	4684	15	12	115	4.53	50			1.8	18	4.0
513-32-1-490	42.2	490	423	4.15	933	10	9	110	4.33	20	20	86	0.8	8	1.8
515-32-1-490	42.2	490	423	4.15	933	10	9	110	4.33	40			0.8	8	1.8
513-32-2-490	42.2	490	985	9.66	2172	10	9	110	4.33	20	30	93	1.0	10	2.2
515-32-2-490	42.2	490	985	9.66	2172	10	9	110	4.33	50			1.7	16	3.6
513-32-3-490	42.2	490	2125	20.8	4684	15	12	117	4.61	30	40	118	2.2	21	4.8
515-32-3-490	42.2	490	2125	20.8	4684	15	12	115	4.53	50			1.8	18	4.0
513-32-1-530	42.2	530	423	4.15	933	10	9	110	4.33	20	30	93	1.0	9	2.1
515-32-1-530	42.2	530	423	4.15	933	10	9	110	4.33	40			0.8	8	1.8
513-32-2-530	42.2	530	985	9.66	2172	10	9	110	4.33	25	30	104	1.4	14	3.1
515-32-2-530	42.2	530	985	9.66	2172	10	9	110	4.33	50			1.7	16	3.6
513-32-3-530	42.2	530	2125	20.8	4684	15	12	117	4.61	40	50	132	3.2	31	7.0
515-32-3-530	42.2	530	2125	20.8	4684	15	12	115	4.53	50			1.8	18	4.0
513-32-1-570	42.2	570	423	4.15	933	10	9	110	4.33	25	30	104	1.3	13	3.0
515-32-1-570	42.2	570	423	4.15	933	10	9	110	4.33	40			0.8	8	1.8
513-32-2-570	42.2	570	985	9.66	2172	10	9	110	4.33	30	40	118	2.0	20	4.4
515-32-2-570	42.2	570	985	9.66	2172	10	9	110	4.33	50			1.7	16	3.6
513-32-3-570	42.2	570	2125	20.8	4684	15	12	117	4.61	50	50	150	4.6	45	10.1
515-32-3-570	42.2	570	2125	20.8	4684	15	12	115	4.53	70			2.9	29	6.4

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

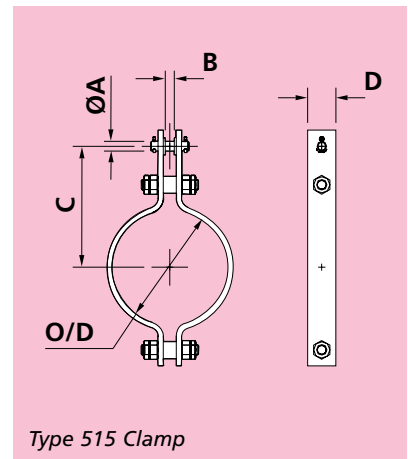
N.B. 1.5" / 40mm



Type 513 Clamp



Type 514 Clamp

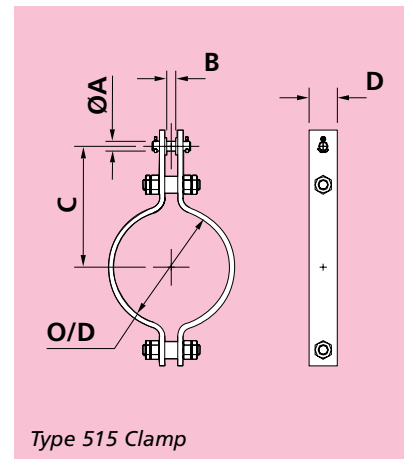
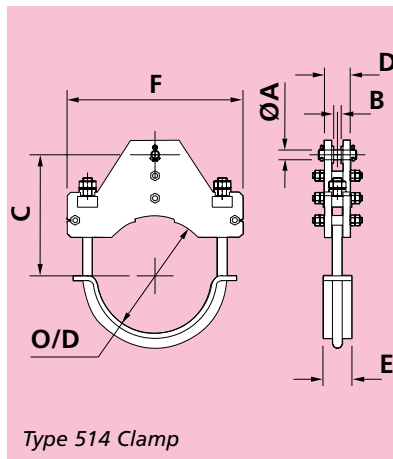
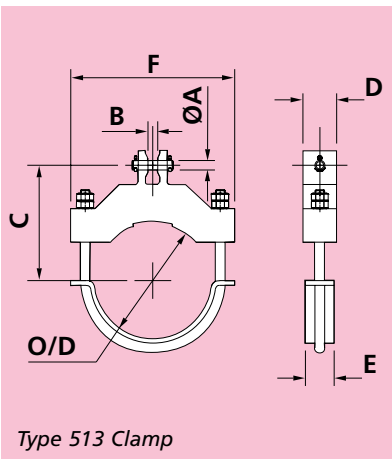


Type 515 Clamp

Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-40-1-400	48.3	400	423	4.15	933	10	9	113	4.45	20	20	92	0.9	9	2.0
515-40-1-400	48.3	400	423	4.15	933	10	9	115	4.53	40			0.9	9	1.9
513-40-2-400	48.3	400	985	9.66	2172	10	9	113	4.45	20	30	99	1.1	11	2.4
515-40-2-400	48.3	400	985	9.66	2172	10	9	115	4.53	50			1.8	17	3.9
513-40-3-400	48.3	400	2125	20.8	4684	15	12	120	4.72	30	40	124	2.3	22	5.1
515-40-3-400	48.3	400	2125	20.8	4684	15	12	120	4.72	50			1.9	19	4.2
513-40-1-490	48.3	490	423	4.15	933	10	9	113	4.45	20	20	92	0.9	9	2.0
515-40-1-490	48.3	490	423	4.15	933	10	9	115	4.53	40			0.9	9	1.9
513-40-2-490	48.3	490	985	9.66	2172	10	9	113	4.45	20	30	99	1.1	11	2.4
515-40-2-490	48.3	490	985	9.66	2172	10	9	115	4.53	50			1.8	17	3.9
513-40-3-490	48.3	490	2125	20.8	4684	15	12	120	4.72	30	40	124	2.3	22	5.1
515-40-3-490	48.3	490	2125	20.8	4684	15	12	120	4.72	50			1.9	19	4.2
513-40-1-530	48.3	530	423	4.15	933	10	9	113	4.45	20	30	99	1.0	10	2.3
515-40-1-530	48.3	530	423	4.15	933	10	9	115	4.53	40			0.9	9	1.9
513-40-2-530	48.3	530	985	9.66	2172	10	9	113	4.45	25	30	110	1.5	15	3.3
515-40-2-530	48.3	530	985	9.66	2172	10	9	115	4.53	50			1.8	17	3.9
513-40-3-530	48.3	530	2125	20.8	4684	15	12	120	4.72	40	50	138	3.3	33	7.4
515-40-3-530	48.3	530	2125	20.8	4684	15	12	120	4.72	50			1.9	19	4.2
513-40-1-570	48.3	570	423	4.15	933	10	9	113	4.45	25	30	110	1.5	14	3.2
515-40-1-570	48.3	570	423	4.15	933	10	9	115	4.53	50			1.8	17	3.9
513-40-2-570	48.3	570	985	9.66	2172	10	9	113	4.45	30	40	124	2.1	21	4.7
515-40-2-570	48.3	570	985	9.66	2172	10	9	115	4.53	50			1.8	17	3.9
513-40-3-570	48.3	570	2125	20.8	4684	15	12	120	4.72	50	50	156	4.8	47	10.7
515-40-3-570	48.3	570	2125	20.8	4684	15	12	120	4.72	70			3.1	30	6.8

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

N.B. 2" / 50mm



Type 513 Clamp

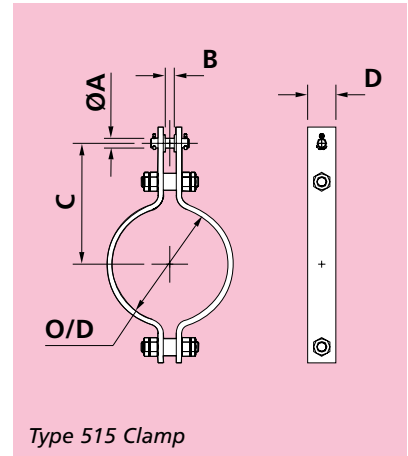
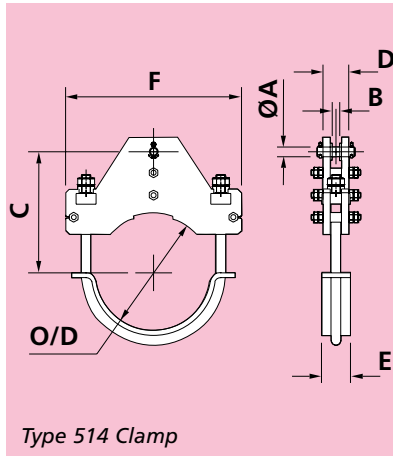
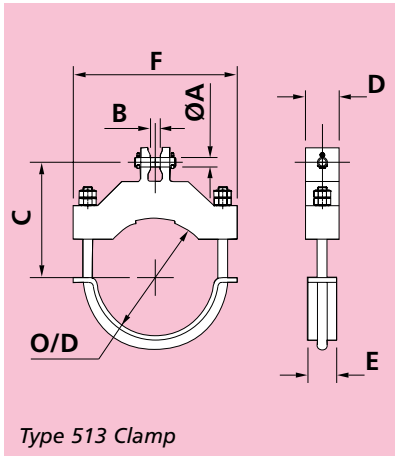
Type 514 Clamp

Type 515 Clamp

Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				mm	N	lbs
513-50-1-400	60.3	400	423	4.15	933	10	9	119	4.69	20	20	104	1.1	10	2.3
514-50-1-400	60.3	400	423	4.15	933	10	9	119	4.69	36	20	150	1.9	18	4.1
515-50-1-400	60.3	400	423	4.15	933	10	9	120	4.72	40			0.9	9	2.0
513-50-2-400	60.3	400	985	9.66	2172	10	9	119	4.69	20	30	111	1.3	12	2.8
515-50-2-400	60.3	400	985	9.66	2172	10	9	120	4.72	50			1.9	18	4.1
513-50-3-400	60.3	400	2125	20.8	4684	15	12	126	4.96	30	40	136	2.6	26	5.7
515-50-3-400	60.3	400	2125	20.8	4684	15	12	125	4.92	50			2.2	21	4.8
513-50-4-400	60.3	400	4293	42.1	9465	20	16	137	5.39	40	50	150	4.2	41	9.3
515-50-4-400	60.3	400	4293	42.1	9465	20	16	135	5.31	70			4.0	40	8.9
513-50-1-490	60.3	490	423	4.15	933	10	9	119	4.69	20	20	104	1.1	10	2.3
514-50-1-490	60.3	490	423	4.15	933	10	9	119	4.69	36	20	150	1.9	19	4.2
515-50-1-490	60.3	490	423	4.15	933	10	9	120	4.72	40			0.9	9	2.0
513-50-2-490	60.3	490	985	9.66	2172	10	9	119	4.69	20	30	111	1.3	12	2.8
515-50-2-490	60.3	490	985	9.66	2172	10	9	120	4.72	50			1.9	18	4.1
513-50-3-490	60.3	490	2125	20.8	4684	15	12	126	4.96	30	40	136	2.6	26	5.7
515-50-3-490	60.3	490	2125	20.8	4684	15	12	125	4.92	50			2.0	20	4.4
513-50-4-490	60.3	490	4293	42.1	9465	20	16	137	5.39	40	50	150	4.2	41	9.3
515-50-4-490	60.3	490	4293	42.1	9465	20	16	135	5.31	70			3.8	37	8.3
513-50-1-530	60.3	530	423	4.15	933	10	9	119	4.69	20	30	111	1.2	12	2.7
514-50-1-530	60.3	530	423	4.15	933	10	9	119	4.69	36	30	152	2.0	20	4.5
515-50-1-530	60.3	530	423	4.15	933	10	9	120	4.72	40			0.9	9	2.0
513-50-2-530	60.3	530	985	9.66	2172	10	9	119	4.69	25	30	122	1.7	17	3.8
514-50-2-530	60.3	530	985	9.66	2172	10	9	119	4.69	39	30	166	2.4	24	5.3
515-50-2-530	60.3	530	985	9.66	2172	10	9	120	4.72	50			1.9	18	4.1
513-50-3-530	60.3	530	2125	20.8	4684	15	12	126	4.96	40	50	150	3.7	37	8.2
515-50-3-530	60.3	530	2125	20.8	4684	15	12	125	4.92	60			2.4	23	5.3
513-50-4-530	60.3	530	4293	42.1	9465	20	16	137	5.39	50	50	168	5.9	58	13.1
515-50-4-530	60.3	530	4293	42.1	9465	20	16	135	5.31	80			4.3	42	9.4
513-50-1-570	60.3	570	423	4.15	933	10	9	119	4.69	25	30	122	1.7	16	3.7
514-50-1-570	60.3	570	423	4.15	933	10	9	119	4.69	36	30	158	2.4	24	5.3
515-50-1-570	60.3	570	423	4.15	933	10	9	120	4.72	50			1.9	18	4.1
513-50-2-570	60.3	570	985	9.66	2172	10	9	119	4.69	30	40	136	2.4	24	5.4
514-50-2-570	60.3	570	985	9.66	2172	10	9	119	4.69	39	40	170	3.4	33	7.4
515-50-2-570	60.3	570	985	9.66	2172	10	9	120	4.72	50			1.9	18	4.1
513-50-3-570	60.3	570	2125	20.8	4684	15	12	126	4.96	50	50	168	5.4	53	11.9
515-50-3-570	60.3	570	2125	20.8	4684	15	12	125	4.92	70			3.3	33	7.4
513-50-4-570	60.3	570	4293	42.1	9465	20	16	137	5.39	60	70	189	8.7	85	19.1
515-50-4-570	60.3	570	4293	42.1	9465	20	16	135	5.31	80			5.4	53	11.8

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

N.B. 2.5" / 65mm



Type 513 Clamp

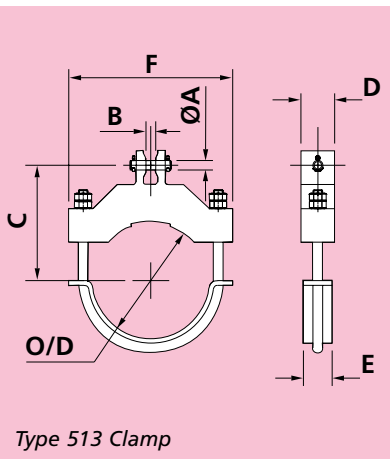
Type 514 Clamp

Type 515 Clamp

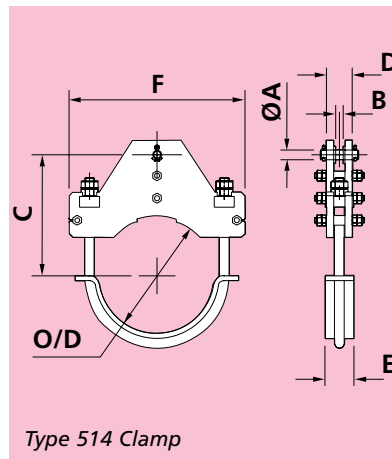
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				mm	N	lbs
513-65-1-400	73	400	423	4.15	933	10	9	128	5.04	20	20	122	1.3	13	2.9
514-65-1-400	73	400	423	4.15	933	10	9	128	5.04	36	20	168	2.3	23	5.1
515-65-1-400	73	400	423	4.15	933	10	9	125	4.92	40			1.0	10	2.2
513-65-2-400	73	400	985	9.66	2172	10	9	128	5.04	20	30	129	1.5	15	3.4
514-65-2-400	73	400	985	9.66	2172	10	9	128	5.04	39	30	178	2.7	26	5.9
515-65-2-400	73	400	985	9.66	2172	10	9	125	4.92	50			2.1	20	4.5
513-65-3-400	73	400	2125	20.8	4684	15	12	135	5.31	30	40	154	3.1	30	6.8
515-65-3-400	73	400	2125	20.8	4684	15	12	130	5.12	60			2.8	27	6.1
513-65-4-400	73	400	4293	42.1	9465	20	16	146	5.75	40	50	168	4.9	48	10.9
515-65-4-400	73	400	4293	42.1	9465	20	16	140	5.51	80			4.9	48	10.8
513-65-5-400	73	400	6324	62	13942	25	20	153	6.02	50	50	186	7.4	73	16.4
513-65-1-490	73	490	423	4.15	933	10	9	128	5.04	20	20	122	1.3	13	2.9
514-65-1-490	73	490	423	4.15	933	10	9	128	5.04	36	20	168	2.3	23	5.2
515-65-1-490	73	490	423	4.15	933	10	9	125	4.92	40			1.0	10	2.2
513-65-2-490	73	490	985	9.66	2172	10	9	128	5.04	20	30	129	1.5	15	3.4
514-65-2-490	73	490	985	9.66	2172	10	9	128	5.04	39	30	178	2.7	26	5.9
515-65-2-490	73	490	985	9.66	2172	10	9	125	4.92	50			2.1	20	4.5
513-65-3-490	73	490	2125	20.8	4684	15	12	135	5.31	30	40	154	3.1	30	6.8
515-65-3-490	73	490	2125	20.8	4684	15	12	130	5.12	60			2.6	25	5.7
513-65-4-490	73	490	4293	42.1	9465	20	16	146	5.75	40	50	168	4.9	48	10.9
515-65-4-490	73	490	4293	42.1	9465	20	16	140	5.51	80			4.6	45	10.2
513-65-5-490	73	490	6324	62	13942	25	20	153	6.02	50	50	186	7.4	73	16.4
513-65-1-530	73	530	423	4.15	933	10	9	128	5.04	20	30	129	1.5	15	3.3
514-65-1-530	73	530	423	4.15	933	10	9	128	5.04	36	30	170	2.5	24	5.5
515-65-1-530	73	530	423	4.15	933	10	9	125	4.92	40			1.0	10	2.2
513-65-2-530	73	530	985	9.66	2172	10	9	128	5.04	25	30	140	2.1	21	4.6
514-65-2-530	73	530	985	9.66	2172	10	9	128	5.04	39	30	184	2.7	27	6.0
515-65-2-530	73	530	985	9.66	2172	10	9	125	4.92	50			2.1	20	4.5
513-65-3-530	73	530	2125	20.8	4684	15	12	135	5.31	40	50	168	4.4	43	9.7
515-65-3-530	73	530	2125	20.8	4684	15	12	130	5.12	70			3.6	36	8.0
513-65-4-530	73	530	4293	42.1	9465	20	16	146	5.75	50	50	186	6.8	67	15.1
515-65-4-530	73	530	4293	42.1	9465	20	16	140	5.51	80			5.8	57	12.7
513-65-5-530	73	530	6324	62	13942	25	20	153	6.02	60	70	207	10.5	102	23.0
513-65-1-570	73	570	423	4.15	933	10	9	128	5.04	25	30	140	2.0	20	4.5
514-65-1-570	73	570	423	4.15	933	10	9	128	5.04	36	30	176	2.5	24	5.5
515-65-1-570	73	570	423	4.15	933	10	9	125	4.92	50			2.1	20	4.5
513-65-2-570	73	570	985	9.66	2172	10	9	128	5.04	30	40	154	2.9	28	6.4
514-65-2-570	73	570	985	9.66	2172	10	9	128	5.04	39	40	188	3.6	36	8.0
515-65-2-570	73	570	985	9.66	2172	10	9	125	4.92	50			2.1	20	4.5
513-65-3-570	73	570	2125	20.8	4684	15	12	135	5.31	50	50	186	6.2	61	13.7
515-65-3-570	73	570	2125	20.8	4684	15	12	130	5.12	80			4.4	43	9.7
513-65-4-570	73	570	4293	42.1	9465	20	16	146	5.75	60	70	207	9.8	96	21.6
515-65-4-570	73	570	4293	42.1	9465	20	16	140	5.51	100			7.2	70	15.8
513-65-5-570	73	570	6324	62	13942	25	20	153	6.02	70	80	232	14.8	145	32.6

**CLAMPS FOR RIGID STRUTS AND SNUBBERS**

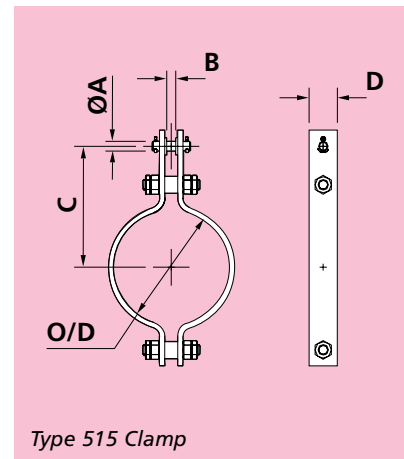
**N.B. 3" / 80mm**



Type 513 Clamp



Type 514 Clamp

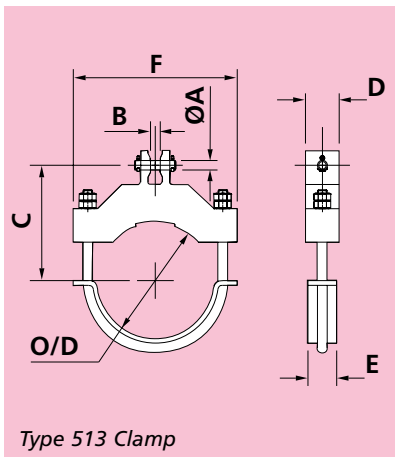


Type 515 Clamp

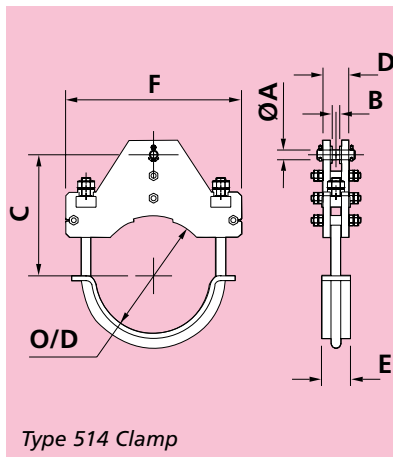
Fig. No.	Pipe O/D	Max. Pipe Temp	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-80-1-400	88.9	400	423	4.15	933	10	9	134	5.28	20	20	134	1.5	15	3.3
514-80-1-400	88.9	400	423	4.15	933	10	9	134	5.28	36	20	180	2.0	20	4.5
515-80-1-400	88.9	400	423	4.15	933	10	9	135	5.31	40			1.1	11	2.4
513-80-2-400	88.9	400	985	9.66	2172	10	9	134	5.28	20	30	141	1.7	17	3.8
514-80-2-400	88.9	400	985	9.66	2172	10	9	134	5.28	39	30	190	2.4	23	5.3
515-80-2-400	88.9	400	985	9.66	2172	10	9	135	5.31	50			2.3	22	5.0
513-80-3-400	88.9	400	2125	20.8	4684	15	12	141	5.55	30	40	166	3.4	34	7.6
514-80-3-400	88.9	400	2125	20.8	4684	15	12	140	5.51	47	40	238	5.2	51	11.4
515-80-3-400	88.9	400	2125	20.8	4684	15	12	140	5.51	70			4.1	40	9.1
513-80-4-400	88.9	400	4293	42.1	9465	20	16	152	5.98	40	50	180	5.4	53	11.9
515-80-4-400	88.9	400	4293	42.1	9465	20	16	150	5.91	80			6.6	64	14.5
513-80-5-400	88.9	400	6324	62	13942	25	20	159	6.26	50	50	198	8.1	79	17.8
515-80-5-400	88.9	400	6324	62	13942	25	20	165	6.50	100			9.1	89	20.0
513-80-1-490	88.9	490	423	4.15	933	10	9	134	5.28	20	20	134	1.5	15	3.3
514-80-1-490	88.9	490	423	4.15	933	10	9	134	5.28	36	20	180	2.1	20	4.5
515-80-1-490	88.9	490	423	4.15	933	10	9	135	5.31	40			1.1	11	2.4
513-80-2-490	88.9	490	985	9.66	2172	10	9	134	5.28	20	30	141	1.7	17	3.8
514-80-2-490	88.9	490	985	9.66	2172	10	9	134	5.28	39	30	190	2.4	24	5.3
515-80-2-490	88.9	490	985	9.66	2172	10	9	135	5.31	50			2.3	22	5.0
513-80-3-490	88.9	490	2125	20.8	4684	15	12	141	5.55	30	40	166	3.4	34	7.6
514-80-3-490	88.9	490	2125	20.8	4684	15	12	140	5.51	47	40	238	5.2	51	11.5
515-80-3-490	88.9	490	2125	20.8	4684	15	12	140	5.51	70			3.9	38	8.6
513-80-4-490	88.9	490	4293	42.1	9465	20	16	152	5.98	40	50	180	5.4	53	11.9
515-80-4-490	88.9	490	4293	42.1	9465	20	16	150	5.91	80			6.3	61	13.8
513-80-5-490	88.9	490	6324	62	13942	25	20	159	6.26	50	50	198	8.1	79	17.8
515-80-5-490	88.9	490	6324	62	13942	25	20	155	6.10	100			8.4	82	18.5
513-80-1-530	88.9	530	423	4.15	933	10	9	134	5.28	20	30	141	1.7	17	3.7
514-80-1-530	88.9	530	423	4.15	933	10	9	134	5.28	36	30	182	2.3	22	5.1
515-80-1-530	88.9	530	423	4.15	933	10	9	135	5.31	50			2.3	22	5.0
513-80-2-530	88.9	530	985	9.66	2172	10	9	134	5.28	25	30	152	2.4	23	5.2
514-80-2-530	88.9	530	985	9.66	2172	10	9	134	5.28	39	30	196	2.8	28	6.3
515-80-2-530	88.9	530	985	9.66	2172	10	9	135	5.31	50			2.3	22	5.0
513-80-3-530	88.9	530	2125	20.8	4684	15	12	141	5.55	40	50	180	4.8	47	10.6
514-80-3-530	88.9	530	2125	20.8	4684	15	12	141	5.55	47	50	242	6.9	67	15.1
515-80-3-530	88.9	530	2125	20.8	4684	15	12	140	5.51	70			4.1	40	9.1
513-80-4-530	88.9	530	4293	42.1	9465	20	16	152	5.98	50	50	198	7.4	73	16.4
515-80-4-530	88.9	530	4293	42.1	9465	20	16	150	5.91	80			6.3	61	13.8
513-80-5-530	88.9	530	6324	62	13942	25	20	159	6.26	60	70	219	11.2	110	24.6
515-80-5-530	88.9	530	6324	62	13942	25	20	165	6.50	100			11.6	114	25.5
513-80-1-570	88.9	570	423	4.15	933	10	9	134	5.28	25	30	152	2.3	22	5.0
514-80-1-570	88.9	570	423	4.15	933	10	9	134	5.28	36	30	188	2.9	29	6.4
515-80-1-570	88.9	570	423	4.15	933	10	9	135	5.31	50			2.3	22	5.0
513-80-2-570	88.9	570	985	9.66	2172	10	9	134	5.28	30	40	166	3.3	32	7.2
514-80-2-570	88.9	570	985	9.66	2172	10	9	134	5.28	39	40	200	3.8	38	8.5
515-80-2-570	88.9	570	985	9.66	2172	10	9	135	5.31	60			2.7	26	5.9
513-80-3-570	88.9	570	2125	20.8	4684	15	12	141	5.55	50	50	198	6.8	67	15.0
514-80-3-570	88.9	570	2125	20.8	4684	15	12	153	6.02	51	50	250	9.5	93	21.0
515-80-3-570	88.9	570	2125	20.8	4684	15	12	140	5.51	80			5.9	58	13.0
513-80-4-570	88.9	570	4293	42.1	9465	20	16	152	5.98	60	70	219	10.6	104	23.5
515-80-4-570	88.9	570	4293	42.1	9465	20	16	150	5.91	100			10.4	102	22.8
513-80-5-570	88.9	570	6324	62	13942	25	20	159	6.26	70	80	244	15.8	155	34.8
515-80-5-570	88.9	570	6324	62	13942	25	20	165	6.50	100			11.6	114	25.5

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

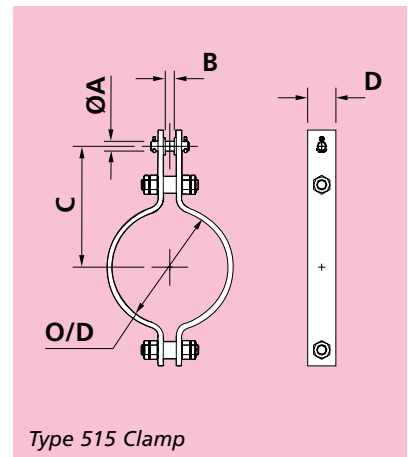
N.B. 3.5" / 90mm



Type 513 Clamp

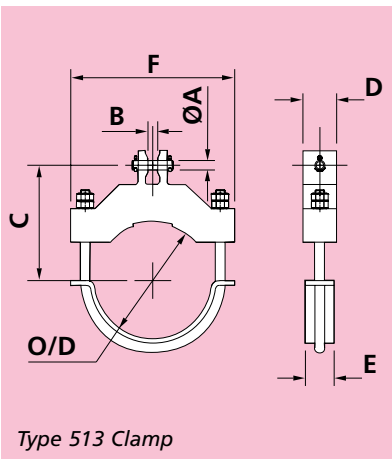


Type 514 Clamp

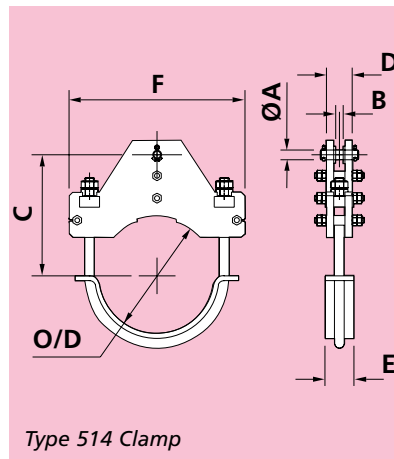


Type 515 Clamp

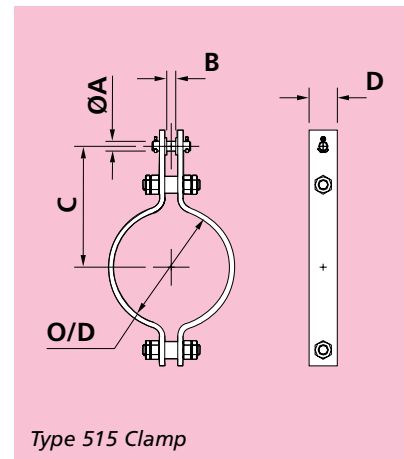
Fig. No.	Pipe O/D	Max. Pipe Temp	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				mm	mm	kgf
513-90-1-400	101.6	400	423	4.15	933	10	9	140	5.51	20	20	146	1.7	16	3.7
514-90-1-400	101.6	400	423	4.15	933	10	9	140	5.51	36	20	192	2.6	25	5.6
515-90-1-400	101.6	400	423	4.15	933	10	9	140	5.51	40			1.2	12	2.6
513-90-2-400	101.6	400	985	9.66	2172	10	9	140	5.51	20	30	153	2.0	19	4.3
514-90-2-400	101.6	400	985	9.66	2172	10	9	140	5.51	39	30	202	2.8	28	6.3
515-90-2-400	101.6	400	985	9.66	2172	10	9	140	5.51	50			2.4	23	5.3
513-90-3-400	101.6	400	2125	20.8	4684	15	12	147	5.79	30	40	178	3.8	37	8.4
514-90-3-400	101.6	400	2125	20.8	4684	15	12	146	5.75	47	40	250	5.9	58	13.1
515-90-3-400	101.6	400	2125	20.8	4684	15	12	145	5.71	70			4.3	42	9.6
513-90-4-400	101.6	400	4293	42.1	9465	20	16	158	6.22	40	50	192	5.9	58	13.1
515-90-4-400	101.6	400	4293	42.1	9465	20	16	155	6.10	80			6.9	67	15.1
513-90-5-400	101.6	400	6324	62	13942	25	20	165	6.50	50	50	210	8.8	86	19.3
515-90-5-400	101.6	400	6324	62	13942	25	20	175	6.89	100			9.6	95	21.3
513-90-1-490	101.6	490	423	4.15	933	10	9	140	5.51	20	20	146	1.7	16	3.7
514-90-1-490	101.6	490	423	4.15	933	10	9	140	5.51	36	20	192	2.6	25	5.7
515-90-1-490	101.6	490	423	4.15	933	10	9	140	5.51	40			1.2	12	2.6
513-90-2-490	101.6	490	985	9.66	2172	10	9	140	5.51	20	30	153	2.0	19	4.3
514-90-2-490	101.6	490	985	9.66	2172	10	9	140	5.51	39	30	202	2.9	28	6.3
515-90-2-490	101.6	490	985	9.66	2172	10	9	140	5.51	50			2.4	23	5.3
513-90-3-490	101.6	490	2125	20.8	4684	15	12	147	5.79	30	40	178	3.8	37	8.4
514-90-3-490	101.6	490	2125	20.8	4684	15	12	146	5.75	47	40	250	5.9	58	13.1
515-90-3-490	101.6	490	2125	20.8	4684	15	12	145	5.71	70			4.2	41	9.2
513-90-4-490	101.6	490	4293	42.1	9465	20	16	158	6.22	40	50	192	5.9	58	13.1
515-90-4-490	101.6	490	4293	42.1	9465	20	16	155	6.10	80			6.6	64	14.4
513-90-5-490	101.6	490	6324	62	13942	25	20	165	6.50	50	50	210	8.7	85	19.2
515-90-5-490	101.6	490	6324	62	13942	25	20	165	6.50	100			9.0	88	19.8
513-90-1-530	101.6	530	423	4.15	933	10	9	140	5.51	20	30	153	1.9	19	4.2
514-90-1-530	101.6	530	423	4.15	933	10	9	140	5.51	36	30	194	2.9	29	6.5
515-90-1-530	101.6	530	423	4.15	933	10	9	140	5.51	50			2.4	23	5.3
513-90-2-530	101.6	530	985	9.66	2172	10	9	140	5.51	25	30	164	2.6	26	5.8
514-90-2-530	101.6	530	985	9.66	2172	10	9	140	5.51	39	30	208	3.4	34	7.5
515-90-2-530	101.6	530	985	9.66	2172	10	9	140	5.51	50			2.4	23	5.3
513-90-3-530	101.6	530	2125	20.8	4684	15	12	147	5.79	40	50	192	5.3	52	11.7
514-90-3-530	101.6	530	2125	20.8	4684	15	12	147	5.79	47	50	254	6.6	65	14.6
515-90-3-530	101.6	530	2125	20.8	4684	15	12	145	5.71	70			4.3	42	9.6
513-90-4-530	101.6	530	4293	42.1	9465	20	16	158	6.22	50	50	210	8.1	79	17.9
515-90-4-530	101.6	530	4293	42.1	9465	20	16	155	6.10	80			6.6	64	14.4
513-90-5-530	101.6	530	6324	62	13942	25	20	165	6.50	60	70	231	12.1	118	26.6
515-90-5-530	101.6	530	6324	62	13942	25	20	170	6.69	100			12.1	118	26.6
513-90-1-570	101.6	570	423	4.15	933	10	9	140	5.51	25	30	164	2.5	25	5.6
514-90-1-570	101.6	570	423	4.15	933	10	9	140	5.51	36	30	200	3.2	31	7.1
515-90-1-570	101.6	570	423	4.15	933	10	9	140	5.51	50			2.4	23	5.3
513-90-2-570	101.6	570	985	9.66	2172	10	9	140	5.51	30	40	178	3.6	35	7.9
514-90-2-570	101.6	570	985	9.66	2172	10	9	140	5.51	39	40	212	3.6	36	8.0
515-90-2-570	101.6	570	985	9.66	2172	10	9	140	5.51	70			4.0	39	8.8
513-90-3-570	101.6	570	2125	20.8	4684	15	12	147	5.79	50	50	210	7.4	73	16.4
514-90-3-570	101.6	570	2125	20.8	4684	15	12	159	6.26	51	50	262	10.1	99	22.2
515-90-3-570	101.6	570	2125	20.8	4684	15	12	145	5.71	80			6.2	60	13.6
513-90-4-570	101.6	570	4293	42.1	9465	20	16	158	6.22	60	70	231	11.4	112	25.2
515-90-4-570	101.6	570	4293	42.1	9465	20	16	160	6.30	100			11.1	109	24.6
513-90-5-570	101.6	570	6324	62	13942	25	20	165	6.50	70	80	256	16.8	165	37.0
515-90-5-570	101.6	570	6324	62	13942	25	20	170	6.69	100			12.1	118	26.6



Type 513 Clamp



Type 514 Clamp

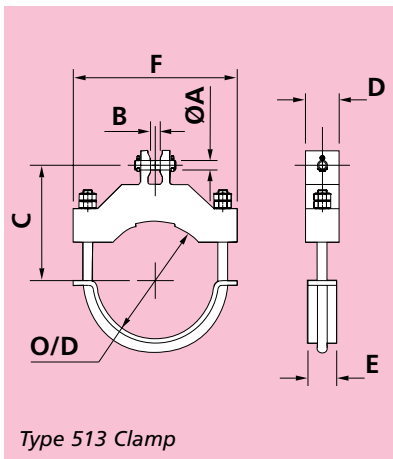


Type 515 Clamp

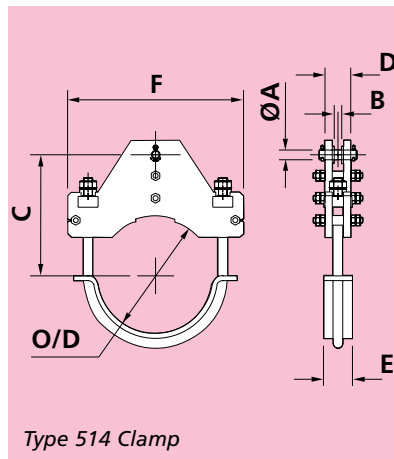
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				mm	kgf	N
513-100-1-400	114.3	400	423	4.15	933	10	9	147	5.79	20	20	160	1.9	18	4.2
514-100-1-400	114.3	400	423	4.15	933	10	9	146	5.75	36	20	206	2.7	27	6.0
515-100-1-400	114.3	400	423	4.15	933	10	9	145	5.71	50			2.6	25	5.6
513-100-2-400	114.3	400	985	9.66	2172	10	9	147	5.79	20	30	167	2.2	22	4.9
514-100-2-400	114.3	400	985	9.66	2172	10	9	146	5.75	39	30	216	3.1	31	6.9
515-100-2-400	114.3	400	985	9.66	2172	10	9	145	5.71	50			2.6	25	5.6
513-100-3-400	114.3	400	2125	20.8	4684	15	12	154	6.06	30	40	192	4.2	42	9.3
514-100-3-400	114.3	400	2125	20.8	4684	15	12	154	6.06	47	40	264	5.5	54	12.1
515-100-3-400	114.3	400	2125	20.8	4684	15	12	155	6.10	70			4.7	46	10.3
513-100-4-400	114.3	400	4293	42.1	9465	20	16	165	6.50	40	50	206	6.6	64	14.4
514-100-4-400	114.3	400	4293	42.1	9465	20	16	177	6.97	57	50	284	10.2	100	22.5
515-100-4-400	114.3	400	4293	42.1	9465	20	16	170	6.69	80			7.7	76	17.0
513-100-5-400	114.3	400	6324	62	13942	25	20	172	6.77	50	50	224	9.6	94	21.2
515-100-5-400	114.3	400	6324	62	13942	25	20	190	7.48	100			13.7	134	30.2
515-100-6-400	114.3	400	12754	125	28117	35	25	220	8.66	90			19.3	189	42.5
513-100-1-490	114.3	490	423	4.15	933	10	9	147	5.79	20	20	160	1.9	18	4.2
514-100-1-490	114.3	490	423	4.15	933	10	9	146	5.75	36	20	206	2.7	27	6.0
515-100-1-490	114.3	490	423	4.15	933	10	9	145	5.71	50			2.6	25	5.6
513-100-2-490	114.3	490	985	9.66	2172	10	9	147	5.79	20	30	167	2.2	22	4.9
514-100-2-490	114.3	490	985	9.66	2172	10	9	146	5.75	39	30	216	3.2	31	6.9
515-100-2-490	114.3	490	985	9.66	2172	10	9	145	5.71	50			2.6	25	5.6
513-100-3-490	114.3	490	2125	20.8	4684	15	12	154	6.06	30	40	192	4.2	42	9.3
514-100-3-490	114.3	490	2125	20.8	4684	15	12	154	6.06	47	40	264	5.5	54	12.1
515-100-3-490	114.3	490	2125	20.8	4684	15	12	155	6.10	70			4.7	46	10.3
513-100-4-490	114.3	490	4293	42.1	9465	20	16	165	6.50	40	50	206	6.6	64	14.4
514-100-4-490	114.3	490	4293	42.1	9465	20	16	175	6.89	57	50	284	10.2	100	22.5
515-100-4-490	114.3	490	4293	42.1	9465	20	16	165	6.50	80			7.4	72	16.2
513-100-5-490	114.3	490	6324	62	13942	25	20	172	6.77	50	50	224	9.5	93	21.0
515-100-5-490	114.3	490	6324	62	13942	25	20	170	6.69	100			9.4	92	20.6
515-100-6-490	114.3	490	12754	125	28117	35	25	215	8.46	90			18.1	177	39.8

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

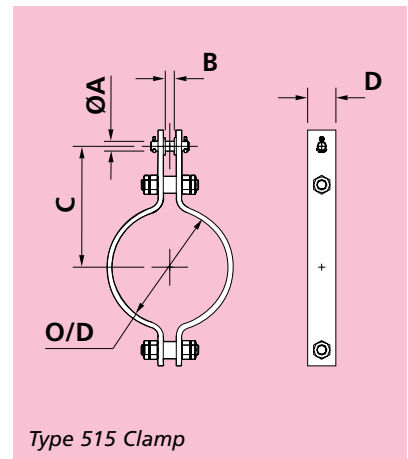
N.B. 4" / 100mm



Type 513 Clamp



Type 514 Clamp

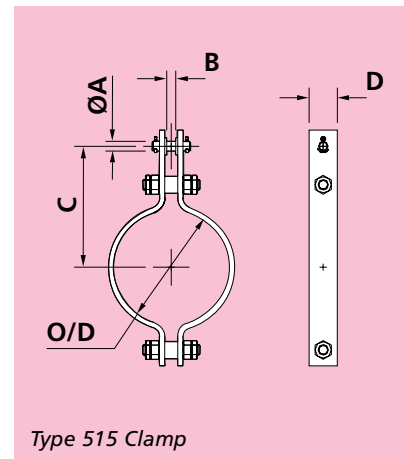
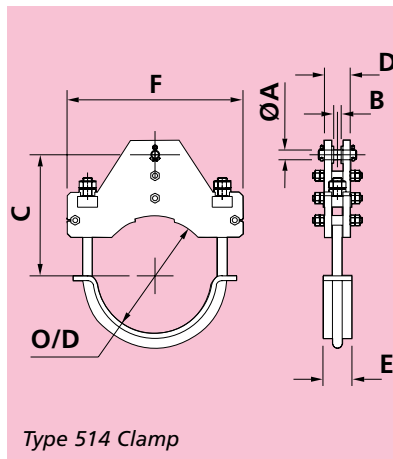
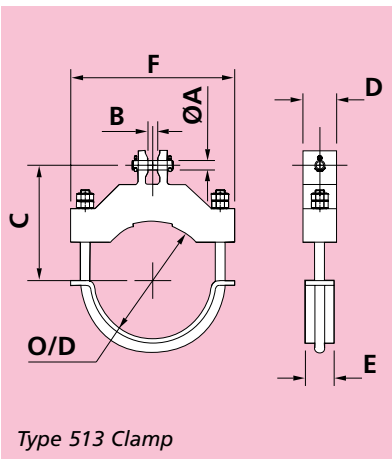


Type 515 Clamp

Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				mm	N	lbs
513-100-1-530	114.3	530	423	4.15	933	10	9	147	5.79	20	30	167	2.1	21	4.7
514-100-1-530	114.3	530	423	4.15	933	10	9	146	5.75	36	30	208	2.8	28	6.2
515-100-1-530	114.3	530	423	4.15	933	10	9	145	5.71	50			2.6	25	5.6
513-100-2-530	114.3	530	985	9.66	2172	10	9	147	5.79	25	30	178	3.0	29	6.5
514-100-2-530	114.3	530	985	9.66	2172	10	9	146	5.75	39	30	222	3.0	29	6.5
515-100-2-530	114.3	530	985	9.66	2172	10	9	145	5.71	50			2.6	25	5.6
513-100-3-530	114.3	530	2125	20.8	4684	15	12	154	6.06	40	50	206	5.9	58	13.0
514-100-3-530	114.3	530	2125	20.8	4684	15	12	154	6.06	47	50	268	7.5	74	16.6
515-100-3-530	114.3	530	2125	20.8	4684	15	12	155	6.10	80			5.3	52	11.8
513-100-4-530	114.3	530	4293	42.1	9465	20	16	165	6.50	50	50	224	8.9	87	19.6
514-100-4-530	114.3	530	4293	42.1	9465	20	16	169	6.65	63	50	292	13.3	130	29.3
515-100-4-530	114.3	530	4293	42.1	9465	20	16	165	6.50	100			9.1	89	20.1
513-100-5-530	114.3	530	6324	62	13942	25	20	172	6.77	60	70	245	13.0	128	28.7
515-100-5-530	114.3	530	6324	62	13942	25	20	180	7.09	100			12.9	126	28.4
515-100-6-530	114.3	530	12754	125	28117	35	25	205	8.07	90			16.7	163	36.7
513-100-1-570	114.3	570	423	4.15	933	10	9	147	5.79	25	30	178	2.9	28	6.3
514-100-1-570	114.3	570	423	4.15	933	10	9	146	5.75	36	30	214	2.8	27	6.1
515-100-1-570	114.3	570	423	4.15	933	10	9	145	5.71	50			2.6	25	5.6
513-100-2-570	114.3	570	985	9.66	2172	10	9	147	5.79	30	40	192	4.0	39	8.9
514-100-2-570	114.3	570	985	9.66	2172	10	9	146	5.75	39	40	226	4.2	41	9.3
515-100-2-570	114.3	570	985	9.66	2172	10	9	145	5.71	70			4.2	41	9.3
513-100-3-570	114.3	570	2125	20.8	4684	15	12	154	6.06	50	50	224	8.2	80	18.1
514-100-3-570	114.3	570	2125	20.8	4684	15	12	167	6.57	51	50	276	10.8	106	23.7
515-100-3-570	114.3	570	2125	20.8	4684	15	12	155	6.10	80			6.7	65	14.7
513-100-4-570	114.3	570	4293	42.1	9465	20	16	165	6.50	60	70	245	12.4	122	27.3
514-100-4-570	114.3	570	4293	42.1	9465	20	16	193	7.60	63	70	298	18.0	177	39.8
515-100-4-570	114.3	570	4293	42.1	9465	20	16	170	6.69	100			12.3	120	27.0
513-100-5-570	114.3	570	6324	62	13942	25	20	172	6.77	70	80	270	18.1	178	39.9
515-100-5-570	114.3	570	6324	62	13942	25	20	180	7.09	110			14.1	138	31.1
515-100-6-570	114.3	570	12754	125	28117	35	25	215	8.46	100			22.7	223	50.1

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

N.B. 5" / 125mm



Type 513 Clamp

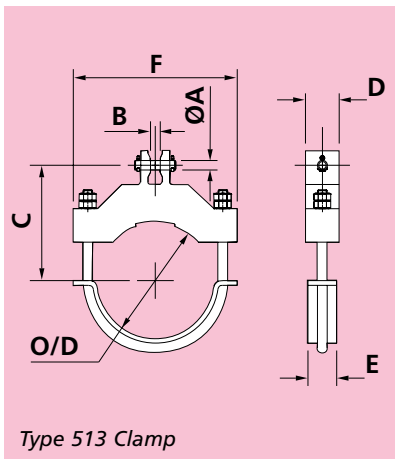
Type 514 Clamp

Type 515 Clamp

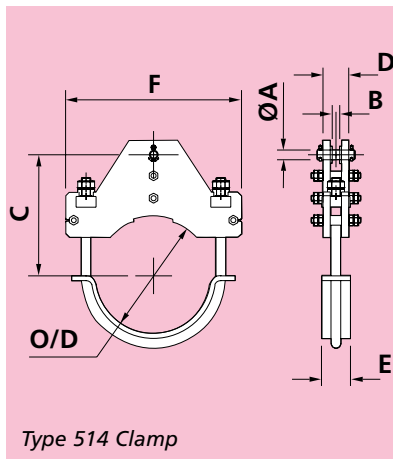
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				mm	N	lbs
513-125-1-400	141.3	400	423	4.15	933	10	9	160	6.30	20	20	186	2.3	23	5.1
514-125-1-400	141.3	400	423	4.15	933	10	9	159	6.26	36	20	232	2.7	27	6.0
515-125-1-400	141.3	400	423	4.15	933	10	9	160	6.30	50			2.9	28	6.3
513-125-2-400	141.3	400	985	9.66	2172	10	9	160	6.30	20	30	193	2.7	27	6.0
514-125-2-400	141.3	400	985	9.66	2172	10	9	159	6.26	39	30	242	3.1	30	6.8
515-125-2-400	141.3	400	985	9.66	2172	10	9	160	6.30	50			3.0	30	6.6
513-125-3-400	141.3	400	2125	20.8	4684	15	12	167	6.57	30	40	218	5.1	50	11.2
514-125-3-400	141.3	400	2125	20.8	4684	15	12	167	6.57	47	40	290	6.5	64	14.4
515-125-3-400	141.3	400	2125	20.8	4684	15	12	165	6.50	70			5.4	53	12.0
513-125-4-400	141.3	400	4293	42.1	9465	20	16	178	7.01	40	50	232	7.7	76	17.1
514-125-4-400	141.3	400	4293	42.1	9465	20	16	185	7.28	57	50	310	11.0	108	24.2
515-125-4-400	141.3	400	4293	42.1	9465	20	16	185	7.28	100			10.5	103	23.2
513-125-5-400	141.3	400	6324	62	13942	25	20	185	7.28	50	50	250	11.2	109	24.6
514-125-5-400	141.3	400	6324	62	13942	25	20	210	8.27	69	50	344	18.2	179	40.2
515-125-5-400	141.3	400	6324	62	13942	25	20	210	8.27	100			16.0	157	35.2
515-125-6-400	141.3	400	12754	125	28117	35	25	235	9.25	100			22.8	224	50.3
513-125-1-490	141.3	490	423	4.15	933	10	9	160	6.30	20	20	186	2.3	23	5.1
514-125-1-490	141.3	490	423	4.15	933	10	9	159	6.26	36	20	232	2.8	27	6.1
515-125-1-490	141.3	490	423	4.15	933	10	9	160	6.30	50			2.9	28	6.3
513-125-2-490	141.3	490	985	9.66	2172	10	9	160	6.30	20	30	193	2.7	27	6.0
514-125-2-490	141.3	490	985	9.66	2172	10	9	159	6.26	39	30	242	3.1	31	6.9
515-125-2-490	141.3	490	985	9.66	2172	10	9	160	6.30	50			2.9	28	6.3
513-125-3-490	141.3	490	2125	20.8	4684	15	12	167	6.57	30	40	218	5.1	50	11.2
514-125-3-490	141.3	490	2125	20.8	4684	15	12	167	6.57	47	40	290	6.6	65	14.6
515-125-3-490	141.3	490	2125	20.8	4684	15	12	165	6.50	70			5.2	51	11.4
513-125-4-490	141.3	490	4293	42.1	9465	20	16	178	7.01	40	50	232	7.7	76	17.1
514-125-4-490	141.3	490	4293	42.1	9465	20	16	184	7.24	57	50	310	10.9	107	24.1
515-125-4-490	141.3	490	4293	42.1	9465	20	16	180	7.09	100			10.1	99	22.3
513-125-5-490	141.3	490	6324	62	13942	25	20	185	7.28	50	50	250	11.2	109	24.6
514-125-5-490	141.3	490	6324	62	13942	25	20	208	8.19	69	50	344	18.2	178	40.0
515-125-5-490	141.3	490	6324	62	13942	25	20	195	7.68	100			14.2	139	31.3
515-125-6-490	141.3	490	12754	125	28117	35	25	230	9.06	100			21.5	211	47.4

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

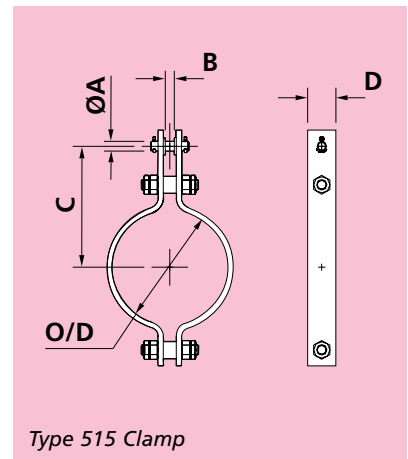
N.B. 5" / 125mm



Type 513 Clamp



Type 514 Clamp

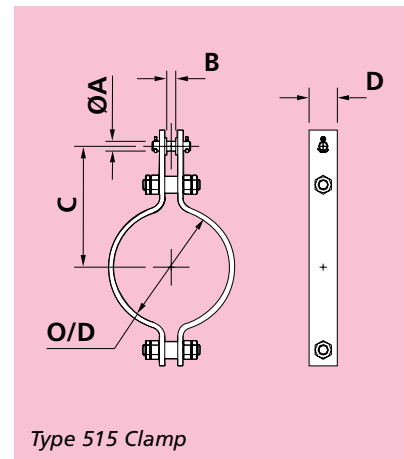
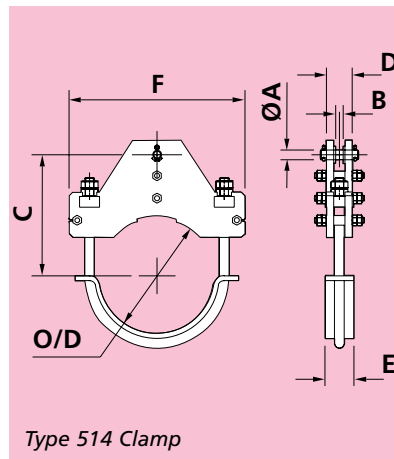
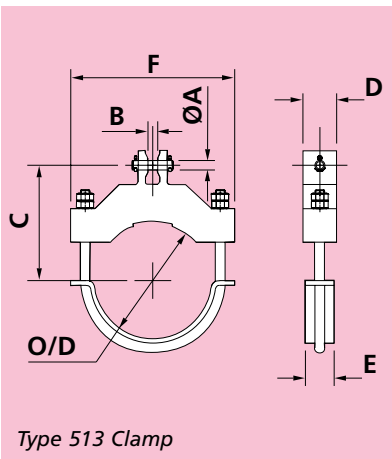


Type 515 Clamp

Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				mm	N	lbs
513-125-1-530	141.3	530	423	4.15	933	10	9	160	6.30	20	30	193	2.6	26	5.8
514-125-1-530	141.3	530	423	4.15	933	10	9	159	6.26	36	30	234	3.3	32	7.2
515-125-1-530	141.3	530	423	4.15	933	10	9	160	6.30	50			2.9	28	6.3
513-125-2-530	141.3	530	985	9.66	2172	10	9	160	6.30	25	30	204	3.6	36	8.0
514-125-2-530	141.3	530	985	9.66	2172	10	9	159	6.26	39	30	248	4.1	40	9.1
515-125-2-530	141.3	530	985	9.66	2172	10	9	160	6.30	60			3.4	33	7.5
513-125-3-530	141.3	530	2125	20.8	4684	15	12	167	6.57	40	50	232	7.0	69	15.5
514-125-3-530	141.3	530	2125	20.8	4684	15	12	167	6.57	47	50	294	7.2	71	15.9
515-125-3-530	141.3	530	2125	20.8	4684	15	12	165	6.50	80			7.4	72	16.3
513-125-4-530	141.3	530	4293	42.1	9465	20	16	178	7.01	50	50	250	10.4	102	23.0
514-125-4-530	141.3	530	4293	42.1	9465	20	16	194	7.64	57	50	318	14.1	138	31.1
515-125-4-530	141.3	530	4293	42.1	9465	20	16	185	7.28	100			13.6	133	30.0
513-125-5-530	141.3	530	6324	62	13942	25	20	185	7.28	60	70	271	15.1	148	33.4
514-125-5-530	141.3	530	6324	62	13942	25	20	218	8.58	69	70	350	24.0	236	53.0
515-125-5-530	141.3	530	6324	62	13942	25	20	195	7.68	100			14.2	139	31.3
515-125-6-530	141.3	530	12754	125	28117	35	25	230	9.06	120			25.5	250	56.2
513-125-1-570	141.3	570	423	4.15	933	10	9	160	6.30	25	30	204	3.5	35	7.8
514-125-1-570	141.3	570	423	4.15	933	10	9	159	6.26	36	30	240	4.1	40	9.1
515-125-1-570	141.3	570	423	4.15	933	10	9	160	6.30	50			2.9	28	6.3
513-125-2-570	141.3	570	985	9.66	2172	10	9	160	6.30	30	40	218	4.9	48	10.8
514-125-2-570	141.3	570	985	9.66	2172	10	9	159	6.26	39	40	252	4.6	45	10.2
515-125-2-570	141.3	570	985	9.66	2172	10	9	160	6.30	70			4.8	47	10.6
513-125-3-570	141.3	570	2125	20.8	4684	15	12	167	6.57	50	50	250	9.7	95	21.4
514-125-3-570	141.3	570	2125	20.8	4684	15	12	180	7.09	51	50	302	11.2	110	24.6
515-125-3-570	141.3	570	2125	20.8	4684	15	12	165	6.50	80			7.4	72	16.3
513-125-4-570	141.3	570	4293	42.1	9465	20	16	178	7.01	60	70	271	14.4	142	31.9
514-125-4-570	141.3	570	4293	42.1	9465	20	16	206	8.11	63	70	324	20.3	199	44.6
515-125-4-570	141.3	570	4293	42.1	9465	20	16	185	7.28	100			13.6	133	30.0
513-125-5-570	141.3	570	6324	62	13942	25	20	185	7.28	70	80	296	20.6	202	45.4
514-125-5-570	141.3	570	6324	62	13942	25	20	233	9.17	79	80	360	34.1	334	75.2
515-125-5-570	141.3	570	6324	62	13942	25	20	200	7.87	90			16.2	159	35.7
515-125-6-570	141.3	570	12754	125	28117	35	25	235	9.25	110			28.3	278	62.4

**CLAMPS FOR RIGID STRUTS AND SNUBBERS**

**N.B. 6" / 150mm**



Type 513 Clamp

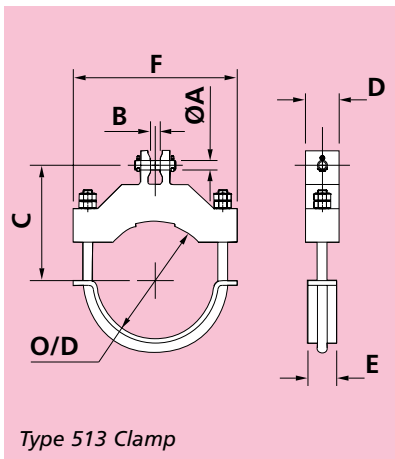
Type 514 Clamp

Type 515 Clamp

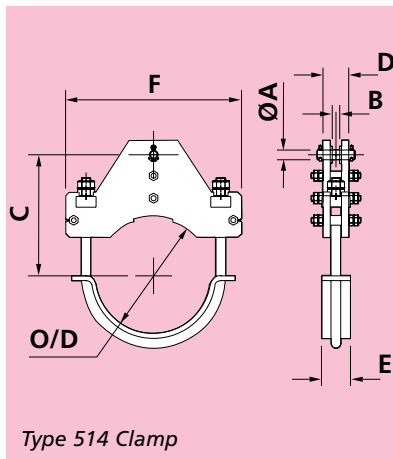
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				mm	mm	mm
513-150-1-400	168.3	400	423	4.15	933	10	9	184	7.24	20	20	214	3.0	29	6.6
514-150-1-400	168.3	400	423	4.15	933	10	9	184	7.24	36	20	260	4.0	40	8.9
515-150-1-400	168.3	400	423	4.15	933	10	9	185	7.28	50			3.3	32	7.3
513-150-2-400	168.3	400	985	9.66	2172	10	9	184	7.24	20	30	221	3.5	35	7.8
514-150-2-400	168.3	400	985	9.66	2172	10	9	184	7.24	39	30	270	4.5	44	9.8
515-150-2-400	168.3	400	985	9.66	2172	10	9	185	7.28	50			3.4	34	7.6
513-150-3-400	168.3	400	2125	20.8	4684	15	12	191	7.52	30	40	246	6.4	62	14.0
514-150-3-400	168.3	400	2125	20.8	4684	15	12	190	7.48	47	40	318	6.2	61	13.6
515-150-3-400	168.3	400	2125	20.8	4684	15	12	190	7.48	80			7.0	69	15.4
513-150-4-400	168.3	400	4293	42.1	9465	20	16	202	7.95	40	50	260	9.5	94	21.0
514-150-4-400	168.3	400	4293	42.1	9465	20	16	200	7.87	57	50	338	10.7	105	23.5
515-150-4-400	168.3	400	4293	42.1	9465	20	16	210	8.27	100			15.8	154	34.7
513-150-5-400	168.3	400	6324	62	13942	25	20	209	8.23	50	50	278	13.5	133	29.8
514-150-5-400	168.3	400	6324	62	13942	25	20	218	8.58	69	50	372	18.6	183	41.0
515-150-5-400	168.3	400	6324	62	13942	25	20	225	8.86	100			17.3	170	38.2
514-150-6-400	168.3	400	12754	125	28117	35	25	279	10.98	86	80	414	43.6	428	96.2
515-150-6-400	168.3	400	12754	125	28117	35	25	250	9.84	120			28.9	284	63.8
515-150-7-400	168.3	400	18132	178	39974	40	28	280	11.02	120			38.7	379	85.3
513-150-1-490	168.3	490	423	4.15	933	10	9	184	7.24	20	20	214	3.0	29	6.6
514-150-1-490	168.3	490	423	4.15	933	10	9	184	7.24	36	20	260	4.1	40	9.0
515-150-1-490	168.3	490	423	4.15	933	10	9	185	7.28	50			3.3	32	7.3
513-150-2-490	168.3	490	985	9.66	2172	10	9	184	7.24	20	30	221	3.5	35	7.8
514-150-2-490	168.3	490	985	9.66	2172	10	9	184	7.24	39	30	270	4.5	44	9.9
515-150-2-490	168.3	490	985	9.66	2172	10	9	185	7.28	50			3.3	32	7.3
513-150-3-490	168.3	490	2125	20.8	4684	15	12	191	7.52	30	40	246	6.4	62	14.0
514-150-3-490	168.3	490	2125	20.8	4684	15	12	190	7.48	47	40	318	6.2	61	13.6
515-150-3-490	168.3	490	2125	20.8	4684	15	12	190	7.48	80			6.7	66	14.9
513-150-4-490	168.3	490	4293	42.1	9465	20	16	202	7.95	40	50	260	9.5	93	20.9
514-150-4-490	168.3	490	4293	42.1	9465	20	16	200	7.87	57	50	338	10.7	105	23.6
515-150-4-490	168.3	490	4293	42.1	9465	20	16	200	7.87	100			14.9	146	32.9
513-150-5-490	168.3	490	6324	62	13942	25	20	209	8.23	50	50	278	13.5	132	29.7
514-150-5-490	168.3	490	6324	62	13942	25	20	217	8.54	69	50	372	18.6	182	41.0
515-150-5-490	168.3	490	6324	62	13942	25	20	220	8.66	100			16.4	161	36.1
514-150-6-490	168.3	490	12754	125	28117	35	25	277	10.91	86	70	404	39.9	392	88.0
515-150-6-490	168.3	490	12754	125	28117	35	25	245	9.65	110			25.3	248	55.8
515-150-7-490	168.3	490	18132	178	39974	40	28	265	10.43	110			33.2	326	73.2

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

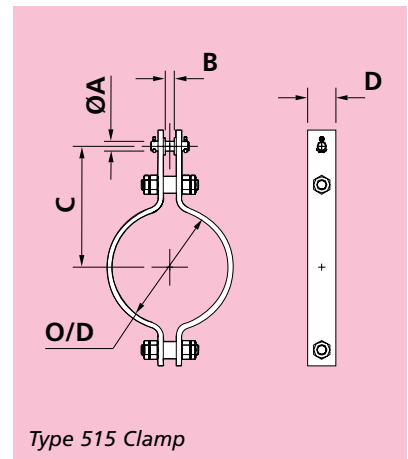
N.B. 6" / 150mm



Type 513 Clamp



Type 514 Clamp



Type 515 Clamp

Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-150-1-530	168.3	530	423	4.15	933	10	9	184	7.24	20	30	221	3.3	33	7.4
514-150-1-530	168.3	530	423	4.15	933	10	9	184	7.24	36	30	262	4.5	44	10.0
515-150-1-530	168.3	530	423	4.15	933	10	9	185	7.28	50			3.3	32	7.3
513-150-2-530	168.3	530	985	9.66	2172	10	9	184	7.24	25	30	232	4.7	46	10.3
514-150-2-530	168.3	530	985	9.66	2172	10	9	184	7.24	39	30	276	5.1	50	11.3
515-150-2-530	168.3	530	985	9.66	2172	10	9	185	7.28	60			3.9	39	8.7
513-150-3-530	168.3	530	2125	20.8	4684	15	12	191	7.52	40	50	260	8.7	86	19.3
514-150-3-530	168.3	530	2125	20.8	4684	15	12	191	7.52	51	50	322	8.1	79	17.9
515-150-3-530	168.3	530	2125	20.8	4684	15	12	190	7.48	80			8.4	82	18.5
513-150-4-530	168.3	530	4293	42.1	9465	20	16	202	7.95	50	50	278	12.7	124	27.9
514-150-4-530	168.3	530	4293	42.1	9465	20	16	203	7.99	57	50	346	13.7	134	30.2
515-150-4-530	168.3	530	4293	42.1	9465	20	16	200	7.87	100			14.9	146	32.9
513-150-5-530	168.3	530	6324	62	13942	25	20	209	8.23	60	70	299	18.0	177	39.7
514-150-5-530	168.3	530	6324	62	13942	25	20	227	8.94	69	70	378	25.4	249	55.9
515-150-5-530	168.3	530	6324	62	13942	25	20	220	8.66	110			17.9	176	39.6
514-150-6-530	168.3	530	12754	125	28117	35	25	288	11.34	86	80	414	45.2	443	99.7
515-150-6-530	168.3	530	12754	125	28117	35	25	255	10.04	100			28.3	278	62.5
515-150-7-530	168.3	530	18132	178	39974	40	28	260	10.24	120			34.3	337	75.7
513-150-1-570	168.3	570	423	4.15	933	10	9	184	7.24	25	30	232	4.4	43	9.8
514-150-1-570	168.3	570	423	4.15	933	10	9	184	7.24	36	30	268	4.9	48	10.9
515-150-1-570	168.3	570	423	4.15	933	10	9	185	7.28	50			3.3	32	7.3
513-150-2-570	168.3	570	985	9.66	2172	10	9	184	7.24	30	40	246	6.1	60	13.5
514-150-2-570	168.3	570	985	9.66	2172	10	9	184	7.24	39	40	280	5.0	49	10.9
515-150-2-570	168.3	570	985	9.66	2172	10	9	185	7.28	70			5.5	54	12.2
513-150-3-570	168.3	570	2125	20.8	4684	15	12	191	7.52	50	50	278	11.9	117	26.2
514-150-3-570	168.3	570	2125	20.8	4684	15	12	194	7.64	51	50	330	13.2	130	29.1
515-150-3-570	168.3	570	2125	20.8	4684	15	12	190	7.48	100			10.5	103	23.1
513-150-4-570	168.3	570	4293	42.1	9465	20	16	202	7.95	60	70	299	17.2	168	37.8
514-150-4-570	168.3	570	4293	42.1	9465	20	16	220	8.66	63	70	352	21.3	209	47.0
515-150-4-570	168.3	570	4293	42.1	9465	20	16	200	7.87	100			14.9	146	32.9
513-150-5-570	168.3	570	6324	62	13942	25	20	209	8.23	70	80	324	24.1	237	53.2
514-150-5-570	168.3	570	6324	62	13942	25	20	247	9.72	79	80	388	34.8	341	76.7
515-150-5-570	168.3	570	6324	62	13942	25	20	220	8.66	90			18.0	177	39.7
514-150-6-570	168.3	570	12754	125	28117	35	25	288	11.34	96	90	420	59.4	582	130.8
515-150-6-570	168.3	570	12754	125	28117	35	25	255	10.04	130			36.4	357	80.2
515-150-7-570	168.3	570	18132	178	39974	40	28	275	10.83	120			47.2	463	104.0

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

N.B. 7" / 175mm

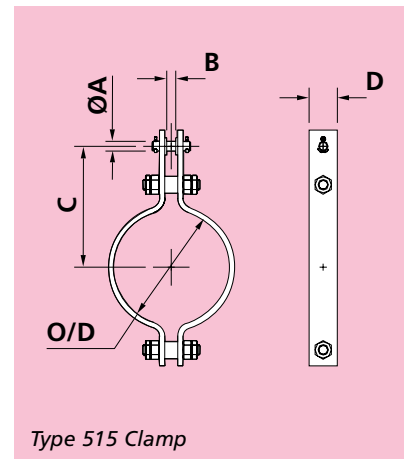
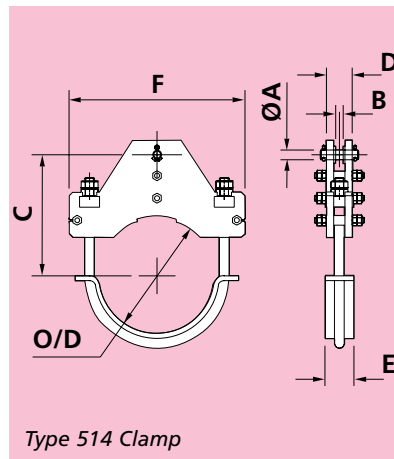
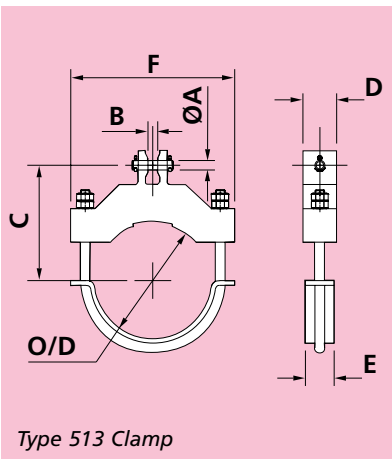
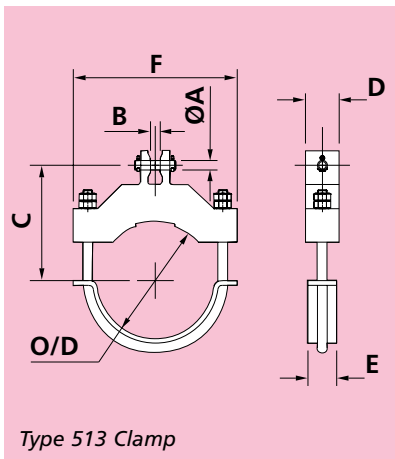


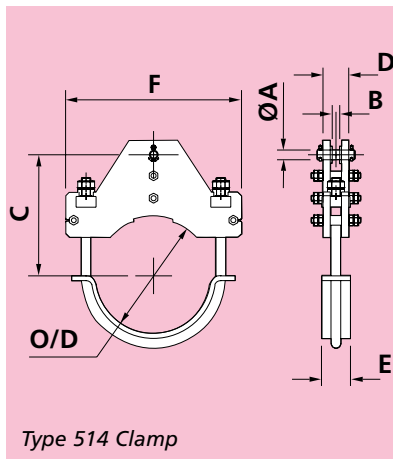
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				mm	N	lbs
513-175-1-400	193.7	400	423	4.15	933	10	9	197	7.76	20	20	240	3.5	35	7.8
514-175-1-400	193.7	400	423	4.15	933	10	9	197	7.76	36	20	286	4.1	40	9.0
515-175-1-400	193.7	400	423	4.15	933	10	9	195	7.68	50			3.6	35	7.9
513-175-2-400	193.7	400	985	9.66	2172	10	9	197	7.76	20	30	247	4.3	42	9.4
514-175-2-400	193.7	400	985	9.66	2172	10	9	197	7.76	39	30	296	4.6	45	10.0
515-175-2-400	193.7	400	985	9.66	2172	10	9	195	7.68	60			4.5	44	9.9
513-175-3-400	193.7	400	2125	20.8	4684	15	12	204	8.03	30	40	272	7.6	75	16.8
514-175-3-400	193.7	400	2125	20.8	4684	15	12	203	7.99	47	40	344	8.2	81	18.2
515-175-3-400	193.7	400	2125	20.8	4684	15	12	200	7.87	80			9.4	93	20.8
513-175-4-400	193.7	400	4293	42.1	9465	20	16	215	8.46	40	50	286	11.2	110	24.6
514-175-4-400	193.7	400	4293	42.1	9465	20	16	213	8.39	57	50	364	12.1	119	26.7
515-175-4-400	193.7	400	4293	42.1	9465	20	16	230	9.06	100			18.0	177	39.8
513-175-5-400	193.7	400	6324	62	13942	25	20	222	8.74	50	50	304	15.5	152	34.3
514-175-5-400	193.7	400	6324	62	13942	25	20	226	8.90	69	50	398	19.9	195	43.8
515-175-5-400	193.7	400	6324	62	13942	25	20	240	9.45	100			18.7	183	41.2
514-175-6-400	193.7	400	12754	125	28117	35	25	287	11.30	86	80	440	49.1	482	108.3
515-175-6-400	193.7	400	12754	125	28117	35	25	275	10.83	100			31.7	311	70.0
514-175-7-400	193.7	400	18132	178	39974	40	28	316	12.44	102	90	462	68.7	674	151.5
515-175-7-400	193.7	400	18132	178	39974	40	28	295	11.61	130			44.2	433	97.4
515-175-8-400	193.7	400	25524	250	56269	50	35	325	12.80	130			64.9	637	143.1
513-175-1-490	193.7	490	423	4.15	933	10	9	197	7.76	20	20	240	3.5	35	7.8
514-175-1-490	193.7	490	423	4.15	933	10	9	197	7.76	36	20	286	4.1	40	9.0
515-175-1-490	193.7	490	423	4.15	933	10	9	195	7.68	50			3.6	35	7.9
513-175-2-490	193.7	490	985	9.66	2172	10	9	197	7.76	20	30	247	4.3	42	9.4
514-175-2-490	193.7	490	985	9.66	2172	10	9	197	7.76	39	30	296	4.6	45	10.1
515-175-2-490	193.7	490	985	9.66	2172	10	9	195	7.68	60			4.3	42	9.5
513-175-3-490	193.7	490	2125	20.8	4684	15	12	204	8.03	30	40	272	7.6	74	16.7
514-175-3-490	193.7	490	2125	20.8	4684	15	12	203	7.99	47	40	344	8.1	79	17.8
515-175-3-490	193.7	490	2125	20.8	4684	15	12	200	7.87	80			9.1	90	20.1
513-175-4-490	193.7	490	4293	42.1	9465	20	16	215	8.46	40	50	286	11.2	110	24.6
514-175-4-490	193.7	490	4293	42.1	9465	20	16	213	8.39	57	50	364	12.5	123	27.6
515-175-4-490	193.7	490	4293	42.1	9465	20	16	215	8.46	100			16.3	160	35.9
513-175-5-490	193.7	490	6324	62	13942	25	20	222	8.74	50	50	304	15.5	152	34.3
514-175-5-490	193.7	490	6324	62	13942	25	20	226	8.90	69	50	398	20.1	197	44.3
515-175-5-490	193.7	490	6324	62	13942	25	20	235	9.25	100			17.7	174	39.1
514-175-6-490	193.7	490	12754	125	28117	35	25	287	11.30	86	70	430	40.0	392	88.1
515-175-6-490	193.7	490	12754	125	28117	35	25	260	10.24	120			29.5	289	65.0
514-175-7-490	193.7	490	18132	178	39974	40	28	313	12.32	102	80	456	56.8	557	125.1
515-175-7-490	193.7	490	18132	178	39974	40	28	285	11.22	130			42.0	412	92.5
515-175-8-490	193.7	490	25524	250	56269	50	35	305	12.01	130			59.2	580	130.5

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

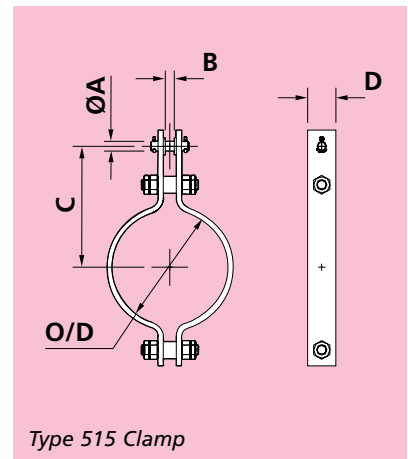
N.B. 7" / 175mm



Type 513 Clamp



Type 514 Clamp



Type 515 Clamp

Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-175-1-530	193.7	530	423	4.15	933	10	9	197	7.76	20	30	247	3.9	38	8.6
514-175-1-530	193.7	530	423	4.15	933	10	9	197	7.76	36	30	288	4.1	41	9.1
515-175-1-530	193.7	530	423	4.15	933	10	9	195	7.68	50			3.6	35	7.9
513-175-2-530	193.7	530	985	9.66	2172	10	9	197	7.76	25	30	258	5.6	55	12.4
514-175-2-530	193.7	530	985	9.66	2172	10	9	197	7.76	39	30	302	4.1	40	9.0
515-175-2-530	193.7	530	985	9.66	2172	10	9	195	7.68	70			6.0	59	13.3
513-175-3-530	193.7	530	2125	20.8	4684	15	12	204	8.03	40	50	286	10.3	101	22.7
514-175-3-530	193.7	530	2125	20.8	4684	15	12	204	8.03	51	50	348	10.7	105	23.5
515-175-3-530	193.7	530	2125	20.8	4684	15	12	200	7.87	80			9.1	90	20.1
513-175-4-530	193.7	530	4293	42.1	9465	20	16	215	8.46	50	50	304	14.7	144	32.5
514-175-4-530	193.7	530	4293	42.1	9465	20	16	213	8.39	57	50	372	14.3	140	31.4
515-175-4-530	193.7	530	4293	42.1	9465	20	16	215	8.46	100			16.3	160	35.9
513-175-5-530	193.7	530	6324	62	13942	25	20	222	8.74	60	70	325	20.5	201	45.1
514-175-5-530	193.7	530	6324	62	13942	25	20	236	9.29	69	70	404	24.1	236	53.1
515-175-5-530	193.7	530	6324	62	13942	25	20	245	9.65	90			20.5	201	45.1
514-175-6-530	193.7	530	12754	125	28117	35	25	297	11.69	86	80	440	50.9	499	112.1
515-175-6-530	193.7	530	12754	125	28117	35	25	270	10.63	100			30.3	297	66.8
514-175-7-530	193.7	530	18132	178	39974	40	28	324	12.76	102	90	462	70.7	694	155.9
515-175-7-530	193.7	530	18132	178	39974	40	28	285	11.22	150			48.0	471	105.9
515-175-8-530	193.7	530	25524	250	56269	50	35	305	12.01	130			59.2	580	130.5
513-175-1-570	193.7	570	423	4.15	933	10	9	197	7.76	25	30	258	5.2	51	11.5
514-175-1-570	193.7	570	423	4.15	933	10	9	197	7.76	36	30	294	3.7	37	8.2
515-175-1-570	193.7	570	423	4.15	933	10	9	195	7.68	50			3.6	35	7.9
513-175-2-570	193.7	570	985	9.66	2172	10	9	197	7.76	30	40	272	7.3	72	16.2
514-175-2-570	193.7	570	985	9.66	2172	10	9	197	7.76	39	40	306	5.6	55	12.3
515-175-2-570	193.7	570	985	9.66	2172	10	9	195	7.68	80			6.9	67	15.2
513-175-3-570	193.7	570	2125	20.8	4684	15	12	204	8.03	50	50	304	13.9	136	30.6
514-175-3-570	193.7	570	2125	20.8	4684	15	12	207	8.15	51	50	356	14.4	141	31.7
515-175-3-570	193.7	570	2125	20.8	4684	15	12	205	8.07	100			15.4	151	34.0
513-175-4-570	193.7	570	4293	42.1	9465	20	16	215	8.46	60	70	325	19.8	194	43.6
514-175-4-570	193.7	570	4293	42.1	9465	20	16	233	9.17	63	70	378	23.9	234	52.7
515-175-4-570	193.7	570	4293	42.1	9465	20	16	215	8.46	110			17.9	175	39.4
513-175-5-570	193.7	570	6324	62	13942	25	20	222	8.74	70	80	350	27.3	268	60.2
514-175-5-570	193.7	570	6324	62	13942	25	20	260	10.24	79	80	414	38.3	375	84.4
515-175-5-570	193.7	570	6324	62	13942	25	20	245	9.65	110			24.8	244	54.8
514-175-6-570	193.7	570	12754	125	28117	35	25	301	11.85	96	90	446	66.7	654	147.1
515-175-6-570	193.7	570	12754	125	28117	35	25	270	10.63	140			41.8	410	92.2
514-175-7-570	193.7	570	18132	178	39974	40	28	346	13.62	102	100	474	86.3	847	190.3
515-175-7-570	193.7	570	18132	178	39974	40	28	295	11.61	120			52.3	513	115.2
515-175-8-570	193.7	570	25524	250	56269	50	35	305	12.01	150			67.7	664	149.3

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

N.B. 8" / 200mm

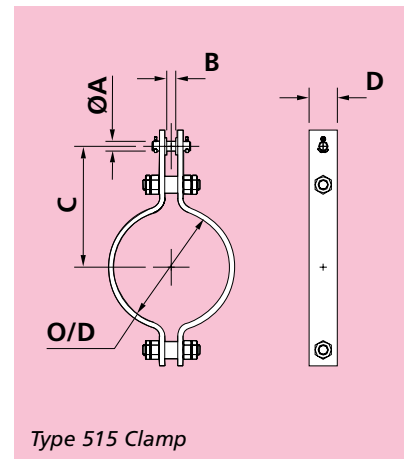
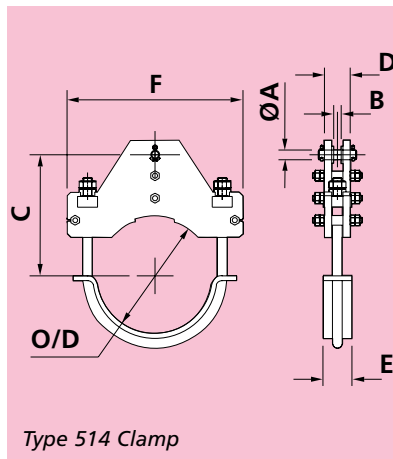
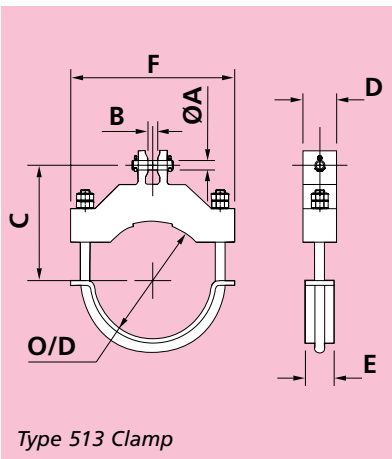
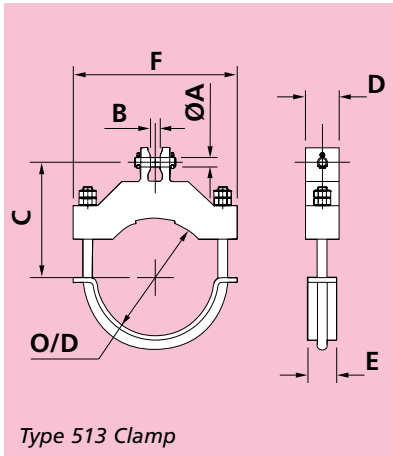


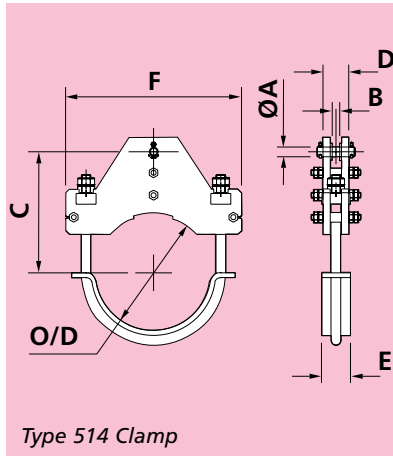
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				mm	N	lbs
513-200-1-400	219.1	400	423	4.15	933	10	9	210	8.27	20	20	266	4.2	41	9.2
514-200-1-400	219.1	400	423	4.15	933	10	9	208	8.19	36	20	312	4.3	42	9.4
515-200-1-400	219.1	400	423	4.15	933	10	9	210	8.27	50			3.9	39	8.7
513-200-2-400	219.1	400	985	9.66	2172	10	9	210	8.27	20	30	273	5.1	50	11.2
514-200-2-400	219.1	400	985	9.66	2172	10	9	208	8.19	39	30	322	5.0	49	11.0
515-200-2-400	219.1	400	985	9.66	2172	10	9	210	8.27	70			6.8	66	14.9
513-200-3-400	219.1	400	2125	20.8	4684	15	12	217	8.54	30	40	298	9.0	88	19.8
514-200-3-400	219.1	400	2125	20.8	4684	15	12	217	8.54	47	40	370	9.2	90	20.2
515-200-3-400	219.1	400	2125	20.8	4684	15	12	215	8.46	80			10.2	100	22.4
513-200-4-400	219.1	400	4293	42.1	9465	20	16	228	8.98	40	50	312	13.0	128	28.7
514-200-4-400	219.1	400	4293	42.1	9465	20	16	226	8.90	57	50	390	12.2	120	27.0
515-200-4-400	219.1	400	4293	42.1	9465	20	16	240	9.45	100			18.5	181	40.7
513-200-5-400	219.1	400	6324	62	13942	25	20	235	9.25	50	50	330	17.9	175	39.4
514-200-5-400	219.1	400	6324	62	13942	25	20	235	9.25	69	50	424	19.5	191	42.9
515-200-5-400	219.1	400	6324	62	13942	25	20	255	10.04	110			21.9	215	48.3
514-200-6-400	219.1	400	12754	125	28117	35	25	297	11.69	86	80	466	46.7	458	103.0
515-200-6-400	219.1	400	12754	125	28117	35	25	300	11.81	110			38.9	381	85.7
514-200-7-400	219.1	400	18132	178	39974	40	28	324	12.76	102	90	488	69.8	684	153.8
515-200-7-400	219.1	400	18132	178	39974	40	28	310	12.20	150			53.4	524	117.7
515-200-8-400	219.1	400	25524	250	56269	50	35	340	13.39	130			68.3	670	150.5
513-200-1-490	219.1	490	423	4.15	933	10	9	210	8.27	20	20	266	4.2	41	9.2
514-200-1-490	219.1	490	423	4.15	933	10	9	208	8.19	36	20	312	4.3	42	9.4
515-200-1-490	219.1	490	423	4.15	933	10	9	210	8.27	50			3.9	39	8.7
513-200-2-490	219.1	490	985	9.66	2172	10	9	210	8.27	20	30	273	5.1	50	11.2
514-200-2-490	219.1	490	985	9.66	2172	10	9	208	8.19	39	30	322	5.0	49	11.0
515-200-2-490	219.1	490	985	9.66	2172	10	9	210	8.27	60			4.7	46	10.4
513-200-3-490	219.1	490	2125	20.8	4684	15	12	217	8.54	30	40	298	8.9	87	19.7
514-200-3-490	219.1	490	2125	20.8	4684	15	12	217	8.54	47	40	370	9.3	91	20.4
515-200-3-490	219.1	490	2125	20.8	4684	15	12	215	8.46	80			10.0	98	22.0
513-200-4-490	219.1	490	4293	42.1	9465	20	16	228	8.98	40	50	312	13.0	128	28.7
514-200-4-490	219.1	490	4293	42.1	9465	20	16	226	8.90	57	50	390	12.4	122	27.4
515-200-4-490	219.1	490	4293	42.1	9465	20	16	230	9.06	100			17.6	173	38.9
513-200-5-490	219.1	490	6324	62	13942	25	20	235	9.25	50	50	330	17.9	175	39.4
514-200-5-490	219.1	490	6324	62	13942	25	20	233	9.17	69	50	424	19.3	190	42.6
515-200-5-490	219.1	490	6324	62	13942	25	20	250	9.84	110			20.9	205	46.1
514-200-6-490	219.1	490	12754	125	28117	35	25	295	11.61	86	70	456	40.9	401	90.2
515-200-6-490	219.1	490	12754	125	28117	35	25	285	11.22	100			32.3	317	71.2
514-200-7-490	219.1	490	18132	178	39974	40	28	322	12.68	102	80	482	64.0	628	141.2
515-200-7-490	219.1	490	18132	178	39974	40	28	300	11.81	140			47.7	468	105.2
515-200-8-490	219.1	490	25524	250	56269	50	35	335	13.19	130			65.7	644	144.9

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

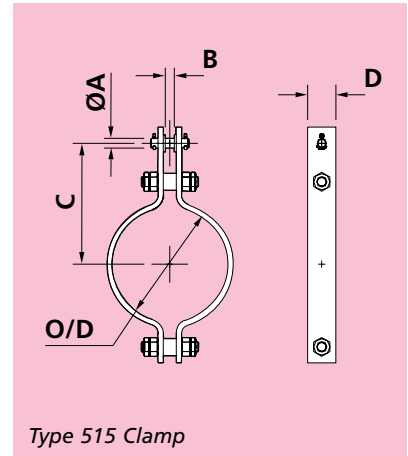
N.B. 8" / 200mm



Type 513 Clamp



Type 514 Clamp



Type 515 Clamp

Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-200-1-530	219.1	530	423	4.15	933	10	9	210	8.27	20	30	273	4.7	46	10.3
514-200-1-530	219.1	530	423	4.15	933	10	9	208	8.19	36	30	314	4.7	46	10.3
515-200-1-530	219.1	530	423	4.15	933	10	9	210	8.27	50			3.9	39	8.7
513-200-2-530	219.1	530	985	9.66	2172	10	9	210	8.27	25	30	284	6.6	64	14.5
514-200-2-530	219.1	530	985	9.66	2172	10	9	208	8.19	39	30	328	5.5	54	12.2
515-200-2-530	219.1	530	985	9.66	2172	10	9	210	8.27	70			6.6	65	14.6
513-200-3-530	219.1	530	2125	20.8	4684	15	12	217	8.54	40	50	312	12.1	119	26.7
514-200-3-530	219.1	530	2125	20.8	4684	15	12	217	8.54	47	50	374	11.4	112	25.2
515-200-3-530	219.1	530	2125	20.8	4684	15	12	215	8.46	80			10.0	98	22.0
513-200-4-530	219.1	530	4293	42.1	9465	20	16	228	8.98	50	50	330	17.0	167	37.6
514-200-4-530	219.1	530	4293	42.1	9465	20	16	226	8.90	57	50	398	15.7	154	34.5
515-200-4-530	219.1	530	4293	42.1	9465	20	16	230	9.06	100			17.6	173	38.9
513-200-5-530	219.1	530	6324	62	13942	25	20	235	9.25	60	70	351	23.3	229	51.4
514-200-5-530	219.1	530	6324	62	13942	25	20	250	9.84	69	70	430	26.1	256	57.6
515-200-5-530	219.1	530	6324	62	13942	25	20	255	10.04	90			21.6	212	47.7
514-200-6-530	219.1	530	12754	125	28117	35	25	306	12.05	86	80	466	48.4	475	106.7
515-200-6-530	219.1	530	12754	125	28117	35	25	285	11.22	110			35.4	347	78.0
514-200-7-530	219.1	530	18132	178	39974	40	28	333	13.11	102	90	488	72.3	709	159.4
515-200-7-530	219.1	530	18132	178	39974	40	28	300	11.81	160			54.2	531	119.4
515-200-8-530	219.1	530	25524	250	56269	50	35	320	12.60	130			62.5	613	137.9
513-200-1-570	219.1	570	423	4.15	933	10	9	210	8.27	25	30	284	6.2	61	13.7
514-200-1-570	219.1	570	423	4.15	933	10	9	208	8.19	36	30	320	5.2	51	11.6
515-200-1-570	219.1	570	423	4.15	933	10	9	210	8.27	50			3.9	39	8.7
513-200-2-570	219.1	570	985	9.66	2172	10	9	210	8.27	30	40	298	8.7	85	19.1
514-200-2-570	219.1	570	985	9.66	2172	10	9	208	8.19	39	40	332	7.9	77	17.4
515-200-2-570	219.1	570	985	9.66	2172	10	9	210	8.27	80			7.5	74	16.6
513-200-3-570	219.1	570	2125	20.8	4684	15	12	217	8.54	50	50	330	16.1	158	35.6
514-200-3-570	219.1	570	2125	20.8	4684	15	12	221	8.70	51	50	382	15.5	152	34.1
515-200-3-570	219.1	570	2125	20.8	4684	15	12	215	8.46	100			16.5	162	36.4
513-200-4-570	219.1	570	4293	42.1	9465	20	16	228	8.98	60	70	351	22.7	222	50.0
514-200-4-570	219.1	570	4293	42.1	9465	20	16	247	9.72	63	70	404	24.7	242	54.5
515-200-4-570	219.1	570	4293	42.1	9465	20	16	240	9.45	90			20.4	200	45.0
513-200-5-570	219.1	570	6324	62	13942	25	20	235	9.25	70	80	376	30.7	301	67.7
514-200-5-570	219.1	570	6324	62	13942	25	20	274	10.79	79	80	440	36.3	356	80.1
515-200-5-570	219.1	570	6324	62	13942	25	20	255	10.04	110			26.3	258	57.9
514-200-6-570	219.1	570	12754	125	28117	35	25	315	12.40	96	90	472	65.1	639	143.5
515-200-6-570	219.1	570	12754	125	28117	35	25	285	11.22	160			50.7	498	111.9
514-200-7-570	219.1	570	18132	178	39974	40	28	356	14.02	102	100	500	85.0	834	187.5
515-200-7-570	219.1	570	18132	178	39974	40	28	315	12.40	120			56.1	550	123.7
515-200-8-570	219.1	570	25524	250	56269	50	35	320	12.60	160			76.1	747	167.9

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

N.B. 9" / 225mm

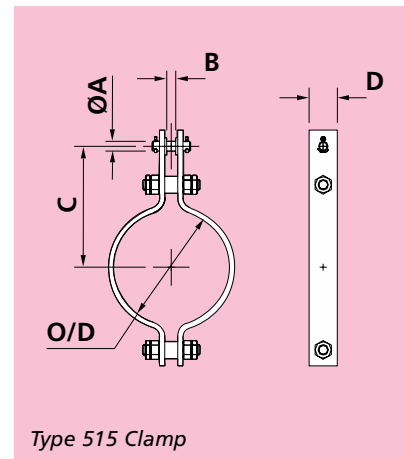
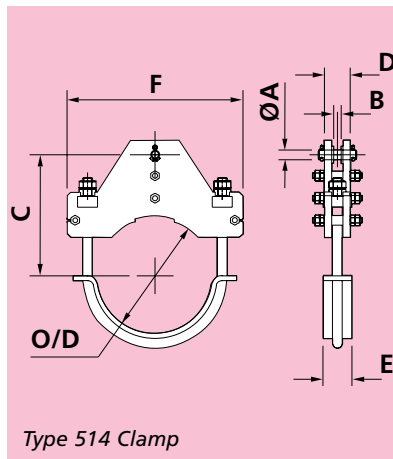
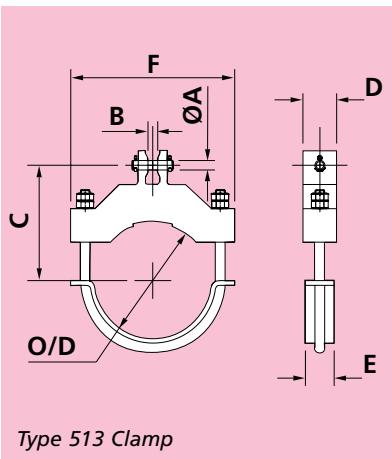
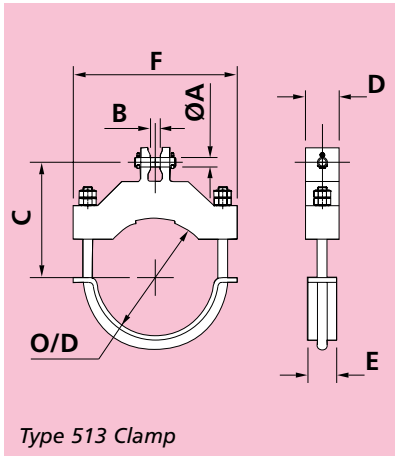


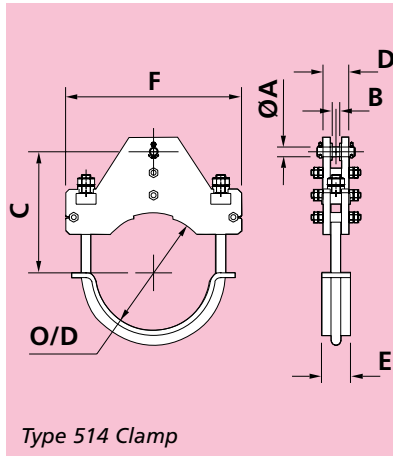
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				mm	N	lbs
513-225-1-400	244.5	400	423	4.15	933	10	9	222	8.74	20	20	290	4.8	47	10.6
514-225-1-400	244.5	400	423	4.15	933	10	9	220	8.66	36	20	336	5.7	56	12.6
515-225-1-400	244.5	400	423	4.15	933	10	9	220	8.66	50			4.2	41	9.3
513-225-2-400	244.5	400	985	9.66	2172	10	9	222	8.74	20	30	297	5.9	57	12.9
514-225-2-400	244.5	400	985	9.66	2172	10	9	220	8.66	39	30	346	6.6	65	14.6
515-225-2-400	244.5	400	985	9.66	2172	10	9	220	8.66	70			7.3	71	16.0
513-225-3-400	244.5	400	2125	20.8	4684	15	12	229	9.02	30	40	322	10.3	101	22.6
514-225-3-400	244.5	400	2125	20.8	4684	15	12	229	9.02	47	40	394	10.5	103	23.2
515-225-3-400	244.5	400	2125	20.8	4684	15	12	230	9.06	80			11.0	108	24.2
513-225-4-400	244.5	400	4293	42.1	9465	20	16	240	9.45	40	50	336	14.8	145	32.5
514-225-4-400	244.5	400	4293	42.1	9465	20	16	238	9.37	57	50	414	12.7	124	27.9
515-225-4-400	244.5	400	4293	42.1	9465	20	16	260	10.24	100			20.7	203	45.7
513-225-5-400	244.5	400	6324	62	13942	25	20	247	9.72	50	50	354	20.2	198	44.5
514-225-5-400	244.5	400	6324	62	13942	25	20	245	9.65	69	50	448	20.7	203	45.7
515-225-5-400	244.5	400	6324	62	13942	25	20	275	10.83	90			24.1	237	53.2
514-225-6-400	244.5	400	12754	125	28117	35	25	303	11.93	86	80	490	54.5	535	120.3
515-225-6-400	244.5	400	12754	125	28117	35	25	315	12.40	120			44.5	436	98.0
514-225-7-400	244.5	400	18132	178	39974	40	28	332	13.07	102	90	512	75.8	743	167.1
515-225-7-400	244.5	400	18132	178	39974	40	28	325	12.80	160			59.9	587	132.0
514-225-8-400	244.5	400	25524	250	56269	50	35	375	14.76	120	100	566	107.0	1049	235.9
515-225-8-400	244.5	400	25524	250	56269	50	35	370	14.57	140			81.6	800	179.9
513-225-1-490	244.5	490	423	4.15	933	10	9	222	8.74	20	20	290	4.8	47	10.6
514-225-1-490	244.5	490	423	4.15	933	10	9	220	8.66	36	20	336	5.7	56	12.6
515-225-1-490	244.5	490	423	4.15	933	10	9	220	8.66	50			4.2	41	9.3
513-225-2-490	244.5	490	985	9.66	2172	10	9	222	8.74	20	30	297	5.9	57	12.9
514-225-2-490	244.5	490	985	9.66	2172	10	9	220	8.66	39	30	346	6.7	65	14.7
515-225-2-490	244.5	490	985	9.66	2172	10	9	220	8.66	60			5.0	49	11.1
513-225-3-490	244.5	490	2125	20.8	4684	15	12	229	9.02	30	40	322	10.2	100	22.5
514-225-3-490	244.5	490	2125	20.8	4684	15	12	229	9.02	47	40	394	10.4	102	22.9
515-225-3-490	244.5	490	2125	20.8	4684	15	12	230	9.06	80			10.7	105	23.5
513-225-4-490	244.5	490	4293	42.1	9465	20	16	240	9.45	40	50	336	14.8	145	32.5
514-225-4-490	244.5	490	4293	42.1	9465	20	16	238	9.37	57	50	414	12.7	124	27.9
515-225-4-490	244.5	490	4293	42.1	9465	20	16	245	9.65	100			19.0	186	41.9
513-225-5-490	244.5	490	6324	62	13942	25	20	247	9.72	50	50	354	20.1	197	44.3
514-225-5-490	244.5	490	6324	62	13942	25	20	245	9.65	69	50	448	20.2	198	44.5
515-225-5-490	244.5	490	6324	62	13942	25	20	260	10.24	110			22.1	216	48.6
514-225-6-490	244.5	490	12754	125	28117	35	25	302	11.89	86	70	480	45.8	449	100.9
515-225-6-490	244.5	490	12754	125	28117	35	25	300	11.81	110			37.5	368	82.7
514-225-7-490	244.5	490	18132	178	39974	40	28	329	12.95	102	80	506	62.4	612	137.6
515-225-7-490	244.5	490	18132	178	39974	40	28	310	12.20	150			53.2	522	117.3
514-225-8-490	244.5	490	25524	250	56269	50	35	373	14.69	120	90	554	100.5	986	221.7
515-225-8-490	244.5	490	25524	250	56269	50	35	350	13.78	130			69.0	676	152.1

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

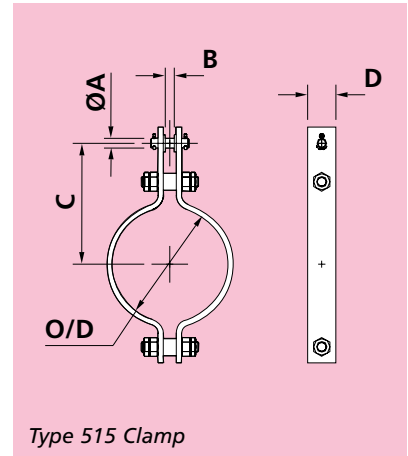
N.B. 9" / 225mm



Type 513 Clamp



Type 514 Clamp



Type 515 Clamp

Fig. No.	Pipe O/D	Max. Pipe Temp	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				mm	mm	mm
513-225-1-530	244.5	530	423	4.15	933	10	9	222	8.74	20	30	297	5.4	53	11.8
514-225-1-530	244.5	530	423	4.15	933	10	9	220	8.66	36	30	338	6.2	60	13.6
515-225-1-530	244.5	530	423	4.15	933	10	9	220	8.66	50			4.2	41	9.3
513-225-2-530	244.5	530	985	9.66	2172	10	9	222	8.74	25	30	308	7.5	74	16.6
514-225-2-530	244.5	530	985	9.66	2172	10	9	220	8.66	39	30	352	7.5	73	16.4
515-225-2-530	244.5	530	985	9.66	2172	10	9	220	8.66	70			7.0	69	15.5
513-225-3-530	244.5	530	2125	20.8	4684	15	12	229	9.02	40	50	336	13.9	136	30.5
514-225-3-530	244.5	530	2125	20.8	4684	15	12	229	9.02	47	50	398	12.3	121	27.1
515-225-3-530	244.5	530	2125	20.8	4684	15	12	230	9.06	80			10.7	105	23.5
513-225-4-530	244.5	530	4293	42.1	9465	20	16	240	9.45	50	50	354	19.2	189	42.4
514-225-4-530	244.5	530	4293	42.1	9465	20	16	238	9.37	57	50	422	16.4	161	36.1
515-225-4-530	244.5	530	4293	42.1	9465	20	16	245	9.65	100			19.0	186	41.9
513-225-5-530	244.5	530	6324	62	13942	25	20	247	9.72	60	70	375	26.1	256	57.5
514-225-5-530	244.5	530	6324	62	13942	25	20	262	10.31	69	70	454	26.8	263	59.0
515-225-5-530	244.5	530	6324	62	13942	25	20	270	10.63	90			23.1	227	50.9
514-225-6-530	244.5	530	12754	125	28117	35	25	312	12.28	86	80	490	56.2	551	124.0
515-225-6-530	244.5	530	12754	125	28117	35	25	300	11.81	120			40.8	400	89.9
514-225-7-530	244.5	530	18132	178	39974	40	28	341	13.43	102	90	512	77.7	762	171.4
515-225-7-530	244.5	530	18132	178	39974	40	28	325	12.80	120			58.5	573	128.9
514-225-8-530	244.5	530	25524	250	56269	50	35	380	14.96	120	100	566	108.4	1063	238.9
515-225-8-530	244.5	530	25524	250	56269	50	35	350	13.78	140			73.9	725	163.0
513-225-1-570	244.5	570	423	4.15	933	10	9	222	8.74	25	30	308	7.1	69	15.6
514-225-1-570	244.5	570	423	4.15	933	10	9	220	8.66	36	30	344	6.7	66	14.9
515-225-1-570	244.5	570	423	4.15	933	10	9	220	8.66	60			5.0	49	11.1
513-225-2-570	244.5	570	985	9.66	2172	10	9	222	8.74	30	40	322	10.0	98	22.0
514-225-2-570	244.5	570	985	9.66	2172	10	9	220	8.66	39	40	356	9.2	91	20.4
515-225-2-570	244.5	570	985	9.66	2172	10	9	220	8.66	80			10.1	99	22.2
513-225-3-570	244.5	570	2125	20.8	4684	15	12	229	9.02	50	50	354	18.4	180	40.5
514-225-3-570	244.5	570	2125	20.8	4684	15	12	233	9.17	51	50	406	16.1	157	35.4
515-225-3-570	244.5	570	2125	20.8	4684	15	12	230	9.06	100			17.8	175	39.3
513-225-4-570	244.5	570	4293	42.1	9465	20	16	240	9.45	60	70	375	25.5	250	56.2
514-225-4-570	244.5	570	4293	42.1	9465	20	16	259	10.20	63	70	428	25.3	249	55.9
515-225-4-570	244.5	570	4293	42.1	9465	20	16	250	9.84	90			21.5	211	47.5
513-225-5-570	244.5	570	6324	62	13942	25	20	247	9.72	70	80	400	34.1	334	75.2
514-225-5-570	244.5	570	6324	62	13942	25	20	286	11.26	79	80	464	42.3	414	93.2
515-225-5-570	244.5	570	6324	62	13942	25	20	280	11.02	100			31.3	307	69.1
514-225-6-570	244.5	570	12754	125	28117	35	25	327	12.87	96	90	496	75.4	739	166.1
515-225-6-570	244.5	570	12754	125	28117	35	25	315	12.40	120			55.7	546	122.9
514-225-7-570	244.5	570	18132	178	39974	40	28	363	14.29	102	100	524	95.3	935	210.2
515-225-7-570	244.5	570	18132	178	39974	40	28	325	12.80	130			63.1	619	139.1
514-225-8-570	244.5	570	25524	250	56269	50	35	402	15.83	120	120	574	137.9	1352	304.0
515-225-8-570	244.5	570	25524	250	56269	50	35	350	13.78	180			93.8	920	206.8

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

N.B. 10" / 250mm

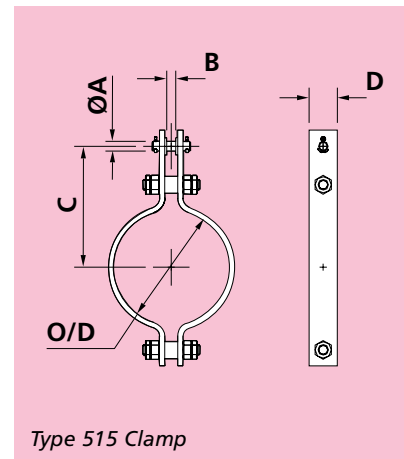
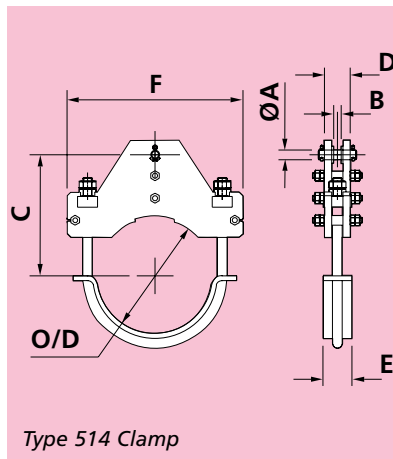
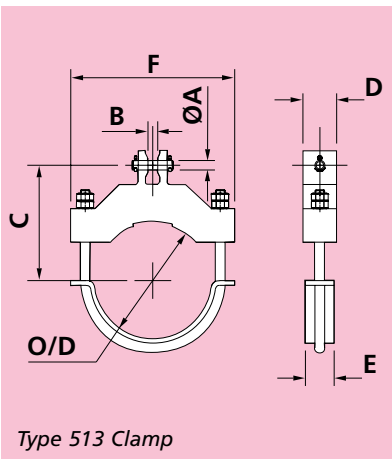
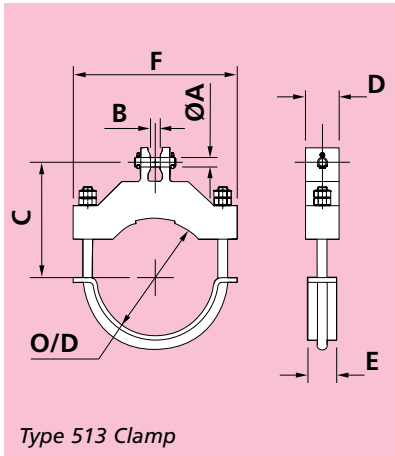


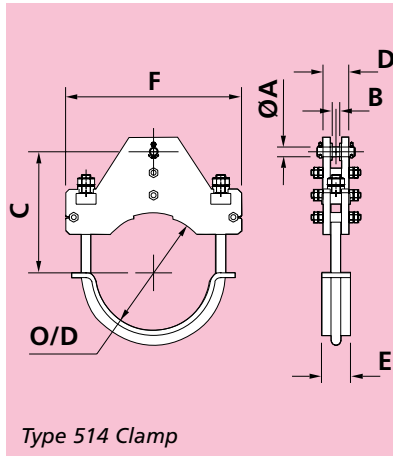
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				mm	N	lbs
513-250-1-400	273	400	423	4.15	933	10	9	237	9.33	20	20	320	5.8	56	12.7
514-250-1-400	273	400	423	4.15	933	10	9	235	9.25	36	20	366	7.7	75	16.9
515-250-1-400	273	400	423	4.15	933	10	9	235	9.25	50			4.6	45	10.1
513-250-2-400	273	400	985	9.66	2172	10	9	237	9.33	20	30	327	6.9	67	15.1
514-250-2-400	273	400	985	9.66	2172	10	9	235	9.25	39	30	376	8.4	82	18.5
515-250-2-400	273	400	985	9.66	2172	10	9	235	9.25	70			7.9	77	17.4
513-250-3-400	273	400	2125	20.8	4684	15	12	244	9.61	30	40	352	12.0	118	26.4
514-250-3-400	273	400	2125	20.8	4684	15	12	244	9.61	47	40	424	11.9	116	26.1
515-250-3-400	273	400	2125	20.8	4684	15	12	240	9.45	80			11.8	115	25.9
513-250-4-400	273	400	4293	42.1	9465	20	16	255	10.04	40	50	366	17.2	168	37.8
514-250-4-400	273	400	4293	42.1	9465	20	16	253	9.96	57	50	444	13.1	128	28.8
515-250-4-400	273	400	4293	42.1	9465	20	16	275	10.83	100			22.2	217	48.8
513-250-5-400	273	400	6324	62	13942	25	20	263	10.35	50	50	384	23.2	228	51.2
514-250-5-400	273	400	6324	62	13942	25	20	260	10.24	69	50	478	21.8	214	48.2
515-250-5-400	273	400	6324	62	13942	25	20	295	11.61	90			26.1	256	57.5
514-250-6-400	273	400	12754	125	28117	35	25	313	12.32	86	80	520	49.2	483	108.5
515-250-6-400	273	400	12754	125	28117	35	25	330	12.99	120			47.0	461	103.6
514-250-7-400	273	400	18132	178	39974	40	28	344	13.54	102	90	542	77.4	759	170.7
515-250-7-400	273	400	18132	178	39974	40	28	360	14.17	120			67.4	661	148.6
514-250-8-400	273	400	25524	250	56269	50	35	386	15.20	120	100	596	122.7	1203	270.4
515-250-8-400	273	400	25524	250	56269	50	35	390	15.35	140			86.4	847	190.4
514-250-9-400	273	400	55135	541	121552	70	49	537	21.14	148	130	660	258.0	2530	568.7
513-250-1-490	273	490	423	4.15	933	10	9	237	9.33	20	20	320	5.8	56	12.7
514-250-1-490	273	490	423	4.15	933	10	9	235	9.25	36	20	366	7.7	75	16.9
515-250-1-490	273	490	423	4.15	933	10	9	235	9.25	50			4.6	45	10.1
513-250-2-490	273	490	985	9.66	2172	10	9	237	9.33	20	30	327	6.9	67	15.1
514-250-2-490	273	490	985	9.66	2172	10	9	235	9.25	39	30	376	8.4	83	18.6
515-250-2-490	273	490	985	9.66	2172	10	9	235	9.25	70			7.7	75	16.9
513-250-3-490	273	490	2125	20.8	4684	15	12	244	9.61	30	40	352	11.9	117	26.3
514-250-3-490	273	490	2125	20.8	4684	15	12	244	9.61	47	40	424	11.9	116	26.2
515-250-3-490	273	490	2125	20.8	4684	15	12	240	9.45	80			11.4	112	25.2
513-250-4-490	273	490	4293	42.1	9465	20	16	255	10.04	40	50	366	17.2	168	37.8
514-250-4-490	273	490	4293	42.1	9465	20	16	253	9.96	57	50	444	13.2	129	29.0
515-250-4-490	273	490	4293	42.1	9465	20	16	270	10.63	100			21.2	208	46.8
513-250-5-490	273	490	6324	62	13942	25	20	262	10.31	50	50	384	23.2	227	51.1
514-250-5-490	273	490	6324	62	13942	25	20	260	10.24	69	50	478	21.4	210	47.1
515-250-5-490	273	490	6324	62	13942	25	20	295	11.61	90			26.1	256	57.5
514-250-6-490	273	490	12754	125	28117	35	25	312	12.28	86	70	510	44.2	433	97.4
515-250-6-490	273	490	12754	125	28117	35	25	320	12.60	120			44.9	441	99.0
514-250-7-490	273	490	18132	178	39974	40	28	340	13.39	102	80	536	71.2	699	157.0
515-250-7-490	273	490	18132	178	39974	40	28	330	12.99	160			60.6	595	133.7
514-250-8-490	273	490	25524	250	56269	50	35	384	15.12	120	90	584	110.8	1087	244.3
515-250-8-490	273	490	25524	250	56269	50	35	370	14.57	130			73.4	720	161.8
514-250-9-490	273	490	55135	541	121552	70	49	528	20.79	148	130	660	254.4	2495	560.8

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

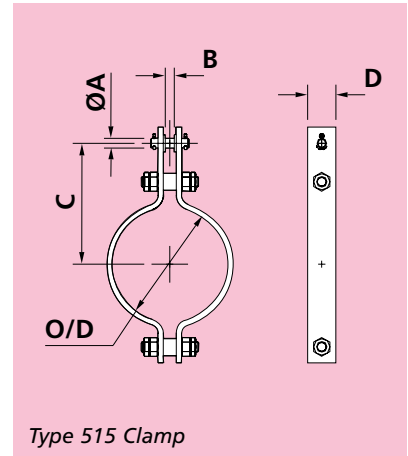
N.B. 10" / 250mm



Type 513 Clamp



Type 514 Clamp

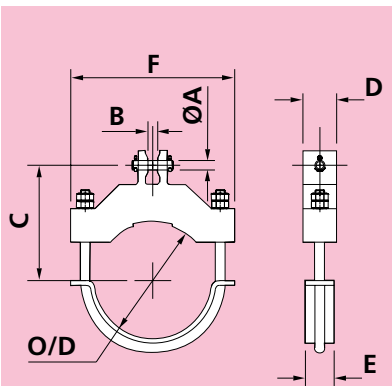


Type 515 Clamp

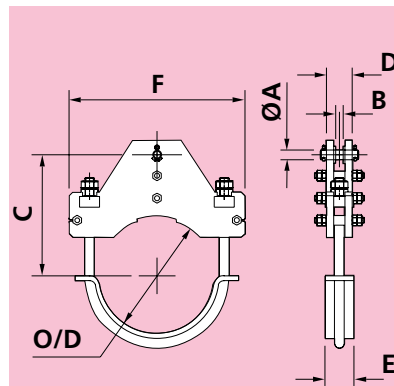
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				mm	N	lbs
513-250-1-530	273	530	423	4.15	933	10	9	237	9.33	20	30	327	6.3	62	14.0
514-250-1-530	273	530	423	4.15	933	10	9	235	9.25	36	30	368	8.2	80	18.0
515-250-1-530	273	530	423	4.15	933	10	9	235	9.25	50			4.6	45	10.1
513-250-2-530	273	530	985	9.66	2172	10	9	237	9.33	25	30	338	8.8	86	19.4
514-250-2-530	273	530	985	9.66	2172	10	9	235	9.25	39	30	382	9.2	90	20.3
515-250-2-530	273	530	985	9.66	2172	10	9	235	9.25	70			7.7	75	16.9
513-250-3-530	273	530	2125	20.8	4684	15	12	244	9.61	40	50	366	16.1	158	35.6
514-250-3-530	273	530	2125	20.8	4684	15	12	244	9.61	47	50	428	12.8	126	28.3
515-250-3-530	273	530	2125	20.8	4684	15	12	240	9.45	100			14.3	140	31.4
513-250-4-530	273	530	4293	42.1	9465	20	16	255	10.04	50	50	384	22.2	218	49.0
514-250-4-530	273	530	4293	42.1	9465	20	16	253	9.96	57	50	452	17.7	173	39.0
515-250-4-530	273	530	4293	42.1	9465	20	16	270	10.63	110			23.3	228	51.4
513-250-5-530	273	530	6324	62	13942	25	20	262	10.31	60	70	405	29.8	292	65.6
514-250-5-530	273	530	6324	62	13942	25	20	277	10.91	69	70	484	27.9	273	61.4
515-250-5-530	273	530	6324	62	13942	25	20	285	11.22	90			24.7	242	54.5
514-250-6-530	273	530	12754	125	28117	35	25	322	12.68	86	80	520	51.3	503	113.2
515-250-6-530	273	530	12754	125	28117	35	25	320	12.60	140			52.1	511	114.8
514-250-7-530	273	530	18132	178	39974	40	28	351	13.82	102	90	542	79.2	776	174.5
515-250-7-530	273	530	18132	178	39974	40	28	345	13.58	120			62.5	612	137.7
514-250-8-530	273	530	25524	250	56269	50	35	390	15.35	120	100	596	124.4	1220	274.2
515-250-8-530	273	530	25524	250	56269	50	35	370	14.57	150			84.0	824	185.2
514-250-9-530	273	530	55135	541	121552	70	49	533	20.98	148	130	660	256.7	2518	566.0
513-250-1-570	273	570	423	4.15	933	10	9	237	9.33	25	30	338	8.3	82	18.4
514-250-1-570	273	570	423	4.15	933	10	9	235	9.25	36	30	374	8.8	86	19.4
515-250-1-570	273	570	423	4.15	933	10	9	235	9.25	60			5.5	54	12.1
513-250-2-570	273	570	985	9.66	2172	10	9	237	9.33	30	40	352	11.5	113	25.3
514-250-2-570	273	570	985	9.66	2172	10	9	235	9.25	39	40	386	10.0	98	22.0
515-250-2-570	273	570	985	9.66	2172	10	9	235	9.25	80			10.9	107	24.1
513-250-3-570	273	570	2125	20.8	4684	15	12	244	9.61	50	50	384	21.2	208	46.7
514-250-3-570	273	570	2125	20.8	4684	15	12	248	9.76	51	50	436	16.2	158	35.6
515-250-3-570	273	570	2125	20.8	4684	15	12	245	9.65	100			19.3	189	42.5
513-250-4-570	273	570	4293	42.1	9465	20	16	255	10.04	60	70	405	29.1	286	64.2
514-250-4-570	273	570	4293	42.1	9465	20	16	274	10.79	63	70	458	26.7	262	58.8
515-250-4-570	273	570	4293	42.1	9465	20	16	270	10.63	90			23.5	230	51.8
513-250-5-570	273	570	6324	62	13942	25	20	264	10.39	70	80	430	38.7	380	85.4
514-250-5-570	273	570	6324	62	13942	25	20	301	11.85	79	80	494	47.6	467	105.0
515-250-5-570	273	570	6324	62	13942	25	20	295	11.61	100			33.5	328	73.8
514-250-6-570	273	570	12754	125	28117	35	25	342	13.46	96	90	526	71.5	701	157.6
515-250-6-570	273	570	12754	125	28117	35	25	335	13.19	120			61.0	598	134.5
514-250-7-570	273	570	18132	178	39974	40	28	373	14.69	102	100	554	89.8	881	198.0
515-250-7-570	273	570	18132	178	39974	40	28	345	13.58	140			72.4	710	159.7
514-250-8-570	273	570	25524	250	56269	50	35	412	16.22	120	120	604	143.9	1411	317.2
515-250-8-570	273	570	25524	250	56269	50	35	370	14.57	200			110.5	1084	243.7
514-250-9-570	273	570	55135	541	121552	70	49	532	20.94	158	130	660	276.6	2713	609.9

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

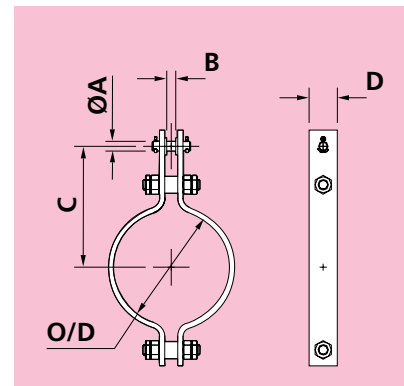
N.B. 12" / 300mm



Type 513 Clamp



Type 514 Clamp

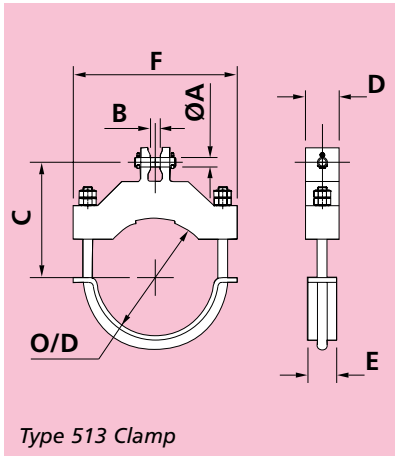


Type 515 Clamp

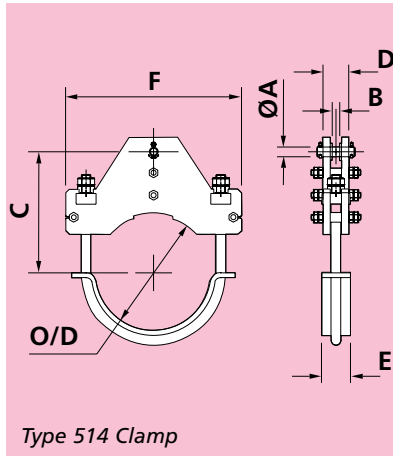
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-300-1-400	323.9	400	423	4.15	933	10	9	263	10.35	20	20	372	7.4	73	16.4
514-300-1-400	323.9	400	423	4.15	933	10	9	262	10.31	36	20	418	9.9	97	21.7
515-300-1-400	323.9	400	423	4.15	933	10	9	260	10.24	50			5.2	51	11.5
513-300-2-400	323.9	400	985	9.66	2172	10	9	263	10.35	20	30	379	8.7	86	19.3
514-300-2-400	323.9	400	985	9.66	2172	10	9	262	10.31	39	30	428	10.3	101	22.8
515-300-2-400	323.9	400	985	9.66	2172	10	9	260	10.24	70			8.9	87	19.6
513-300-3-400	323.9	400	2125	20.8	4684	15	12	270	10.63	30	40	404	15.1	148	33.3
514-300-3-400	323.9	400	2125	20.8	4684	15	12	269	10.59	47	40	476	11.9	116	26.2
515-300-3-400	323.9	400	2125	20.8	4684	15	12	275	10.83	100			17.1	168	37.7
513-300-4-400	323.9	400	4293	42.1	9465	20	16	284	11.18	40	50	418	21.8	213	48.0
514-300-4-400	323.9	400	4293	42.1	9465	20	16	279	10.98	57	50	496	13.9	137	30.7
515-300-4-400	323.9	400	4293	42.1	9465	20	16	300	11.81	100			24.6	241	54.2
513-300-5-400	323.9	400	6324	62	13942	25	20	296	11.65	50	50	436	29.4	288	64.8
514-300-5-400	323.9	400	6324	62	13942	25	20	287	11.30	63	50	530	28.7	282	63.3
515-300-5-400	323.9	400	6324	62	13942	25	20	325	12.80	100			33.1	325	73.0
514-300-6-400	323.9	400	12754	125	28117	35	25	333	13.11	86	80	572	53.6	525	118.1
515-300-6-400	323.9	400	12754	125	28117	35	25	360	14.17	140			60.0	589	132.4
514-300-7-400	323.9	400	18132	178	39974	40	28	371	14.61	102	90	594	86.6	850	191.0
515-300-7-400	323.9	400	18132	178	39974	40	28	390	15.35	120			73.8	724	162.8
514-300-8-400	323.9	400	25524	250	56269	50	35	402	15.83	120	100	648	133.0	1304	293.2
515-300-8-400	323.9	400	25524	250	56269	50	35	415	16.34	160			105.1	1031	231.8
514-300-9-400	323.9	400	55135	541	121552	70	49	555	21.85	148	130	712	287.2	2816	633.1
514-300-10-400	323.9	400	70330	690	155050	80	55	611	24.06	166	150	746	371.1	3639	818.1
513-300-1-490	323.9	490	423	4.15	933	10	9	263	10.35	20	20	372	7.4	73	16.4
514-300-1-490	323.9	490	423	4.15	933	10	9	262	10.31	36	20	418	9.9	97	21.8
515-300-1-490	323.9	490	423	4.15	933	10	9	260	10.24	50			5.2	51	11.5
513-300-2-490	323.9	490	985	9.66	2172	10	9	263	10.35	20	30	379	8.7	86	19.3
514-300-2-490	323.9	490	985	9.66	2172	10	9	262	10.31	39	30	428	10.4	102	22.8
515-300-2-490	323.9	490	985	9.66	2172	10	9	260	10.24	70			8.9	87	19.6
513-300-3-490	323.9	490	2125	20.8	4684	15	12	270	10.63	30	40	404	15.1	148	33.3
514-300-3-490	323.9	490	2125	20.8	4684	15	12	269	10.59	47	40	476	12.2	120	26.9
515-300-3-490	323.9	490	2125	20.8	4684	15	12	265	10.43	80			13.0	128	28.7
513-300-4-490	323.9	490	4293	42.1	9465	20	16	283	11.14	40	50	418	21.6	212	47.7
514-300-4-490	323.9	490	4293	42.1	9465	20	16	279	10.98	57	50	496	14.2	139	31.3
515-300-4-490	323.9	490	4293	42.1	9465	20	16	295	11.61	100			23.7	232	52.2
513-300-5-490	323.9	490	6324	62	13942	25	20	295	11.61	50	50	436	29.2	286	64.4
514-300-5-490	323.9	490	6324	62	13942	25	20	285	11.22	63	50	530	28.6	280	63.0
515-300-5-490	323.9	490	6324	62	13942	25	20	320	12.60	100			31.9	313	70.3
514-300-6-490	323.9	490	12754	125	28117	35	25	326	12.83	86	70	562	44.2	433	97.4
515-300-6-490	323.9	490	12754	125	28117	35	25	350	13.78	140			57.7	566	127.3
514-300-7-490	323.9	490	18132	178	39974	40	28	354	13.94	102	80	588	68.1	668	150.2
515-300-7-490	323.9	490	18132	178	39974	40	28	385	15.16	120			71.4	701	157.5
514-300-8-490	323.9	490	25524	250	56269	50	35	401	15.79	120	90	636	110.1	1080	242.8
515-300-8-490	323.9	490	25524	250	56269	50	35	400	15.75	150			91.9	902	202.7
514-300-9-490	323.9	490	55135	541	121552	70	49	546	21.50	148	130	712	283.7	2782	625.5
514-300-10-490	323.9	490	70330	690	155050	80	55	602	23.70	166	150	746	367.0	3599	809.0

**CLAMPS FOR RIGID STRUTS AND SNUBBERS**

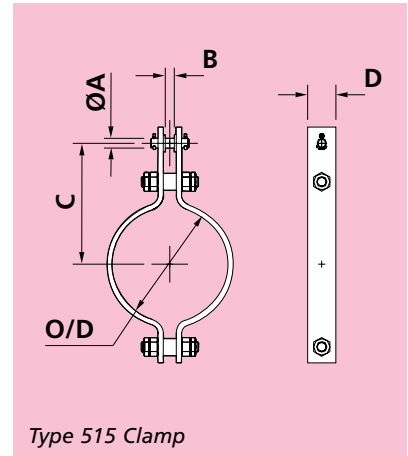
**N.B. 12" / 300mm**



Type 513 Clamp



Type 514 Clamp



Type 515 Clamp

Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				mm	N	lbs
513-300-1-530	323.9	530	423	4.15	933	10	9	263	10.35	20	30	379	8.1	79	17.9
514-300-1-530	323.9	530	423	4.15	933	10	9	262	10.31	36	30	420	10.4	102	23.0
515-300-1-530	323.9	530	423	4.15	933	10	9	260	10.24	50			5.2	51	11.5
513-300-2-530	323.9	530	985	9.66	2172	10	9	263	10.35	25	30	390	11.2	110	24.7
514-300-2-530	323.9	530	985	9.66	2172	10	9	262	10.31	39	30	434	10.5	103	23.2
515-300-2-530	323.9	530	985	9.66	2172	10	9	260	10.24	70			8.9	87	19.6
513-300-3-530	323.9	530	2125	20.8	4684	15	12	270	10.63	40	50	418	20.3	199	44.7
514-300-3-530	323.9	530	2125	20.8	4684	15	12	269	10.59	47	50	480	12.6	124	27.8
515-300-3-530	323.9	530	2125	20.8	4684	15	12	265	10.43	100			16.2	159	35.8
513-300-4-530	323.9	530	4293	42.1	9465	20	16	281	11.06	50	50	436	27.8	272	61.2
514-300-4-530	323.9	530	4293	42.1	9465	20	16	280	11.02	57	50	504	18.0	177	39.8
515-300-4-530	323.9	530	4293	42.1	9465	20	16	305	12.01	90			27.1	266	59.7
513-300-5-530	323.9	530	6324	62	13942	25	20	293	11.54	60	70	457	37.1	363	81.7
514-300-5-530	323.9	530	6324	62	13942	25	20	304	11.97	69	70	536	30.1	295	66.3
515-300-5-530	323.9	530	6324	62	13942	25	20	320	12.60	110			35.0	343	77.1
514-300-6-530	323.9	530	12754	125	28117	35	25	336	13.23	86	80	572	54.0	530	119.1
515-300-6-530	323.9	530	12754	125	28117	35	25	350	13.78	160			65.7	644	144.8
514-300-7-530	323.9	530	18132	178	39974	40	28	371	14.61	102	90	594	86.2	845	190.0
515-300-7-530	323.9	530	18132	178	39974	40	28	375	14.76	120			68.9	675	151.8
514-300-8-530	323.9	530	25524	250	56269	50	35	406	15.98	120	100	648	134.8	1322	297.2
515-300-8-530	323.9	530	25524	250	56269	50	35	400	15.75	170			103.6	1016	228.4
514-300-9-530	323.9	530	55135	541	121552	70	49	552	21.73	148	130	712	286.2	2807	631.0
514-300-10-530	323.9	530	70330	690	155050	80	55	603	23.74	166	150	746	367.5	3604	810.2
513-300-1-570	323.9	570	423	4.15	933	10	9	263	10.35	25	30	390	10.6	104	23.3
514-300-1-570	323.9	570	423	4.15	933	10	9	262	10.31	36	30	426	11.1	109	24.5
515-300-1-570	323.9	570	423	4.15	933	10	9	260	10.24	70			8.7	85	19.2
513-300-2-570	323.9	570	985	9.66	2172	10	9	263	10.35	30	40	404	14.4	142	31.8
514-300-2-570	323.9	570	985	9.66	2172	10	9	262	10.31	39	40	438	9.6	94	21.2
515-300-2-570	323.9	570	985	9.66	2172	10	9	260	10.24	80			12.5	123	27.6
513-300-3-570	323.9	570	2125	20.8	4684	15	12	270	10.63	50	50	436	26.6	261	58.7
514-300-3-570	323.9	570	2125	20.8	4684	15	12	275	10.83	51	50	488	16.4	161	36.2
515-300-3-570	323.9	570	2125	20.8	4684	15	12	275	10.83	100			22.0	216	48.6
513-300-4-570	323.9	570	4293	42.1	9465	20	16	282	11.10	60	70	457	35.9	352	79.2
514-300-4-570	323.9	570	4293	42.1	9465	20	16	301	11.85	63	70	510	29.2	286	64.3
515-300-4-570	323.9	570	4293	42.1	9465	20	16	305	12.01	110			33.0	324	72.8
513-300-5-570	323.9	570	6324	62	13942	25	20	296	11.65	70	80	482	47.5	466	104.7
514-300-5-570	323.9	570	6324	62	13942	25	20	328	12.91	79	80	546	54.0	529	119.0
515-300-5-570	323.9	570	6324	62	13942	25	20	325	12.80	100			37.5	368	82.7
514-300-6-570	323.9	570	12754	125	28117	35	25	369	14.53	86	90	578	71.5	701	157.6
515-300-6-570	323.9	570	12754	125	28117	35	25	365	14.37	120			67.4	661	148.7
514-300-7-570	323.9	570	18132	178	39974	40	28	389	15.31	102	100	606	98.6	967	217.5
515-300-7-570	323.9	570	18132	178	39974	40	28	375	14.76	160			91.0	892	200.6
514-300-8-570	323.9	570	25524	250	56269	50	35	430	16.93	120	120	656	163.8	1607	361.2
515-300-8-570	323.9	570	25524	250	56269	50	35	400	15.75	220			132.8	1302	292.7
514-300-9-570	323.9	570	55135	541	121552	70	49	548	21.57	158	130	712	308.0	3020	679.0
514-300-10-570	323.9	570	70330	690	155050	80	55	600	23.62	176	150	746	390.4	3829	860.8

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

N.B. 14" / 350mm

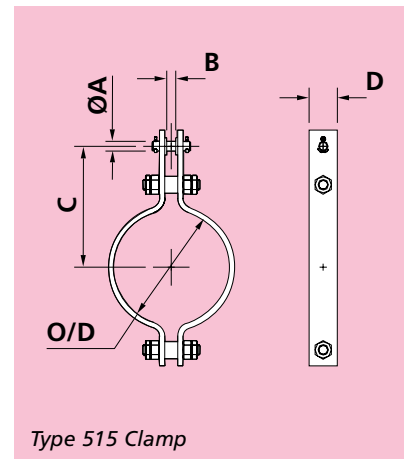
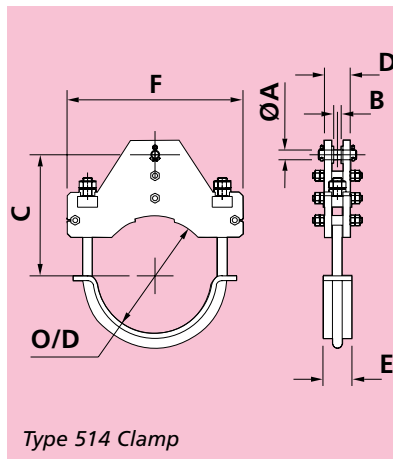
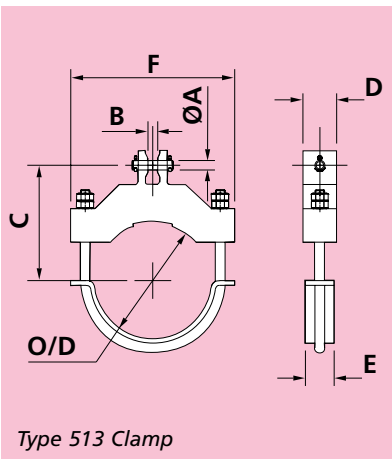
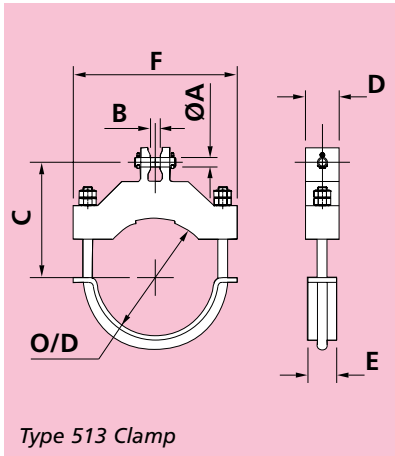


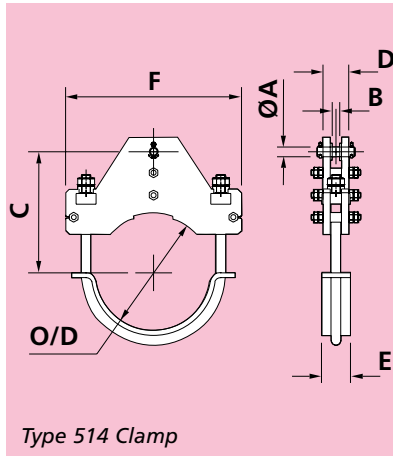
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				mm	N	lbs
513-350-1-400	355.6	400	423	4.15	933	10	9	279	10.98	20	20	404	8.7	85	19.2
514-350-1-400	355.6	400	423	4.15	933	10	9	278	10.94	36	20	450	10.1	99	22.2
515-350-1-400	355.6	400	423	4.15	933	10	9	275	10.83	50			5.6	55	12.4
513-350-2-400	355.6	400	985	9.66	2172	10	9	279	10.98	20	30	411	10.1	99	22.2
514-350-2-400	355.6	400	985	9.66	2172	10	9	278	10.94	39	30	460	10.0	98	22.1
515-350-2-400	355.6	400	985	9.66	2172	10	9	275	10.83	70			9.6	94	21.2
513-350-3-400	355.6	400	2125	20.8	4684	15	12	286	11.26	30	40	436	17.2	169	37.9
514-350-3-400	355.6	400	2125	20.8	4684	15	12	285	11.22	47	40	508	10.8	106	23.9
515-350-3-400	355.6	400	2125	20.8	4684	15	12	290	11.42	100			18.2	179	40.2
513-350-4-400	355.6	400	4293	42.1	9465	20	16	303	11.93	40	50	450	25.0	245	55.1
514-350-4-400	355.6	400	4293	42.1	9465	20	16	295	11.61	57	50	528	14.5	142	31.9
515-350-4-400	355.6	400	4293	42.1	9465	20	16	320	12.60	110			29.0	284	63.8
513-350-5-400	355.6	400	6324	62	13942	25	20	316	12.44	50	50	468	33.5	329	73.9
514-350-5-400	355.6	400	6324	62	13942	25	20	301	11.85	63	50	562	30.2	296	66.6
515-350-5-400	355.6	400	6324	62	13942	25	20	345	13.58	110			38.7	380	85.4
514-350-6-400	355.6	400	12754	125	28117	35	25	349	13.74	86	80	604	54.7	537	120.7
515-350-6-400	355.6	400	12754	125	28117	35	25	375	14.76	150			67.5	662	148.7
514-350-7-400	355.6	400	18132	178	39974	40	28	387	15.24	102	90	626	91.9	901	202.6
515-350-7-400	355.6	400	18132	178	39974	40	28	410	16.14	120			78.1	765	172.1
514-350-8-400	355.6	400	25524	250	56269	50	35	413	16.26	120	100	680	126.3	1239	278.5
515-350-8-400	355.6	400	25524	250	56269	50	35	435	17.13	180			123.7	1213	272.8
514-350-9-400	355.6	400	55135	541	121552	70	49	566	22.28	148	130	744	277.5	2722	611.9
514-350-10-400	355.6	400	70330	690	155050	80	55	623	24.53	166	150	778	385.1	3776	848.9
514-350-11-400	355.6	400	90785	890	200144	90	60	641	25.24	214	190	856	563.3	5524	1241.8
513-350-1-490	355.6	490	423	4.15	933	10	9	279	10.98	20	20	404	8.7	85	19.2
514-350-1-490	355.6	490	423	4.15	933	10	9	278	10.94	36	20	450	10.1	99	22.2
515-350-1-490	355.6	490	423	4.15	933	10	9	275	10.83	50			5.6	55	12.4
513-350-2-490	355.6	490	985	9.66	2172	10	9	279	10.98	20	30	411	10.0	98	22.0
514-350-2-490	355.6	490	985	9.66	2172	10	9	278	10.94	39	30	460	10.1	99	22.2
515-350-2-490	355.6	490	985	9.66	2172	10	9	275	10.83	70			9.6	94	21.2
513-350-3-490	355.6	490	2125	20.8	4684	15	12	286	11.26	30	40	436	17.2	169	37.9
514-350-3-490	355.6	490	2125	20.8	4684	15	12	285	11.22	47	40	508	10.8	106	23.9
515-350-3-490	355.6	490	2125	20.8	4684	15	12	285	11.22	100			17.8	175	39.3
513-350-4-490	355.6	490	4293	42.1	9465	20	16	302	11.89	40	50	450	24.8	243	54.7
514-350-4-490	355.6	490	4293	42.1	9465	20	16	295	11.61	57	50	528	14.5	142	31.9
515-350-4-490	355.6	490	4293	42.1	9465	20	16	310	12.20	100			25.2	247	55.5
513-350-5-490	355.6	490	6324	62	13942	25	20	315	12.40	50	50	468	33.3	327	73.5
514-350-5-490	355.6	490	6324	62	13942	25	20	301	11.85	63	50	562	31.3	307	69.1
515-350-5-490	355.6	490	6324	62	13942	25	20	335	13.19	100			33.7	331	74.4
514-350-6-490	355.6	490	12754	125	28117	35	25	335	13.19	86	70	594	51.2	502	112.8
515-350-6-490	355.6	490	12754	125	28117	35	25	365	14.37	140			60.8	597	134.1
514-350-7-490	355.6	490	18132	178	39974	40	28	363	14.29	102	80	620	68.4	671	150.9
515-350-7-490	355.6	490	18132	178	39974	40	28	405	15.94	120			75.7	742	166.8
514-350-8-490	355.6	490	25524	250	56269	50	35	410	16.14	120	90	668	127.5	1251	281.2
515-350-8-490	355.6	490	25524	250	56269	50	35	415	16.34	160			102.4	1004	225.7
514-350-9-490	355.6	490	55135	541	121552	70	49	557	21.93	148	130	744	273.2	2679	602.2
514-350-10-490	355.6	490	70330	690	155050	80	55	613	24.13	166	150	778	379.8	3725	837.3
514-350-11-490	355.6	490	90785	890	200144	90	60	634	24.96	214	170	846	526.7	5165	1161.2

**CLAMPS FOR RIGID STRUTS AND SNUBBERS**

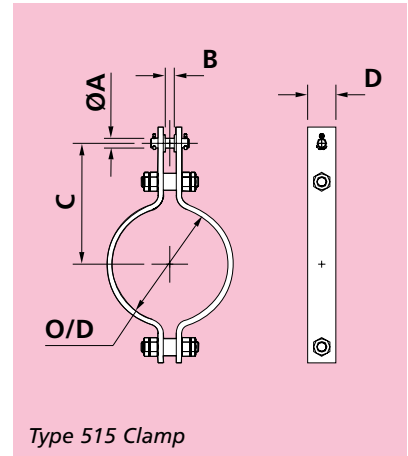
**N.B. 14" / 350mm**



Type 513 Clamp



Type 514 Clamp



Type 515 Clamp

Fig. No.	Pipe O/D	Max. Pipe Temp	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-350-1-530	355.6	530	423	4.15	933	10	9	279	10.98	20	30	411	9.4	92	20.7
514-350-1-530	355.6	530	423	4.15	933	10	9	278	10.94	36	30	452	10.7	105	23.5
515-350-1-530	355.6	530	423	4.15	933	10	9	275	10.83	50			5.6	55	12.4
513-350-2-530	355.6	530	985	9.66	2172	10	9	279	10.98	25	30	422	12.8	125	28.2
514-350-2-530	355.6	530	985	9.66	2172	10	9	278	10.94	39	30	466	9.3	92	20.6
515-350-2-530	355.6	530	985	9.66	2172	10	9	275	10.83	80			11.0	107	24.2
513-350-3-530	355.6	530	2125	20.8	4684	15	12	286	11.26	40	50	450	23.1	226	50.9
514-350-3-530	355.6	530	2125	20.8	4684	15	12	285	11.22	47	50	512	11.9	116	26.2
515-350-3-530	355.6	530	2125	20.8	4684	15	12	295	11.61	100			24.1	237	53.2
513-350-4-530	355.6	530	4293	42.1	9465	20	16	299	11.77	50	50	468	31.7	311	69.8
514-350-4-530	355.6	530	4293	42.1	9465	20	16	296	11.65	57	50	536	20.4	200	45.0
515-350-4-530	355.6	530	4293	42.1	9465	20	16	320	12.60	90			28.8	282	63.4
513-350-5-530	355.6	530	6324	62	13942	25	20	312	12.28	60	70	489	42.1	413	92.8
514-350-5-530	355.6	530	6324	62	13942	25	20	320	12.60	69	70	568	30.8	302	67.8
515-350-5-530	355.6	530	6324	62	13942	25	20	335	13.19	120			40.3	395	88.8
513-350-6-530	355.6	530	12754	125	28117	35	25	349	13.74	86	80	604	58.6	575	129.2
514-350-6-530	355.6	530	12754	125	28117	35	25	385	15.16	120			71.7	703	158.0
515-350-6-530	355.6	530	12754	125	28117	35	25	385	15.16	120			71.7	703	158.0
513-350-7-530	355.6	530	18132	178	39974	40	28	387	15.24	102	90	626	86.7	850	191.0
514-350-7-530	355.6	530	18132	178	39974	40	28	405	15.94	130			81.7	801	180.1
515-350-7-530	355.6	530	18132	178	39974	40	28	405	15.94	130			81.7	801	180.1
513-350-8-530	355.6	530	25524	250	56269	50	35	417	16.42	120	100	680	128.2	1257	282.6
514-350-8-530	355.6	530	25524	250	56269	50	35	415	16.34	180			114.6	1124	252.7
515-350-8-530	355.6	530	25524	250	56269	50	35	415	16.34	180			114.6	1124	252.7
513-350-9-530	355.6	530	55135	541	121552	70	49	562	22.13	148	130	744	275.8	2704	608.0
514-350-9-530	355.6	530	55135	541	121552	70	49	562	22.13	148	130	744	275.8	2704	608.0
515-350-9-530	355.6	530	55135	541	121552	70	49	562	22.13	148	130	744	275.8	2704	608.0
513-350-10-530	355.6	530	70330	690	155050	80	55	616	24.25	166	150	778	381.8	3744	841.8
514-350-10-530	355.6	530	70330	690	155050	80	55	616	24.25	166	150	778	381.8	3744	841.8
515-350-10-530	355.6	530	70330	690	155050	80	55	616	24.25	166	150	778	381.8	3744	841.8
513-350-11-530	355.6	530	90785	890	200144	90	60	634	24.96	214	170	846	526.7	5165	1161.2
514-350-11-530	355.6	530	90785	890	200144	90	60	634	24.96	214	170	846	526.7	5165	1161.2
515-350-11-530	355.6	530	90785	890	200144	90	60	634	24.96	214	170	846	526.7	5165	1161.2
513-350-1-570	355.6	570	423	4.15	933	10	9	279	10.98	25	30	422	12.2	120	27.0
514-350-1-570	355.6	570	423	4.15	933	10	9	278	10.94	36	30	458	11.4	112	25.2
515-350-1-570	355.6	570	423	4.15	933	10	9	275	10.83	70			9.4	92	20.7
513-350-2-570	355.6	570	985	9.66	2172	10	9	279	10.98	30	40	436	16.4	161	36.2
514-350-2-570	355.6	570	985	9.66	2172	10	9	278	10.94	39	40	470	8.6	85	19.0
515-350-2-570	355.6	570	985	9.66	2172	10	9	275	10.83	80			13.7	134	30.2
513-350-3-570	355.6	570	2125	20.8	4684	15	12	286	11.26	50	50	468	30.2	296	66.5
514-350-3-570	355.6	570	2125	20.8	4684	15	12	291	11.46	51	50	520	16.3	160	35.9
515-350-3-570	355.6	570	2125	20.8	4684	15	12	290	11.42	100			23.5	231	51.8
513-350-4-570	355.6	570	4293	42.1	9465	20	16	301	11.85	60	70	489	40.9	401	90.1
514-350-4-570	355.6	570	4293	42.1	9465	20	16	317	12.48	63	70	542	28.9	283	63.6
515-350-4-570	355.6	570	4293	42.1	9465	20	16	320	12.60	110			35.0	344	77.2
513-350-5-570	355.6	570	6324	62	13942	25	20	315	12.40	70	80	514	53.5	525	118.0
514-350-5-570	355.6	570	6324	62	13942	25	20	344	13.54	79	80	578	58.5	574	129.0
515-350-5-570	355.6	570	6324	62	13942	25	20	345	13.58	110			45.0	441	99.1
513-350-6-570	355.6	570	12754	125	28117	35	25	385	15.16	86	90	610	73.0	716	160.9
514-350-6-570	355.6	570	12754	125	28117	35	25	385	15.16	120			71.7	703	158.0
515-350-6-570	355.6	570	12754	125	28117	35	25	385	15.16	120			71.7	703	158.0
513-350-7-570	355.6	570	18132	178	39974	40	28	398	15.67	102	100	638	99.2	973	218.7
514-350-7-570	355.6	570	18132	178	39974	40	28	405	15.94	170			105.8	1038	233.3
515-350-7-570	355.6	570	18132	178	39974	40	28	405	15.94	170			105.8	1038	233.3
513-350-8-570	355.6	570	25524	250	56269	50	35	440	17.32	120	120	688	149.8	1469	330.2
514-350-8-570	355.6	570	25524	250	56269	50	35	435	17.13	180			147.0	1442	324.1
515-350-8-570	355.6	570	25524	250	56269	50	35	435	17.13	180			147.0	1442	324.1
513-350-9-570	355.6	570	55135	541	121552	70	49	587	23.11	148	130	744	289.0	2834	637.1
514-350-9-570	355.6	570	55135	541	121552	70	49	587	23.11	148	130	744	289.0	2834	637.1
515-350-9-570	355.6	570	55135	541	121552	70	49	587	23.11	148	130	744	289.0	2834	637.1
513-350-10-570	355.6	570	70330	690	155050	80	55	611	24.06	176	150	778	405.6	3978	894.2
514-350-10-570	355.6	570	70330	690	155050	80	55	611	24.06	176	150	778	405.6	3978	894.2
515-350-10-570	355.6	570	70330	690	155050	80	55	611	24.06	176	150	778	405.6	3978	894.2
513-350-11-570	355.6	570	90785	890	200144	90	60	649	25.55	214	170	846	539.8	5294	1190.1
514-350-11-570	355.6	570	90785	890	200144	90	60	649	25.55	214	170	846	539.8	5294	1190.1
515-350-11-570	355.6	570	90785	890	200144	90	60	649	25.55	214	170	846	539.8	5294	1190.1

10  
11

**CLAMPS FOR RIGID STRUTS AND SNUBBERS**

**N.B. 16" / 400mm**

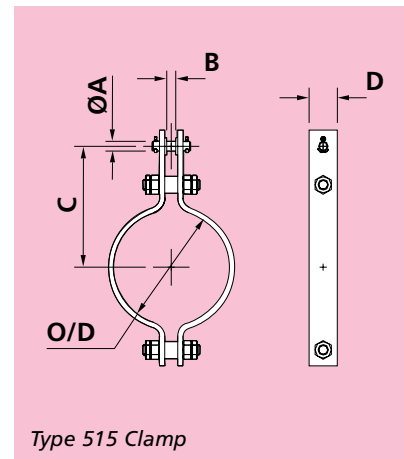
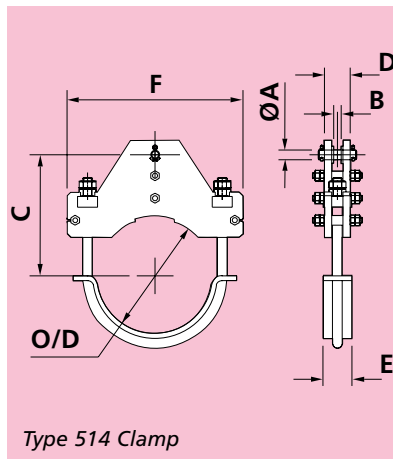
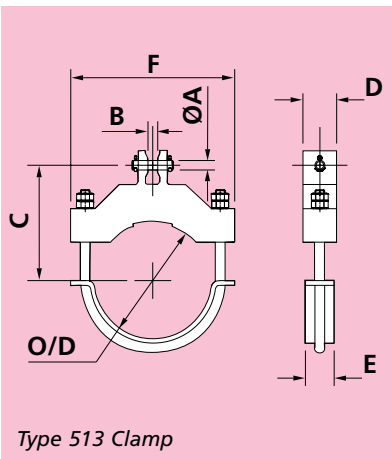
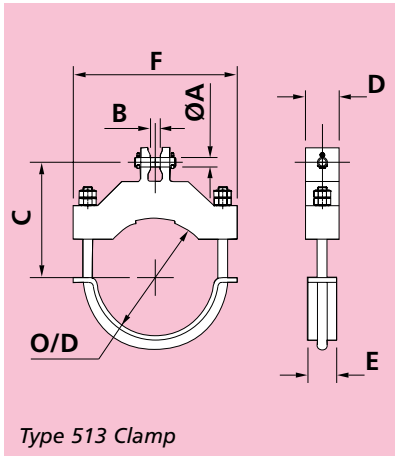


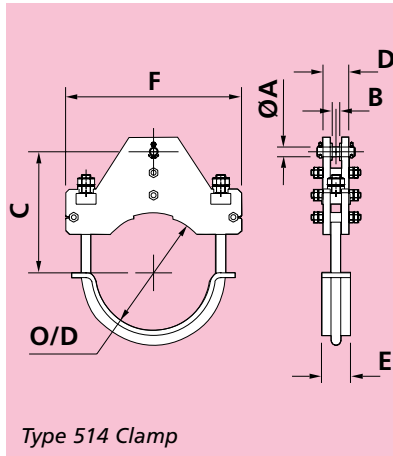
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-400-1-400	406.4	400	423	4.15	933	10	9	304	11.97	20	20	454	10.7	104	23.5
514-400-1-400	406.4	400	423	4.15	933	10	9	303	11.93	36	20	500	9.1	89	20.0
515-400-1-400	406.4	400	423	4.15	933	10	9	300	11.81	50			6.2	61	13.7
513-400-2-400	406.4	400	985	9.66	2172	10	9	304	11.97	20	30	461	12.2	119	26.8
514-400-2-400	406.4	400	985	9.66	2172	10	9	303	11.93	39	30	510	8.0	79	17.7
515-400-2-400	406.4	400	985	9.66	2172	10	9	300	11.81	70			10.6	104	23.5
513-400-3-400	406.4	400	2125	20.8	4684	15	12	311	12.24	30	40	486	20.6	202	45.5
514-400-3-400	406.4	400	2125	20.8	4684	15	12	310	12.20	47	40	558	10.1	99	22.4
515-400-3-400	406.4	400	2125	20.8	4684	15	12	315	12.40	100			20.1	197	44.3
513-400-4-400	406.4	400	4293	42.1	9465	20	16	333	13.11	40	50	500	30.3	297	66.9
514-400-4-400	406.4	400	4293	42.1	9465	20	16	320	12.60	57	50	578	16.3	160	35.9
515-400-4-400	406.4	400	4293	42.1	9465	20	16	355	13.98	90			32.8	322	72.4
513-400-5-400	406.4	400	6324	62	13942	25	20	347	13.66	50	50	518	40.5	397	89.3
514-400-5-400	406.4	400	6324	62	13942	25	20	326	12.83	63	50	612	35.6	349	78.4
515-400-5-400	406.4	400	6324	62	13942	25	20	370	14.57	120			45.7	448	100.8
514-400-6-400	406.4	400	12754	125	28117	35	25	374	14.72	86	80	654	57.9	567	127.5
515-400-6-400	406.4	400	12754	125	28117	35	25	430	16.93	120			82.9	813	182.9
514-400-7-400	406.4	400	18132	178	39974	40	28	412	16.22	102	90	676	96.0	941	211.6
515-400-7-400	406.4	400	18132	178	39974	40	28	435	17.13	140			97.0	951	213.8
514-400-8-400	406.4	400	25524	250	56269	50	35	427	16.81	120	100	730	127.9	1254	282.0
515-400-8-400	406.4	400	25524	250	56269	50	35	465	18.31	200			147.4	1445	324.9
514-400-9-400	406.4	400	55135	541	121552	70	49	582	22.91	148	130	794	318.3	3122	701.8
514-400-10-400	406.4	400	70330	690	155050	80	55	639	25.16	166	150	828	399.6	3919	881.0
514-400-11-400	406.4	400	90785	890	200144	90	60	659	25.94	214	190	906	646.4	6339	1425.1
513-400-1-490	406.4	490	423	4.15	933	10	9	304	11.97	20	20	454	10.7	104	23.5
514-400-1-490	406.4	490	423	4.15	933	10	9	303	11.93	36	20	500	9.1	89	20.1
515-400-1-490	406.4	490	423	4.15	933	10	9	300	11.81	50			6.2	61	13.7
513-400-2-490	406.4	490	985	9.66	2172	10	9	304	11.97	20	30	461	12.2	119	26.8
514-400-2-490	406.4	490	985	9.66	2172	10	9	303	11.93	39	30	510	8.0	79	17.7
515-400-2-490	406.4	490	985	9.66	2172	10	9	300	11.81	70			10.6	104	23.5
513-400-3-490	406.4	490	2125	20.8	4684	15	12	311	12.24	30	40	486	20.6	201	45.2
514-400-3-490	406.4	490	2125	20.8	4684	15	12	310	12.20	47	40	558	10.2	100	22.4
515-400-3-490	406.4	490	2125	20.8	4684	15	12	310	12.20	100			19.7	193	43.4
513-400-4-490	406.4	490	4293	42.1	9465	20	16	332	13.07	40	50	500	30.2	296	66.5
514-400-4-490	406.4	490	4293	42.1	9465	20	16	320	12.60	57	50	578	15.9	156	35.1
515-400-4-490	406.4	490	4293	42.1	9465	20	16	350	13.78	90			31.8	312	70.2
513-400-5-490	406.4	490	6324	62	13942	25	20	345	13.58	50	50	518	40.3	396	89.0
514-400-5-490	406.4	490	6324	62	13942	25	20	326	12.83	63	50	612	35.9	352	79.1
515-400-5-490	406.4	490	6324	62	13942	25	20	365	14.37	110			40.7	399	89.8
514-400-6-490	406.4	490	12754	125	28117	35	25	350	13.78	86	70	644	64.4	632	142.0
515-400-6-490	406.4	490	12754	125	28117	35	25	395	15.55	160			75.7	743	167.0
514-400-7-490	406.4	490	18132	178	39974	40	28	376	14.80	102	80	670	85.5	839	188.5
515-400-7-490	406.4	490	18132	178	39974	40	28	430	16.93	130			87.8	861	193.6
514-400-8-490	406.4	490	25524	250	56269	50	35	461	18.15	110	90	718	114.1	1119	251.6
515-400-8-490	406.4	490	25524	250	56269	50	35	450	17.72	180			127.4	1250	280.9
514-400-9-490	406.4	490	55135	541	121552	70	49	573	22.56	148	130	794	314.9	3088	694.3
514-400-10-490	406.4	490	70330	690	155050	80	55	630	24.80	166	150	828	395.0	3873	870.7
514-400-11-490	406.4	490	90785	890	200144	90	60	710	27.95	194	170	896	575.2	5641	1268.1

**CLAMPS FOR RIGID STRUTS AND SNUBBERS**

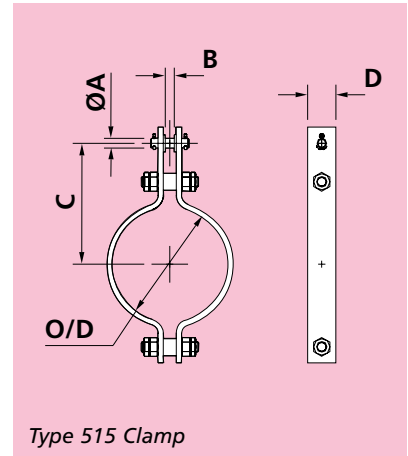
**N.B. 16" / 400mm**



Type 513 Clamp



Type 514 Clamp

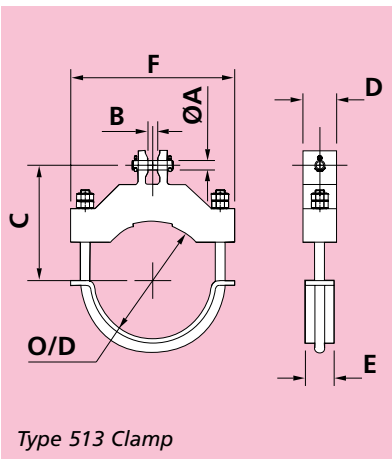


Type 515 Clamp

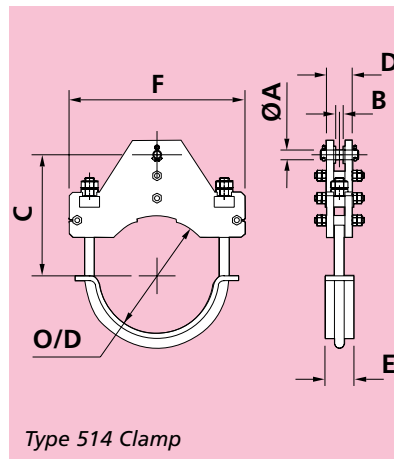
Fig. No.	Pipe O/D	Max. Pipe Temp	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-400-1-530	406.4	530	423	4.15	933	10	9	304	11.97	20	30	461	11.4	112	25.2
514-400-1-530	406.4	530	423	4.15	933	10	9	303	11.93	36	30	502	9.8	96	21.5
515-400-1-530	406.4	530	423	4.15	933	10	9	300	11.81	50			6.2	61	13.7
513-400-2-530	406.4	530	985	9.66	2172	10	9	304	11.97	25	30	472	15.5	152	34.2
514-400-2-530	406.4	530	985	9.66	2172	10	9	303	11.93	39	30	516	7.5	74	16.6
515-400-2-530	406.4	530	985	9.66	2172	10	9	300	11.81	80			15.2	149	33.4
513-400-3-530	406.4	530	2125	20.8	4684	15	12	311	12.24	40	50	500	27.5	270	60.6
514-400-3-530	406.4	530	2125	20.8	4684	15	12	310	12.20	47	50	562	15.8	154	34.7
515-400-3-530	406.4	530	2125	20.8	4684	15	12	320	12.60	100			26.5	260	58.5
513-400-4-530	406.4	530	4293	42.1	9465	20	16	328	12.91	50	50	518	38.3	376	84.4
514-400-4-530	406.4	530	4293	42.1	9465	20	16	321	12.64	57	50	586	24.8	244	54.8
515-400-4-530	406.4	530	4293	42.1	9465	20	16	350	13.78	90			31.8	312	70.2
513-400-5-530	406.4	530	6324	62	13942	25	20	342	13.46	60	70	539	50.4	494	111.2
514-400-5-530	406.4	530	6324	62	13942	25	20	345	13.58	69	70	618	32.5	319	71.7
515-400-5-530	406.4	530	6324	62	13942	25	20	375	14.76	100			45.0	442	99.3
514-400-6-530	406.4	530	12754	125	28117	35	25	374	14.72	86	80	654	63.2	620	139.3
515-400-6-530	406.4	530	12754	125	28117	35	25	410	16.14	120			77.3	758	170.4
514-400-7-530	406.4	530	18132	178	39974	40	28	412	16.22	102	90	676	90.1	884	198.7
515-400-7-530	406.4	530	18132	178	39974	40	28	430	16.93	150			100.8	989	222.3
514-400-8-530	406.4	530	25524	250	56269	50	35	431	16.97	120	100	730	129.8	1273	286.3
515-400-8-530	406.4	530	25524	250	56269	50	35	450	17.72	210			147.8	1449	325.8
514-400-9-530	406.4	530	55135	541	121552	70	49	579	22.80	148	130	794	317.2	3111	699.3
514-400-10-530	406.4	530	70330	690	155050	80	55	632	24.88	166	150	828	395.0	3873	870.8
514-400-11-530	406.4	530	90785	890	200144	90	60	710	27.95	194	170	896	575.2	5641	1268.1
513-400-1-570	406.4	570	423	4.15	933	10	9	304	11.97	25	30	472	14.8	145	32.7
514-400-1-570	406.4	570	423	4.15	933	10	9	303	11.93	36	30	508	10.6	104	23.3
515-400-1-570	406.4	570	423	4.15	933	10	9	300	11.81	70			10.4	102	23.0
513-400-2-570	406.4	570	985	9.66	2172	10	9	304	11.97	30	40	486	19.8	194	43.6
514-400-2-570	406.4	570	985	9.66	2172	10	9	303	11.93	39	40	520	8.7	86	19.3
515-400-2-570	406.4	570	985	9.66	2172	10	9	300	11.81	80			15.2	149	33.4
513-400-3-570	406.4	570	2125	20.8	4684	15	12	311	12.24	50	50	518	35.8	351	78.9
514-400-3-570	406.4	570	2125	20.8	4684	15	12	316	12.44	51	50	570	17.5	172	38.7
515-400-3-570	406.4	570	2125	20.8	4684	15	12	320	12.60	100			26.5	260	58.5
513-400-4-570	406.4	570	4293	42.1	9465	20	16	330	12.99	60	70	539	48.9	480	107.9
514-400-4-570	406.4	570	4293	42.1	9465	20	16	342	13.46	63	70	592	29.6	291	65.3
515-400-4-570	406.4	570	4293	42.1	9465	20	16	360	14.17	100			43.0	422	94.8
513-400-5-570	406.4	570	6324	62	13942	25	20	344	13.54	70	80	564	63.6	623	140.2
514-400-5-570	406.4	570	6324	62	13942	25	20	369	14.53	79	80	628	62.5	613	137.8
515-400-5-570	406.4	570	6324	62	13942	25	20	375	14.76	130			58.2	571	128.4
514-400-6-570	406.4	570	12754	125	28117	35	25	410	16.14	86	90	660	76.9	754	169.5
515-400-6-570	406.4	570	12754	125	28117	35	25	410	16.14	130			83.6	820	184.3
514-400-7-570	406.4	570	18132	178	39974	40	28	412	16.22	102	100	688	116.6	1144	257.1
515-400-7-570	406.4	570	18132	178	39974	40	28	430	16.93	190			126.8	1244	279.6
514-400-8-570	406.4	570	25524	250	56269	50	35	453	17.83	120	120	738	158.4	1554	349.3
515-400-8-570	406.4	570	25524	250	56269	50	35	465	18.31	180			161.2	1581	355.3
514-400-9-570	406.4	570	55135	541	121552	70	49	603	23.74	148	130	794	331.4	3250	730.6
514-400-10-570	406.4	570	70330	690	155050	80	55	655	25.79	166	150	828	411.2	4032	906.5
514-400-11-570	406.4	570	90785	890	200144	90	60	666	26.22	214	170	896	610.9	5991	1346.9

**CLAMPS FOR RIGID STRUTS AND SNUBBERS**

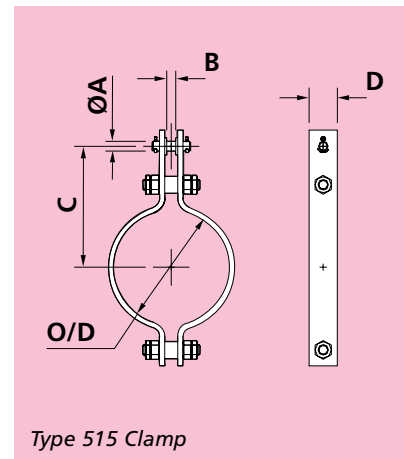
**N.B. 18" / 450mm**



Type 513 Clamp



Type 514 Clamp

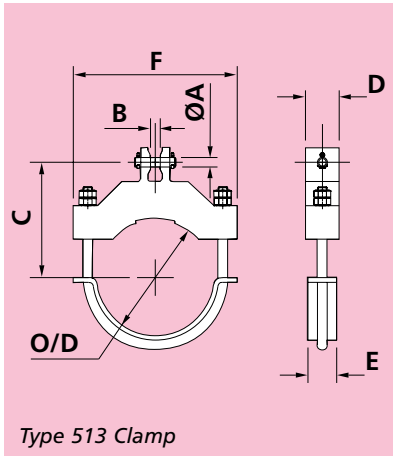


Type 515 Clamp

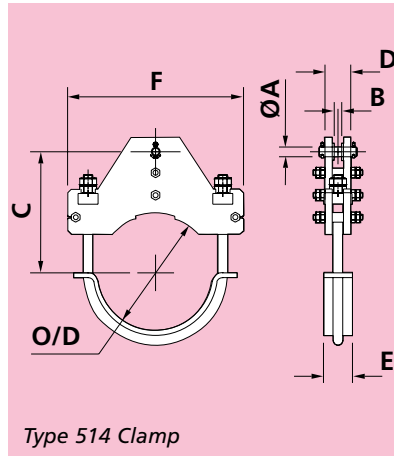
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-450-1-400	457.2	400	423	4.15	933	10	9	330	12.99	20	20	506	12.9	127	28.5
514-450-1-400	457.2	400	423	4.15	933	10	9	329	12.95	36	20	552	7.5	74	16.6
515-450-1-400	457.2	400	423	4.15	933	10	9	325	12.80	50			6.8	67	15.1
513-450-2-400	457.2	400	985	9.66	2172	10	9	330	12.99	20	30	513	14.7	144	32.3
514-450-2-400	457.2	400	985	9.66	2172	10	9	329	12.95	39	30	562	6.6	64	14.5
515-450-2-400	457.2	400	985	9.66	2172	10	9	325	12.80	80			13.6	133	30.0
513-450-3-400	457.2	400	2125	20.8	4684	15	12	337	13.27	30	40	538	24.4	240	53.9
514-450-3-400	457.2	400	2125	20.8	4684	15	12	336	13.23	47	40	610	12.4	121	27.3
515-450-3-400	457.2	400	2125	20.8	4684	15	12	355	13.98	100			29.8	293	65.8
513-450-4-400	457.2	400	4293	42.1	9465	20	16	364	14.33	40	50	552	36.4	357	80.3
514-450-4-400	457.2	400	4293	42.1	9465	20	16	346	13.62	57	50	630	20.2	198	44.5
515-450-4-400	457.2	400	4293	42.1	9465	20	16	380	14.96	90			35.6	349	78.5
513-450-5-400	457.2	400	6324	62	13942	25	20	378	14.88	50	50	570	48.6	477	107.1
514-450-5-400	457.2	400	6324	62	13942	25	20	352	13.86	63	50	664	40.4	397	89.2
515-450-5-400	457.2	400	6324	62	13942	25	20	405	15.94	100			50.1	491	110.4
514-450-6-400	457.2	400	12754	125	28117	35	25	400	15.75	86	80	706	60.6	595	133.7
515-450-6-400	457.2	400	12754	125	28117	35	25	455	17.91	120			88.8	870	195.7
514-450-7-400	457.2	400	18132	178	39974	40	28	438	17.24	92	90	728	109.0	1069	240.3
515-450-7-400	457.2	400	18132	178	39974	40	28	485	19.09	160			124.8	1224	275.2
514-450-8-400	457.2	400	25524	250	56269	50	35	478	18.82	110	100	782	133.2	1306	293.6
515-450-8-400	457.2	400	25524	250	56269	50	35	500	19.69	220			178.5	1751	393.6
514-450-9-400	457.2	400	55135	541	121552	70	49	598	23.54	148	130	846	301.0	2951	663.5
514-450-10-400	457.2	400	70330	690	155050	80	55	656	25.83	166	150	880	426.6	4183	940.4
514-450-11-400	457.2	400	90785	890	200144	90	60	736	28.98	194	190	958	601.2	5895	1325.3
513-450-1-490	457.2	490	423	4.15	933	10	9	330	12.99	20	20	506	12.9	127	28.5
514-450-1-490	457.2	490	423	4.15	933	10	9	329	12.95	36	20	552	7.5	74	16.6
515-450-1-490	457.2	490	423	4.15	933	10	9	325	12.80	50			6.8	67	15.1
513-450-2-490	457.2	490	985	9.66	2172	10	9	330	12.99	20	30	513	14.6	143	32.1
514-450-2-490	457.2	490	985	9.66	2172	10	9	329	12.95	39	30	562	6.6	65	14.5
515-450-2-490	457.2	490	985	9.66	2172	10	9	325	12.80	70			11.7	115	25.8
513-450-3-490	457.2	490	2125	20.8	4684	15	12	337	13.27	30	40	538	24.4	240	53.9
514-450-3-490	457.2	490	2125	20.8	4684	15	12	336	13.23	47	40	610	12.4	121	27.3
515-450-3-490	457.2	490	2125	20.8	4684	15	12	335	13.19	100			21.5	211	47.5
513-450-4-490	457.2	490	4293	42.1	9465	20	16	363	14.29	40	50	552	36.2	355	79.7
514-450-4-490	457.2	490	4293	42.1	9465	20	16	346	13.62	57	50	630	19.4	190	42.8
515-450-4-490	457.2	490	4293	42.1	9465	20	16	375	14.76	90			34.6	339	76.3
513-450-5-490	457.2	490	6324	62	13942	25	20	376	14.80	50	50	570	48.3	473	106.4
514-450-5-490	457.2	490	6324	62	13942	25	20	352	13.86	63	50	664	40.5	397	89.2
515-450-5-490	457.2	490	6324	62	13942	25	20	390	15.35	120			48.0	471	105.8
514-450-6-490	457.2	490	12754	125	28117	35	25	376	14.80	86	70	696	70.9	695	156.3
515-450-6-490	457.2	490	12754	125	28117	35	25	440	17.32	120			83.9	823	184.9
514-450-7-490	457.2	490	18132	178	39974	40	28	429	16.89	92	80	722	99.9	979	220.2
515-450-7-490	457.2	490	18132	178	39974	40	28	460	18.11	140			102.0	1000	224.8
514-450-8-490	457.2	490	25524	250	56269	50	35	475	18.70	110	90	770	119.6	1173	263.7
515-450-8-490	457.2	490	25524	250	56269	50	35	480	18.90	200			151.8	1489	334.7
514-450-9-490	457.2	490	55135	541	121552	70	49	590	23.23	148	130	846	297.1	2913	655.0
514-450-10-490	457.2	490	70330	690	155050	80	55	648	25.51	166	150	880	423.3	4151	933.3
514-450-11-490	457.2	490	90785	890	200144	90	60	728	28.66	194	170	948	553.5	5428	1220.2

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

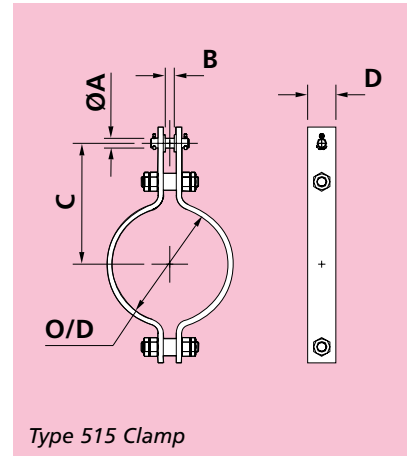
N.B. 18" / 450mm



Type 513 Clamp



Type 514 Clamp



Type 515 Clamp

Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				mm	N	lbs
513-450-1-530	457.2	530	423	4.15	933	10	9	330	12.99	20	30	513	13.8	135	30.4
514-450-1-530	457.2	530	423	4.15	933	10	9	329	12.95	36	30	554	8.3	81	18.2
515-450-1-530	457.2	530	423	4.15	933	10	9	325	12.80	50			6.8	67	15.1
513-450-2-530	457.2	530	985	9.66	2172	10	9	330	12.99	25	30	524	18.5	182	40.9
514-450-2-530	457.2	530	985	9.66	2172	10	9	329	12.95	39	30	568	7.4	72	16.3
515-450-2-530	457.2	530	985	9.66	2172	10	9	325	12.80	80			16.6	163	36.7
513-450-3-530	457.2	530	2125	20.8	4684	15	12	337	13.27	40	50	552	32.6	320	71.9
514-450-3-530	457.2	530	2125	20.8	4684	15	12	336	13.23	47	50	614	20.5	201	45.2
515-450-3-530	457.2	530	2125	20.8	4684	15	12	345	13.58	100			29.0	285	64.0
513-450-4-530	457.2	530	4293	42.1	9465	20	16	358	14.09	50	50	570	45.3	445	99.9
514-450-4-530	457.2	530	4293	42.1	9465	20	16	347	13.66	57	50	638	30.9	303	68.1
515-450-4-530	457.2	530	4293	42.1	9465	20	16	375	14.76	90			34.6	339	76.3
513-450-5-530	457.2	530	6324	62	13942	25	20	372	14.65	60	70	591	60.0	588	132.3
514-450-5-530	457.2	530	6324	62	13942	25	20	371	14.61	69	70	670	36.0	353	79.4
515-450-5-530	457.2	530	6324	62	13942	25	20	400	15.75	100			48.7	478	107.4
514-450-6-530	457.2	530	12754	125	28117	35	25	400	15.75	86	80	706	68.4	671	150.8
515-450-6-530	457.2	530	12754	125	28117	35	25	440	17.32	120			83.9	823	184.9
514-450-7-530	457.2	530	18132	178	39974	40	28	438	17.24	92	90	728	113.9	1117	251.1
515-450-7-530	457.2	530	18132	178	39974	40	28	460	18.11	160			116.1	1138	255.9
514-450-8-530	457.2	530	25524	250	56269	50	35	479	18.86	110	100	782	133.9	1313	295.2
515-450-8-530	457.2	530	25524	250	56269	50	35	495	19.49	180			173.4	1700	382.2
514-450-9-530	457.2	530	55135	541	121552	70	49	594	23.39	148	130	846	298.8	2931	658.8
514-450-10-530	457.2	530	70330	690	155050	80	55	649	25.55	166	150	880	423.9	4157	934.6
514-450-11-530	457.2	530	90785	890	200144	90	60	728	28.66	194	170	948	553.5	5428	1220.2
513-450-1-570	457.2	570	423	4.15	933	10	9	330	12.99	25	30	524	17.7	173	39.0
514-450-1-570	457.2	570	423	4.15	933	10	9	329	12.95	36	30	560	8.0	79	17.7
515-450-1-570	457.2	570	423	4.15	933	10	9	325	12.80	70			11.5	112	25.3
513-450-2-570	457.2	570	985	9.66	2172	10	9	330	12.99	30	40	538	23.5	231	51.9
514-450-2-570	457.2	570	985	9.66	2172	10	9	329	12.95	39	40	572	12.2	120	27.0
515-450-2-570	457.2	570	985	9.66	2172	10	9	325	12.80	100			20.8	204	45.8
513-450-3-570	457.2	570	2125	20.8	4684	15	12	337	13.27	50	50	570	42.3	414	93.2
514-450-3-570	457.2	570	2125	20.8	4684	15	12	342	13.46	51	50	622	22.4	220	49.4
515-450-3-570	457.2	570	2125	20.8	4684	15	12	345	13.58	100			29.0	285	64.0
513-450-4-570	457.2	570	4293	42.1	9465	20	16	359	14.13	60	70	591	58.2	571	128.3
514-450-4-570	457.2	570	4293	42.1	9465	20	16	368	14.49	63	70	644	32.5	318	71.6
515-450-4-570	457.2	570	4293	42.1	9465	20	16	385	15.16	100			46.6	457	102.8
513-450-5-570	457.2	570	6324	62	13942	25	20	374	14.72	70	80	616	74.8	734	164.9
514-450-5-570	457.2	570	6324	62	13942	25	20	395	15.55	79	80	680	62.5	613	137.7
515-450-5-570	457.2	570	6324	62	13942	25	20	400	15.75	140			67.8	665	149.4
514-450-6-570	457.2	570	12754	125	28117	35	25	436	17.17	86	90	712	81.2	797	179.1
515-450-6-570	457.2	570	12754	125	28117	35	25	440	17.32	150			104.3	1023	230.0
514-450-7-570	457.2	570	18132	178	39974	40	28	438	17.24	102	100	740	128.0	1255	282.2
515-450-7-570	457.2	570	18132	178	39974	40	28	460	18.11	210			151.3	1484	333.6
514-450-8-570	457.2	570	25524	250	56269	50	35	479	18.86	120	120	790	164.7	1615	363.1
515-450-8-570	457.2	570	25524	250	56269	50	35	495	19.49	180			173.4	1700	382.2
514-450-9-570	457.2	570	55135	541	121552	70	49	620	24.41	148	130	846	313.9	3079	692.1
514-450-10-570	457.2	570	70330	690	155050	80	55	674	26.54	166	150	880	441.1	4326	972.4
514-450-11-570	457.2	570	90785	890	200144	90	60	682	26.85	214	170	948	578.7	5675	1275.7

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

N.B. 20" / 500mm

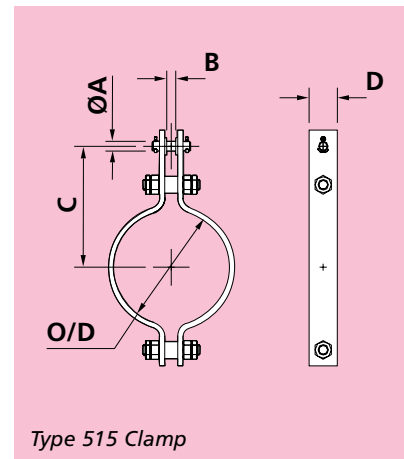
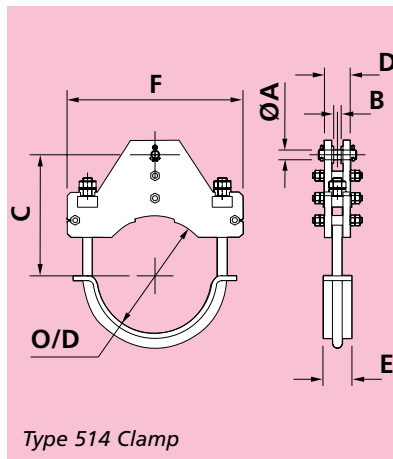
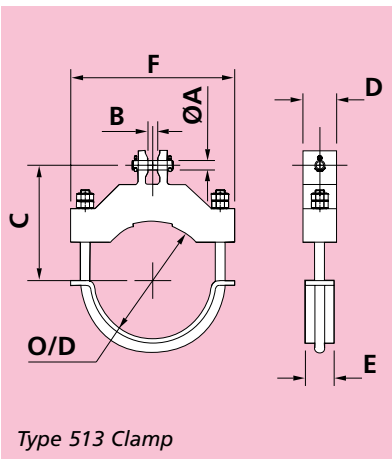


Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-500-1-400	508	400	423	4.15	933	10	9	356	14.02	25	20	558	18.4	181	40.6
514-500-1-400	508	400	423	4.15	933	10	9	356	14.02	40	20	604	7.5	73	16.4
515-500-1-400	508	400	423	4.15	933	10	9	355	13.98	50			7.5	74	16.6
513-500-2-400	508	400	985	9.66	2172	10	9	356	14.02	25	30	565	20.6	202	45.5
514-500-2-400	508	400	985	9.66	2172	10	9	356	14.02	43	30	614	7.3	71	16.0
515-500-2-400	508	400	985	9.66	2172	10	9	355	13.98	80			14.9	146	32.8
513-500-3-400	508	400	2125	20.8	4684	15	12	369	14.53	30	40	590	28.9	284	63.8
514-500-3-400	508	400	2125	20.8	4684	15	12	362	14.25	51	40	662	15.5	152	34.2
515-500-3-400	508	400	2125	20.8	4684	15	12	380	14.96	100			32.3	317	71.2
513-500-4-400	508	400	4293	42.1	9465	20	16	397	15.63	40	50	604	42.8	420	94.4
514-500-4-400	508	400	4293	42.1	9465	20	16	373	14.69	57	50	682	28.5	280	62.9
515-500-4-400	508	400	4293	42.1	9465	20	16	410	16.14	90			38.7	380	85.4
513-500-5-400	508	400	6324	62	13942	25	20	411	16.18	50	50	622	57.3	562	126.4
514-500-5-400	508	400	6324	62	13942	25	20	378	14.88	63	50	716	39.4	386	86.8
515-500-5-400	508	400	6324	62	13942	25	20	435	17.13	100			54.2	532	119.6
514-500-6-400	508	400	12754	125	28117	35	25	428	16.85	86	80	758	64.1	629	141.4
515-500-6-400	508	400	12754	125	28117	35	25	485	19.09	120			95.3	935	210.1
514-500-7-400	508	400	18132	178	39974	40	28	466	18.35	92	90	780	115.0	1128	253.5
515-500-7-400	508	400	18132	178	39974	40	28	510	20.08	170			140.5	1378	309.7
514-500-8-400	508	400	25524	250	56269	50	35	494	19.45	110	100	834	156.7	1537	345.4
515-500-8-400	508	400	25524	250	56269	50	35	545	21.46	180			197.8	1940	436.1
514-500-9-400	508	400	55135	541	121552	70	49	613	24.13	148	130	898	348.1	3414	767.4
514-500-10-400	508	400	70330	690	155050	80	55	672	26.46	166	150	932	423.2	4151	933.1
514-500-11-400	508	400	90785	890	200144	90	60	752	29.61	194	190	1010	699.5	6860	1542.1
513-500-1-490	508	490	423	4.15	933	10	9	356	14.02	25	20	558	18.4	181	40.6
514-500-1-490	508	490	423	4.15	933	10	9	356	14.02	40	20	604	7.5	73	16.5
515-500-1-490	508	490	423	4.15	933	10	9	355	13.98	50			7.5	74	16.6
513-500-2-490	508	490	985	9.66	2172	10	9	356	14.02	25	30	565	20.6	202	45.5
514-500-2-490	508	490	985	9.66	2172	10	9	356	14.02	43	30	614	7.3	71	16.0
515-500-2-490	508	490	985	9.66	2172	10	9	355	13.98	80			14.6	143	32.2
513-500-3-490	508	490	2125	20.8	4684	15	12	368	14.49	30	40	590	28.9	283	63.7
514-500-3-490	508	490	2125	20.8	4684	15	12	362	14.25	51	40	662	15.5	152	34.3
515-500-3-490	508	490	2125	20.8	4684	15	12	370	14.57	100			31.5	309	69.5
513-500-4-490	508	490	4293	42.1	9465	20	16	395	15.55	40	50	604	42.5	417	93.6
514-500-4-490	508	490	4293	42.1	9465	20	16	373	14.69	57	50	682	28.5	280	62.9
515-500-4-490	508	490	4293	42.1	9465	20	16	400	15.75	90			37.4	366	82.4
513-500-5-490	508	490	6324	62	13942	25	20	409	16.10	50	50	622	56.9	558	125.4
514-500-5-490	508	490	6324	62	13942	25	20	378	14.88	63	50	716	38.3	375	84.4
515-500-5-490	508	490	6324	62	13942	25	20	430	16.93	100			52.9	518	116.5
514-500-6-490	508	490	12754	125	28117	35	25	404	15.91	86	70	748	71.5	701	157.5
515-500-6-490	508	490	12754	125	28117	35	25	480	18.90	120			93.0	912	205.0
514-500-7-490	508	490	18132	178	39974	40	28	444	17.48	92	80	774	104.5	1025	230.3
515-500-7-490	508	490	18132	178	39974	40	28	485	19.09	150			116.3	1140	256.4
514-500-8-490	508	490	25524	250	56269	50	35	490	19.29	110	90	822	144.5	1417	318.5
515-500-8-490	508	490	25524	250	56269	50	35	505	19.88	220			177.1	1737	390.4
514-500-9-490	508	490	55135	541	121552	70	49	605	23.82	148	130	898	341.9	3353	753.7
514-500-10-490	508	490	70330	690	155050	80	55	663	26.10	166	150	932	417.9	4098	921.3
514-500-11-490	508	490	90785	890	200144	90	60	745	29.33	194	170	1000	639.3	6269	1409.3

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

N.B. 20" / 500mm

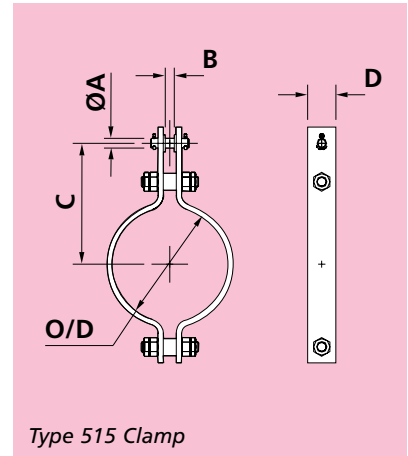
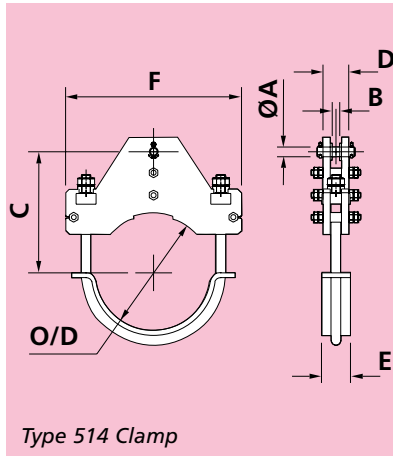
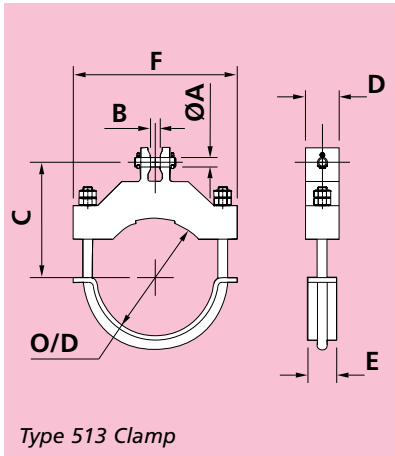


Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-500-1-530	508	530	423	4.15	933	10	9	356	14.02	25	30	565	19.4	191	42.9
514-500-1-530	508	530	423	4.15	933	10	9	356	14.02	40	30	606	8.3	81	18.2
515-500-1-530	508	530	423	4.15	933	10	9	355	13.98	60			9.0	88	19.8
513-500-2-530	508	530	985	9.66	2172	10	9	356	14.02	25	30	576	21.7	213	47.9
514-500-2-530	508	530	985	9.66	2172	10	9	356	14.02	43	30	620	8.9	87	19.6
515-500-2-530	508	530	985	9.66	2172	10	9	355	13.98	80			18.3	180	40.4
513-500-3-530	508	530	2125	20.8	4684	15	12	363	14.29	40	50	604	38.1	374	84.1
514-500-3-530	508	530	2125	20.8	4684	15	12	362	14.25	51	50	666	25.1	246	55.2
515-500-3-530	508	530	2125	20.8	4684	15	12	370	14.57	100			31.5	309	69.5
513-500-4-530	508	530	4293	42.1	9465	20	16	390	15.35	50	50	622	53.2	522	117.3
514-500-4-530	508	530	4293	42.1	9465	20	16	372	14.65	57	50	690	36.2	355	79.8
515-500-4-530	508	530	4293	42.1	9465	20	16	400	15.75	100			41.4	406	91.4
513-500-5-530	508	530	6324	62	13942	25	20	405	15.94	60	70	643	70.6	692	155.5
514-500-5-530	508	530	6324	62	13942	25	20	399	15.71	69	70	722	38.9	381	85.7
515-500-5-530	508	530	6324	62	13942	25	20	430	16.93	110			58.0	569	128.0
514-500-6-530	508	530	12754	125	28117	35	25	428	16.85	86	80	758	69.3	680	152.8
515-500-6-530	508	530	12754	125	28117	35	25	465	18.31	120			89.7	880	197.7
514-500-7-530	508	530	18132	178	39974	40	28	466	18.35	92	90	780	121.7	1193	268.3
515-500-7-530	508	530	18132	178	39974	40	28	485	19.09	170			131.4	1288	289.6
514-500-8-530	508	530	25524	250	56269	50	35	494	19.45	110	100	834	157.1	1541	346.4
515-500-8-530	508	530	25524	250	56269	50	35	525	20.67	180			185.5	1819	409.0
514-500-9-530	508	530	55135	541	121552	70	49	610	24.02	148	130	898	345.0	3383	760.5
514-500-10-530	508	530	70330	690	155050	80	55	665	26.18	166	150	932	417.3	4092	919.9
514-500-11-530	508	530	90785	890	200144	90	60	745	29.33	194	170	1000	639.3	6269	1409.3
513-500-1-570	508	570	423	4.15	933	10	9	356	14.02	25	30	576	20.8	204	45.9
514-500-1-570	508	570	423	4.15	933	10	9	356	14.02	40	30	612	9.0	88	19.7
515-500-1-570	508	570	423	4.15	933	10	9	355	13.98	70			12.6	123	27.7
513-500-2-570	508	570	985	9.66	2172	10	9	356	14.02	30	40	590	27.5	270	60.6
514-500-2-570	508	570	985	9.66	2172	10	9	356	14.02	43	40	624	15.3	150	33.7
515-500-2-570	508	570	985	9.66	2172	10	9	355	13.98	100			22.9	224	50.4
513-500-3-570	508	570	2125	20.8	4684	15	12	364	14.33	50	50	622	49.1	481	108.2
514-500-3-570	508	570	2125	20.8	4684	15	12	370	14.57	51	50	674	35.6	350	78.6
515-500-3-570	508	570	2125	20.8	4684	15	12	370	14.57	110			34.6	340	76.4
513-500-4-570	508	570	4293	42.1	9465	20	16	390	15.35	60	70	643	67.5	662	148.9
514-500-4-570	508	570	4293	42.1	9465	20	16	396	15.59	63	70	696	35.6	349	78.5
515-500-4-570	508	570	4293	42.1	9465	20	16	410	16.14	100			50.3	494	111.0
513-500-5-570	508	570	6324	62	13942	25	20	406	15.98	70	80	668	87.2	855	192.2
514-500-5-570	508	570	6324	62	13942	25	20	423	16.65	79	80	732	64.9	636	143.0
515-500-5-570	508	570	6324	62	13942	25	20	430	16.93	150			78.8	773	173.7
514-500-6-570	508	570	12754	125	28117	35	25	464	18.27	86	90	764	85.0	833	187.4
515-500-6-570	508	570	12754	125	28117	35	25	465	18.31	150			111.6	1094	246.0
514-500-7-570	508	570	18132	178	39974	40	28	466	18.35	102	100	792	129.4	1268	285.2
515-500-7-570	508	570	18132	178	39974	40	28	485	19.09	220			169.0	1658	372.6
514-500-8-570	508	570	25524	250	56269	50	35	516	20.31	110	120	842	187.8	1842	414.1
515-500-8-570	508	570	25524	250	56269	50	35	525	20.67	190			195.5	1917	431.1
514-500-9-570	508	570	55135	541	121552	70	49	636	25.04	148	130	898	360.9	3539	795.6
514-500-10-570	508	570	70330	690	155050	80	55	688	27.09	166	150	932	436.0	4275	961.1
514-500-11-570	508	570	90785	890	200144	90	60	757	29.80	194	170	1000	651.1	6385	1435.3

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

N.B. 22" / 550mm

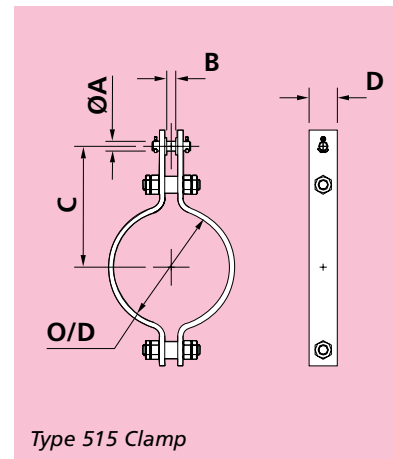
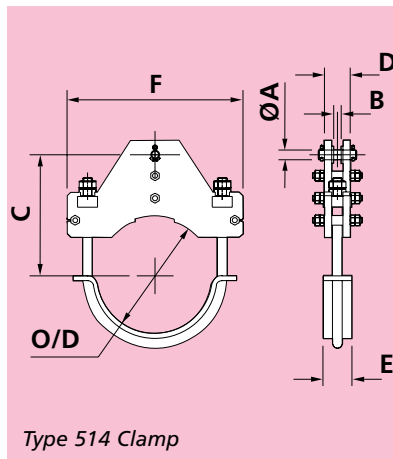
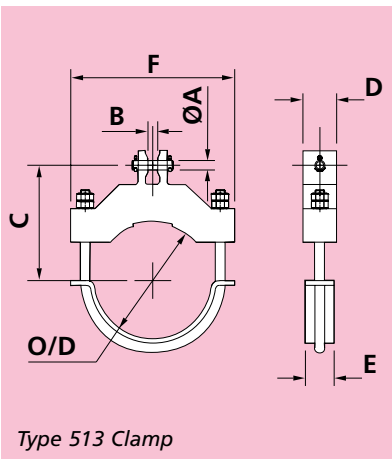
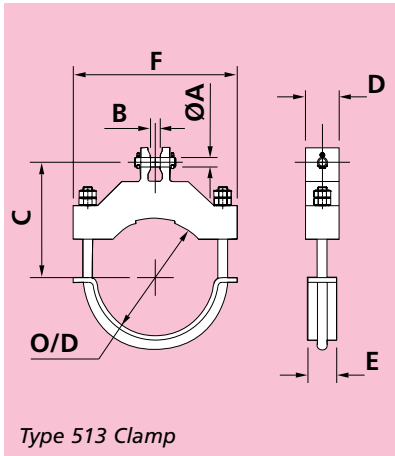


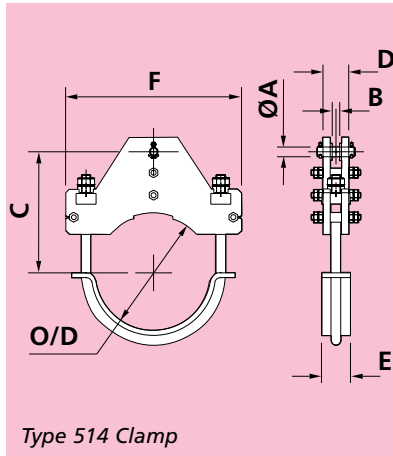
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-550-1-400	558.8	400	423	4.15	933	10	9	381	15.00	25	20	608	21.7	213	47.8
514-550-1-400	558.8	400	423	4.15	933	10	9	381	15.00	40	20	654	6.3	62	14.0
515-550-1-400	558.8	400	423	4.15	933	10	9	380	14.96	50			8.3	81	18.2
513-550-2-400	558.8	400	985	9.66	2172	10	9	381	15.00	25	30	615	24.0	236	53.0
514-550-2-400	558.8	400	985	9.66	2172	10	9	381	15.00	43	30	664	8.2	81	18.1
515-550-2-400	558.8	400	985	9.66	2172	10	9	380	14.96	80			20.0	196	44.1
513-550-3-400	558.8	400	2125	20.8	4684	15	12	398	15.67	30	40	640	33.7	331	74.4
514-550-3-400	558.8	400	2125	20.8	4684	15	12	387	15.24	51	40	712	22.1	216	48.6
515-550-3-400	558.8	400	2125	20.8	4684	15	12	405	15.94	100			34.7	341	76.6
513-550-4-400	558.8	400	4293	42.1	9465	20	16	426	16.77	40	50	654	49.6	486	109.2
514-550-4-400	558.8	400	4293	42.1	9465	20	16	398	15.67	57	50	732	34.8	341	76.7
515-550-4-400	558.8	400	4293	42.1	9465	20	16	435	17.13	100			46.0	451	101.4
513-550-5-400	558.8	400	6324	62	13942	25	20	441	17.36	50	50	672	66.2	649	145.8
514-550-5-400	558.8	400	6324	62	13942	25	20	403	15.87	63	50	766	42.4	416	93.6
515-550-5-400	558.8	400	6324	62	13942	25	20	460	18.11	100			57.9	568	127.6
514-550-6-400	558.8	400	12754	125	28117	35	25	453	17.83	86	80	808	69.6	682	153.3
515-550-6-400	558.8	400	12754	125	28117	35	25	510	20.08	120			101.1	992	222.9
514-550-7-400	558.8	400	18132	178	39974	40	28	491	19.33	92	90	830	124.3	1219	274.1
515-550-7-400	558.8	400	18132	178	39974	40	28	535	21.06	180			157.0	1540	346.1
514-550-8-400	558.8	400	25524	250	56269	50	35	508	20.00	110	100	884	185.5	1819	409.0
515-550-8-400	558.8	400	25524	250	56269	50	35	570	22.44	180			208.4	2044	459.5
514-550-9-400	558.8	400	55135	541	121552	70	49	628	24.72	148	130	948	352.6	3458	777.3
514-550-10-400	558.8	400	70330	690	155050	80	55	688	27.09	166	150	982	492.2	4827	1085.2
514-550-11-400	558.8	400	90785	890	200144	90	60	768	30.24	194	190	1060	654.0	6413	1441.8
513-550-1-490	558.8	490	423	4.15	933	10	9	381	15.00	25	20	608	21.7	213	47.8
514-550-1-490	558.8	490	423	4.15	933	10	9	381	15.00	40	20	654	6.3	62	14.0
515-550-1-490	558.8	490	423	4.15	933	10	9	380	14.96	50			8.1	80	17.9
513-550-2-490	558.8	490	985	9.66	2172	10	9	381	15.00	25	30	615	24.0	236	53.0
514-550-2-490	558.8	490	985	9.66	2172	10	9	381	15.00	43	30	664	8.2	81	18.1
515-550-2-490	558.8	490	985	9.66	2172	10	9	380	14.96	80			15.8	155	34.8
513-550-3-490	558.8	490	2125	20.8	4684	15	12	397	15.63	30	40	640	33.5	329	73.9
514-550-3-490	558.8	490	2125	20.8	4684	15	12	387	15.24	51	40	712	22.1	217	48.7
515-550-3-490	558.8	490	2125	20.8	4684	15	12	400	15.75	100			34.2	336	75.5
513-550-4-490	558.8	490	4293	42.1	9465	20	16	424	16.69	40	50	654	49.1	482	108.3
514-550-4-490	558.8	490	4293	42.1	9465	20	16	398	15.67	57	50	732	34.8	341	76.7
515-550-4-490	558.8	490	4293	42.1	9465	20	16	425	16.73	90			40.1	393	88.4
513-550-5-490	558.8	490	6324	62	13942	25	20	439	17.28	50	50	672	65.6	643	144.6
514-550-5-490	558.8	490	6324	62	13942	25	20	403	15.87	63	50	766	41.2	404	90.9
515-550-5-490	558.8	490	6324	62	13942	25	20	455	17.91	100			56.5	554	124.5
514-550-6-490	558.8	490	12754	125	28117	35	25	434	17.09	76	70	798	54.9	538	121.0
515-550-6-490	558.8	490	12754	125	28117	35	25	505	19.88	120			98.8	969	217.8
514-550-7-490	558.8	490	18132	178	39974	40	28	455	17.91	92	80	824	89.8	881	198.1
515-550-7-490	558.8	490	18132	178	39974	40	28	515	20.28	170			140.6	1378	309.9
514-550-8-490	558.8	490	25524	250	56269	50	35	505	19.88	110	90	872	170.7	1674	376.4
515-550-8-490	558.8	490	25524	250	56269	50	35	550	21.65	180			196.1	1923	432.4
514-550-9-490	558.8	490	55135	541	121552	70	49	619	24.37	148	130	948	345.3	3387	761.3
514-550-10-490	558.8	490	70330	690	155050	80	55	679	26.73	166	150	982	486.6	4772	1072.7
514-550-11-490	558.8	490	90785	890	200144	90	60	761	29.96	194	170	1050	628.4	6163	1385.4

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

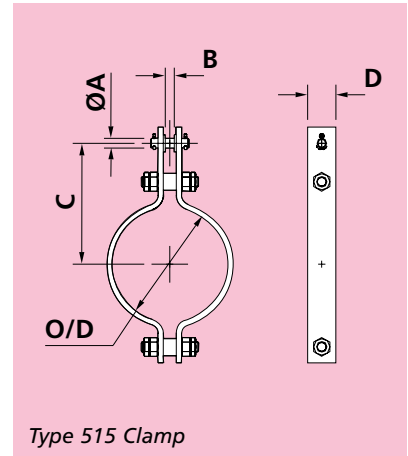
N.B. 22" / 550mm



Type 513 Clamp



Type 514 Clamp

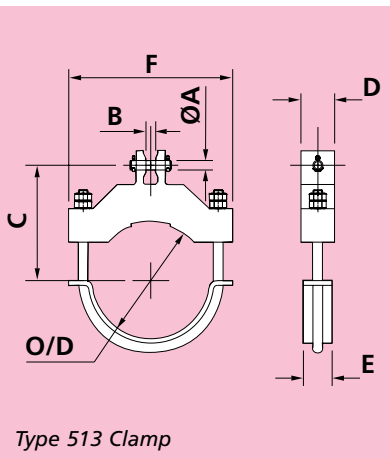


Type 515 Clamp

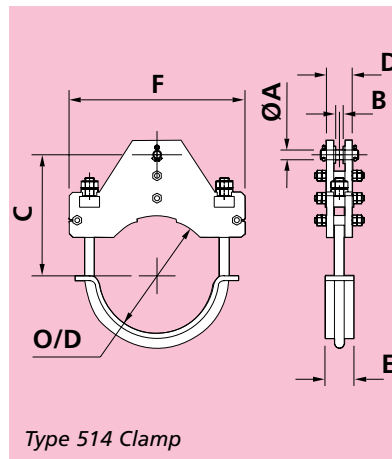
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-550-1-530	558.8	530	423	4.15	933	10	9	381	15.00	25	30	615	22.7	223	50.2
514-550-1-530	558.8	530	423	4.15	933	10	9	381	15.00	40	30	656	7.2	71	15.9
515-550-1-530	558.8	530	423	4.15	933	10	9	380	14.96	60			9.7	95	21.5
513-550-2-530	558.8	530	985	9.66	2172	10	9	381	15.00	25	30	626	25.2	247	55.6
514-550-2-530	558.8	530	985	9.66	2172	10	9	381	15.00	43	30	670	12.0	118	26.5
515-550-2-530	558.8	530	985	9.66	2172	10	9	380	14.96	80			19.8	194	43.6
513-550-3-530	558.8	530	2125	20.8	4684	15	12	390	15.35	40	50	654	44.1	432	97.1
514-550-3-530	558.8	530	2125	20.8	4684	15	12	387	15.24	51	50	716	33.4	328	73.7
515-550-3-530	558.8	530	2125	20.8	4684	15	12	400	15.75	100			34.2	336	75.5
513-550-4-530	558.8	530	4293	42.1	9465	20	16	418	16.46	50	50	672	61.2	600	134.8
514-550-4-530	558.8	530	4293	42.1	9465	20	16	397	15.63	57	50	740	39.2	384	86.4
515-550-4-530	558.8	530	4293	42.1	9465	20	16	425	16.73	110			48.9	480	107.8
513-550-5-530	558.8	530	6324	62	13942	25	20	433	17.05	60	70	693	80.6	790	177.6
514-550-5-530	558.8	530	6324	62	13942	25	20	424	16.69	69	70	772	45.6	447	100.5
515-550-5-530	558.8	530	6324	62	13942	25	20	455	17.91	120			67.6	663	149.0
514-550-6-530	558.8	530	12754	125	28117	35	25	453	17.83	86	80	808	79.7	782	175.7
515-550-6-530	558.8	530	12754	125	28117	35	25	495	19.49	130			104.1	1021	229.5
514-550-7-530	558.8	530	18132	178	39974	40	28	491	19.33	92	90	830	131.6	1291	290.1
515-550-7-530	558.8	530	18132	178	39974	40	28	515	20.28	190			156.7	1537	345.5
514-550-8-530	558.8	530	25524	250	56269	50	35	508	20.00	110	100	884	185.9	1823	409.9
515-550-8-530	558.8	530	25524	250	56269	50	35	550	21.65	180			196.1	1923	432.4
514-550-9-530	558.8	530	55135	541	121552	70	49	624	24.57	148	130	948	348.6	3418	768.5
514-550-10-530	558.8	530	70330	690	155050	80	55	679	26.73	166	150	982	484.8	4755	1068.9
514-550-11-530	558.8	530	90785	890	200144	90	60	761	29.96	194	170	1050	628.4	6163	1385.4
513-550-1-570	558.8	570	423	4.15	933	10	9	381	15.00	25	30	626	24.2	238	53.4
514-550-1-570	558.8	570	423	4.15	933	10	9	381	15.00	40	30	662	8.4	83	18.6
515-550-1-570	558.8	570	423	4.15	933	10	9	380	14.96	70			13.6	134	30.0
513-550-2-570	558.8	570	985	9.66	2172	10	9	381	15.00	30	40	640	31.7	311	70.0
514-550-2-570	558.8	570	985	9.66	2172	10	9	381	15.00	43	40	674	21.3	209	47.1
515-550-2-570	558.8	570	985	9.66	2172	10	9	380	14.96	100			24.7	242	54.5
513-550-3-570	558.8	570	2125	20.8	4684	15	12	391	15.39	50	50	672	56.6	555	124.8
514-550-3-570	558.8	570	2125	20.8	4684	15	12	395	15.55	51	50	724	43.7	428	96.2
515-550-3-570	558.8	570	2125	20.8	4684	15	12	410	16.14	90			39.0	382	85.9
513-550-4-570	558.8	570	4293	42.1	9465	20	16	418	16.46	60	70	693	77.3	758	170.5
514-550-4-570	558.8	570	4293	42.1	9465	20	16	421	16.57	63	70	746	41.2	404	90.9
515-550-4-570	558.8	570	4293	42.1	9465	20	16	440	17.32	100			54.4	534	120.0
513-550-5-570	558.8	570	6324	62	13942	25	20	434	17.09	70	80	718	99.8	979	220.0
514-550-5-570	558.8	570	6324	62	13942	25	20	448	17.64	79	80	782	62.2	610	137.0
515-550-5-570	558.8	570	6324	62	13942	25	20	455	17.91	160			89.8	880	197.9
514-550-6-570	558.8	570	12754	125	28117	35	25	489	19.25	86	90	814	88.8	870	195.7
515-550-6-570	558.8	570	12754	125	28117	35	25	495	19.49	170			135.5	1329	298.7
514-550-7-570	558.8	570	18132	178	39974	40	28	491	19.33	92	100	842	129.9	1274	286.4
515-550-7-570	558.8	570	18132	178	39974	40	28	530	20.87	180			187.9	1843	414.3
514-550-8-570	558.8	570	25524	250	56269	50	35	532	20.94	110	120	892	216.5	2123	477.3
515-550-8-570	558.8	570	25524	250	56269	50	35	550	21.65	200			217.3	2131	479.1
514-550-9-570	558.8	570	55135	541	121552	70	49	649	25.55	148	130	948	364.7	3577	804.1
514-550-10-570	558.8	570	70330	690	155050	80	55	703	27.68	166	150	982	503.1	4934	1109.1
514-550-11-570	558.8	570	90785	890	200144	90	60	772	30.39	194	170	1050	635.0	6228	1400.0

**CLAMPS FOR RIGID STRUTS AND SNUBBERS**

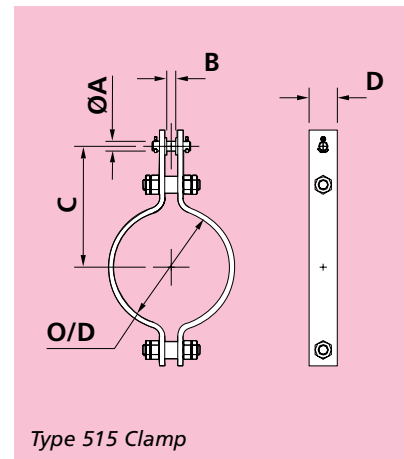
**N.B. 24" / 600mm**



Type 513 Clamp



Type 514 Clamp

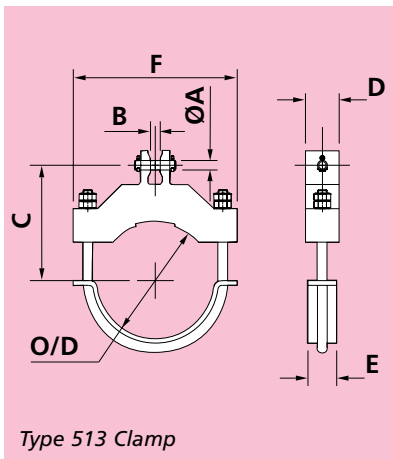


Type 515 Clamp

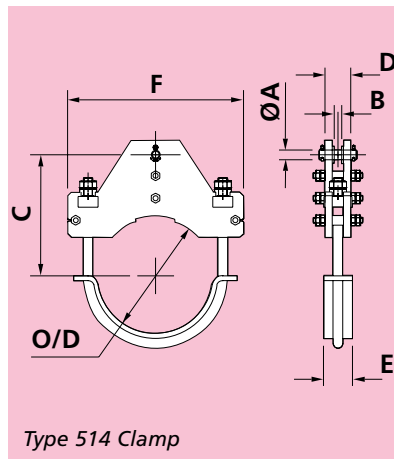
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-600-1-400	609.6	400	423	4.15	933	10	9	407	16.02	25	20	660	25.1	246	55.4
514-600-1-400	609.6	400	423	4.15	933	10	9	407	16.02	46	20	706	8.1	80	17.9
515-600-1-400	609.6	400	423	4.15	933	10	9	405	15.94	50			8.9	87	19.6
513-600-2-400	609.6	400	985	9.66	2172	10	9	407	16.02	25	30	667	27.6	271	60.9
514-600-2-400	609.6	400	985	9.66	2172	10	9	407	16.02	49	30	716	10.9	107	24.1
515-600-2-400	609.6	400	985	9.66	2172	10	9	410	16.14	80			21.7	213	47.8
513-600-3-400	609.6	400	2125	20.8	4684	15	12	427	16.81	30	40	692	38.6	379	85.1
514-600-3-400	609.6	400	2125	20.8	4684	15	12	413	16.26	57	40	764	28.0	275	61.7
515-600-3-400	609.6	400	2125	20.8	4684	15	12	435	17.13	100			37.5	368	82.8
513-600-4-400	609.6	400	4293	42.1	9465	20	16	456	17.95	40	50	706	56.7	556	125.0
514-600-4-400	609.6	400	4293	42.1	9465	20	16	424	16.69	63	50	784	42.6	418	94.0
515-600-4-400	609.6	400	4293	42.1	9465	20	16	470	18.50	110			55.4	544	122.2
513-600-5-400	609.6	400	6324	62	13942	25	20	471	18.54	50	50	724	75.3	739	166.1
514-600-5-400	609.6	400	6324	62	13942	25	20	429	16.89	69	50	818	64.3	630	141.7
515-600-5-400	609.6	400	6324	62	13942	25	20	485	19.09	110			67.6	663	149.1
514-600-6-400	609.6	400	12754	125	28117	35	25	479	18.86	86	80	860	77.3	758	170.4
515-600-6-400	609.6	400	12754	125	28117	35	25	535	21.06	130			115.5	1133	254.7
514-600-7-400	609.6	400	18132	178	39974	40	28	517	20.35	92	90	882	129.6	1271	285.7
515-600-7-400	609.6	400	18132	178	39974	40	28	565	22.24	190			175.9	1725	387.8
514-600-8-400	609.6	400	25524	250	56269	50	35	522	20.55	110	100	936	198.8	1950	438.4
515-600-8-400	609.6	400	25524	250	56269	50	35	600	23.62	180			220.7	2165	486.6
514-600-9-400	609.6	400	55135	541	121552	70	49	642	25.28	148	130	1000	336.7	3302	742.3
514-600-10-400	609.6	400	70330	690	155050	80	55	704	27.72	166	150	1034	481.9	4725	1062.3
514-600-11-400	609.6	400	90785	890	200144	90	60	785	30.91	194	190	1112	712.1	6983	1569.8
513-600-1-490	609.6	490	423	4.15	933	10	9	407	16.02	25	20	660	25.1	246	55.4
514-600-1-490	609.6	490	423	4.15	933	10	9	407	16.02	46	20	706	8.1	80	17.9
515-600-1-490	609.6	490	423	4.15	933	10	9	405	15.94	50			8.8	86	19.4
513-600-2-490	609.6	490	985	9.66	2172	10	9	407	16.02	25	30	667	27.6	271	60.9
514-600-2-490	609.6	490	985	9.66	2172	10	9	407	16.02	49	30	716	10.9	107	24.1
515-600-2-490	609.6	490	985	9.66	2172	10	9	405	15.94	80			17.0	167	37.4
513-600-3-490	609.6	490	2125	20.8	4684	15	12	426	16.77	30	40	692	38.6	378	85.0
514-600-3-490	609.6	490	2125	20.8	4684	15	12	413	16.26	57	40	764	29.6	290	65.2
515-600-3-490	609.6	490	2125	20.8	4684	15	12	425	16.73	100			36.7	360	81.0
513-600-4-490	609.6	490	4293	42.1	9465	20	16	455	17.91	40	50	706	56.4	553	124.3
514-600-4-490	609.6	490	4293	42.1	9465	20	16	424	16.69	63	50	784	42.7	418	94.1
515-600-4-490	609.6	490	4293	42.1	9465	20	16	460	18.11	100			49.1	481	108.2
513-600-5-490	609.6	490	6324	62	13942	25	20	470	18.50	50	50	724	74.9	734	165.1
514-600-5-490	609.6	490	6324	62	13942	25	20	429	16.89	69	50	818	64.3	631	141.8
515-600-5-490	609.6	490	6324	62	13942	25	20	480	18.90	100			60.2	591	132.8
514-600-6-490	609.6	490	12754	125	28117	35	25	455	17.91	86	70	850	96.3	944	212.2
515-600-6-490	609.6	490	12754	125	28117	35	25	530	20.87	120			104.6	1026	230.6
514-600-7-490	609.6	490	18132	178	39974	40	28	481	18.94	92	80	876	105.9	1039	233.5
515-600-7-490	609.6	490	18132	178	39974	40	28	545	21.46	180			160.6	1575	354.0
514-600-8-490	609.6	490	25524	250	56269	50	35	522	20.55	110	90	924	185.5	1819	408.8
515-600-8-490	609.6	490	25524	250	56269	50	35	590	23.23	180			214.0	2099	471.8
514-600-9-490	609.6	490	55135	541	121552	70	49	633	24.92	148	130	1000	331.2	3248	730.2
514-600-10-490	609.6	490	70330	690	155050	80	55	693	27.28	166	150	1034	471.6	4625	1039.8
514-600-11-490	609.6	490	90785	890	200144	90	60	777	30.59	194	170	1102	626.1	6140	1380.3

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

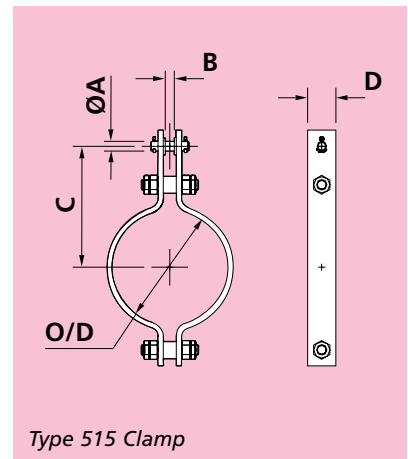
N.B. 24" / 600mm



Type 513 Clamp



Type 514 Clamp



Type 515 Clamp

Fig. No.	Pipe O/D	Max. Pipe Temp	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-600-1-530	609.6	530	423	4.15	933	10	9	407	16.02	25	30	667	26.3	258	57.9
514-600-1-530	609.6	530	423	4.15	933	10	9	407	16.02	46	30	708	9.1	89	20.0
515-600-1-530	609.6	530	423	4.15	933	10	9	405	15.94	70			14.7	144	32.5
513-600-2-530	609.6	530	985	9.66	2172	10	9	407	16.02	25	30	678	28.9	283	63.7
514-600-2-530	609.6	530	985	9.66	2172	10	9	407	16.02	49	30	722	17.4	171	38.5
515-600-2-530	609.6	530	985	9.66	2172	10	9	405	15.94	80			21.3	209	46.9
513-600-3-530	609.6	530	2125	20.8	4684	15	12	419	16.50	40	50	706	50.5	495	111.3
514-600-3-530	609.6	530	2125	20.8	4684	15	12	413	16.26	57	50	768	42.7	419	94.1
515-600-3-530	609.6	530	2125	20.8	4684	15	12	425	16.73	100			36.7	360	81.0
513-600-4-530	609.6	530	4293	42.1	9465	20	16	448	17.64	50	50	724	70.0	687	154.4
514-600-4-530	609.6	530	4293	42.1	9465	20	16	423	16.65	63	50	792	61.4	602	135.3
515-600-4-530	609.6	530	4293	42.1	9465	20	16	460	18.11	120			58.7	576	129.5
513-600-5-530	609.6	530	6324	62	13942	25	20	463	18.23	60	70	745	91.7	899	202.1
514-600-5-530	609.6	530	6324	62	13942	25	20	450	17.72	69	70	824	76.2	747	167.9
515-600-5-530	609.6	530	6324	62	13942	25	20	480	18.90	120			72.1	707	158.9
514-600-6-530	609.6	530	12754	125	28117	35	25	479	18.86	86	80	860	91.0	892	200.6
515-600-6-530	609.6	530	12754	125	28117	35	25	530	20.87	140			121.6	1192	268.0
514-600-7-530	609.6	530	18132	178	39974	40	28	517	20.35	92	90	882	138.5	1358	305.3
515-600-7-530	609.6	530	18132	178	39974	40	28	545	21.46	200			177.9	1745	392.3
514-600-8-530	609.6	530	25524	250	56269	50	35	522	20.55	110	100	936	198.4	1945	437.3
515-600-8-530	609.6	530	25524	250	56269	50	35	590	23.23	180			214.0	2099	471.8
514-600-9-530	609.6	530	55135	541	121552	70	49	638	25.12	148	130	1000	334.6	3281	737.6
514-600-10-530	609.6	530	70330	690	155050	80	55	695	27.36	166	150	1034	475.9	4667	1049.1
514-600-11-530	609.6	530	90785	890	200144	90	60	777	30.59	194	170	1102	626.1	6140	1380.3
513-600-1-570	609.6	570	423	4.15	933	10	9	407	16.02	25	30	678	27.9	273	61.4
514-600-1-570	609.6	570	423	4.15	933	10	9	407	16.02	46	30	714	10.3	101	22.8
515-600-1-570	609.6	570	423	4	933	10	9	405	15.94	70			14.7	144.5	32.5
513-600-2-570	609.6	570	985	9.66	2172	10	9	407	16.02	30	40	692	36.3	356	79.9
514-600-2-570	609.6	570	985	9.66	2172	10	9	407	16.02	49	40	726	28.9	283	63.7
515-600-2-570	609.6	570	985	10	2172	10	9	405	15.94	100			26.6	260.6	58.6
513-600-3-570	609.6	570	2125	20.8	4684	15	12	420	16.54	50	50	724	64.7	635	142.7
514-600-3-570	609.6	570	2125	20.8	4684	15	12	421	16.57	57	50	776	54.4	534	120.0
515-600-3-570	609.6	570	2125	21	4684	15	12	435	17.13	90			41.7	409.4	92.0
513-600-4-570	609.6	570	4293	42.1	9465	20	16	448	17.64	60	70	745	87.8	861	193.6
514-600-4-570	609.6	570	4293	42.1	9465	20	16	447	17.60	63	70	798	69.1	678	152.4
515-600-4-570	609.6	570	4293	42	9465	20	16	465	18.31	110			63.9	626.4	140.8
513-600-5-570	609.6	570	6324	62	13942	25	20	464	18.27	70	80	770	112.6	1105	248.3
514-600-5-570	609.6	570	6324	62	13942	25	20	474	18.66	79	80	834	61.7	605	136.1
515-600-5-570	609.6	570	6324	62	13942	25	20	480	18.90	160			95.7	938.8	211.0
514-600-6-570	609.6	570	12754	125	28117	35	25	515	20.28	86	90	866	95.1	933	209.8
515-600-6-570	609.6	570	12754	125	28117	35	25	530	20.87	180			155.5	1525	342.8
514-600-7-570	609.6	570	18132	178	39974	40	28	517	20.35	92	100	894	146.4	1435	322.7
515-600-7-570	609.6	570	18132	178	39974	40	28	565	22.24	180			203.9	1999	449.5
514-600-8-570	609.6	570	25524	250	56269	50	35	558	21.97	110	120	944	229.3	2248	505.4
515-600-8-570	609.6	570	25524	250	56269	50	35	580	22.83	210			242.3	2376	534.1
514-600-9-570	609.6	570	55135	541	121552	70	49	664	26.14	148	130	1000	352.4	3456	777.0
514-600-10-570	609.6	570	70330	690	155050	80	55	720	28.35	166	150	1034	495.7	4861	1092.9
514-600-11-570	609.6	570	90785	890	200144	90	60	789	31.06	194	170	1102	640.3	6279	1411.5

**CLAMPS FOR RIGID STRUTS AND SNUBBERS**

**N.B. 26" / 650mm**

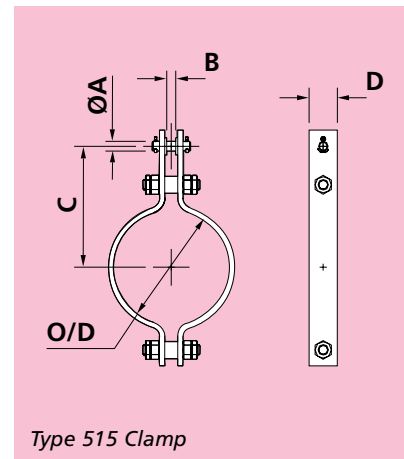
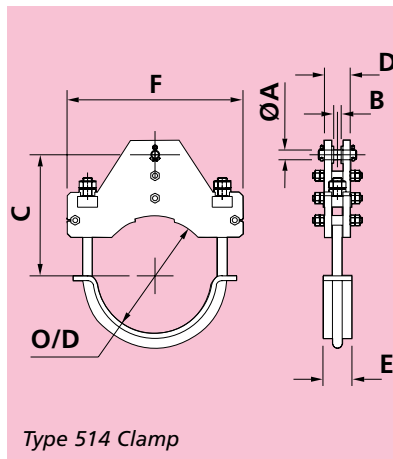
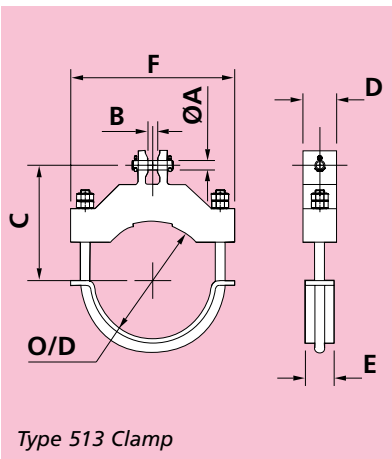
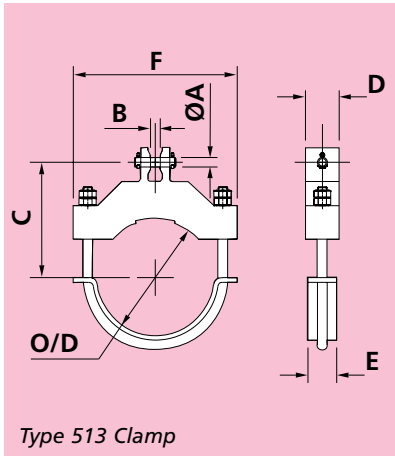
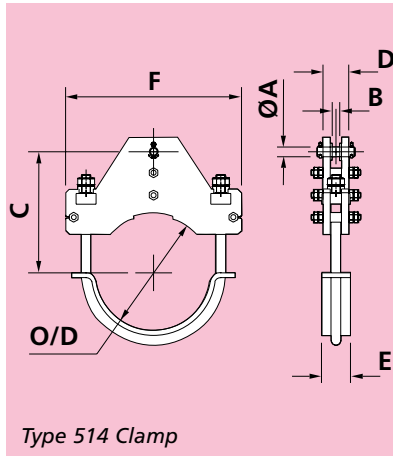


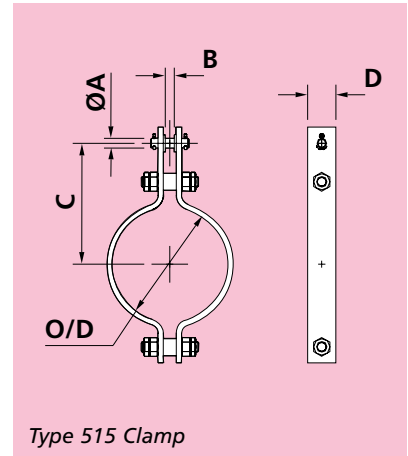
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				mm	N	lbs
513-650-1-400	660.4	400	423	4.15	933	10	9	457	17.99	30	20	710	35.2	345	77.6
514-650-1-400	660.4	400	423	4.15	933	10	9	457	17.99	46	20	756	16.8	165	37.0
515-650-1-400	660.4	400	423	4.15	933	10	9	455	17.91	50			9.7	95	21.4
513-650-2-400	660.4	400	985	9.66	2172	10	9	457	17.99	30	30	717	38.3	376	84.5
514-650-2-400	660.4	400	985	9.66	2172	10	9	457	17.99	49	30	766	14.6	144	32.3
515-650-2-400	660.4	400	985	9.66	2172	10	9	455	17.91	80			23.5	231	51.9
513-650-3-400	660.4	400	2125	20.8	4684	15	12	464	18.27	30	40	742	44.7	439	98.6
514-650-3-400	660.4	400	2125	20.8	4684	15	12	463	18.23	57	40	814	18.9	185	41.7
515-650-3-400	660.4	400	2125	20.8	4684	15	12	460	18.11	100			40.0	392	88.2
513-650-4-400	660.4	400	4293	42.1	9465	20	16	485	19.09	40	50	756	64.4	631	141.9
514-650-4-400	660.4	400	4293	42.1	9465	20	16	474	18.66	63	50	834	28.6	280	63.0
515-650-4-400	660.4	400	4293	42.1	9465	20	16	495	19.49	110			58.8	576	129.5
513-650-5-400	660.4	400	6324	62	13942	25	20	500	19.69	50	50	774	85.2	835	187.8
514-650-5-400	660.4	400	6324	62	13942	25	20	479	18.86	69	50	868	47.5	466	104.7
515-650-5-400	660.4	400	6324	62	13942	25	20	510	20.08	110			71.6	702	157.9
514-650-6-400	660.4	400	12754	125	28117	35	25	504	19.84	86	80	910	89.0	873	196.3
515-650-6-400	660.4	400	12754	125	28117	35	25	565	22.24	140			131.8	1293	290.6
514-650-7-400	660.4	400	18132	178	39974	40	28	542	21.34	92	90	932	139.5	1368	307.5
515-650-7-400	660.4	400	18132	178	39974	40	28	590	23.23	200			194.4	1907	428.6
514-650-8-400	660.4	400	25524	250	56269	50	35	547	21.54	110	100	986	214.5	2104	472.9
515-650-8-400	660.4	400	25524	250	56269	50	35	625	24.61	190			243.8	2391	537.5
514-650-9-400	660.4	400	55135	541	121552	70	49	656	25.83	148	130	1050	344.6	3379	759.7
514-650-10-400	660.4	400	70330	690	155050	80	55	717	28.23	166	150	1084	462.0	4531	1018.5
514-650-11-400	660.4	400	90785	890	200144	90	60	800	31.50	194	190	1162	763.7	7489	1683.6
513-650-1-490	660.4	490	423	4.15	933	10	9	457	17.99	30	20	710	35.2	345	77.6
514-650-1-490	660.4	490	423	4.15	933	10	9	457	17.99	46	20	756	16.8	165	37.1
515-650-1-490	660.4	490	423	4.15	933	10	9	455	17.91	50			9.6	94	21.2
513-650-2-490	660.4	490	985	9.66	2172	10	9	457	17.99	30	30	717	38.3	376	84.5
514-650-2-490	660.4	490	985	9.66	2172	10	9	457	17.99	49	30	766	14.7	144	32.3
515-650-2-490	660.4	490	985	9.66	2172	10	9	455	17.91	80			23.2	228	51.2
513-650-3-490	660.4	490	2125	20.8	4684	15	12	464	18.27	30	40	742	44.5	437	98.2
514-650-3-490	660.4	490	2125	20.8	4684	15	12	463	18.23	57	40	814	18.9	186	41.7
515-650-3-490	660.4	490	2125	20.8	4684	15	12	460	18.11	100			39.5	387	87.1
513-650-4-490	660.4	490	4293	42.1	9465	20	16	484	19.06	40	50	756	64.0	628	141.1
514-650-4-490	660.4	490	4293	42.1	9465	20	16	474	18.66	63	50	834	28.6	280	63.0
515-650-4-490	660.4	490	4293	42.1	9465	20	16	485	19.09	110			57.2	561	126.2
513-650-5-490	660.4	490	6324	62	13942	25	20	499	19.65	50	50	774	84.7	831	186.8
514-650-5-490	660.4	490	6324	62	13942	25	20	479	18.86	69	50	868	47.6	466	104.9
515-650-5-490	660.4	490	6324	62	13942	25	20	505	19.88	110			70.1	688	154.6
514-650-6-490	660.4	490	12754	125	28117	35	25	494	19.45	86	70	900	87.7	860	193.3
515-650-6-490	660.4	490	12754	125	28117	35	25	555	21.85	130			119.4	1171	263.2
514-650-7-490	660.4	490	18132	178	39974	40	28	506	19.92	92	80	926	120.4	1180	265.3
515-650-7-490	660.4	490	18132	178	39974	40	28	570	22.44	190			178.3	1749	393.2
514-650-8-490	660.4	490	25524	250	56269	50	35	547	21.54	110	90	974	200.0	1962	441.0
515-650-8-490	660.4	490	25524	250	56269	50	35	620	24.41	180			226.2	2218	498.6
514-650-9-490	660.4	490	55135	541	121552	70	49	689	27.13	138	130	1050	338.8	3323	747.0
514-650-10-490	660.4	490	70330	690	155050	80	55	708	27.87	166	150	1084	455.5	4466	1004.1
514-650-11-490	660.4	490	90785	890	200144	90	60	793	31.22	194	170	1152	710.6	6968	1566.6



Type 513 Clamp



Type 514 Clamp



Type 515 Clamp

Fig. No.	Pipe O/D	Max. Pipe Temp	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-650-1-530	660.4	530	423	4.15	933	10	9	457	17.99	30	30	717	36.6	359	80.6
514-650-1-530	660.4	530	423	4.15	933	10	9	457	17.99	46	30	758	17.8	175	39.3
515-650-1-530	660.4	530	423	4.15	933	10	9	455	17.91	70			16.1	158	35.5
513-650-2-530	660.4	530	985	9.66	2172	10	9	457	17.99	30	30	728	39.8	390	87.7
514-650-2-530	660.4	530	985	9.66	2172	10	9	457	17.99	49	30	772	13.9	136	30.6
515-650-2-530	660.4	530	985	9.66	2172	10	9	455	17.91	80			23.2	228	51.2
513-650-3-530	660.4	530	2125	20.8	4684	15	12	464	18.27	40	50	756	59.0	579	130.1
514-650-3-530	660.4	530	2125	20.8	4684	15	12	462	18.19	57	50	818	27.3	268	60.3
515-650-3-530	660.4	530	2125	20.8	4684	15	12	460	18.11	100			39.5	387	87.1
513-650-4-530	660.4	530	4293	42.1	9465	20	16	476	18.74	50	50	774	79.1	775	174.3
514-650-4-530	660.4	530	4293	42.1	9465	20	16	473	18.62	63	50	842	49.0	481	108.1
515-650-4-530	660.4	530	4293	42.1	9465	20	16	495	19.49	100			63.0	618	138.9
513-650-5-530	660.4	530	6324	62	13942	25	20	492	19.37	60	70	795	103.1	1011	227.3
514-650-5-530	660.4	530	6324	62	13942	25	20	479	18.86	69	70	874	85.7	841	189.0
515-650-5-530	660.4	530	6324	62	13942	25	20	505	19.88	130			82.7	811	182.3
514-650-6-530	660.4	530	12754	125	28117	35	25	504	19.84	86	80	910	104.1	1021	229.4
515-650-6-530	660.4	530	12754	125	28117	35	25	555	21.85	150			137.3	1346	302.7
514-650-7-530	660.4	530	18132	178	39974	40	28	542	21.34	92	90	932	147.0	1442	324.1
515-650-7-530	660.4	530	18132	178	39974	40	28	570	22.44	210			196.7	1929	433.5
514-650-8-530	660.4	530	25524	250	56269	50	35	547	21.54	110	100	986	215.0	2108	473.9
515-650-8-530	660.4	530	25524	250	56269	50	35	620	24.41	190			238.3	2337	525.4
514-650-9-530	660.4	530	55135	541	121552	70	49	691	27.20	138	130	1050	340.0	3334	749.5
514-650-10-530	660.4	530	70330	690	155050	80	55	708	27.87	166	150	1084	455.7	4469	1004.6
514-650-11-530	660.4	530	90785	890	200144	90	60	793	31.22	194	170	1152	710.6	6968	1566.6
513-650-1-570	660.4	570	423	4.15	933	10	9	457	17.99	30	30	728	38.3	376	84.4
514-650-1-570	660.4	570	423	4.15	933	10	9	457	17.99	46	30	764	18.4	180	40.5
515-650-1-570	660.4	570	423	4	933	10	9	455	17.91	70			16.1	157.8	35.5
513-650-2-570	660.4	570	985	9.66	2172	10	9	457	17.99	30	40	742	42.9	420	94.5
514-650-2-570	660.4	570	985	9.66	2172	10	9	457	17.99	49	40	776	16.9	166	37.3
515-650-2-570	660.4	570	985	10	2172	10	9	455	17.91	100			38.7	379.4	85.3
513-650-3-570	660.4	570	2125	20.8	4684	15	12	464	18.27	50	50	774	75.4	739	166.2
514-650-3-570	660.4	570	2125	20.8	4684	15	12	463	18.23	57	50	826	47.5	466	104.8
515-650-3-570	660.4	570	2125	21	4684	15	12	460	18.11	90			44.5	436.4	98.1
513-650-4-570	660.4	570	4293	42.1	9465	20	16	476	18.74	60	70	795	99.3	974	219.0
514-650-4-570	660.4	570	4293	42.1	9465	20	16	472	18.58	63	70	848	74.4	729	163.9
515-650-4-570	660.4	570	4293	42	9465	20	16	490	19.29	110			67.9	666.1	149.7
513-650-5-570	660.4	570	6324	62	13942	25	20	492	19.37	70	80	820	126.2	1238	278.2
514-650-5-570	660.4	570	6324	62	13942	25	20	499	19.65	79	80	884	63.8	625	140.6
515-650-5-570	660.4	570	6324	62	13942	25	20	525	20.67	120			103.7	1016	228.5
514-650-6-570	660.4	570	12754	125	28117	35	25	540	21.26	86	90	916	105.1	1031	231.8
515-650-6-570	660.4	570	12754	125	28117	35	25	555	21.85	190			173.2	1698	381.8
514-650-7-570	660.4	570	18132	178	39974	40	28	542	21.34	92	100	944	161.8	1587	356.7
515-650-7-570	660.4	570	18132	178	39974	40	28	590	23.23	180			214.6	2105	473.2
514-650-8-570	660.4	570	25524	250	56269	50	35	583	22.95	110	120	994	244.4	2396	538.7
515-650-8-570	660.4	570	25524	250	56269	50	35	620	24.41	240			299.2	2934	659.5
514-650-9-570	660.4	570	55135	541	121552	70	49	679	26.73	148	130	1050	359.7	3527	792.9
514-650-10-570	660.4	570	70330	690	155050	80	55	734	28.90	166	150	1084	477.0	4677	1051.5
514-650-11-570	660.4	570	90785	890	200144	90	60	805	31.69	194	170	1152	719.6	7056	1586.3

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

N.B. 28" / 700mm

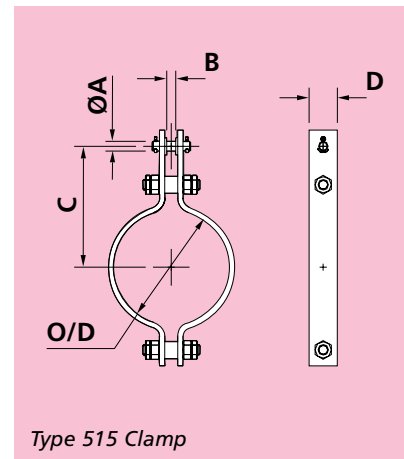
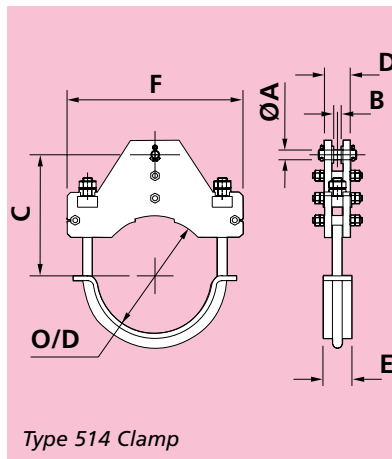
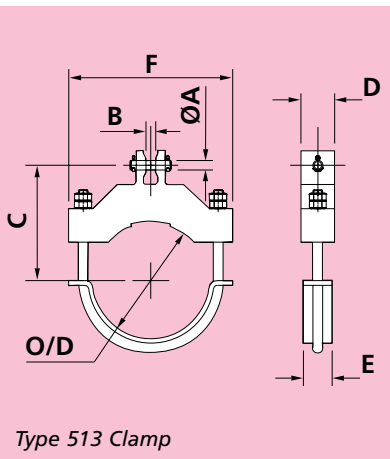
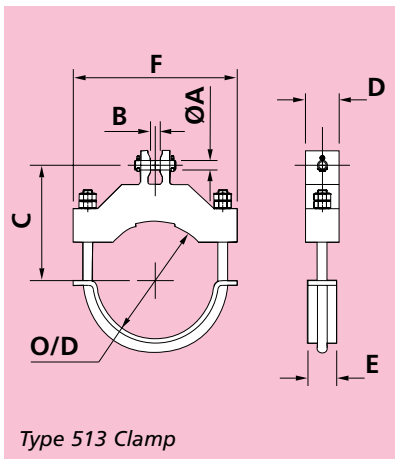


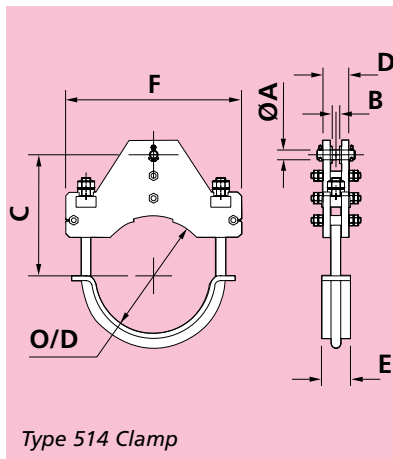
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-700-1-400	711.2	400	423	4.15	933	10	9	482	18.98	30	20	760	39.9	392	88.0
514-700-1-400	711.2	400	423	4.15	933	10	9	482	18.98	46	20	806	13.4	132	29.6
515-700-1-400	711.2	400	423	4.15	933	10	9	480	18.90	60			12.4	121	27.3
513-700-2-400	711.2	400	985	9.66	2172	10	9	482	18.98	30	30	767	43.2	423	95.1
514-700-2-400	711.2	400	985	9.66	2172	10	9	482	18.98	49	30	816	12.4	121	27.3
515-700-2-400	711.2	400	985	9.66	2172	10	9	480	18.90	80			25.0	245	55.1
513-700-3-400	711.2	400	2125	20.8	4684	15	12	489	19.25	30	40	792	49.9	490	110.1
514-700-3-400	711.2	400	2125	20.8	4684	15	12	488	19.21	57	40	864	22.0	215	48.4
515-700-3-400	711.2	400	2125	20.8	4684	15	12	485	19.09	100			42.4	416	93.6
513-700-4-400	711.2	400	4293	42.1	9465	20	16	514	20.24	40	50	806	72.0	706	158.8
514-700-4-400	711.2	400	4293	42.1	9465	20	16	499	19.65	63	50	884	35.7	350	78.8
515-700-4-400	711.2	400	4293	42.1	9465	20	16	520	20.47	120			67.7	663	149.1
513-700-5-400	711.2	400	6324	62	13942	25	20	530	20.87	50	50	824	95.5	937	210.6
514-700-5-400	711.2	400	6324	62	13942	25	20	504	19.84	69	50	918	60.5	593	133.3
515-700-5-400	711.2	400	6324	62	13942	25	20	550	21.65	130			91.9	901	202.6
514-700-6-400	711.2	400	12754	125	28117	35	25	529	20.83	86	80	960	126.0	1235	277.7
515-700-6-400	711.2	400	12754	125	28117	35	25	590	23.23	150			148.2	1453	326.8
514-700-7-400	711.2	400	18132	178	39974	40	28	567	22.32	92	90	982	170.9	1676	376.8
515-700-7-400	711.2	400	18132	178	39974	40	28	615	24.21	210			214.0	2099	471.8
514-700-8-400	711.2	400	25524	250	56269	50	35	572	22.52	110	100	1036	230.4	2260	508.0
515-700-8-400	711.2	400	25524	250	56269	50	35	655	25.79	200			269.8	2646	594.9
514-700-9-400	711.2	400	55135	541	121552	70	49	714	28.11	138	130	1100	377.8	3705	832.9
514-700-10-400	711.2	400	70330	690	155050	80	55	732	28.82	166	150	1134	473.1	4639	1043.0
514-700-11-400	711.2	400	90785	890	200144	90	60	816	32.13	194	190	1212	748.3	7338	1649.7
513-700-1-490	711.2	490	423	4.15	933	10	9	482	18.98	30	20	760	39.7	389	87.5
514-700-1-490	711.2	490	423	4.15	933	10	9	482	18.98	46	20	806	13.4	132	29.6
515-700-1-490	711.2	490	423	4.15	933	10	9	480	18.90	60			12.2	120	27.0
513-700-2-490	711.2	490	985	9.66	2172	10	9	482	18.98	30	30	767	43.2	423	95.1
514-700-2-490	711.2	490	985	9.66	2172	10	9	482	18.98	49	30	816	12.4	121	27.3
515-700-2-490	711.2	490	985	9.66	2172	10	9	480	18.90	80			24.7	242	54.5
513-700-3-490	711.2	490	2125	20.8	4684	15	12	489	19.25	30	40	792	49.7	488	109.6
514-700-3-490	711.2	490	2125	20.8	4684	15	12	488	19.21	57	40	864	22.0	215	48.4
515-700-3-490	711.2	490	2125	20.8	4684	15	12	485	19.09	100			41.9	411	92.5
513-700-4-490	711.2	490	4293	42.1	9465	20	16	512	20.16	40	50	806	71.8	704	158.3
514-700-4-490	711.2	490	4293	42.1	9465	20	16	499	19.65	63	50	884	35.8	351	78.8
515-700-4-490	711.2	490	4293	42.1	9465	20	16	510	20.08	110			60.6	594	133.6
513-700-5-490	711.2	490	6324	62	13942	25	20	528	20.79	50	50	824	94.9	930	209.1
514-700-5-490	711.2	490	6324	62	13942	25	20	504	19.84	69	50	918	60.5	594	133.5
515-700-5-490	711.2	490	6324	62	13942	25	20	530	20.87	110			74.2	727	163.5
514-700-6-490	711.2	490	12754	125	28117	35	25	519	20.43	86	70	950	101.2	992	223.0
515-700-6-490	711.2	490	12754	125	28117	35	25	585	23.03	140			136.0	1334	299.8
514-700-7-490	711.2	490	18132	178	39974	40	28	531	20.91	92	80	976	96.5	946	212.7
515-700-7-490	711.2	490	18132	178	39974	40	28	600	23.62	200			198.4	1946	437.5
514-700-8-490	711.2	490	25524	250	56269	50	35	572	22.52	110	90	1024	213.7	2096	471.1
515-700-8-490	711.2	490	25524	250	56269	50	35	645	25.39	190			249.8	2450	550.8
514-700-9-490	711.2	490	55135	541	121552	70	49	704	27.72	138	130	1100	371.9	3647	819.9
514-700-10-490	711.2	490	70330	690	155050	80	55	763	30.04	156	150	1134	465.1	4562	1025.5
514-700-11-490	711.2	490	90785	890	200144	90	60	806	31.73	194	170	1202	684.4	6712	1508.8

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

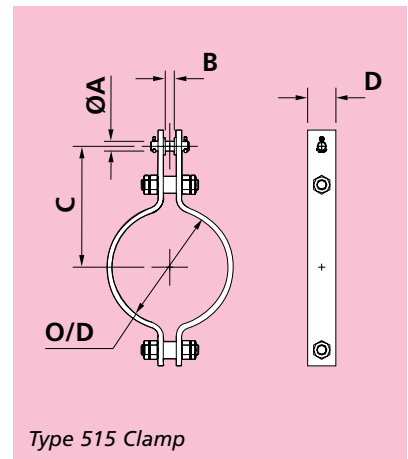
N.B. 28" / 700mm



Type 513 Clamp



Type 514 Clamp

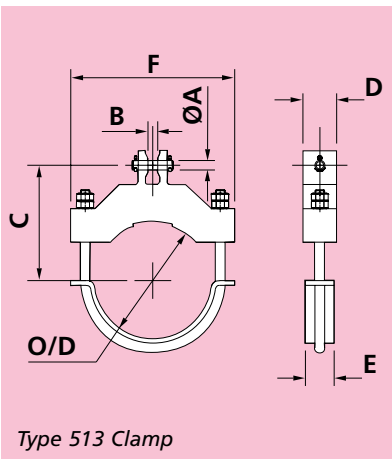


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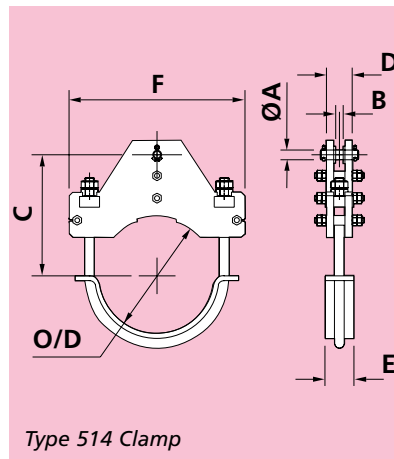
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-700-1-530	711.2	530	423	4.15	933	10	9	482	18.98	30	30	767	41.1	403	90.7
514-700-1-530	711.2	530	423	4.15	933	10	9	482	18.98	46	30	808	14.5	143	32.0
515-700-1-530	711.2	530	423	4.15	933	10	9	480	18.90	70			17.1	168	37.7
513-700-2-530	711.2	530	985	9.66	2172	10	9	482	18.98	30	30	778	44.7	439	98.6
514-700-2-530	711.2	530	985	9.66	2172	10	9	482	18.98	49	30	822	14.1	138	31.1
515-700-2-530	711.2	530	985	9.66	2172	10	9	480	18.90	80			24.7	242	54.5
513-700-3-530	711.2	530	2125	20.8	4684	15	12	489	19.25	40	50	806	65.9	646	145.3
514-700-3-530	711.2	530	2125	20.8	4684	15	12	487	19.17	57	50	868	36.7	360	80.8
515-700-3-530	711.2	530	2125	20.8	4684	15	12	485	19.09	100			41.9	411	92.5
513-700-4-530	711.2	530	4293	42.1	9465	20	16	504	19.84	50	50	824	88.7	870	195.6
514-700-4-530	711.2	530	4293	42.1	9465	20	16	498	19.61	63	50	892	62.6	614	137.9
515-700-4-530	711.2	530	4293	42.1	9465	20	16	520	20.47	100			66.7	654	147.0
513-700-5-530	711.2	530	6324	62	13942	25	20	520	20.47	60	70	845	115.2	1129	253.9
514-700-5-530	711.2	530	6324	62	13942	25	20	504	19.84	69	70	924	92.5	907	204.0
515-700-5-530	711.2	530	6324	62	13942	25	20	530	20.87	130			87.5	858	192.8
514-700-6-530	711.2	530	12754	125	28117	35	25	529	20.83	86	80	960	92.2	904	203.3
515-700-6-530	711.2	530	12754	125	28117	35	25	585	23.03	160			155.0	1520	341.8
514-700-7-530	711.2	530	18132	178	39974	40	28	567	22.32	102	90	982	121.0	1187	266.8
515-700-7-530	711.2	530	18132	178	39974	40	28	620	24.41	180			227.0	2226	500.3
514-700-8-530	711.2	530	25524	250	56269	50	35	572	22.52	110	100	1036	230.9	2264	509.0
515-700-8-530	711.2	530	25524	250	56269	50	35	645	25.39	200			262.6	2575	578.9
514-700-9-530	711.2	530	55135	541	121552	70	49	705	27.76	138	130	1100	372.8	3656	821.8
514-700-10-530	711.2	530	70330	690	155050	80	55	763	30.04	156	150	1134	465.1	4562	1025.5
514-700-11-530	711.2	530	90785	890	200144	90	60	806	31.73	194	170	1202	684.4	6712	1508.8
513-700-1-570	711.2	570	423	4.15	933	10	9	482	18.98	30	30	778	43.2	423	95.2
514-700-1-570	711.2	570	423	4.15	933	10	9	482	18.98	46	30	814	15.4	151	33.9
515-700-1-570	711.2	570	423	4	933	10	9	480	18.9	80			19.6	191.8	43.1
513-700-2-570	711.2	570	985	9.66	2172	10	9	482	18.98	30	40	792	48.0	471	105.8
514-700-2-570	711.2	570	985	9.66	2172	10	9	482	18.98	49	40	826	21.3	208	46.8
515-700-2-570	711.2	570	985	10	2172	10	9	480	18.9	100			41.2	403.7	90.8
513-700-3-570	711.2	570	2125	20.8	4684	15	12	489	19.25	50	50	824	84.1	825	185.4
514-700-3-570	711.2	570	2125	20.8	4684	15	12	488	19.21	57	50	876	59.1	580	130.3
515-700-3-570	711.2	570	2125	21	4684	15	12	485	19.09	90			47.3	463.5	104.2
513-700-4-570	711.2	570	4293	42.1	9465	20	16	503	19.80	60	70	845	110.6	1084	243.8
514-700-4-570	711.2	570	4293	42.1	9465	20	16	497	19.57	63	70	898	79.4	779	175.1
515-700-4-570	711.2	570	4293	42	9465	20	16	520	20.47	120			79.8	782.7	176.0
513-700-5-570	711.2	570	6324	62	13942	25	20	520	20.47	70	80	870	140.6	1378	309.9
514-700-5-570	711.2	570	6324	62	13942	25	20	524	20.63	79	80	934	134.9	1323	297.4
515-700-5-570	711.2	570	6324	62	13942	25	20	550	21.65	120			109.5	1073	241.3
514-700-6-570	711.2	570	12754	125	28117	35	25	565	22.24	96	90	966	110.4	1083	243.4
515-700-6-570	711.2	570	12754	125	28117	35	25	585	23.03	210			202.6	1987	446.6
514-700-7-570	711.2	570	18132	178	39974	40	28	567	22.32	102	100	994	187.5	1838	413.3
515-700-7-570	711.2	570	18132	178	39974	40	28	620	24.41	180			227.0	2226	500.3
514-700-8-570	711.2	570	25524	250	56269	50	35	608	23.94	110	120	1044	255.2	2503	562.7
515-700-8-570	711.2	570	25524	250	56269	50	35	645	25.39	250			326.5	3201	719.7
514-700-9-570	711.2	570	55135	541	121552	70	49	692	27.24	148	130	1100	401.6	3938	885.3
514-700-10-570	711.2	570	70330	690	155050	80	55	748	29.45	166	150	1134	488.8	4794	1077.7
514-700-11-570	711.2	570	90785	890	200144	90	60	820	32.28	194	170	1202	698.8	6853	1540.5

**CLAMPS FOR RIGID STRUTS AND SNUBBERS**

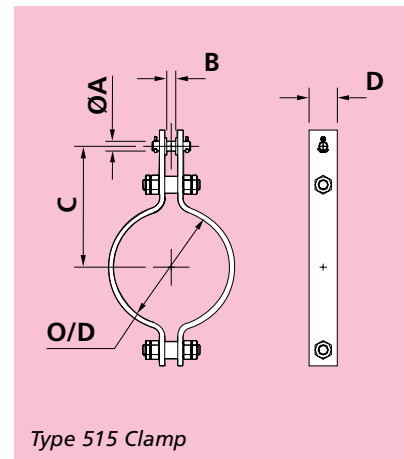
**N.B. 30" / 750mm**



Type 513 Clamp



Type 514 Clamp

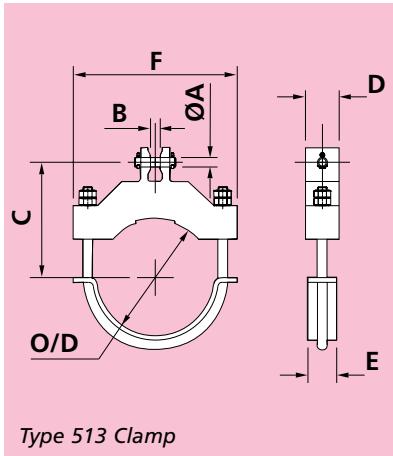


Type 515 Clamp

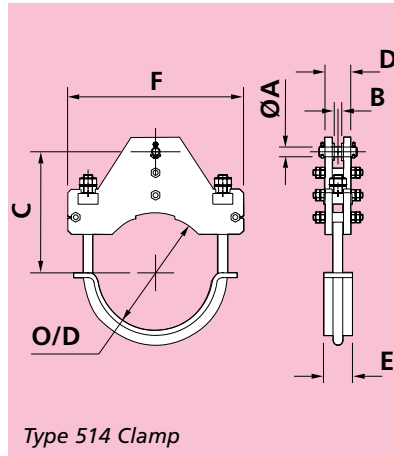
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-750-1-400	762	400	423	4.15	933	10	9	508	20.00	35	20	812	51.9	509	114.4
514-750-1-400	762	400	423	4.15	933	10	9	508	20.00	56	20	858	14.1	138	31.0
515-750-1-400	762	400	423	4.15	933	10	9	505	19.88	60			13.2	129	29.0
513-750-2-400	762	400	985	9.66	2172	10	9	508	20.00	35	30	819	55.7	546	122.8
514-750-2-400	762	400	985	9.66	2172	10	9	508	20.00	59	30	868	15.0	147	33.0
515-750-2-400	762	400	985	9.66	2172	10	9	505	19.88	80			26.5	260	58.5
513-750-3-400	762	400	2125	20.8	4684	15	12	515	20.28	35	40	844	63.3	620	139.5
514-750-3-400	762	400	2125	20.8	4684	15	12	514	20.24	67	40	916	27.9	274	61.5
515-750-3-400	762	400	2125	20.8	4684	15	12	515	20.28	100			45.9	450	101.1
513-750-4-400	762	400	4293	42.1	9465	20	16	544	21.42	40	50	858	80.9	793	178.3
514-750-4-400	762	400	4293	42.1	9465	20	16	525	20.67	73	50	936	42.0	412	92.7
515-750-4-400	762	400	4293	42.1	9465	20	16	560	22.05	100			72.5	711	159.7
513-750-5-400	762	400	6324	62	13942	25	20	560	22.05	50	50	876	106.5	1045	234.8
514-750-5-400	762	400	6324	62	13942	25	20	530	20.87	79	50	970	68.1	668	150.1
515-750-5-400	762	400	6324	62	13942	25	20	575	22.64	130			96.7	948	213.1
514-750-6-400	762	400	12754	125	28117	35	25	555	21.85	86	80	1012	142.7	1400	314.6
515-750-6-400	762	400	12754	125	28117	35	25	635	25.00	160			171.5	1682	378.1
514-750-7-400	762	400	18132	178	39974	40	28	593	23.35	92	90	1034	182.9	1794	403.3
515-750-7-400	762	400	18132	178	39974	40	28	665	26.18	180			245.6	2408	541.4
514-750-8-400	762	400	25524	250	56269	50	35	598	23.54	110	100	1088	246.4	2417	543.3
515-750-8-400	762	400	25524	250	56269	50	35	680	26.77	210			295.7	2900	652.0
514-750-9-400	762	400	55135	541	121552	70	49	728	28.66	138	130	1152	439.6	4311	969.2
514-750-10-400	762	400	70330	690	155050	80	55	789	31.06	156	150	1186	518.7	5087	1143.6
514-750-11-400	762	400	90785	890	200144	90	60	831	32.72	194	190	1264	732.1	7180	1614.1
513-750-1-490	762	490	423	4.15	933	10	9	508	20.00	35	20	812	51.6	506	113.8
514-750-1-490	762	490	423	4.15	933	10	9	508	20.00	56	20	858	14.1	138	31.0
515-750-1-490	762	490	423	4.15	933	10	9	505	19.88	60			13.0	127	28.6
513-750-2-490	762	490	985	9.66	2172	10	9	508	20.00	35	30	819	55.7	546	122.8
514-750-2-490	762	490	985	9.66	2172	10	9	508	20.00	59	30	868	15.0	147	33.0
515-750-2-490	762	490	985	9.66	2172	10	9	505	19.88	80			26.2	257	57.8
513-750-3-490	762	490	2125	20.8	4684	15	12	515	20.28	35	40	844	63.0	618	138.9
514-750-3-490	762	490	2125	20.8	4684	15	12	514	20.24	67	40	916	27.9	274	61.5
515-750-3-490	762	490	2125	20.8	4684	15	12	510	20.08	100			44.5	436	98.0
513-750-4-490	762	490	4293	42.1	9465	20	16	542	21.34	40	50	858	80.4	788	177.2
514-750-4-490	762	490	4293	42.1	9465	20	16	525	20.67	73	50	936	42.1	413	92.7
515-750-4-490	762	490	4293	42.1	9465	20	16	535	21.06	120			69.8	684	153.8
513-750-5-490	762	490	6324	62	13942	25	20	558	21.97	50	50	876	105.8	1038	233.3
514-750-5-490	762	490	6324	62	13942	25	20	530	20.87	79	50	970	68.1	668	150.2
515-750-5-490	762	490	6324	62	13942	25	20	560	22.05	120			85.8	841	189.2
514-750-6-490	762	490	12754	125	28117	35	25	545	21.46	86	70	1002	140.6	1379	309.9
515-750-6-490	762	490	12754	125	28117	35	25	610	24.02	150			152.9	1499	337.0
514-750-7-490	762	490	18132	178	39974	40	28	557	21.93	92	80	1028	97.9	960	215.9
515-750-7-490	762	490	18132	178	39974	40	28	625	24.61	210			218.6	2143	481.9
514-750-8-490	762	490	25524	250	56269	50	35	598	23.54	110	90	1076	228.8	2244	504.4
515-750-8-490	762	490	25524	250	56269	50	35	670	26.38	190			261.5	2564	576.4
514-750-9-490	762	490	55135	541	121552	70	49	717	28.23	138	130	1152	434.1	4257	956.9
514-750-10-490	762	490	70330	690	155050	80	55	778	30.63	156	150	1186	511.1	5012	1126.8
514-750-11-490	762	490	90785	890	200144	90	60	822	32.36	194	170	1254	670.7	6577	1478.5

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

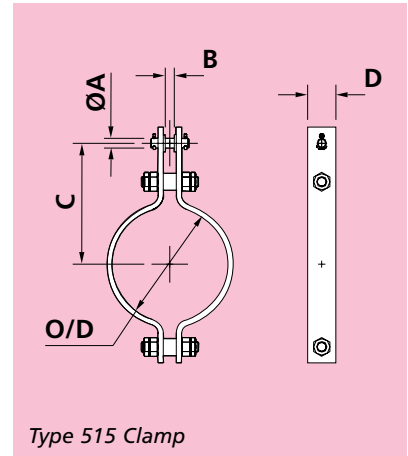
N.B. 30" / 750mm



Type 513 Clamp



Type 514 Clamp



Type 515 Clamp

Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				mm	mm	mm
513-750-1-530	762	530	423	4.15	933	10	9	508	20.00	35	30	819	53.2	522	117.3
514-750-1-530	762	530	423	4.15	933	10	9	508	20.00	56	30	860	15.3	150	33.7
515-750-1-530	762	530	423	4.15	933	10	9	505	19.88	70			18.2	178	40.1
513-750-2-530	762	530	985	9.66	2172	10	9	508	20.00	35	30	830	57.5	564	126.7
514-750-2-530	762	530	985	9.66	2172	10	9	508	20.00	59	30	874	18.0	176	39.6
515-750-2-530	762	530	985	9.66	2172	10	9	505	19.88	80			26.2	257	57.8
513-750-3-530	762	530	2125	20.8	4684	15	12	515	20.28	40	50	858	73.6	722	162.4
514-750-3-530	762	530	2125	20.8	4684	15	12	513	20.20	67	50	920	43.4	426	95.8
515-750-3-530	762	530	2125	20.8	4684	15	12	510	20.08	100			44.5	436	98.0
513-750-4-530	762	530	4293	42.1	9465	20	16	533	20.98	50	50	876	99.1	972	218.6
514-750-4-530	762	530	4293	42.1	9465	20	16	524	20.63	73	50	944	74.0	726	163.2
515-750-4-530	762	530	4293	42.1	9465	20	16	550	21.65	100			70.9	695	156.2
513-750-5-530	762	530	6324	62	13942	25	20	550	21.65	60	70	897	128.3	1258	282.9
514-750-5-530	762	530	6324	62	13942	25	20	530	20.87	79	70	976	108.5	1064	239.1
515-750-5-530	762	530	6324	62	13942	25	20	560	22.05	140			99.9	980	220.3
514-750-6-530	762	530	12754	125	28117	35	25	555	21.85	86	80	1012	97.1	952	214.1
515-750-6-530	762	530	12754	125	28117	35	25	610	24.02	160			162.9	1597	359.1
514-750-7-530	762	530	18132	178	39974	40	28	593	23.35	102	90	1034	133.6	1310	294.4
515-750-7-530	762	530	18132	178	39974	40	28	645	25.39	180			238.0	2334	524.7
514-750-8-530	762	530	25524	250	56269	50	35	598	23.54	110	100	1088	246.9	2421	544.3
515-750-8-530	762	530	25524	250	56269	50	35	670	26.38	210			288.2	2827	635.5
514-750-9-530	762	530	55135	541	121552	70	49	718	28.27	138	130	1152	434.7	4263	958.3
514-750-10-530	762	530	70330	690	155050	80	55	778	30.63	156	150	1186	511.1	5012	1126.8
514-750-11-530	762	530	90785	890	200144	90	60	822	32.36	194	170	1254	670.7	6577	1478.5
513-750-1-570	762	570	423	4.15	933	10	9	508	20.00	35	30	830	55.5	545	122.5
514-750-1-570	762	570	423	4.15	933	10	9	508	20.00	56	30	866	16.9	166	37.3
515-750-1-570	762	570	423	4	933	10	9	505	19.88	80			20.8	203.6	45.8
513-750-2-570	762	570	985	9.66	2172	10	9	508	20.00	35	40	844	60.8	597	134.1
514-750-2-570	762	570	985	9.66	2172	10	9	508	20.00	59	40	878	27.4	268	60.3
515-750-2-570	762	570	985	10	2172	10	9	505	19.88	100			43.7	428.1	96.2
513-750-3-570	762	570	2125	20.8	4684	15	12	515	20.28	50	50	876	93.8	920	206.9
514-750-3-570	762	570	2125	20.8	4684	15	12	514	20.24	67	50	928	70.1	688	154.6
515-750-3-570	762	570	2125	21	4684	15	12	510	20.08	90			50.1	490.9	110.4
513-750-4-570	762	570	4293	42.1	9465	20	16	532	20.94	60	70	897	123.3	1209	271.8
514-750-4-570	762	570	4293	42.1	9465	20	16	523	20.59	73	70	950	117.5	1152	259.0
515-750-4-570	762	570	4293	42	9465	20	16	550	21.65	130			91.9	900.8	202.5
513-750-5-570	762	570	6324	62	13942	25	20	549	21.61	70	80	922	156.0	1530	344.0
514-750-5-570	762	570	6324	62	13942	25	20	550	21.65	79	80	986	147.3	1444	324.6
515-750-5-570	762	570	6324	62	13942	25	20	580	22.83	120			116.2	1139	256.1
514-750-6-570	762	570	12754	125	28117	35	25	591	23.27	96	90	1018	113.9	1117	251.2
515-750-6-570	762	570	12754	125	28117	35	25	610	24.02	210			212.9	2088	469.3
514-750-7-570	762	570	18132	178	39974	40	28	593	23.35	102	100	1046	207.8	2038	458.1
515-750-7-570	762	570	18132	178	39974	40	28	645	25.39	180			238.0	2334	524.7
514-750-8-570	762	570	25524	250	56269	50	35	634	24.96	110	120	1096	270.2	2650	595.8
515-750-8-570	762	570	25524	250	56269	50	35	670	26.38	260			355.2	3483	783.0
514-750-9-570	762	570	55135	541	121552	70	49	707	27.83	148	130	1152	467.2	4581	1029.9
514-750-10-570	762	570	70330	690	155050	80	55	762	30.00	166	150	1186	543.0	5325	1197.2
514-750-11-570	762	570	90785	890	200144	90	60	835	32.87	194	170	1254	683.9	6706	1507.7

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

N.B. 32" / 800mm

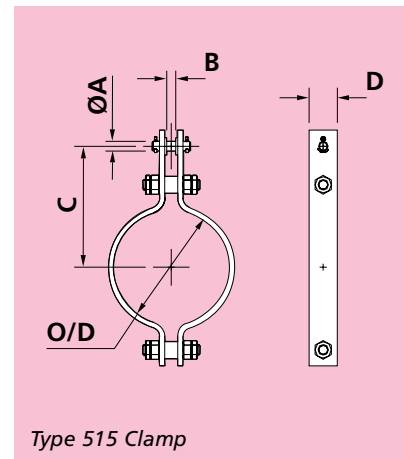
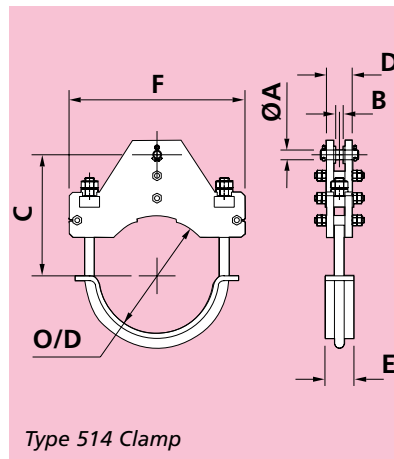
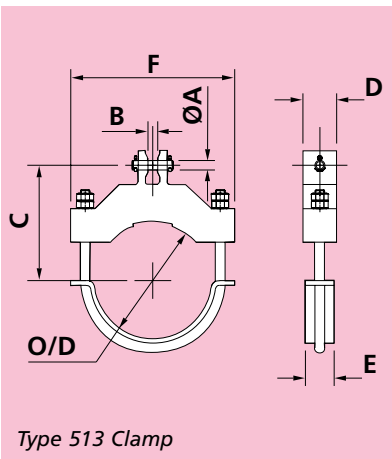
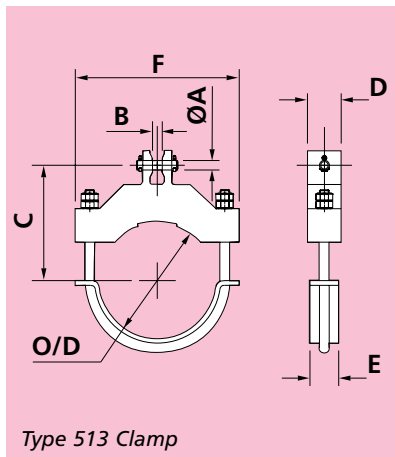


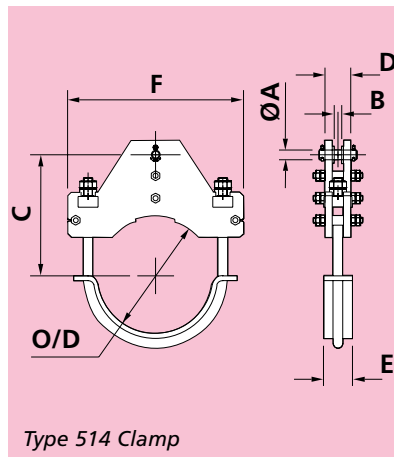
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-800-1-400	812.8	400	423	4.15	933	10	9	534	21.02	35	20	864	57.8	567	127.5
514-800-1-400	812.8	400	423	4.15	933	10	9	534	21.02	56	20	910	13.7	135	30.3
515-800-1-400	812.8	400	423	4.15	933	10	9	530	20.87	60			13.9	136	30.7
513-800-2-400	812.8	400	985	9.66	2172	10	9	534	21.02	35	30	871	62.2	610	137.1
514-800-2-400	812.8	400	985	9.66	2172	10	9	534	21.02	59	30	920	15.9	156	35.1
515-800-2-400	812.8	400	985	9.66	2172	10	9	530	20.87	80			28.0	275	61.7
513-800-3-400	812.8	400	2125	20.8	4684	15	12	541	21.30	35	40	896	70.1	688	154.6
514-800-3-400	812.8	400	2125	20.8	4684	15	12	541	21.30	67	40	968	34.5	339	76.1
515-800-3-400	812.8	400	2125	20.8	4684	15	12	540	21.26	100			48.4	474	106.6
513-800-4-400	812.8	400	4293	42.1	9465	20	16	575	22.64	40	50	910	90.1	883	198.6
514-800-4-400	812.8	400	4293	42.1	9465	20	16	551	21.69	73	50	988	53.9	529	118.9
515-800-4-400	812.8	400	4293	42.1	9465	20	16	585	23.03	100			76.2	747	168.0
513-800-5-400	812.8	400	6324	62	13942	25	20	592	23.31	50	50	928	118.5	1162	261.2
514-800-5-400	812.8	400	6324	62	13942	25	20	557	21.93	79	50	1022	83.8	821	184.6
515-800-5-400	812.8	400	6324	62	13942	25	20	600	23.62	140			109.1	1070	240.6
514-800-6-400	812.8	400	12754	125	28117	35	25	583	22.95	86	80	1064	153.7	1507	338.8
515-800-6-400	812.8	400	12754	125	28117	35	25	660	25.98	170			190.3	1866	419.6
514-800-7-400	812.8	400	18132	178	39974	40	28	621	24.45	92	90	1086	197.2	1934	434.7
515-800-7-400	812.8	400	18132	178	39974	40	28	700	27.56	180			263.1	2580	580.1
514-800-8-400	812.8	400	25524	250	56269	50	35	626	24.65	110	100	1140	263.9	2588	581.7
515-800-8-400	812.8	400	25524	250	56269	50	35	705	27.76	220			322.7	3165	711.4
514-800-9-400	812.8	400	55135	541	121552	70	49	740	29.13	138	130	1204	497.0	4874	1095.8
514-800-10-400	812.8	400	70330	690	155050	80	55	802	31.57	156	150	1238	593.5	5820	1308.4
514-800-11-400	812.8	400	90785	890	200144	90	60	845	33.27	194	190	1316	751.2	7367	1656.2
513-800-1-490	812.8	490	423	4.15	933	10	9	534	21.02	35	20	864	57.8	567	127.5
514-800-1-490	812.8	490	423	4.15	933	10	9	534	21.02	56	20	910	13.8	135	30.3
515-800-1-490	812.8	490	423	4.15	933	10	9	530	20.87	60			13.7	135	30.3
513-800-2-490	812.8	490	985	9.66	2172	10	9	534	21.02	35	30	871	61.9	607	136.5
514-800-2-490	812.8	490	985	9.66	2172	10	9	534	21.02	59	30	920	15.9	156	35.1
515-800-2-490	812.8	490	985	9.66	2172	10	9	530	20.87	80			27.7	272	61.1
513-800-3-490	812.8	490	2125	20.8	4684	15	12	541	21.30	35	40	896	69.9	685	154.0
514-800-3-490	812.8	490	2125	20.8	4684	15	12	541	21.30	67	40	968	34.5	339	76.2
515-800-3-490	812.8	490	2125	20.8	4684	15	12	535	21.06	100			46.9	460	103.5
513-800-4-490	812.8	490	4293	42.1	9465	20	16	574	22.60	40	50	910	89.7	879	197.7
514-800-4-490	812.8	490	4293	42.1	9465	20	16	551	21.69	73	50	988	53.9	529	118.9
515-800-4-490	812.8	490	4293	42.1	9465	20	16	565	22.24	120			74.0	725	163.1
513-800-5-490	812.8	490	6324	62	13942	25	20	590	23.23	50	50	928	117.7	1154	259.5
514-800-5-490	812.8	490	6324	62	13942	25	20	557	21.93	79	50	1022	83.8	822	184.8
515-800-5-490	812.8	490	6324	62	13942	25	20	585	23.03	120			90.3	885	199.0
514-800-6-490	812.8	490	12754	125	28117	35	25	571	22.48	86	70	1054	153.1	1501	337.4
515-800-6-490	812.8	490	12754	125	28117	35	25	635	25.00	150			160.3	1572	353.4
514-800-7-490	812.8	490	18132	178	39974	40	28	585	23.03	92	80	1080	102.1	1001	225.0
515-800-7-490	812.8	490	18132	178	39974	40	28	650	25.59	220			239.6	2349	528.2
514-800-8-490	812.8	490	25524	250	56269	50	35	626	24.65	110	90	1128	239.9	2353	528.9
515-800-8-490	812.8	490	25524	250	56269	50	35	700	27.56	200			288.5	2830	636.1
514-800-9-490	812.8	490	55135	541	121552	70	49	731	28.78	138	130	1204	487.8	4784	1075.4
514-800-10-490	812.8	490	70330	690	155050	80	55	792	31.18	156	150	1238	580.4	5692	1279.6
514-800-11-490	812.8	490	90785	890	200144	90	60	837	32.95	194	170	1306	689.0	6757	1519.0

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

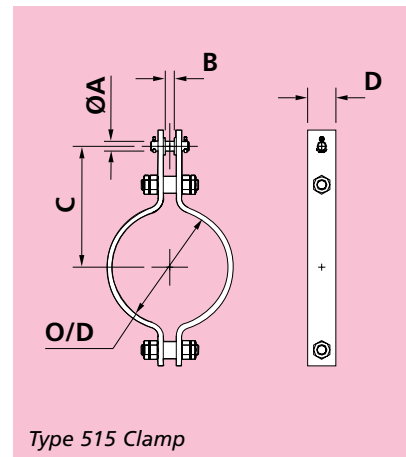
N.B. 32" / 800mm



Type 513 Clamp



Type 514 Clamp



Type 515 Clamp

Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-800-1-530	812.8	530	423	4.15	933	10	9	534	21.02	35	30	871	59.6	584	131.4
514-800-1-530	812.8	530	423	4.15	933	10	9	534	21.02	56	30	912	15.0	147	33.1
515-800-1-530	812.8	530	423	4.15	933	10	9	530	20.87	70			19.2	189	42.4
513-800-2-530	812.8	530	985	9.66	2172	10	9	534	21.02	35	30	882	64.0	628	141.2
514-800-2-530	812.8	530	985	9.66	2172	10	9	534	21.02	59	30	926	21.5	211	47.4
515-800-2-530	812.8	530	985	9.66	2172	10	9	530	20.87	80			27.7	272	61.1
513-800-3-530	812.8	530	2125	20.8	4684	15	12	541	21.30	40	50	910	81.9	803	180.5
514-800-3-530	812.8	530	2125	20.8	4684	15	12	541	21.30	67	50	972	51.8	508	114.3
515-800-3-530	812.8	530	2125	20.8	4684	15	12	535	21.06	100			46.9	460	103.5
513-800-4-530	812.8	530	4293	42.1	9465	20	16	564	22.20	50	50	928	110.1	1080	242.8
514-800-4-530	812.8	530	4293	42.1	9465	20	16	550	21.65	73	50	996	90.2	885	198.9
515-800-4-530	812.8	530	4293	42.1	9465	20	16	575	22.64	100			74.6	731	164.4
513-800-5-530	812.8	530	6324	62	13942	25	20	581	22.87	60	70	949	142.5	1397	314.1
514-800-5-530	812.8	530	6324	62	13942	25	20	557	21.93	79	70	1028	125.6	1232	276.9
515-800-5-530	812.8	530	6324	62	13942	25	20	585	23.03	140			105.2	1031	231.8
514-800-6-530	812.8	530	12754	125	28117	35	25	583	22.95	86	80	1064	112.0	1099	247.0
515-800-6-530	812.8	530	12754	125	28117	35	25	635	25.00	170			181.3	1778	399.7
514-800-7-530	812.8	530	18132	178	39974	40	28	621	24.45	102	90	1086	143.2	1404	315.6
515-800-7-530	812.8	530	18132	178	39974	40	28	675	26.57	180			250.3	2455	551.8
514-800-8-530	812.8	530	25524	250	56269	50	35	626	24.65	110	100	1140	264.3	2592	582.7
515-800-8-530	812.8	530	25524	250	56269	50	35	700	27.56	220			316.7	3105	698.1
514-800-9-530	812.8	530	55135	541	121552	70	49	731	28.78	138	130	1204	491.2	4817	1083.0
514-800-10-530	812.8	530	70330	690	155050	80	55	792	31.18	156	150	1238	580.4	5692	1279.6
514-800-11-530	812.8	530	90785	890	200144	90	60	837	32.95	194	170	1306	689.0	6757	1519.0
513-800-1-570	812.8	570	423	4.15	933	10	9	534	21.02	35	30	882	62.0	608	136.8
514-800-1-570	812.8	570	423	4.15	933	10	9	534	21.02	56	30	918	16.8	164	36.9
515-800-1-570	812.8	570	423	4	933	10	9	530	20.87	80			22.0	215.3	48.4
513-800-2-570	812.8	570	985	9.66	2172	10	9	534	21.02	35	40	896	67.6	663	149.0
514-800-2-570	812.8	570	985	9.66	2172	10	9	534	21.02	59	40	930	36.8	361	81.2
515-800-2-570	812.8	570	985	10	2172	10	9	530	20.87	100			46.3	454	102.1
513-800-3-570	812.8	570	2125	20.8	4684	15	12	541	21.30	50	50	928	103.8	1018	228.8
514-800-3-570	812.8	570	2125	20.8	4684	15	12	541	21.30	67	50	980	86.5	848	190.7
515-800-3-570	812.8	570	2125	21	4684	15	12	540	21.26	90			53.2	521.8	117.3
513-800-4-570	812.8	570	4293	42.1	9465	20	16	563	22.17	60	70	949	136.7	1341	301.4
514-800-4-570	812.8	570	4293	42.1	9465	20	16	551	21.69	73	70	1002	131.2	1287	289.3
515-800-4-570	812.8	570	4293	42	9465	20	16	575	22.64	130			96.7	948.2	213.2
513-800-5-570	812.8	570	6324	62	13942	25	20	580	22.83	70	80	974	172.3	1690	379.9
514-800-5-570	812.8	570	6324	62	13942	25	20	578	22.76	79	80	1038	159.9	1568	352.5
515-800-5-570	812.8	570	6324	62	13942	25	20	605	23.82	120			122.1	1197	269.1
514-800-6-570	812.8	570	12754	125	28117	35	25	619	24.37	96	90	1070	119.0	1167	262.3
515-800-6-570	812.8	570	12754	125	28117	35	25	635	25	210			223.3	2190	492.3
514-800-7-570	812.8	570	18132	178	39974	40	28	621	24.45	102	100	1098	222.5	2182	490.6
515-800-7-570	812.8	570	18132	178	39974	40	28	675	26.57	190			264.0	2589	581.9
514-800-8-570	812.8	570	25524	250	56269	50	35	662	26.06	110	120	1148	276.3	2710	609.2
515-800-8-570	812.8	570	25524	250	56269	50	35	700	27.56	270			387.0	3795	853.2
514-800-9-570	812.8	570	55135	541	121552	70	49	759	29.88	138	130	1204	507.6	4978	1119.0
514-800-10-570	812.8	570	70330	690	155050	80	55	813	32.01	156	150	1238	598.0	5865	1318.4
514-800-11-570	812.8	570	90785	890	200144	90	60	850	33.46	194	170	1306	703.5	6899	1551.0

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

N.B. 34" / 850mm

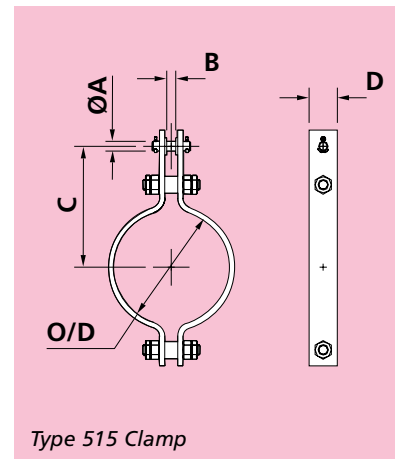
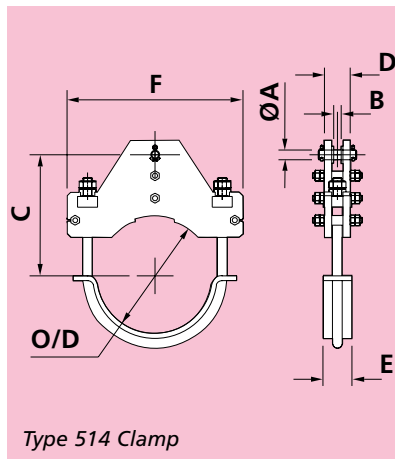
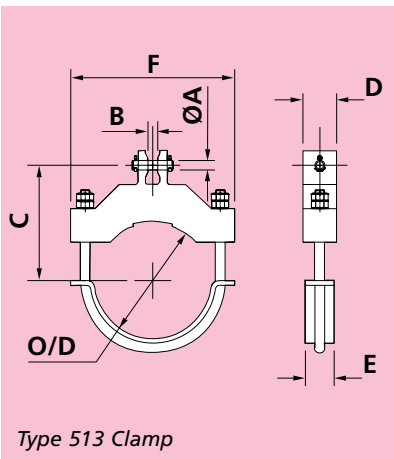
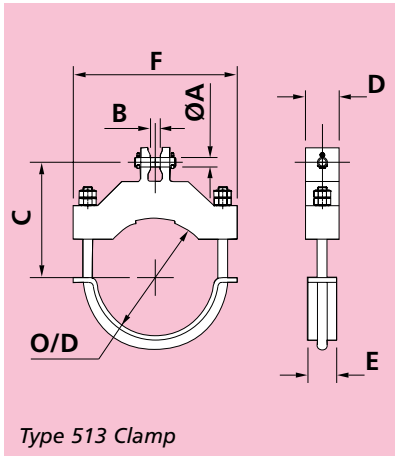


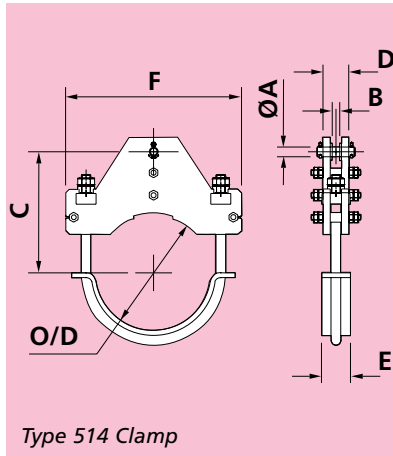
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-850-1-400	863.6	400	423	4.15	933	10	9	559	22.01	35	20	914	64.5	633	142.3
514-850-1-400	863.6	400	423	4.15	933	10	9	559	22.01	56	20	960	16.0	157	35.3
515-850-1-400	863.6	400	423	4.15	933	10	9	555	21.85	70			20.5	201	45.1
513-850-2-400	863.6	400	985	9.66	2172	10	9	559	22.01	35	30	921	68.8	674	151.6
514-850-2-400	863.6	400	985	9.66	2172	10	9	559	22.01	59	30	970	20.9	205	46.0
515-850-2-400	863.6	400	985	9.66	2172	10	9	555	21.85	80			29.5	289	65.0
513-850-3-400	863.6	400	2125	20.8	4684	15	12	566	22.28	35	40	946	77.4	759	170.5
514-850-3-400	863.6	400	2125	20.8	4684	15	12	566	22.28	67	40	1018	45.9	450	101.3
515-850-3-400	863.6	400	2125	20.8	4684	15	12	565	22.24	100			50.8	498	112.0
513-850-4-400	863.6	400	4293	42.1	9465	20	16	604	23.78	40	50	960	99.4	975	219.1
514-850-4-400	863.6	400	4293	42.1	9465	20	16	576	22.68	73	50	1038	71.0	697	156.6
515-850-4-400	863.6	400	4293	42.1	9465	20	16	610	24.02	100			79.9	783	176.1
513-850-5-400	863.6	400	6324	62	13942	25	20	620	24.41	50	50	978	130.6	1280	287.8
514-850-5-400	863.6	400	6324	62	13942	25	20	582	22.91	79	50	1072	104.6	1026	230.6
515-850-5-400	863.6	400	6324	62	13942	25	20	625	24.61	140			114.3	1121	252.0
514-850-6-400	863.6	400	12754	125	28117	35	25	608	23.94	86	80	1114	170.0	1668	374.9
515-850-6-400	863.6	400	12754	125	28117	35	25	685	26.97	170			198.6	1947	437.7
514-850-7-400	863.6	400	18132	178	39974	40	28	646	25.43	92	90	1136	209.6	2055	462.1
515-850-7-400	863.6	400	18132	178	39974	40	28	725	28.54	180			274.0	2687	604.1
514-850-8-400	863.6	400	25524	250	56269	50	35	651	25.63	110	100	1190	283.3	2779	624.6
515-850-8-400	863.6	400	25524	250	56269	50	35	745	29.33	230			360.3	3533	794.3
514-850-9-400	863.6	400	55135	541	121552	70	49	753	29.65	138	130	1254	535.0	5247	1179.6
514-850-10-400	863.6	400	70330	690	155050	80	55	817	32.17	156	150	1288	664.8	6520	1465.7
514-850-11-400	863.6	400	90785	890	200144	90	60	858	33.78	194	190	1366	825.5	8095	1819.8
513-850-1-490	863.6	490	423	4.15	933	10	9	559	22.01	35	20	914	64.5	633	142.3
514-850-1-490	863.6	490	423	4.15	933	10	9	559	22.01	56	20	960	16.0	157	35.3
515-850-1-490	863.6	490	423	4.15	933	10	9	555	21.85	60			14.5	142	31.9
513-850-2-490	863.6	490	985	9.66	2172	10	9	559	22.01	35	30	921	68.8	674	151.6
514-850-2-490	863.6	490	985	9.66	2172	10	9	559	22.01	59	30	970	20.9	205	46.1
515-850-2-490	863.6	490	985	9.66	2172	10	9	555	21.85	80			29.2	286	64.4
513-850-3-490	863.6	490	2125	20.8	4684	15	12	566	22.28	35	40	946	77.4	759	170.5
514-850-3-490	863.6	490	2125	20.8	4684	15	12	566	22.28	67	40	1018	45.9	451	101.3
515-850-3-490	863.6	490	2125	20.8	4684	15	12	560	22.05	100			49.9	489	110.0
513-850-4-490	863.6	490	4293	42.1	9465	20	16	602	23.70	40	50	960	98.8	969	217.8
514-850-4-490	863.6	490	4293	42.1	9465	20	16	576	22.68	73	50	1038	71.8	704	158.2
515-850-4-490	863.6	490	4293	42.1	9465	20	16	600	23.62	100			78.3	767	172.5
513-850-5-490	863.6	490	6324	62	13942	25	20	619	24.37	50	50	978	130.0	1275	286.6
514-850-5-490	863.6	490	6324	62	13942	25	20	582	22.91	79	50	1072	104.7	1026	230.7
515-850-5-490	863.6	490	6324	62	13942	25	20	615	24.21	130			104.2	1021	229.6
514-850-6-490	863.6	490	12754	125	28117	35	25	596	23.46	86	70	1104	165.8	1626	365.4
515-850-6-490	863.6	490	12754	125	28117	35	25	665	26.18	160			179.6	1761	395.9
514-850-7-490	863.6	490	18132	178	39974	40	28	610	24.02	92	80	1130	106.1	1041	234.0
515-850-7-490	863.6	490	18132	178	39974	40	28	700	27.56	180			261.2	2561	575.8
514-850-8-490	863.6	490	25524	250	56269	50	35	651	25.63	110	90	1178	261.3	2563	576.2
515-850-8-490	863.6	490	25524	250	56269	50	35	725	28.54	210			315.3	3092	695.1
514-850-9-490	863.6	490	55135	541	121552	70	49	743	29.25	138	130	1254	528.3	5181	1164.7
514-850-10-490	863.6	490	70330	690	155050	80	55	805	31.69	156	150	1288	655.4	6427	1444.9
514-850-11-490	863.6	490	90785	890	200144	90	60	893	35.16	184	170	1356	749.5	7350	1652.2

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

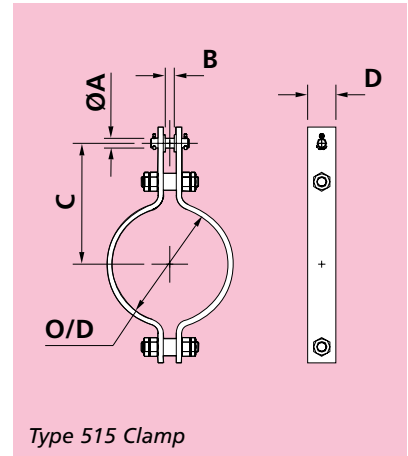
N.B. 34" / 850mm



Type 513 Clamp



Type 514 Clamp



Type 515 Clamp

Fig. No.	Pipe O/D	Max. Pipe Temp	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-850-1-530	863.6	530	423	4.15	933	10	9	559	22.01	35	30	921	66.1	648	145.6
514-850-1-530	863.6	530	423	4.15	933	10	9	559	22.01	56	30	962	17.3	170	38.2
515-850-1-530	863.6	530	423	4.15	933	10	9	555	21.85	70			20.3	199	44.7
513-850-2-530	863.6	530	985	9.66	2172	10	9	559	22.01	35	30	932	70.7	693	155.9
514-850-2-530	863.6	530	985	9.66	2172	10	9	559	22.01	59	30	976	29.7	291	65.5
515-850-2-530	863.6	530	985	9.66	2172	10	9	555	21.85	80			29.2	286	64.4
513-850-3-530	863.6	530	2125	20.8	4684	15	12	566	22.28	40	50	960	90.2	885	198.9
514-850-3-530	863.6	530	2125	20.8	4684	15	12	566	22.28	67	50	1022	67.0	657	147.7
515-850-3-530	863.6	530	2125	20.8	4684	15	12	560	22.05	110			54.8	538	120.9
513-850-4-530	863.6	530	4293	42.1	9465	20	16	592	23.31	50	50	978	121.9	1195	268.6
514-850-4-530	863.6	530	4293	42.1	9465	20	16	575	22.64	73	50	1046	109.0	1069	240.2
515-850-4-530	863.6	530	4293	42.1	9465	20	16	600	23.62	100			78.3	767	172.5
513-850-5-530	863.6	530	6324	62	13942	25	20	609	23.98	60	70	999	156.6	1536	345.2
514-850-5-530	863.6	530	6324	62	13942	25	20	582	22.91	79	70	1078	144.7	1419	318.9
515-850-5-530	863.6	530	6324	62	13942	25	20	615	24.21	160			127.8	1254	281.8
514-850-6-530	863.6	530	12754	125	28117	35	25	608	23.94	86	80	1114	117.6	1153	259.2
515-850-6-530	863.6	530	12754	125	28117	35	25	665	26.18	180			201.7	1978	444.6
514-850-7-530	863.6	530	18132	178	39974	40	28	646	25.43	92	90	1136	217.0	2128	478.3
515-850-7-530	863.6	530	18132	178	39974	40	28	700	27.56	180			261.2	2561	575.8
514-850-8-530	863.6	530	25524	250	56269	50	35	651	25.63	110	100	1190	283.8	2783	625.6
515-850-8-530	863.6	530	25524	250	56269	50	35	725	28.54	230			344.7	3380	759.8
514-850-9-530	863.6	530	55135	541	121552	70	49	744	29.29	138	130	1254	529.2	5190	1166.8
514-850-10-530	863.6	530	70330	690	155050	80	55	805	31.69	156	150	1288	655.4	6427	1444.9
514-850-11-530	863.6	530	90785	890	200144	90	60	893	35.16	184	170	1356	749.5	7350	1652.2
513-850-1-570	863.6	570	423	4.15	933	10	9	559	22.01	35	30	932	68.6	673	151.3
514-850-1-570	863.6	570	423	4.15	933	10	9	559	22.01	56	30	968	19.2	188	42.2
515-850-1-570	863.6	570	423	4	933	10	9	555	21.85	80			23.2	227	51.0
513-850-2-570	863.6	570	985	9.66	2172	10	9	559	22.01	35	40	946	74.4	730	164.1
514-850-2-570	863.6	570	985	9.66	2172	10	9	559	22.01	59	40	980	50.0	490	110.2
515-850-2-570	863.6	570	985	10	2172	10	9	555	21.85	100			48.7	478	107.5
513-850-3-570	863.6	570	2125	20.8	4684	15	12	566	22.28	50	50	978	113.9	1117	251.1
514-850-3-570	863.6	570	2125	20.8	4684	15	12	566	22.28	67	50	1030	104.3	1023	230.0
515-850-3-570	863.6	570	2125	21	4684	15	12	565	22.24	100			62.1	609.5	137.0
513-850-4-570	863.6	570	4293	42.1	9465	20	16	590	23.23	60	70	999	150.3	1474	331.3
514-850-4-570	863.6	570	4293	42.1	9465	20	16	576	22.68	73	70	1052	146.1	1433	322.2
515-850-4-570	863.6	570	4293	42	9465	20	16	600	23.62	140			109.2	1071	240.8
513-850-5-570	863.6	570	6324	62	13942	25	20	608	23.94	70	80	1024	188.9	1852	416.5
514-850-5-570	863.6	570	6324	62	13942	25	20	603	23.74	79	80	1088	172.9	1696	381.2
515-850-5-570	863.6	570	6324	62	13942	25	20	630	24.8	120			127.9	1255	282.1
514-850-6-570	863.6	570	12754	125	28117	35	25	644	25.35	86	90	1120	227.2	2228	500.9
515-850-6-570	863.6	570	12754	125	28117	35	25	685	26.97	180			255.3	2504	562.9
514-850-7-570	863.6	570	18132	178	39974	40	28	646	25.43	102	100	1148	247.1	2423	544.8
515-850-7-570	863.6	570	18132	178	39974	40	28	700	27.56	200			289.7	2841	638.8
514-850-8-570	863.6	570	25524	250	56269	50	35	687	27.05	110	120	1198	300.5	2947	662.5
515-850-8-570	863.6	570	25524	250	56269	50	35	725	28.54	280			418.0	4100	921.6
514-850-9-570	863.6	570	55135	541	121552	70	49	771	30.35	138	130	1254	549.1	5385	1210.6
514-850-10-570	863.6	570	70330	690	155050	80	55	826	32.52	156	150	1288	678.5	6654	1495.9
514-850-11-570	863.6	570	90785	890	200144	90	60	863	33.98	194	170	1356	776.2	7612	1711.2

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

N.B. 36" / 900mm

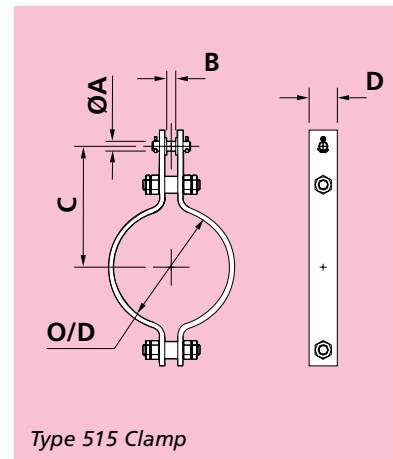
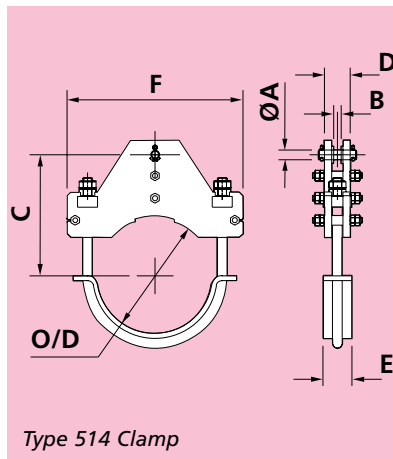
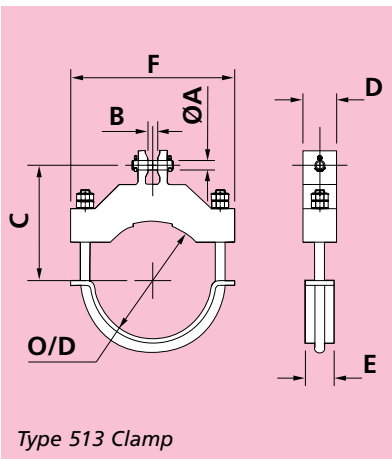
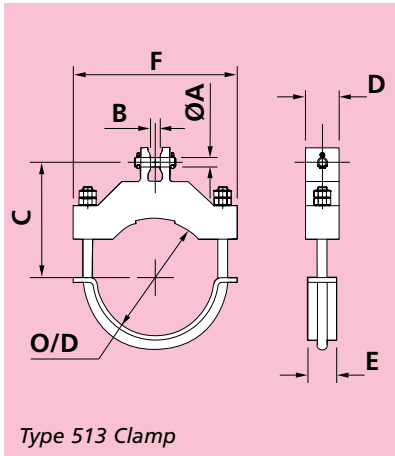


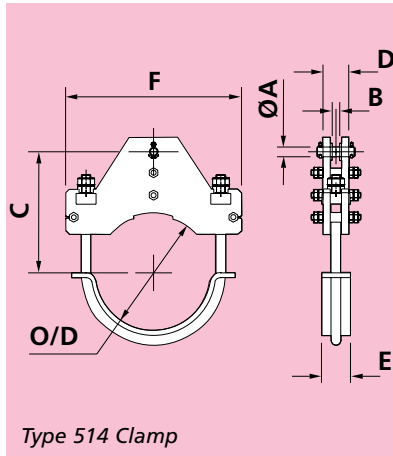
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-900-1-400	914.4	400	423	4.15	933	10	9	585	23.03	40	20	966	80.6	791	177.8
514-900-1-400	914.4	400	423	4.15	933	10	9	585	23.03	56	20	1012	20.5	201	45.2
515-900-1-400	914.4	400	423	4.15	933	10	9	580	22.83	70			21.5	211	47.4
513-900-2-400	914.4	400	985	9.66	2172	10	9	585	23.03	40	30	973	85.5	839	188.5
514-900-2-400	914.4	400	985	9.66	2172	10	9	585	23.03	59	30	1022	29.3	288	64.7
515-900-2-400	914.4	400	985	9.66	2172	10	9	580	22.83	80			31.0	304	68.3
513-900-3-400	914.4	400	2125	20.8	4684	15	12	592	23.31	40	40	998	95.0	931	209.3
514-900-3-400	914.4	400	2125	20.8	4684	15	12	592	23.31	67	40	1070	63.0	617	138.8
515-900-3-400	914.4	400	2125	20.8	4684	15	12	595	23.43	100			53.6	526	118.2
513-900-4-400	914.4	400	4293	42.1	9465	20	16	633	24.92	40	50	1012	109.3	1072	240.9
514-900-4-400	914.4	400	4293	42.1	9465	20	16	602	23.70	73	50	1090	88.8	871	195.8
515-900-4-400	914.4	400	4293	42.1	9465	20	16	635	25.00	100			83.6	820	184.3
513-900-5-400	914.4	400	6324	62	13942	25	20	650	25.59	50	50	1030	143.4	1406	316.2
514-900-5-400	914.4	400	6324	62	13942	25	20	608	23.94	79	50	1124	123.9	1215	273.1
515-900-5-400	914.4	400	6324	62	13942	25	20	655	25.79	150			128.6	1261	283.5
514-900-6-400	914.4	400	12754	125	28117	35	25	634	24.96	86	80	1166	186.4	1828	411.0
515-900-6-400	914.4	400	12754	125	28117	35	25	715	28.15	180			220.0	2157	485.0
514-900-7-400	914.4	400	18132	178	39974	40	28	672	26.46	92	90	1188	222.5	2182	490.5
515-900-7-400	914.4	400	18132	178	39974	40	28	750	29.53	180			285.2	2797	628.7
514-900-8-400	914.4	400	25524	250	56269	50	35	677	26.65	110	100	1242	302.6	2968	667.1
515-900-8-400	914.4	400	25524	250	56269	50	35	775	30.51	250			407.9	4000	899.2
514-900-9-400	914.4	400	55135	541	121552	70	49	768	30.24	138	130	1306	547.2	5366	1206.4
514-900-10-400	914.4	400	70330	690	155050	80	55	829	32.64	156	150	1340	719.8	7058	1586.8
514-900-11-400	914.4	400	90785	890	200144	90	60	916	36.06	184	190	1418	913.1	8955	2013.1
513-900-1-490	914.4	490	423	4.15	933	10	9	585	23.03	40	20	966	80.6	791	177.8
514-900-1-490	914.4	490	423	4.15	933	10	9	585	23.03	56	20	1012	20.5	201	45.3
515-900-1-490	914.4	490	423	4.15	933	10	9	580	22.83	60			15.2	149	33.6
513-900-2-490	914.4	490	985	9.66	2172	10	9	585	23.03	40	30	973	85.5	839	188.5
514-900-2-490	914.4	490	985	9.66	2172	10	9	585	23.03	59	30	1022	29.4	288	64.7
515-900-2-490	914.4	490	985	9.66	2172	10	9	580	22.83	80			30.8	302	67.8
513-900-3-490	914.4	490	2125	20.8	4684	15	12	592	23.31	40	40	998	95.0	931	209.3
514-900-3-490	914.4	490	2125	20.8	4684	15	12	592	23.31	67	40	1070	63.0	618	138.8
515-900-3-490	914.4	490	2125	20.8	4684	15	12	590	23.23	100			52.7	517	116.2
513-900-4-490	914.4	490	4293	42.1	9465	20	16	631	24.84	40	50	1012	108.7	1066	239.5
514-900-4-490	914.4	490	4293	42.1	9465	20	16	602	23.70	73	50	1090	88.8	871	195.8
515-900-4-490	914.4	490	4293	42.1	9465	20	16	625	24.61	100			82.0	804	180.7
513-900-5-490	914.4	490	6324	62	13942	25	20	648	25.51	50	50	1030	142.6	1399	314.4
514-900-5-490	914.4	490	6324	62	13942	25	20	608	23.94	79	50	1124	123.9	1215	273.2
515-900-5-490	914.4	490	6324	62	13942	25	20	640	25.20	140			117.3	1150	258.5
514-900-6-490	914.4	490	12754	125	28117	35	25	622	24.49	86	70	1156	178.6	1751	393.7
515-900-6-490	914.4	490	12754	125	28117	35	25	690	27.17	160			187.5	1839	413.4
514-900-7-490	914.4	490	18132	178	39974	40	28	636	25.04	92	80	1182	109.9	1078	242.3
515-900-7-490	914.4	490	18132	178	39974	40	28	725	28.54	180			272.4	2671	600.5
514-900-8-490	914.4	490	25524	250	56269	50	35	677	26.65	110	90	1230	281.3	2759	620.2
515-900-8-490	914.4	490	25524	250	56269	50	35	750	29.53	220			343.5	3368	757.2
514-900-9-490	914.4	490	55135	541	121552	70	49	756	29.76	138	130	1306	535.5	5252	1180.7
514-900-10-490	914.4	490	70330	690	155050	80	55	818	32.20	156	150	1340	711.1	6973	1567.7
514-900-11-490	914.4	490	90785	890	200144	90	60	907	35.71	184	170	1408	838.8	8226	1849.3

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

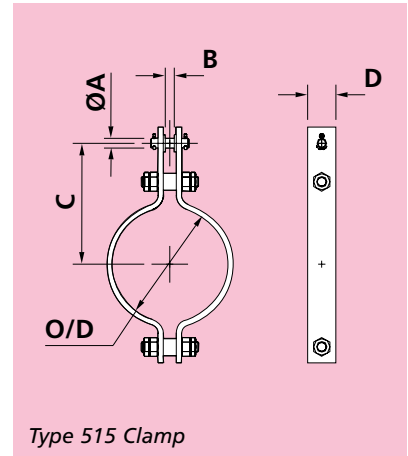
N.B. 36" / 900mm



Type 513 Clamp



Type 514 Clamp

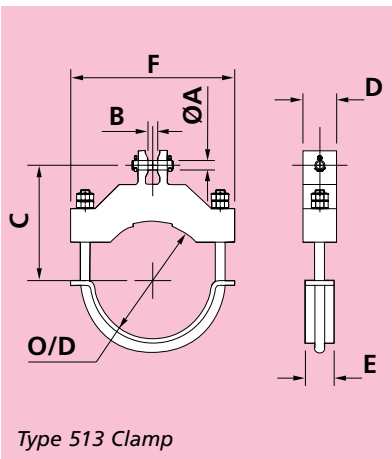


Type 515 Clamp

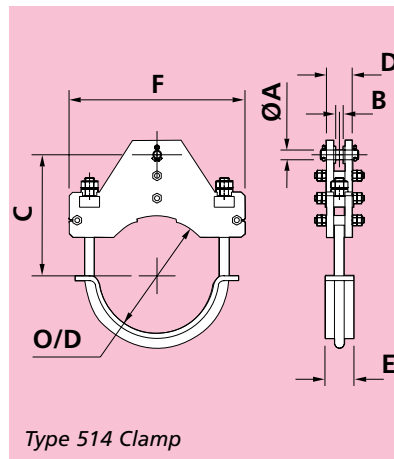
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				mm	N	lbs
513-900-1-530	914.4	530	423	4.15	933	10	9	585	23.03	40	30	973	82.6	810	182.2
514-900-1-530	914.4	530	423	4.15	933	10	9	585	23.03	56	30	1014	21.9	215	48.4
515-900-1-530	914.4	530	423	4.15	933	10	9	580	22.83	70			21.3	209	47.0
513-900-2-530	914.4	530	985	9.66	2172	10	9	585	23.03	40	30	984	87.7	860	193.2
514-900-2-530	914.4	530	985	9.66	2172	10	9	585	23.03	59	30	1028	41.0	402	90.5
515-900-2-530	914.4	530	985	9.66	2172	10	9	580	22.83	100			38.4	377	84.7
513-900-3-530	914.4	530	2125	20.8	4684	15	12	592	23.31	40	50	1012	98.9	970	218.1
514-900-3-530	914.4	530	2125	20.8	4684	15	12	592	23.31	67	50	1074	87.0	853	191.8
515-900-3-530	914.4	530	2125	20.8	4684	15	12	600	23.62	90			59.6	585	131.5
513-900-4-530	914.4	530	4293	42.1	9465	20	16	621	24.45	50	50	1030	133.7	1311	294.7
514-900-4-530	914.4	530	4293	42.1	9465	20	16	601	23.66	73	50	1098	129.6	1271	285.7
515-900-4-530	914.4	530	4293	42.1	9465	20	16	625	24.61	110			90.1	884	198.6
513-900-5-530	914.4	530	6324	62	13942	25	20	638	25.12	60	70	1051	171.7	1684	378.6
514-900-5-530	914.4	530	6324	62	13942	25	20	608	23.94	79	70	1130	162.1	1590	357.4
515-900-5-530	914.4	530	6324	62	13942	25	20	640	25.20	160			133.8	1312	295.0
514-900-6-530	914.4	530	12754	125	28117	35	25	634	24.96	86	80	1166	122.0	1197	269.0
515-900-6-530	914.4	530	12754	125	28117	35	25	690	27.17	180			210.6	2065	464.3
514-900-7-530	914.4	530	18132	178	39974	40	28	672	26.46	92	90	1188	211.2	2071	465.6
515-900-7-530	914.4	530	18132	178	39974	40	28	725	28.54	180			272.4	2671	600.5
514-900-8-530	914.4	530	25524	250	56269	50	35	677	26.65	110	100	1242	303.1	2972	668.1
515-900-8-530	914.4	530	25524	250	56269	50	35	750	29.53	240			374.1	3668	824.6
514-900-9-530	914.4	530	55135	541	121552	70	49	758	29.84	138	130	1306	540.2	5297	1190.9
514-900-10-530	914.4	530	70330	690	155050	80	55	818	32.20	156	150	1340	711.1	6973	1567.7
514-900-11-530	914.4	530	90785	890	200144	90	60	907	35.71	184	170	1408	838.8	8226	1849.3
513-900-1-570	914.4	570	423	4.15	933	10	9	585	23.03	40	30	984	85.1	835	187.7
514-900-1-570	914.4	570	423	4.15	933	10	9	585	23.03	56	30	1020	25.4	249	56.1
515-900-1-570	914.4	570	423	4	933	10	9	580	22.83	80			24.3	238.7	53.7
513-900-2-570	914.4	570	985	9.66	2172	10	9	585	23.03	40	40	998	91.8	900	202.3
514-900-2-570	914.4	570	985	9.66	2172	10	9	585	23.03	59	40	1032	65.3	641	144.0
515-900-2-570	914.4	570	985	10	2172	10	9	580	22.83	100			51.3	502.7	113.0
513-900-3-570	914.4	570	2125	20.8	4684	15	12	592	23.31	50	50	1030	124.8	1224	275.2
514-900-3-570	914.4	570	2125	20.8	4684	15	12	592	23.31	67	50	1082	124.8	1223	275.0
515-900-3-570	914.4	570	2125	21	4684	15	12	590	23.23	100			65.3	639.9	143.9
513-900-4-570	914.4	570	4293	42.1	9465	20	16	619	24.37	60	70	1051	164.6	1614	362.9
514-900-4-570	914.4	570	4293	42.1	9465	20	16	602	23.70	73	70	1104	158.9	1559	350.4
515-900-4-570	914.4	570	4293	42	9465	20	16	625	24.61	140			114.4	1122	252.3
513-900-5-570	914.4	570	6324	62	13942	25	20	636	25.04	70	80	1076	206.1	2021	454.3
514-900-5-570	914.4	570	6324	62	13942	25	20	629	24.76	79	80	1140	186.2	1826	410.4
515-900-5-570	914.4	570	6324	62	13942	25	20	660	25.98	120			134.6	1320	296.7
514-900-6-570	914.4	570	12754	125	28117	35	25	670	26.38	86	90	1172	239.9	2353	529.0
515-900-6-570	914.4	570	12754	125	28117	35	25	710	27.95	180			266.5	2614	587.6
514-900-7-570	914.4	570	18132	178	39974	40	28	672	26.46	102	100	1200	269.5	2643	594.2
515-900-7-570	914.4	570	18132	178	39974	40	28	725	28.54	200			302.2	2963	666.1
514-900-8-570	914.4	570	25524	250	56269	50	35	713	28.07	110	120	1250	324.9	3187	716.4
515-900-8-570	914.4	570	25524	250	56269	50	35	750	29.53	290			450.5	4418	993.1
514-900-9-570	914.4	570	55135	541	121552	70	49	786	30.94	138	130	1306	561.8	5509	1238.5
514-900-10-570	914.4	570	70330	690	155050	80	55	841	33.11	156	150	1340	730.4	7163	1610.2
514-900-11-570	914.4	570	90785	890	200144	90	60	916	36.06	184	170	1408	856.0	8395	1887.2

**CLAMPS FOR RIGID STRUTS AND SNUBBERS**

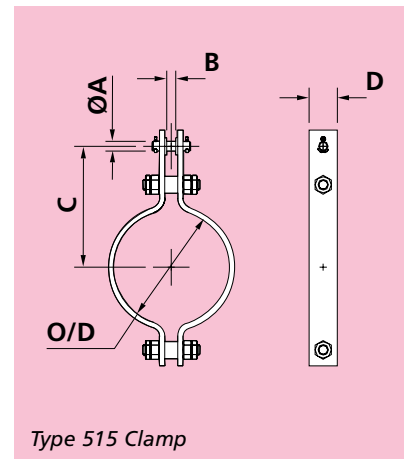
**N.B. 38" / 950mm**



Type 513 Clamp



Type 514 Clamp



Type 515 Clamp

Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-950-1-400	965	400	423	4.15	933	10	9	611	24.06	40	20	1018	88.9	871	195.9
514-950-1-400	965	400	423	4.15	933	10	9	611	24.06	56	20	1064	29.2	286	64.3
515-950-1-400	965	400	423	4.15	933	10	9	605	23.82	70			22.6	221	49.8
513-950-2-400	965	400	985	9.66	2172	10	9	611	24.06	40	30	1025	94.3	925	207.9
514-950-2-400	965	400	985	9.66	2172	10	9	611	24.06	59	30	1074	40.7	399	89.8
515-950-2-400	965	400	985	9.66	2172	10	9	605	23.82	80			32.6	320	71.8
513-950-3-400	965	400	2125	20.8	4684	15	12	618	24.33	40	40	1050	104.2	1022	229.7
514-950-3-400	965	400	2125	20.8	4684	15	12	618	24.33	67	40	1122	80.1	786	176.6
515-950-3-400	965	400	2125	20.8	4684	15	12	620	24.41	110			61.7	605	135.9
513-950-4-400	965	400	4293	42.1	9465	20	16	663	26.10	40	50	1064	120.1	1178	264.8
514-950-4-400	965	400	4293	42.1	9465	20	16	628	24.72	73	50	1142	111.1	1089	244.9
515-950-4-400	965	400	4293	42.1	9465	20	16	665	26.18	100			87.8	861	193.5
513-950-5-400	965	400	6324	62	13942	25	20	680	26.77	50	50	1082	156.8	1538	345.8
514-950-5-400	965	400	6324	62	13942	25	20	634	24.96	79	50	1176	148.0	1451	326.3
515-950-5-400	965	400	6324	62	13942	25	20	680	26.77	150			134.2	1316	295.8
514-950-6-400	965	400	12754	125	28117	35	25	660	25.98	86	80	1218	204.5	2006	450.9
515-950-6-400	965	400	12754	125	28117	35	25	740	29.13	190			241.4	2367	532.1
514-950-7-400	965	400	18132	178	39974	40	28	698	27.48	102	90	1240	229.3	2249	505.5
515-950-7-400	965	400	18132	178	39974	40	28	780	30.71	180			297.6	2919	656.2
514-950-8-400	965	400	25524	250	56269	50	35	703	27.68	110	100	1294	282.5	2770	622.8
515-950-8-400	965	400	25524	250	56269	50	35	800	31.50	250			423.4	4152	933.4
514-950-9-400	965	400	55135	541	121552	70	49	780	30.71	138	130	1358	523.7	5145	1156.7
514-950-10-400	965	400	70330	690	155050	80	55	844	33.23	156	150	1392	744.4	7300	1641.1
514-950-11-400	965	400	90785	890	200144	90	60	931	36.65	184	190	1470	1010.3	9907	2227.2
513-950-1-490	965	490	423	4.15	933	10	9	611	24.06	40	20	1018	88.9	871	195.9
514-950-1-490	965	490	423	4.15	933	10	9	611	24.06	56	20	1064	29.2	286	64.4
515-950-1-490	965	490	423	4.15	933	10	9	605	23.82	70			22.4	220	49.5
513-950-2-490	965	490	985	9.66	2172	10	9	611	24.06	40	30	1025	94.3	925	207.9
514-950-2-490	965	490	985	9.66	2172	10	9	611	24.06	59	30	1074	40.8	400	89.8
515-950-2-490	965	490	985	9.66	2172	10	9	605	23.82	80			32.3	317	71.2
513-950-3-490	965	490	2125	20.8	4684	15	12	618	24.33	40	40	1050	104.2	1022	229.7
514-950-3-490	965	490	2125	20.8	4684	15	12	618	24.33	67	40	1122	80.1	786	176.6
515-950-3-490	965	490	2125	20.8	4684	15	12	615	24.21	100			55.2	541	121.7
513-950-4-490	965	490	4293	42.1	9465	20	16	661	26.02	40	50	1064	119.5	1172	263.4
514-950-4-490	965	490	4293	42.1	9465	20	16	628	24.72	73	50	1142	111.1	1089	244.9
515-950-4-490	965	490	4293	42.1	9465	20	16	655	25.79	100			86.2	845	190.0
513-950-5-490	965	490	6324	62	13942	25	20	678	26.69	50	50	1082	156.0	1530	343.9
514-950-5-490	965	490	6324	62	13942	25	20	634	24.96	79	50	1176	148.1	1452	326.5
515-950-5-490	965	490	6324	62	13942	25	20	670	26.38	150			131.8	1293	290.6
514-950-6-490	965	490	12754	125	28117	35	25	648	25.51	86	70	1208	191.3	1876	421.8
515-950-6-490	965	490	12754	125	28117	35	25	715	28.15	170			207.5	2035	457.5
514-950-7-490	965	490	18132	178	39974	40	28	662	26.06	92	80	1234	114.5	1123	252.5
515-950-7-490	965	490	18132	178	39974	40	28	750	29.53	180			283.4	2779	624.8
514-950-8-490	965	490	25524	250	56269	50	35	703	27.68	110	90	1282	263.3	2582	580.5
515-950-8-490	965	490	25524	250	56269	50	35	780	30.71	230			374.9	3676	826.4
514-950-9-490	965	490	55135	541	121552	70	49	772	30.39	138	130	1358	518.8	5088	1143.8
514-950-10-490	965	490	70330	690	155050	80	55	832	32.76	156	150	1392	734.5	7203	1619.3
514-950-11-490	965	490	90785	890	200144	90	60	922	36.30	184	170	1460	935.6	9175	2062.7

# CLAMPS FOR RIGID STRUTS AND SNUBBERS

N.B. 38" / 950mm

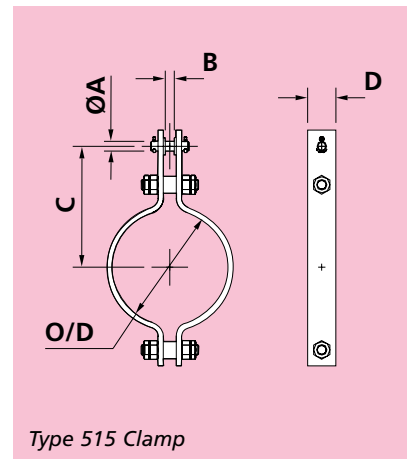
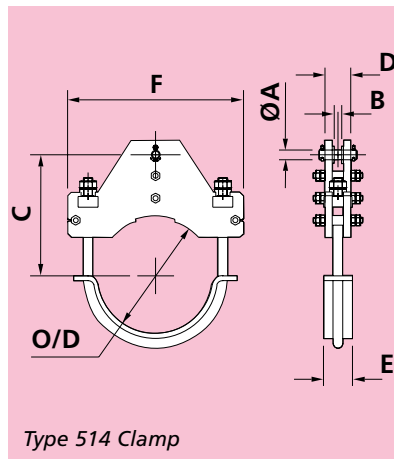
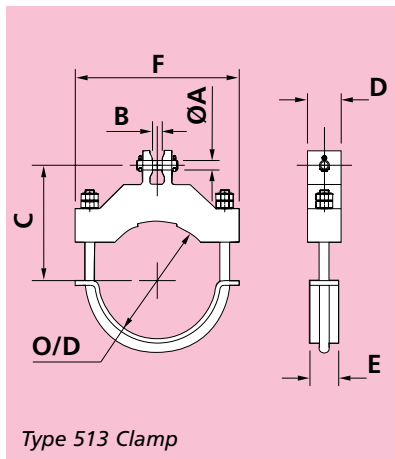
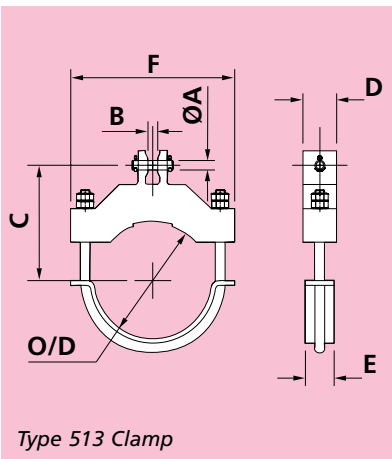
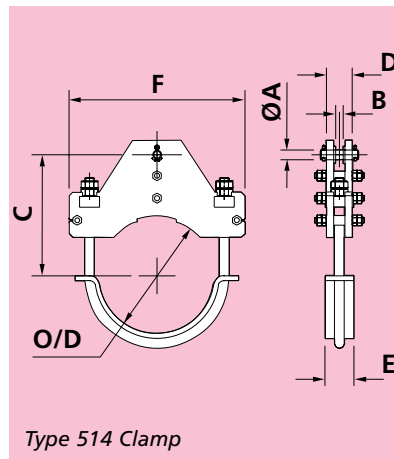


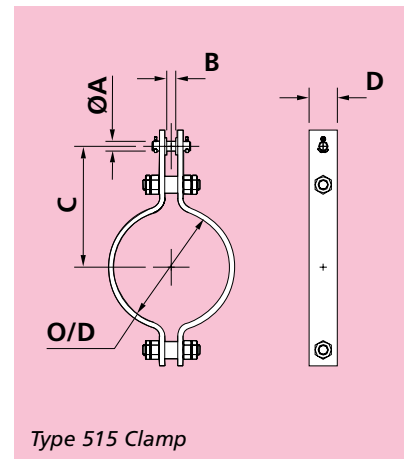
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-950-1-530	965	530	423	4.15	933	10	9	611	24.06	40	30	1025	90.9	892	200.5
514-950-1-530	965	530	423	4.15	933	10	9	611	24.06	56	30	1066	30.7	301	67.6
515-950-1-530	965	530	423	4.15	933	10	9	605	23.82	70			22.4	220	49.5
513-950-2-530	965	530	985	9.66	2172	10	9	611	24.06	40	30	1036	96.6	947	212.9
514-950-2-530	965	530	985	9.66	2172	10	9	611	24.06	59	30	1080	55.5	545	122.5
515-950-2-530	965	530	985	9.66	2172	10	9	605	23.82	100			40.3	395	88.9
513-950-3-530	965	530	2125	20.8	4684	15	12	618	24.33	40	50	1064	108.3	1062	238.8
514-950-3-530	965	530	2125	20.8	4684	15	12	618	24.33	67	50	1126	105.9	1038	233.4
515-950-3-530	965	530	2125	20.8	4684	15	12	625	24.61	90			62.5	613	137.7
513-950-4-530	965	530	4293	42.1	9465	20	16	650	25.59	50	50	1082	146.4	1436	322.7
514-950-4-530	965	530	4293	42.1	9465	20	16	627	24.69	73	50	1150	150.1	1472	331.0
515-950-4-530	965	530	4293	42.1	9465	20	16	655	25.79	110			94.7	929	208.8
513-950-5-530	965	530	6324	62	13942	25	20	668	26.30	60	70	1103	187.7	1841	413.9
514-950-5-530	965	530	6324	62	13942	25	20	634	24.96	79	70	1182	178.2	1747	392.8
515-950-5-530	965	530	6324	62	13942	25	20	690	27.17	120			142.5	1397	314.1
514-950-6-530	965	530	12754	125	28117	35	25	660	25.98	86	80	1218	128.7	1262	283.7
515-950-6-530	965	530	12754	125	28117	35	25	715	28.15	190			231.6	2271	510.6
514-950-7-530	965	530	18132	178	39974	40	28	698	27.48	102	90	1240	229.9	2255	506.9
515-950-7-530	965	530	18132	178	39974	40	28	750	29.53	180			283.4	2779	624.8
514-950-8-530	965	530	25524	250	56269	50	35	726	28.58	110	100	1294	319.0	3129	703.3
515-950-8-530	965	530	25524	250	56269	50	35	780	30.71	250			406.8	3990	896.9
514-950-9-530	965	530	55135	541	121552	70	49	772	30.39	138	130	1358	517.5	5075	1140.8
514-950-10-530	965	530	70330	690	155050	80	55	832	32.76	156	150	1392	734.5	7203	1619.3
514-950-11-530	965	530	90785	890	200144	90	60	922	36.30	184	170	1460	935.6	9175	2062.7
513-950-1-570	965	570	423	4.15	933	10	9	611	24.06	40	30	1036	93.9	921	207.1
514-950-1-570	965	570	423	4.15	933	10	9	611	24.06	56	30	1072	34.9	342	77.0
515-950-1-570	965	570	423	4	933	10	9	605	23.82	80			32.0	313.9	70.6
513-950-2-570	965	570	985	9.66	2172	10	9	611	24.06	40	40	1050	100.9	989	222.4
514-950-2-570	965	570	985	9.66	2172	10	9	611	24.06	59	40	1084	85.6	839	188.7
515-950-2-570	965	570	985	10	2172	10	9	605	23.82	100			53.7	527.1	118.5
513-950-3-570	965	570	2125	20.8	4684	15	12	618	24.33	50	50	1082	136.6	1340	301.2
514-950-3-570	965	570	2125	20.8	4684	15	12	618	24.33	67	50	1134	145.0	1422	319.7
515-950-3-570	965	570	2125	21	4684	15	12	615	24.21	100			68.4	670.7	150.8
513-950-4-570	965	570	4293	42.1	9465	20	16	647	25.47	60	70	1103	179.9	1764	396.7
514-950-4-570	965	570	4293	42.1	9465	20	16	628	24.72	73	70	1156	168.9	1656	372.4
515-950-4-570	965	570	4293	42	9465	20	16	655	25.79	150			128.8	1263	284.0
513-950-5-570	965	570	6324	62	13942	25	20	665	26.18	70	80	1128	225.4	2210	496.9
514-950-5-570	965	570	6324	62	13942	25	20	655	25.79	79	80	1192	199.2	1953	439.1
515-950-5-570	965	570	6324	62	13942	25	20	685	26.97	120			140.5	1378	309.9
514-950-6-570	965	570	12754	125	28117	35	25	696	27.40	96	90	1224	197.1	1933	434.4
515-950-6-570	965	570	12754	125	28117	35	25	735	28.94	180			277.6	2722	611.9
514-950-7-570	965	570	18132	178	39974	40	28	718	28.27	102	100	1252	326.6	3202	719.9
515-950-7-570	965	570	18132	178	39974	40	28	750	29.53	200			314.4	3083	693.2
514-950-8-570	965	570	25524	250	56269	50	35	739	29.09	120	120	1302	287.9	2824	634.8
515-950-8-570	965	570	25524	250	56269	50	35	780	30.71	300			486.8	4774	1073.1
514-950-9-570	965	570	55135	541	121552	70	49	799	31.46	138	130	1358	540.2	5298	1191.0
514-950-10-570	965	570	70330	690	155050	80	55	855	33.66	156	150	1392	755.9	7413	1666.5
514-950-11-570	965	570	90785	890	200144	90	60	931	36.65	184	170	1460	952.2	9338	2099.3



Type 513 Clamp

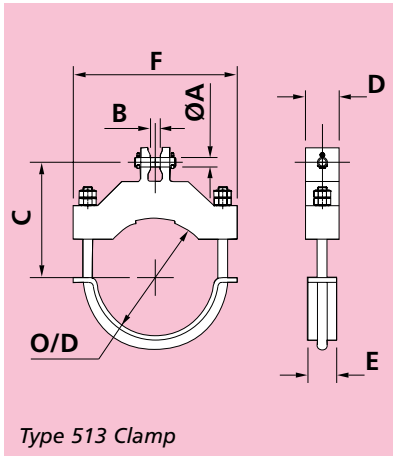


Type 514 Clamp

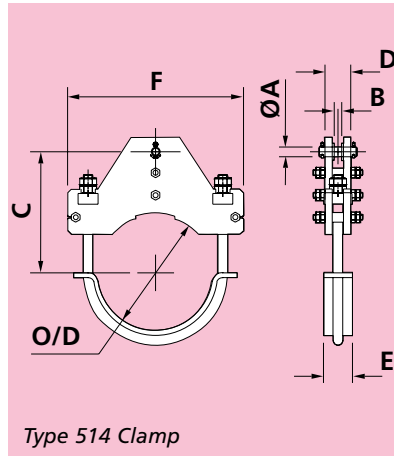


Type 515 Clamp

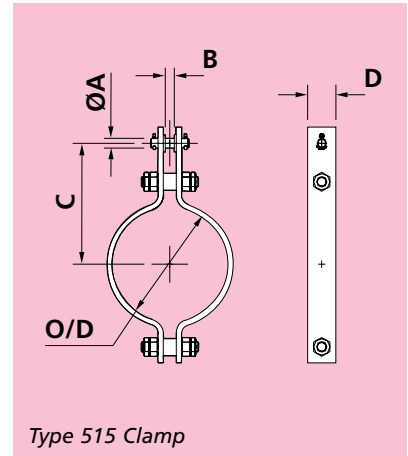
Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-1000-1-400	1016	400	423	4.15	933	10	9	636	25.04	45	20	1068	108.7	1066	239.7
514-1000-1-400	1016	400	423	4.15	933	10	9	636	25.04	66	20	1114	48.2	473	106.4
515-1000-1-400	1016	400	423	4.15	933	10	9	630	24.80	70			23.6	231	52.0
513-1000-2-400	1016	400	985	9.66	2172	10	9	636	25.04	45	30	1075	114.5	1123	252.5
514-1000-2-400	1016	400	985	9.66	2172	10	9	636	25.04	69	30	1124	57.4	563	126.6
515-1000-2-400	1016	400	985	9.66	2172	10	9	630	24.80	80			34.1	334	75.1
513-1000-3-400	1016	400	2125	20.8	4684	15	12	643	25.31	45	40	1100	125.5	1231	276.7
514-1000-3-400	1016	400	2125	20.8	4684	15	12	643	25.31	77	40	1172	103.2	1012	227.5
515-1000-3-400	1016	400	2125	20.8	4684	15	12	645	25.39	110			64.4	631	141.9
513-1000-4-400	1016	400	4293	42.1	9465	20	16	683	26.89	45	50	1114	142.1	1394	313.3
514-1000-4-400	1016	400	4293	42.1	9465	20	16	653	25.71	83	50	1192	137.1	1345	302.3
515-1000-4-400	1016	400	4293	42.1	9465	20	16	690	27.17	110			100.5	985	221.5
513-1000-5-400	1016	400	6324	62	13942	25	20	708	27.87	50	50	1132	170.3	1670	375.5
514-1000-5-400	1016	400	6324	62	13942	25	20	659	25.94	89	50	1226	178.4	1749	393.3
515-1000-5-400	1016	400	6324	62	13942	25	20	705	27.76	160			148.9	1460	328.2
514-1000-6-400	1016	400	12754	125	28117	35	25	685	26.97	96	80	1268	234.5	2300	517.0
515-1000-6-400	1016	400	12754	125	28117	35	25	765	30.12	190			250.6	2457	552.4
514-1000-7-400	1016	400	18132	178	39974	40	28	723	28.46	102	90	1290	253.6	2486	559.0
515-1000-7-400	1016	400	18132	178	39974	40	28	805	31.69	180			308.5	3026	680.2
514-1000-8-400	1016	400	25524	250	56269	50	35	728	28.66	110	100	1344	294.6	2889	649.4
515-1000-8-400	1016	400	25524	250	56269	50	35	825	32.48	260			455.6	4468	1004.4
514-1000-9-400	1016	400	55135	541	121552	70	49	797	31.38	138	130	1408	495.2	4857	1091.8
514-1000-10-400	1016	400	70330	690	155050	80	55	857	33.74	156	150	1442	732.4	7182	1614.7
514-1000-11-400	1016	400	90785	890	200144	90	60	944	37.17	184	190	1520	1086.5	10655	2395.4
513-1000-1-490	1016	490	423	4.15	933	10	9	636	25.04	45	20	1068	108.7	1066	239.7
514-1000-1-490	1016	490	423	4.15	933	10	9	636	25.04	66	20	1114	48.3	473	106.4
515-1000-1-490	1016	490	423	4.15	933	10	9	630	24.80	70			23.5	230	51.7
513-1000-2-490	1016	490	985	9.66	2172	10	9	636	25.04	45	30	1075	114.5	1123	252.5
514-1000-2-490	1016	490	985	9.66	2172	10	9	636	25.04	69	30	1124	57.4	563	126.6
515-1000-2-490	1016	490	985	9.66	2172	10	9	630	24.80	80			33.8	331	74.4
513-1000-3-490	1016	490	2125	20.8	4684	15	12	643	25.31	45	40	1100	125.1	1227	275.8
514-1000-3-490	1016	490	2125	20.8	4684	15	12	643	25.31	77	40	1172	103.2	1012	227.5
515-1000-3-490	1016	490	2125	20.8	4684	15	12	640	25.20	100			57.7	565	127.1
513-1000-4-490	1016	490	4293	42.1	9465	20	16	682	26.85	45	50	1114	141.6	1388	312.1
514-1000-4-490	1016	490	4293	42.1	9465	20	16	653	25.71	83	50	1192	137.1	1345	302.3
515-1000-4-490	1016	490	4293	42.1	9465	20	16	680	26.77	100			89.9	881	198.1
513-1000-5-490	1016	490	6324	62	13942	25	20	706	27.80	50	50	1132	169.5	1662	373.6
514-1000-5-490	1016	490	6324	62	13942	25	20	659	25.94	89	50	1226	178.5	1750	393.4
515-1000-5-490	1016	490	6324	62	13942	25	20	695	27.36	150			137.3	1347	302.8
514-1000-6-490	1016	490	12754	125	28117	35	25	673	26.50	96	70	1258	238.6	2339	525.9
515-1000-6-490	1016	490	12754	125	28117	35	25	740	29.13	170			215.7	2116	475.6
514-1000-7-490	1016	490	18132	178	39974	40	28	687	27.05	102	80	1284	260.5	2555	574.4
515-1000-7-490	1016	490	18132	178	39974	40	28	795	31.30	180			301.9	2960	665.5
514-1000-8-490	1016	490	25524	250	56269	50	35	728	28.66	110	90	1332	274.8	2695	605.9
515-1000-8-490	1016	490	25524	250	56269	50	35	805	31.69	240			405.4	3975	893.7
514-1000-9-490	1016	490	55135	541	121552	70	49	788	31.02	138	130	1408	481.5	4722	1061.5
514-1000-10-490	1016	490	70330	690	155050	80	55	845	33.27	156	150	1442	721.8	7079	1591.3
514-1000-11-490	1016	490	90785	890	200144	90	60	935	36.81	184	170	1510	1016.8	9971	2241.6



Type 513 Clamp



Type 514 Clamp



Type 515 Clamp

Fig. No.	Pipe O/D	Max. Pipe Temp °C	Max. Load			Dia. A	B	C		D	E	F	Clamp Weight		
			kgf	kN	lbs			mm	in				kgf	N	lbs
513-1000-1-530	1016	530	423	4.15	933	10	9	636	25.04	45	30	1075	110.6	1084	243.8
514-1000-1-530	1016	530	423	4.15	933	10	9	636	25.04	66	30	1116	49.9	489	109.9
515-1000-1-530	1016	530	423	4.15	933	10	9	630	24.80	70			23.5	230	51.7
513-1000-2-530	1016	530	985	9.66	2172	10	9	636	25.04	45	30	1086	117.0	1147	257.9
514-1000-2-530	1016	530	985	9.66	2172	10	9	636	25.04	69	30	1130	76.1	747	167.9
515-1000-2-530	1016	530	985	9.66	2172	10	9	630	24.80	100			42.2	413	92.9
513-1000-3-530	1016	530	2125	20.8	4684	15	12	643	25.31	45	50	1114	129.5	1270	285.6
514-1000-3-530	1016	530	2125	20.8	4684	15	12	643	25.31	77	50	1176	131.6	1290	290.1
515-1000-3-530	1016	530	2125	20.8	4684	15	12	650	25.59	90			65.2	640	143.8
513-1000-4-530	1016	530	4293	42.1	9465	20	16	677	26.65	50	50	1132	159.3	1562	351.2
514-1000-4-530	1016	530	4293	42.1	9465	20	16	652	25.67	83	50	1200	186.4	1828	410.9
515-1000-4-530	1016	530	4293	42.1	9465	20	16	680	26.77	120			107.7	1056	237.3
513-1000-5-530	1016	530	6324	62	13942	25	20	695	27.36	60	70	1153	203.7	1997	449.0
514-1000-5-530	1016	530	6324	62	13942	25	20	659	25.94	89	70	1232	225.4	2211	497.0
515-1000-5-530	1016	530	6324	62	13942	25	20	715	28.15	120			148.4	1455	327.1
514-1000-6-530	1016	530	12754	125	28117	35	25	685	26.97	96	80	1268	269.4	2642	593.9
515-1000-6-530	1016	530	12754	125	28117	35	25	740	29.13	190			240.8	2361	530.8
514-1000-7-530	1016	530	18132	178	39974	40	28	723	28.46	102	90	1290	239.9	2352	528.8
515-1000-7-530	1016	530	18132	178	39974	40	28	795	31.30	190			318.3	3122	701.8
514-1000-8-530	1016	530	25524	250	56269	50	35	738	29.06	110	100	1344	364.0	3570	802.5
515-1000-8-530	1016	530	25524	250	56269	50	35	805	31.69	260			438.5	4301	966.8
514-1000-9-530	1016	530	55135	541	121552	70	49	790	31.10	138	130	1408	490.2	4807	1080.7
514-1000-10-530	1016	530	70330	690	155050	80	55	845	33.27	156	150	1442	721.8	7079	1591.3
514-1000-11-530	1016	530	90785	890	200144	90	60	935	36.81	184	170	1510	1016.8	9971	2241.6
513-1000-1-570	1016	570	423	4.15	933	10	9	636	25.04	45	30	1086	113.9	1117	251.1
514-1000-1-570	1016	570	423	4.15	933	10	9	636	25.04	66	30	1122	52.1	511	114.8
515-1000-1-570	1016	570	423	4	933	10	9	630	24.8	80			33.5	328.4	73.8
513-1000-2-570	1016	570	985	9.66	2172	10	9	636	25.04	45	40	1100	121.7	1193	268.2
514-1000-2-570	1016	570	985	9.66	2172	10	9	636	25.04	69	40	1134	107.3	1052	236.5
515-1000-2-570	1016	570	985	10	2172	10	9	630	24.8	100			56.2	551.1	123.9
513-1000-3-570	1016	570	2125	20.8	4684	15	12	643	25.31	50	50	1132	148.2	1453	326.6
514-1000-3-570	1016	570	2125	20.8	4684	15	12	643	25.31	77	50	1184	183.3	1798	404.2
515-1000-3-570	1016	570	2125	21	4684	15	12	650	25.59	110			79.6	780.9	175.6
513-1000-4-570	1016	570	4293	42.1	9465	20	16	674	26.54	60	70	1153	194.9	1911	429.7
514-1000-4-570	1016	570	4293	42.1	9465	20	16	653	25.71	83	70	1206	224.2	2198	494.2
515-1000-4-570	1016	570	4293	42	9465	20	16	680	26.77	160			143.3	1405	315.8
513-1000-5-570	1016	570	6324	62	13942	25	20	693	27.28	70	80	1178	243.9	2392	537.7
514-1000-5-570	1016	570	6324	62	13942	25	20	680	26.77	89	80	1242	252.0	2471	555.5
515-1000-5-570	1016	570	6324	62	13942	25	20	715	28.15	120			148.4	1455	327.1
514-1000-6-570	1016	570	12754	125	28117	35	25	721	28.39	96	90	1274	205.6	2016	453.2
515-1000-6-570	1016	570	12754	125	28117	35	25	765	30.12	180			289.9	2843	639.0
514-1000-7-570	1016	570	18132	178	39974	40	28	734	28.90	102	100	1302	313.9	3079	692.1
515-1000-7-570	1016	570	18132	178	39974	40	28	780	30.71	220			360.5	3535	794.7
514-1000-8-570	1016	570	25524	250	56269	50	35	764	30.08	120	120	1352	315.4	3093	695.3
515-1000-8-570	1016	570	25524	250	56269	50	35	805	31.69	310			521.5	5114	1149.7
514-1000-9-570	1016	570	55135	541	121552	70	49	811	31.93	138	130	1408	500.5	4909	1103.5
514-1000-10-570	1016	570	70330	690	155050	80	55	866	34.09	156	150	1442	736.1	7219	1622.8
514-1000-11-570	1016	570	90785	890	200144	90	60	946	37.24	184	170	1510	1025.6	10057	2260.9