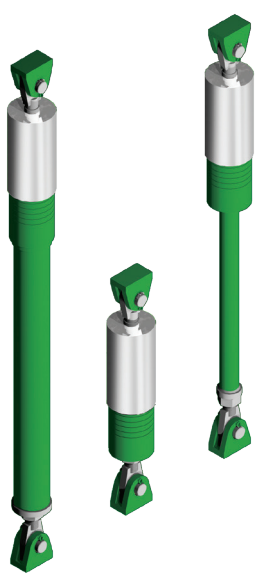
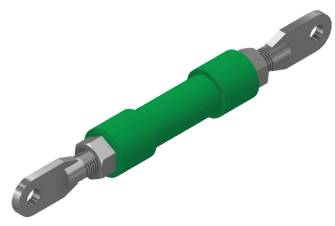




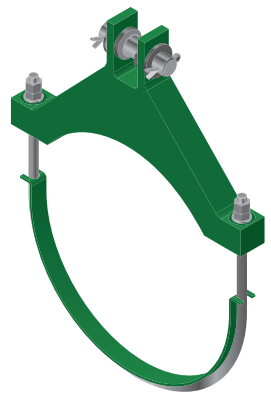
# DYNAMIC RESTRAINTS



HYDRAULIC SNUBBERS



RIGID STRUTS



STIFF CLAMPS

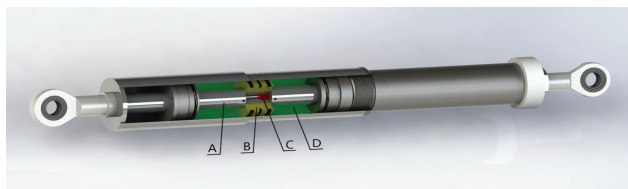
# CPA DYNAMIC RESTRAINTS

As part of its extensive product offering, Carpenter & Paterson (Asia) Ltd (“CPA”) designs and manufactures dynamic restraints (hydraulic snubbers and rigid struts) as well as connecting stiff clamps.

## HYDRAULIC SNUBBERS



Under the normal operating conditions of a piping system, the CPA hydraulic snubbers accommodate the required displacement of the piping. However, during a dynamic event (such as an earthquake, rapid valve closure, two phase flow or relief valve discharge) the snubbers lock the piping system in place thus protecting it from excessive deflections /stresses.



A. Piston Rod                      B. Valve components  
C. Piston component          D. Oil chamber

As illustrated above, the CPA hydraulic snubber incorporates a ‘through rod’ design. This provides the following benefits over competitor products:

- No need for an external reservoir – the hydraulic fluid volume does not change, as a result of the existence of the piston rod on either side of the piston
- Strong design – the piston rod is supported at both ends to avoid ‘knuckling’ and subsequent wear on the bearings.
- Small diameter – efficient design and no external reservoir results in a compact product.
- Enables the snubber to be installed in any orientation.
- Results in robust product with strong and reliable performance.

## FEATURES OF CPA HYDRAULIC SNUBBERS:

1. Piston rod and main components of snubber are suitably treated to provide a high level of corrosion resistance. This avoids corrosion issues and wear of bearings which would occur if piston rod corroded.
2. Sealing systems have been specially designed to ensure long working life without leakage.

3. Hydraulic fluid specially selected for snubber operation.
4. Compact design with pressurised built-in hydraulic system. No external piping or reservoir. Requires minimal space envelope for installation.
5. Rings of body of snubber, spaced at 10mm, provide an axial travel scale.
6. Finish of non stainless steel parts is by hot zinc spray. This provides a better protection than galvanising or epoxy paint systems.
7. Minimal lost motion in snubber performance achieved by design of seal system.
8. Rod end connections on snubbers allow + – 5-degree angulation.
9. Extension pieces on CSA snubbers provide precise installed lengths required.
10. Valves are critical to the performance of a snubber. CPA valves have been fine-tuned by continuous testing as well as by calculation.

CPA Hydraulic Snubbers awaiting inspection:



## PERFORMANCE OF CPA SNUBBERS:

1. Standard lock up rate 3 to 5 mm/sec.
2. Bleed rate 0.2 to 2mm/sec.
3. Drag force less than 2% of rated load.
4. All snubbers are tested on our purpose built test rig and results tabulated. See photos below:

CPA Hydraulic Snubber Test Rig



## CPA Hydraulic Snubber Test Report:



| Hydraulic Snubber Test Report |             |            |                          |             |          |
|-------------------------------|-------------|------------|--------------------------|-------------|----------|
| Project Name                  |             | Hanger No. | SNB-2000-01              | Rated Load  | 80.000KN |
| Serial No.                    | 130179      | Model      | CS-50-150                | Preset      | 100.0mm  |
|                               |             |            |                          |             |          |
| Tension Friction              | 0.500KN     |            | Compression Friction     | 0.450KN     |          |
|                               |             |            |                          |             |          |
| Tension Lock-up Rate          | 220.7mm/min |            | Compression Lock-up Rate | 265.8mm/min |          |
| Tension Bleed Rate            | 27.3mm/min  |            | Compression Bleed Rate   | 28.9mm/min  |          |
| Tension Maximum               | 79.500KN    |            | Compression Maximum      | 80.730KN    |          |
| Standard                      |             |            |                          |             |          |
| Conclusion                    |             | Inspector  |                          | Date        |          |

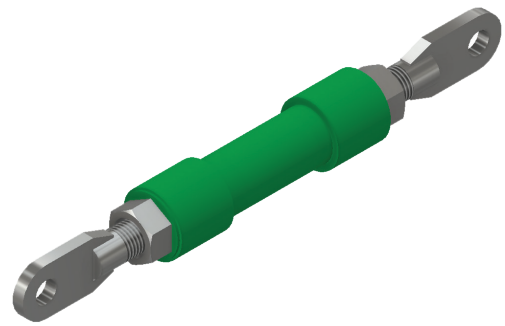
## APPLICATION RECOMMENDATIONS:

1. Select only CPA connections to snubbers to ensure maximum stiffness of assembly.
2. When selecting snubber stroke, allow a minimum of 10mm excess travel over the expected thermal movement at both ends of the snubber.
3. Ensure all loadings are taken into account when selecting snubber size.
4. Snubber assemblies can angulate to allow for thermal movements of the pipework. Ensure there is sufficient space around snubber assembly to allow this angulation without clashes.
5. After installation a check should be made to ensure snubber assemblies have been installed correctly. Incorrect installation could cause severe problems to piping in the event the snubber is activated.
6. Snubbers should be regularly inspected during their working life in accordance with CPA operating and maintenance manual.

## MAINTENANCE OF CPA SNUBBERS:

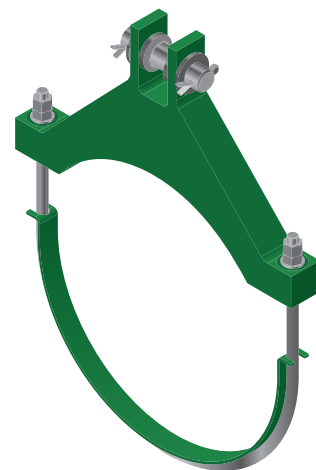
1. Annual inspection is recommended. This should include a visual inspection by personnel that are familiar with the operation of snubbers. CPA can perform such inspections. During such inspections the following should be recorded.
2. Installed position of snubber compared to design data.
3. Physical state of the snubber and its connections. Noting any damage or leakage.
4. Any physical obstructions affecting snubber performance.
5. After 10 years we would recommend a more detailed inspection involving removal and re-testing of a sample batch of snubbers. Please contact us for full information on detailed inspection procedure.

## RIGID STRUTS



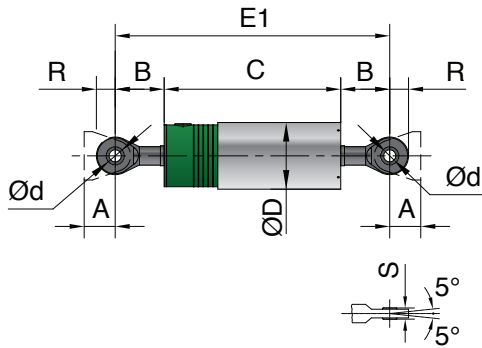
Where there is no pipe displacement at a required restraint location, a CPA rigid strut attached to the pipework and surrounding structure restrains any movement of the piping system during a dynamic event.

## STIFF CLAMPS

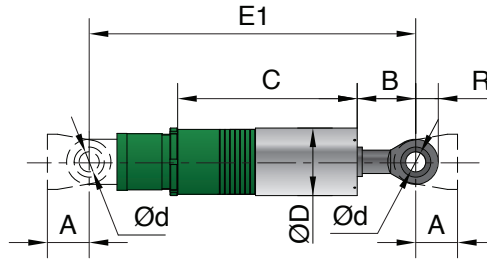


CPA's High-Stiffness Yoke Clamps firmly attaches the hydraulic snubber or rigid strut to the pipework. This ensures minimal 'chatter' between the pipe and clamp, thus ensuring optimal performance of the snubber/strut.

This range of CPA Yoke Clamps has been designed to suit CPA's range of Rigid Struts and Hydraulic Snubbers. Load capacities and connecting pin dimensions are compatible. Some of the designs incorporate two U-Bolts or U-Straps rather than the single items shown in the pictures. Selection of the item is based on pipe size, maximum applicable temperature and maximum load. Standard materials of construction are shown which are applicable to carbon and alloy steel pipes. For stainless steel pipes, stiff clamps constructed from stainless steel are available, and for temperatures up to 605 deg. C, will have the same enveloping dimensions. For higher temperatures, special designs can be produced.



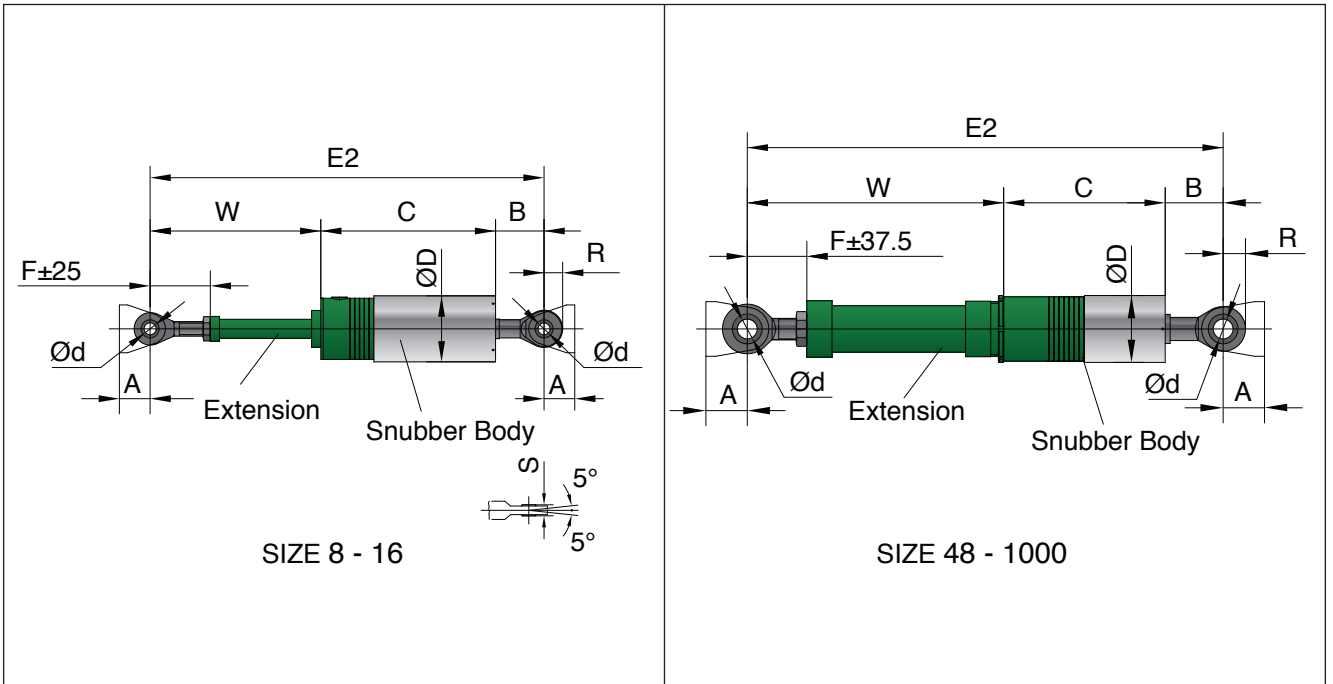
SIZE 8 - 16



SIZE 48 - 1000

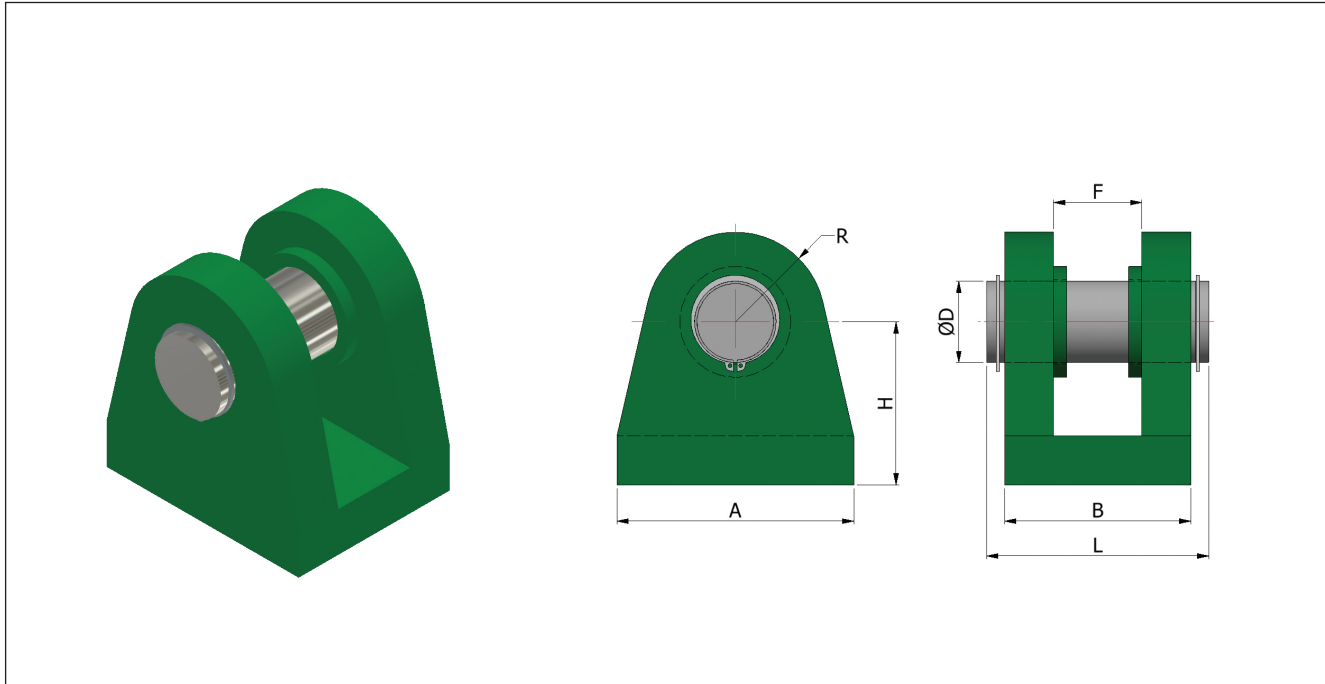
| Figure No.  | Load (kN) | Stroke (mm) | A   | B   | S    | R    | C (Middle Stroke) | Ød  | ØD  | E1 min (mm) | E1 max (mm) | Weight (kg) |
|-------------|-----------|-------------|-----|-----|------|------|-------------------|-----|-----|-------------|-------------|-------------|
| CS-8-100    | 8         | 100         | 34  | 50  | 10.5 | 20   | 265               | 12  | 70  | 315         | 415         | 4.3         |
| CS-8-200    | 8         | 200         | 34  | 50  | 10.5 | 20   | 415               | 12  | 70  | 415         | 615         | 5.7         |
| CS-16-150   | 16        | 150         | 45  | 77  | 12.5 | 26.5 | 345               | 15  | 95  | 424         | 574         | 6.2         |
| CS-16-300   | 16        | 300         | 45  | 77  | 12.5 | 26.5 | 570               | 15  | 95  | 574         | 874         | 6.2         |
| CS-48-150   | 48        | 150         | 55  | 94  | 20.5 | 32   | 396               | 25  | 89  | 595         | 745         | 21.4        |
| CS-48-300   | 48        | 300         | 55  | 94  | 20.5 | 32   | 621               | 25  | 89  | 895         | 1195        | 29.6        |
| CS-80-150   | 80        | 150         | 70  | 125 | 25.5 | 41   | 425               | 35  | 108 | 670         | 820         | 35.3        |
| CS-80-300   | 80        | 300         | 70  | 125 | 25.5 | 41   | 650               | 35  | 108 | 970         | 1270        | 46.1        |
| CS-80-400   | 80        | 400         | 70  | 125 | 25.5 | 41   | 800               | 35  | 108 | 1170        | 1570        | 53.4        |
| CS-120-150  | 120       | 150         | 80  | 142 | 28.5 | 46   | 426               | 40  | 133 | 700         | 850         | 51.6        |
| CS-120-300  | 120       | 300         | 80  | 142 | 28.5 | 46   | 651               | 40  | 133 | 1000        | 1300        | 66.5        |
| CS-120-400  | 120       | 400         | 80  | 142 | 28.5 | 46   | 801               | 40  | 133 | 1200        | 1600        | 77.1        |
| CS-200-150  | 200       | 150         | 100 | 160 | 36.0 | 56   | 456               | 50  | 159 | 755         | 905         | 84.7        |
| CS-200-300  | 200       | 300         | 100 | 160 | 36.0 | 56   | 681               | 50  | 159 | 1055        | 1355        | 105.2       |
| CS-200-400  | 200       | 400         | 100 | 160 | 36.0 | 56   | 831               | 50  | 159 | 1255        | 1655        | 117.4       |
| CS-320-150  | 320       | 150         | 125 | 175 | 45.0 | 68   | 488               | 60  | 202 | 815         | 965         | 140.2       |
| CS-320-300  | 320       | 300         | 125 | 175 | 45.0 | 68   | 713               | 60  | 202 | 1115        | 1415        | 171.9       |
| CS-320-400  | 320       | 400         | 125 | 175 | 45.0 | 68   | 863               | 60  | 202 | 1315        | 1715        | 191.6       |
| CS-500-150  | 500       | 150         | 145 | 230 | 56.0 | 90   | 548               | 80  | 253 | 950         | 1100        | 250.3       |
| CS-500-300  | 500       | 300         | 145 | 230 | 56.0 | 90   | 773               | 80  | 253 | 1250        | 1550        | 299.5       |
| CS-500-400  | 500       | 400         | 145 | 230 | 56.0 | 90   | 923               | 80  | 253 | 1450        | 1850        | 325.2       |
| CS-1000-150 | 1000      | 150         | 210 | 265 | 71.0 | 145  | 610               | 100 | 325 | 1075        | 1225        | 537.0       |
| CS-1000-300 | 1000      | 300         | 210 | 265 | 71.0 | 145  | 835               | 100 | 325 | 1375        | 1675        | 609.0       |
| CS-1000-400 | 1000      | 400         | 210 | 265 | 71.0 | 145  | 985               | 100 | 325 | 1575        | 1975        | 639.0       |

## HYDRAULIC SNUBBERS - CSA TYPE



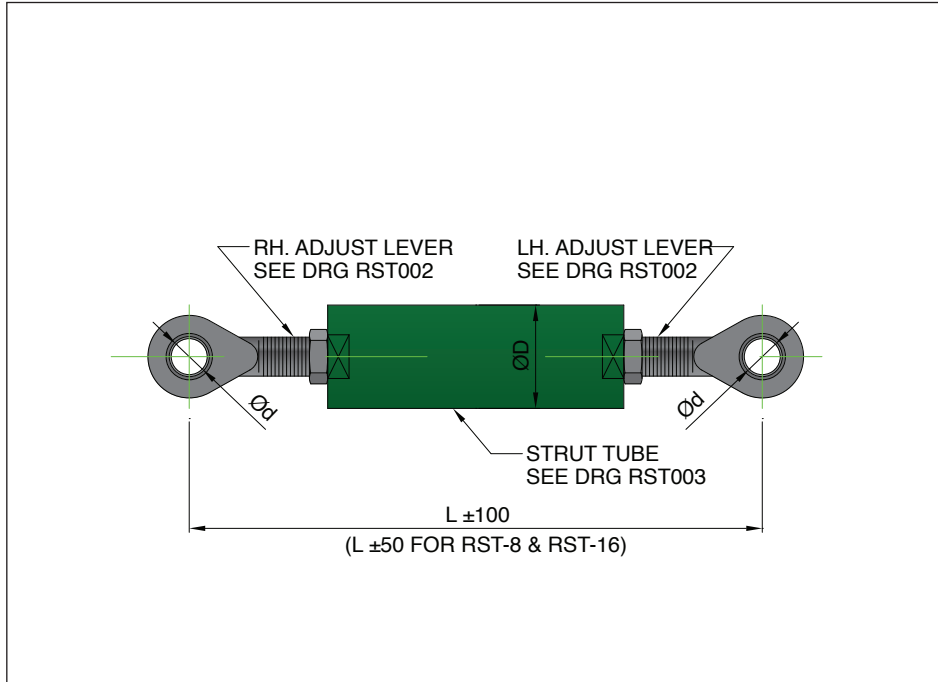
| Figure No.   | Load (kN) | Stroke (mm) | A   | B   | S    | R    | C (Middle Stroke) | Ød  | ØD  | E2 min (mm) | E2 max (mm) | F   | Weight (kg) |
|--------------|-----------|-------------|-----|-----|------|------|-------------------|-----|-----|-------------|-------------|-----|-------------|
| CSA-8-100    | 8         | 100         | 34  | 50  | 10.5 | 20   | 265               | 12  | 70  | 510         | 1400        | 56  | 4.3         |
| CSA-8-200    | 8         | 200         | 34  | 50  | 10.5 | 20   | 415               | 12  | 70  | 660         | 1400        | 56  | 5.7         |
| CSA-16-150   | 16        | 150         | 45  | 77  | 12.5 | 26.5 | 345               | 15  | 95  | 627         | 1597        | 69  | 6.2         |
| CSA-16-300   | 16        | 300         | 45  | 77  | 12.5 | 26.5 | 570               | 15  | 95  | 852         | 1597        | 69  | 6.2         |
| CSA-48-150   | 48        | 150         | 55  | 94  | 20.5 | 32   | 396               | 25  | 89  | 870         | 2150        | 105 | 21.4        |
| CSA-48-300   | 48        | 300         | 55  | 94  | 20.5 | 32   | 621               | 25  | 89  | 1170        | 2150        | 105 | 29.6        |
| CSA-80-150   | 80        | 150         | 70  | 125 | 25.5 | 41   | 425               | 35  | 108 | 965         | 2450        | 130 | 35.3        |
| CSA-80-300   | 80        | 300         | 70  | 125 | 25.5 | 41   | 650               | 35  | 108 | 1265        | 2450        | 130 | 46.1        |
| CSA-80-400   | 80        | 400         | 70  | 125 | 25.5 | 41   | 800               | 38  | 108 | 1465        | 2450        | 130 | 53.4        |
| CSA-120-150  | 120       | 150         | 80  | 142 | 28.5 | 46   | 426               | 40  | 133 | 1033        | 2798        | 150 | 51.6        |
| CSA-120-300  | 120       | 300         | 80  | 142 | 28.5 | 46   | 651               | 40  | 133 | 1333        | 2796        | 150 | 66.5        |
| CSA-120-400  | 120       | 400         | 80  | 142 | 28.5 | 46   | 801               | 40  | 133 | 1533        | 2798        | 150 | 77.1        |
| CSA-200-150  | 200       | 150         | 100 | 160 | 36.0 | 56   | 456               | 50  | 159 | 1121        | 3201        | 175 | 84.7        |
| CSA-200-300  | 200       | 300         | 100 | 160 | 36.0 | 56   | 681               | 50  | 159 | 1421        | 3201        | 175 | 105.2       |
| CSA-200-400  | 200       | 400         | 100 | 160 | 36.0 | 56   | 831               | 50  | 159 | 1621        | 3201        | 175 | 117.4       |
| CSA-320-150  | 320       | 150         | 125 | 175 | 45.0 | 68   | 488               | 60  | 202 | 1208        | 4098        | 190 | 140.2       |
| CSA-320-300  | 320       | 300         | 125 | 175 | 45.0 | 68   | 713               | 60  | 202 | 1508        | 4098        | 190 | 171.9       |
| CSA-320-400  | 320       | 400         | 125 | 175 | 45.0 | 68   | 863               | 60  | 202 | 1708        | 4098        | 190 | 191.6       |
| CSA-500-150  | 500       | 150         | 145 | 230 | 56.0 | 90   | 548               | 80  | 253 | 1383        | 4148        | 240 | 250.3       |
| CSA-500-300  | 500       | 300         | 145 | 230 | 56.0 | 90   | 773               | 80  | 253 | 1683        | 4148        | 240 | 299.5       |
| CSA-500-400  | 500       | 400         | 145 | 230 | 56.0 | 90   | 923               | 80  | 253 | 1883        | 4148        | 240 | 325.2       |
| CSA-1000-150 | 1000      | 150         | 210 | 265 | 71.0 | 145  | 610               | 100 | 325 | 1500        | 4700        | 280 | 537.0       |
| CSA-1000-300 | 1000      | 300         | 210 | 265 | 71.0 | 145  | 835               | 100 | 325 | 1800        | 4700        | 280 | 609.0       |
| CSA-1000-400 | 1000      | 400         | 210 | 265 | 71.0 | 145  | 985               | 100 | 325 | 2000        | 4700        | 280 | 639.0       |

## WELDING CLEVIS (FOR SNUBBERS & STRUTS)

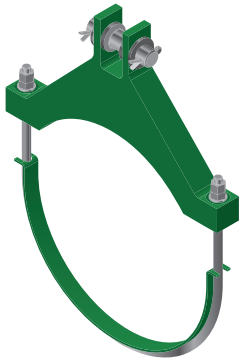


| Figure No. | Nom. Load (kN) | D   | H   | R   | A   | F    | B    | L    | Weight (kg) |
|------------|----------------|-----|-----|-----|-----|------|------|------|-------------|
| WC-8       | 8              | 12  | 34  | 17  | 52  | 16   | 40   | 53   | 0.45        |
| WC-16      | 16             | 15  | 45  | 20  | 65  | 17.5 | 41.5 | 54.5 | 0.74        |
| WC-48      | 48             | 25  | 55  | 28  | 80  | 29   | 61   | 76   | 1.7         |
| WC-80      | 80             | 35  | 70  | 38  | 110 | 37   | 77   | 94   | 3.7         |
| WC-120     | 120            | 40  | 80  | 45  | 125 | 43   | 93   | 113  | 6.3         |
| WC-200     | 200            | 50  | 100 | 55  | 145 | 54   | 114  | 136  | 11.9        |
| WC-320     | 320            | 60  | 125 | 65  | 165 | 64   | 144  | 166  | 21.1        |
| WC-500     | 500            | 80  | 145 | 90  | 215 | 84   | 164  | 192  | 36.3        |
| WC-1000    | 1000           | 100 | 210 | 100 | 250 | 102  | 222  | 250  | 77.9        |

## RIGID STRUTS



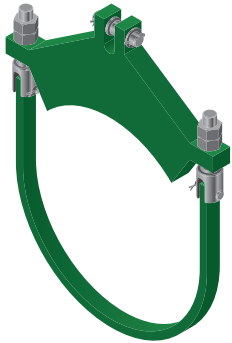
| CPA Figure No. | Max Allowable Load (kN) | L    |      | D      | d   | Weight (L=1000) |
|----------------|-------------------------|------|------|--------|-----|-----------------|
|                |                         | min  | max  |        |     |                 |
| RST-8          | 8                       | 250  | 2000 | 42.16  | 12  | 4.69            |
| RST-16         | 16                      | 300  | 2000 | 60.32  | 15  | 9.15            |
| RST-48         | 48                      | 500  | 2150 | 73.02  | 25  | 14.91           |
| RST-80         | 80                      | 600  | 2450 | 73.02  | 35  | 18.79           |
| RST-120        | 120                     | 700  | 2800 | 88.90  | 40  | 26.43           |
| RST-200        | 200                     | 750  | 3200 | 114.30 | 50  | 43.02           |
| RST-320        | 320                     | 850  | 3300 | 168.30 | 60  | 63.39           |
| RST-500        | 500                     | 1000 | 4000 | 219.10 | 80  | 104.11          |
| RST-1000       | 1000                    | 1000 | 4000 | 168.30 | 100 | 208.00          |



**Clamp Type DC1 (with U-Bolt)**

**Materials**

| Component | Temperature Range  |                 |                       |                 |
|-----------|--------------------|-----------------|-----------------------|-----------------|
|           | T0                 | T1-T2           | T3                    | T4              |
| Yoke Body | Carbon steel       | Alloy Steel     | Alloy Steel           | 9% Cr steel     |
| Saddle    | Carbon steel       | Alloy Steel     | Alloy Steel           | 9% Cr steel     |
| U-Bolt    | Carbon/Alloy steel | Alloy Steel     | Alloy/Stainless steel | Stainless steel |
| Nuts      | Carbon steel       | Alloy Steel     | Alloy/Stainless steel | Stainless steel |
| Pin       | Stainless steel    | Stainless steel | Stainless steel       | Stainless steel |



**Clamp Type DC2 (with U-Strap)**

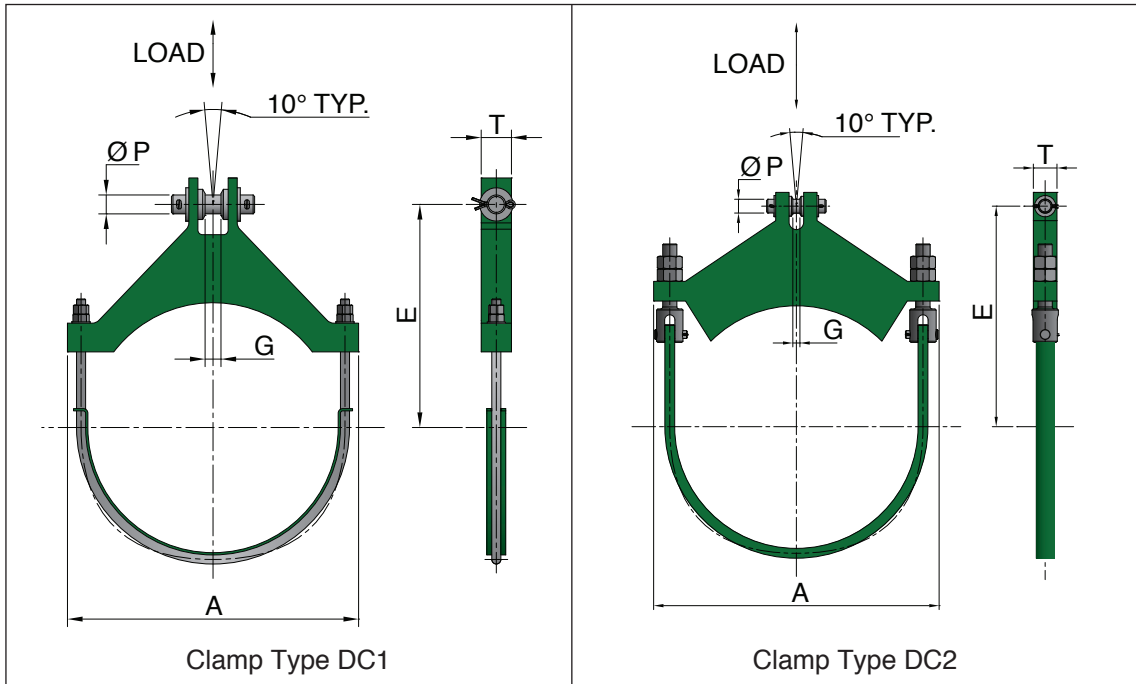
**Materials**

| Component  | Temperature Range |                       |                 |                 |
|------------|-------------------|-----------------------|-----------------|-----------------|
|            | T0                | T1-T2                 | T3              | T4              |
| Yoke Body  | Carbon steel      | Alloy Steel           | Alloy Steel     | 9% Cr steel     |
| Strap      | Carbon steel      | Alloy Steel           | Alloy Steel     | 9% Cr steel     |
| Tensioners | Alloy steel       | Alloy/Stainless steel | Stainless steel | Stainless steel |
| Nuts       | Carbon steel      | Alloy/Stainless steel | Stainless steel | Stainless steel |
| Pin        | Stainless steel   | Stainless steel       | Stainless steel | Stainless steel |

This range of High-Stiffness Yoke Clamps has been designed to suit Carpenter and Paterson (Asia) Limited's range of Rigid Struts and Hydraulic Snubbers. Load capacities and connecting pin dimensions are compatible. Some of the designs incorporate two U-Bolts or U-Straps rather than the single items shown in the pictures. Selection of the item is based on pipe size, maximum applicable temperature and maximum load. Standard materials of construction are shown which are applicable to carbon and alloy steel pipes. For stainless steel pipes, stiff clamps constructed from stainless steel are available, and for temperatures up to 600 deg. C, will have the same enveloping dimensions. For higher temperatures, special designs can be produced.

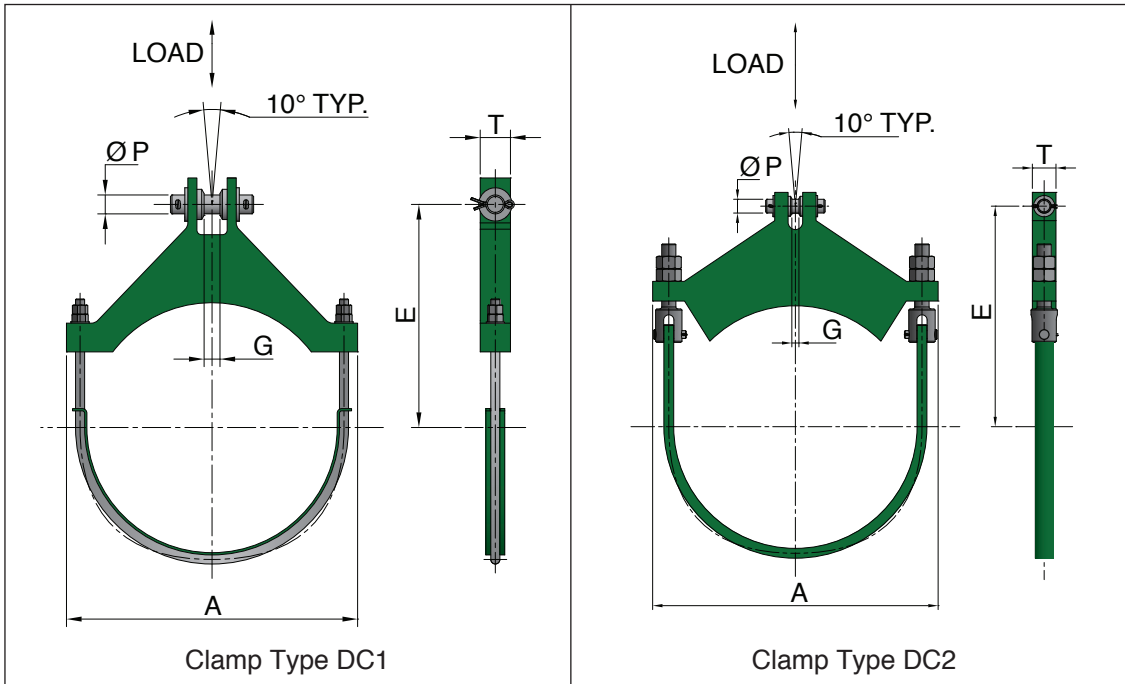


## STIFF CLAMPS



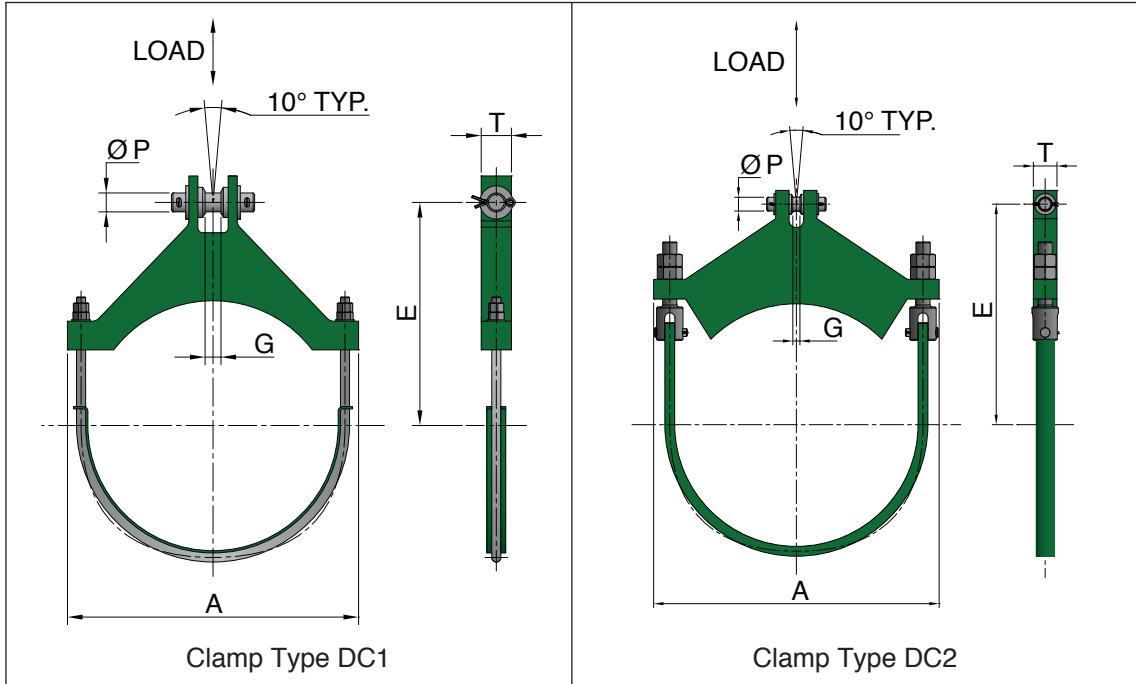
| Figure No.     | Pipe NB | Pipe O/D | Maximum Load | Maximum Temp. | Ø P | A   | E   | G    | T   | Weight |
|----------------|---------|----------|--------------|---------------|-----|-----|-----|------|-----|--------|
|                | mm      | mm       | kN           | Deg. C        | mm  | mm  | mm  | mm   | mm  | kg     |
| DC1-100-8-T0   | 100     | 114.3    | 8            | 400           | 12  | 195 | 230 | 10.5 | 40  | 5.5    |
| DC1-100-16-T0  | 100     | 114.3    | 16           | 400           | 15  | 195 | 230 | 12.5 | 40  | 5.5    |
| DC1-150-8-T0   | 150     | 168.3    | 8            | 400           | 12  | 265 | 255 | 10.5 | 40  | 7.4    |
| DC1-150-16-T0  | 150     | 168.3    | 16           | 400           | 15  | 265 | 255 | 12.5 | 40  | 7.4    |
| DC1-150-48-T0  | 150     | 168.3    | 48           | 400           | 25  | 285 | 265 | 20.5 | 55  | 16.9   |
| DC1-200-8-T0   | 200     | 219.1    | 8            | 400           | 12  | 305 | 305 | 10.5 | 40  | 9.7    |
| DC1-200-16-T0  | 200     | 219.1    | 16           | 400           | 15  | 305 | 305 | 12.5 | 40  | 9.7    |
| DC1-200-48-T0  | 200     | 219.1    | 48           | 400           | 25  | 335 | 315 | 20.5 | 55  | 20.2   |
| DC1-250-8-T0   | 250     | 273.0    | 8            | 400           | 12  | 360 | 355 | 10.5 | 40  | 12.8   |
| DC1-250-16-T0  | 250     | 273.0    | 16           | 400           | 15  | 360 | 355 | 12.5 | 40  | 12.8   |
| DC1-250-48-T0  | 250     | 273.0    | 48           | 400           | 25  | 390 | 365 | 20.5 | 55  | 25.5   |
| DC1-250-80-T0  | 250     | 273.0    | 80           | 400           | 35  | 390 | 370 | 25.5 | 150 | 74     |
| DC1-300-8-T0   | 300     | 323.9    | 8            | 400           | 12  | 410 | 380 | 10.5 | 40  | 14.9   |
| DC1-300-16-T0  | 300     | 323.9    | 16           | 400           | 15  | 410 | 380 | 12.5 | 40  | 14.9   |
| DC1-300-48-T0  | 300     | 323.9    | 48           | 400           | 25  | 445 | 390 | 20.5 | 55  | 29.1   |
| DC1-300-80-T0  | 300     | 323.9    | 80           | 400           | 35  | 445 | 395 | 25.5 | 150 | 83.3   |
| DC1-350-8-T0   | 350     | 355.6    | 8            | 400           | 12  | 440 | 395 | 10.5 | 40  | 15.3   |
| DC1-350-16-T0  | 350     | 355.6    | 16           | 400           | 15  | 440 | 395 | 12.5 | 40  | 15.3   |
| DC1-350-48-T0  | 350     | 355.6    | 48           | 400           | 25  | 475 | 405 | 20.5 | 55  | 29.3   |
| DC1-350-80-T0  | 350     | 355.6    | 80           | 400           | 35  | 495 | 410 | 25.5 | 60  | 37.2   |
| DC1-350-120-T0 | 350     | 355.6    | 120          | 400           | 40  | 495 | 415 | 28.5 | 170 | 118.1  |
| DC1-400-8-T0   | 400     | 406.4    | 8            | 400           | 12  | 495 | 440 | 10.5 | 40  | 19.8   |
| DC1-400-16-T0  | 400     | 406.4    | 16           | 400           | 15  | 495 | 440 | 12.5 | 40  | 19.8   |
| DC1-400-48-T0  | 400     | 406.4    | 48           | 400           | 25  | 525 | 450 | 20.5 | 55  | 36.9   |
| DC1-400-80-T0  | 400     | 406.4    | 80           | 400           | 35  | 545 | 455 | 25.5 | 60  | 46.4   |
| DC1-400-120-T0 | 400     | 406.4    | 120          | 400           | 40  | 565 | 460 | 28.5 | 70  | 60     |
| DC1-400-200-T0 | 400     | 406.4    | 200          | 400           | 50  | 545 | 475 | 36   | 190 | 135.6  |
| DC1-450-8-T0   | 450     | 457.2    | 8            | 400           | 12  | 545 | 465 | 10.5 | 40  | 21.7   |
| DC1-450-16-T0  | 450     | 457.2    | 16           | 400           | 15  | 545 | 465 | 12.5 | 40  | 21.7   |
| DC1-450-48-T0  | 450     | 457.2    | 48           | 400           | 25  | 575 | 475 | 20.5 | 55  | 40.4   |
| DC1-450-80-T0  | 450     | 457.2    | 80           | 400           | 35  | 595 | 480 | 25.5 | 60  | 51.2   |
| DC1-450-120-T0 | 450     | 457.2    | 120          | 400           | 40  | 615 | 485 | 28.5 | 70  | 64.4   |

## STIFF CLAMPS



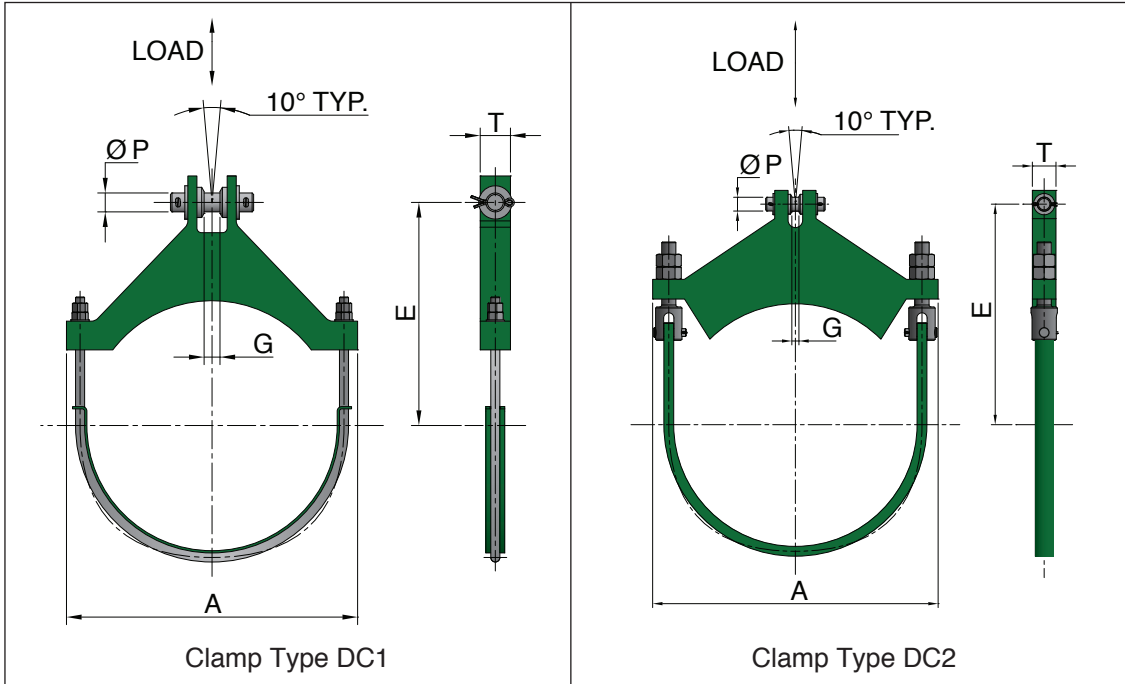
| Figure No.     | Pipe NB | Pipe O/D | Maximum Load | Maximum Temp. | $\varnothing P$ | A   | E   | G    | T   | Weight |
|----------------|---------|----------|--------------|---------------|-----------------|-----|-----|------|-----|--------|
|                | mm      | mm       | kN           | Deg. C        | mm              | mm  | mm  | mm   | mm  | kg     |
| DC1-450-200-T0 | 450     | 457.2    | 200          | 400           | 50              | 595 | 500 | 36   | 190 | 150.7  |
| DC1-450-320-T0 | 450     | 457.2    | 320          | 400           | 60              | 595 | 505 | 45   | 190 | 117.3  |
| DC1-500-8-T0   | 500     | 508.0    | 8            | 400           | 12              | 595 | 495 | 10.5 | 40  | 24.7   |
| DC1-500-16-T0  | 500     | 508.0    | 16           | 400           | 15              | 595 | 495 | 12.5 | 40  | 24.7   |
| DC1-500-48-T0  | 500     | 508.0    | 48           | 400           | 25              | 630 | 505 | 20.5 | 55  | 45.6   |
| DC2-500-80-T0  | 500     | 508.0    | 80           | 400           | 35              | 620 | 510 | 25.5 | 60  | 70.8   |
| DC2-500-120-T0 | 500     | 508.0    | 120          | 400           | 40              | 635 | 515 | 28.5 | 80  | 109.4  |
| DC2-500-200-T0 | 500     | 508.0    | 200          | 400           | 50              | 665 | 530 | 36   | 90  | 144.8  |
| DC2-500-320-T0 | 500     | 508.0    | 320          | 400           | 60              | 675 | 535 | 45   | 120 | 205.7  |
| DC1-550-8-T0   | 550     | 558.8    | 8            | 400           | 12              | 645 | 520 | 10.5 | 40  | 26.5   |
| DC1-550-16-T0  | 550     | 558.8    | 16           | 400           | 15              | 645 | 520 | 12.5 | 40  | 26.5   |
| DC1-550-48-T0  | 550     | 558.8    | 48           | 400           | 25              | 680 | 530 | 20.5 | 55  | 48.6   |
| DC2-550-80-T0  | 550     | 558.8    | 80           | 400           | 35              | 670 | 535 | 25.5 | 60  | 77.1   |
| DC2-550-120-T0 | 550     | 558.8    | 120          | 400           | 40              | 685 | 540 | 28.5 | 80  | 119.2  |
| DC2-550-200-T0 | 550     | 558.8    | 200          | 400           | 50              | 715 | 555 | 36   | 90  | 156.6  |
| DC2-550-320-T0 | 550     | 558.8    | 320          | 400           | 60              | 725 | 560 | 45   | 120 | 223    |
| DC1-600-48-T0  | 600     | 609.6    | 48           | 400           | 25              | 730 | 565 | 20.5 | 55  | 53.7   |
| DC2-600-80-T0  | 600     | 609.6    | 80           | 400           | 35              | 725 | 570 | 25.5 | 60  | 83.9   |
| DC2-600-120-T0 | 600     | 609.6    | 120          | 400           | 40              | 740 | 575 | 28.5 | 80  | 128.9  |
| DC2-600-200-T0 | 600     | 609.6    | 200          | 400           | 50              | 765 | 590 | 36   | 90  | 169.1  |
| DC2-600-320-T0 | 600     | 609.6    | 320          | 400           | 60              | 775 | 595 | 45   | 120 | 240.1  |
| DC2-600-500-T0 | 600     | 609.6    | 500          | 400           | 80              | 790 | 620 | 56   | 130 | 313.4  |
| DC1-650-48-T0  | 650     | 660.4    | 48           | 400           | 25              | 785 | 590 | 20.5 | 55  | 57.4   |
| DC2-650-80-T0  | 650     | 660.4    | 80           | 400           | 35              | 775 | 595 | 25.5 | 60  | 89.9   |
| DC2-650-120-T0 | 650     | 660.4    | 120          | 400           | 40              | 790 | 600 | 28.5 | 80  | 137.8  |
| DC2-650-200-T0 | 650     | 660.4    | 200          | 400           | 50              | 820 | 615 | 36   | 90  | 180.6  |
| DC2-650-320-T0 | 650     | 660.4    | 320          | 400           | 60              | 830 | 620 | 45   | 120 | 255.8  |
| DC2-650-500-T0 | 650     | 660.4    | 500          | 400           | 80              | 840 | 645 | 56   | 130 | 332.3  |
| DC1-700-48-T0  | 700     | 711.2    | 48           | 400           | 25              | 835 | 615 | 20.5 | 55  | 61.4   |
| DC2-700-80-T0  | 700     | 711.2    | 80           | 400           | 35              | 825 | 620 | 25.5 | 60  | 99.9   |
| DC2-700-120-T0 | 700     | 711.2    | 120          | 400           | 40              | 840 | 625 | 28.5 | 80  | 146.8  |
| DC2-700-200-T0 | 700     | 711.2    | 200          | 400           | 50              | 870 | 640 | 36   | 90  | 191.9  |

## STIFF CLAMPS



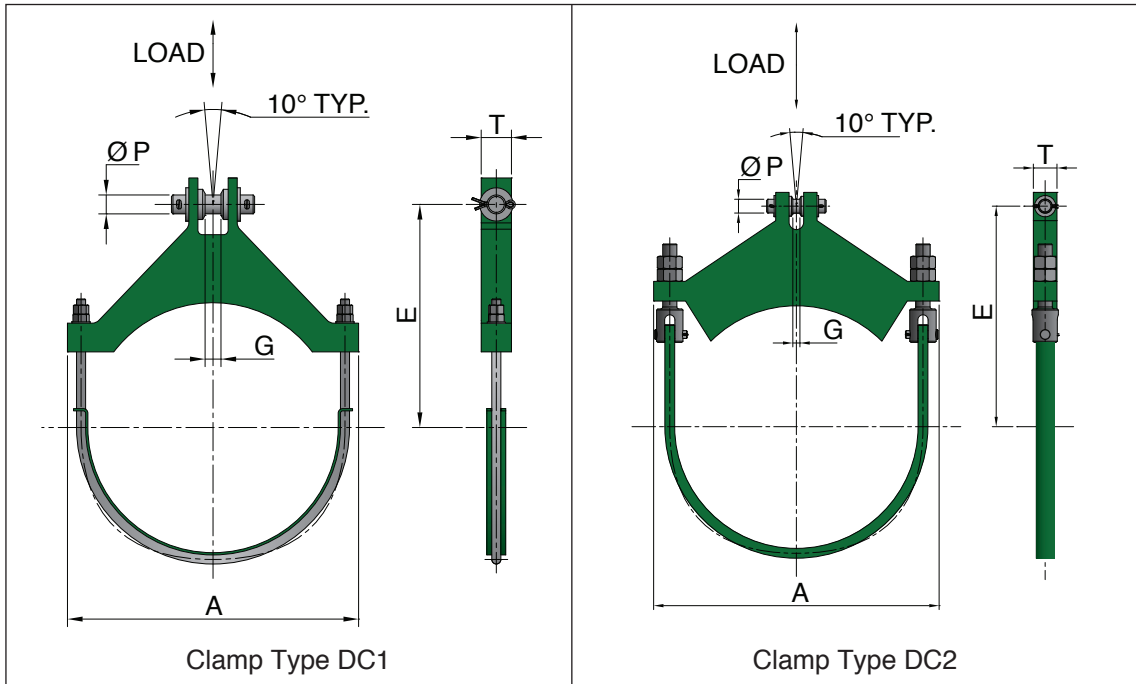
| Figure No.     | Pipe NB | Pipe O/D | Maximum Load | Maximum Temp. | Ø P | A    | E   | G    | T   | Weight |
|----------------|---------|----------|--------------|---------------|-----|------|-----|------|-----|--------|
|                | mm      | mm       | kN           | Deg. C        | mm  | mm   | mm  | mm   | mm  | kg     |
| DC2-700-320-T0 | 700     | 711.2    | 320          | 400           | 60  | 880  | 645 | 45   | 120 | 271.1  |
| DC2-700-500-T0 | 700     | 711.2    | 500          | 400           | 80  | 890  | 670 | 56   | 130 | 351.1  |
| DC1-750-48-T0  | 750     | 762.0    | 48           | 400           | 25  | 885  | 665 | 20.5 | 55  | 68.7   |
| DC2-750-80-T0  | 750     | 762.0    | 80           | 400           | 35  | 875  | 670 | 25.5 | 60  | 106.2  |
| DC2-750-120-T0 | 750     | 762.0    | 120          | 400           | 40  | 890  | 675 | 28.5 | 80  | 161.7  |
| DC2-750-200-T0 | 750     | 762.0    | 200          | 400           | 50  | 920  | 690 | 36   | 90  | 210.1  |
| DC2-750-320-T0 | 750     | 762.0    | 320          | 400           | 60  | 930  | 695 | 45   | 120 | 296    |
| DC2-750-500-T0 | 750     | 762.0    | 500          | 400           | 80  | 940  | 720 | 56   | 130 | 380.8  |
| DC1-800-48-T0  | 800     | 812.8    | 48           | 400           | 25  | 935  | 690 | 20.5 | 55  | 73.2   |
| DC2-800-80-T0  | 800     | 812.8    | 80           | 400           | 35  | 925  | 695 | 25.5 | 60  | 112.3  |
| DC2-800-120-T0 | 800     | 812.8    | 120          | 400           | 40  | 940  | 700 | 28.5 | 80  | 170.7  |
| DC2-800-200-T0 | 800     | 812.8    | 200          | 400           | 50  | 970  | 715 | 36   | 90  | 221.5  |
| DC2-800-320-T0 | 800     | 812.8    | 320          | 400           | 60  | 980  | 720 | 45   | 120 | 311.6  |
| DC2-800-500-T0 | 800     | 812.8    | 500          | 400           | 80  | 990  | 745 | 56   | 130 | 399.8  |
| DC1-850-48-T0  | 850     | 863.6    | 48           | 400           | 25  | 985  | 715 | 20.5 | 55  | 77.6   |
| DC2-850-80-T0  | 850     | 863.6    | 80           | 400           | 35  | 975  | 720 | 25.5 | 60  | 118.7  |
| DC2-850-120-T0 | 850     | 863.6    | 120          | 400           | 40  | 990  | 725 | 28.5 | 80  | 180.2  |
| DC2-850-200-T0 | 850     | 863.6    | 200          | 400           | 50  | 1020 | 740 | 36   | 90  | 233.4  |
| DC2-850-320-T0 | 850     | 863.6    | 320          | 400           | 60  | 1030 | 745 | 45   | 120 | 327.8  |
| DC2-850-500-T0 | 850     | 863.6    | 500          | 400           | 80  | 1040 | 770 | 56   | 130 | 419.6  |
| DC1-900-48-T0  | 900     | 914.4    | 48           | 400           | 25  | 1035 | 760 | 20.5 | 55  | 85.9   |
| DC2-900-80-T0  | 900     | 914.4    | 80           | 400           | 35  | 1030 | 765 | 25.5 | 60  | 129.7  |
| DC2-900-120-T0 | 900     | 914.4    | 120          | 400           | 40  | 1045 | 770 | 28.5 | 80  | 196    |
| DC2-900-200-T0 | 900     | 914.4    | 200          | 400           | 50  | 1070 | 785 | 36   | 90  | 252.4  |
| DC2-900-320-T0 | 900     | 914.4    | 320          | 400           | 60  | 1080 | 790 | 45   | 120 | 353.6  |
| DC2-900-500-T0 | 900     | 914.4    | 500          | 400           | 80  | 1095 | 815 | 56   | 130 | 450.6  |
| DC1-950-48-T0  | 950     | 965.2    | 48           | 400           | 25  | 1090 | 790 | 20.5 | 55  | 89.4   |
| DC2-950-80-T0  | 950     | 965.2    | 80           | 400           | 35  | 1080 | 795 | 25.5 | 55  | 128.1  |
| DC2-950-120-T0 | 950     | 965.2    | 120          | 400           | 40  | 1095 | 800 | 28.5 | 60  | 168.3  |
| DC2-950-200-T0 | 950     | 965.2    | 200          | 400           | 50  | 1125 | 815 | 36   | 80  | 245.1  |
| DC2-950-320-T0 | 950     | 965.2    | 320          | 400           | 60  | 1135 | 820 | 45   | 90  | 304.4  |
| DC2-950-500-T0 | 950     | 965.2    | 500          | 400           | 80  | 1145 | 845 | 56   | 120 | 447.5  |

## STIFF CLAMPS



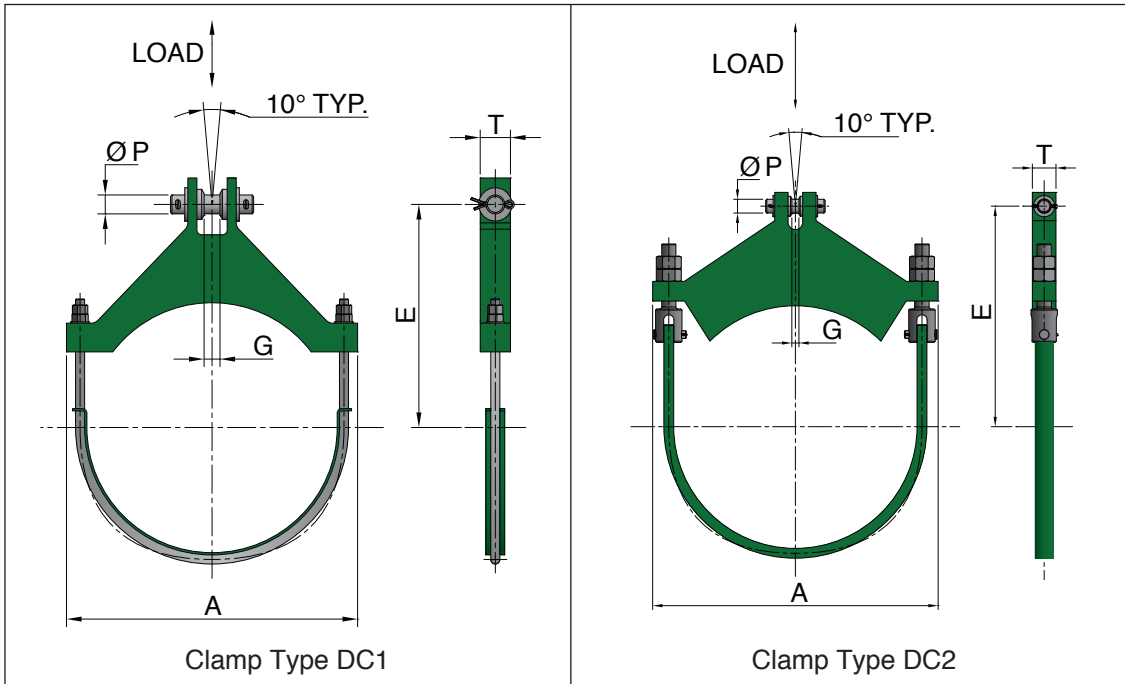
| Figure No.      | Pipe NB | Pipe O/D | Maximum Load | Maximum Temp. | $\varnothing P$ | A    | E   | G    | T   | Weight |
|-----------------|---------|----------|--------------|---------------|-----------------|------|-----|------|-----|--------|
|                 | mm      | mm       | kN           | Deg. C        | mm              | mm   | mm  | mm   | mm  | kg     |
| DC2-1000-80-T0  | 1000    | 1016.0   | 80           | 400           | 35              | 1135 | 820 | 25.5 | 60  | 144    |
| DC2-1000-120-T0 | 1000    | 1016.0   | 120          | 400           | 40              | 1150 | 825 | 28.5 | 80  | 217.2  |
| DC2-1000-200-T0 | 1000    | 1016.0   | 200          | 400           | 50              | 1180 | 840 | 36   | 90  | 279    |
| DC2-1000-320-T0 | 1000    | 1016.0   | 320          | 400           | 60              | 1190 | 845 | 45   | 120 | 389.8  |
| DC2-1000-500-T0 | 1000    | 1016.0   | 500          | 400           | 80              | 1200 | 870 | 56   | 130 | 494.2  |
| DC2-1050-80-T0  | 1050    | 1066.8   | 80           | 400           | 35              | 1180 | 845 | 25.5 | 60  | 150.2  |
| DC2-1050-120-T0 | 1050    | 1066.8   | 120          | 400           | 40              | 1195 | 850 | 28.5 | 80  | 226.3  |
| DC2-1050-200-T0 | 1050    | 1066.8   | 200          | 400           | 50              | 1225 | 865 | 36   | 90  | 290.4  |
| DC2-1050-320-T0 | 1050    | 1066.8   | 320          | 400           | 60              | 1235 | 870 | 45   | 120 | 405.3  |
| DC2-1050-500-T0 | 1050    | 1066.8   | 500          | 400           | 80              | 1245 | 895 | 56   | 130 | 513    |
| DC2-1100-80-T0  | 1100    | 1117.6   | 80           | 400           | 35              | 1235 | 875 | 25.5 | 55  | 147.8  |
| DC2-1100-120-T0 | 1100    | 1117.6   | 120          | 400           | 40              | 1250 | 880 | 28.5 | 60  | 193.1  |
| DC2-1100-200-T0 | 1100    | 1117.6   | 200          | 400           | 50              | 1280 | 895 | 36   | 80  | 280.6  |
| DC2-1100-320-T0 | 1100    | 1117.6   | 320          | 400           | 60              | 1290 | 900 | 45   | 90  | 346.4  |
| DC2-1100-500-T0 | 1100    | 1117.6   | 500          | 400           | 80              | 1300 | 925 | 56   | 120 | 507.5  |
| DC2-1150-80-T0  | 1150    | 1168.4   | 80           | 400           | 35              | 1285 | 900 | 25.5 | 55  | 154.1  |
| DC2-1150-120-T0 | 1150    | 1168.4   | 120          | 400           | 40              | 1300 | 905 | 28.5 | 60  | 201    |
| DC2-1150-200-T0 | 1150    | 1168.4   | 200          | 400           | 50              | 1330 | 920 | 36   | 80  | 291.9  |
| DC2-1150-320-T0 | 1150    | 1168.4   | 320          | 400           | 60              | 1340 | 925 | 45   | 90  | 359.8  |
| DC2-1150-500-T0 | 1150    | 1168.4   | 500          | 400           | 80              | 1350 | 950 | 56   | 120 | 526.6  |
| DC2-1200-80-T0  | 1200    | 1219.2   | 80           | 400           | 35              | 1337 | 926 | 25.5 | 55  | 160.6  |
| DC2-1200-120-T0 | 1200    | 1219.2   | 120          | 400           | 40              | 1352 | 931 | 28.5 | 60  | 209.2  |
| DC2-1200-200-T0 | 1200    | 1219.2   | 200          | 400           | 50              | 1377 | 946 | 36   | 80  | 303.5  |
| DC2-1200-320-T0 | 1200    | 1219.2   | 320          | 400           | 60              | 1387 | 951 | 45   | 90  | 373.5  |
| DC2-1200-500-T0 | 1200    | 1219.2   | 500          | 400           | 80              | 1402 | 976 | 56   | 120 | 546.6  |
| DC1-100-8-T1    | 100     | 114.3    | 8            | 450           | 12              | 185  | 230 | 10.5 | 30  | 4.8    |
| DC1-100-16-T1   | 100     | 114.3    | 16           | 450           | 15              | 185  | 230 | 12.5 | 30  | 4.8    |
| DC1-150-8-T1    | 150     | 168.3    | 8            | 450           | 12              | 240  | 255 | 10.5 | 30  | 6.3    |
| DC1-150-16-T1   | 150     | 168.3    | 16           | 450           | 15              | 240  | 255 | 12.5 | 30  | 6.3    |
| DC1-150-48-T1   | 150     | 168.3    | 48           | 450           | 25              | 265  | 265 | 20.5 | 40  | 12.4   |
| DC1-200-8-T1    | 200     | 219.1    | 8            | 450           | 12              | 290  | 305 | 10.5 | 30  | 8.4    |
| DC1-200-16-T1   | 200     | 219.1    | 16           | 450           | 15              | 290  | 305 | 12.5 | 30  | 8.4    |

## STIFF CLAMPS



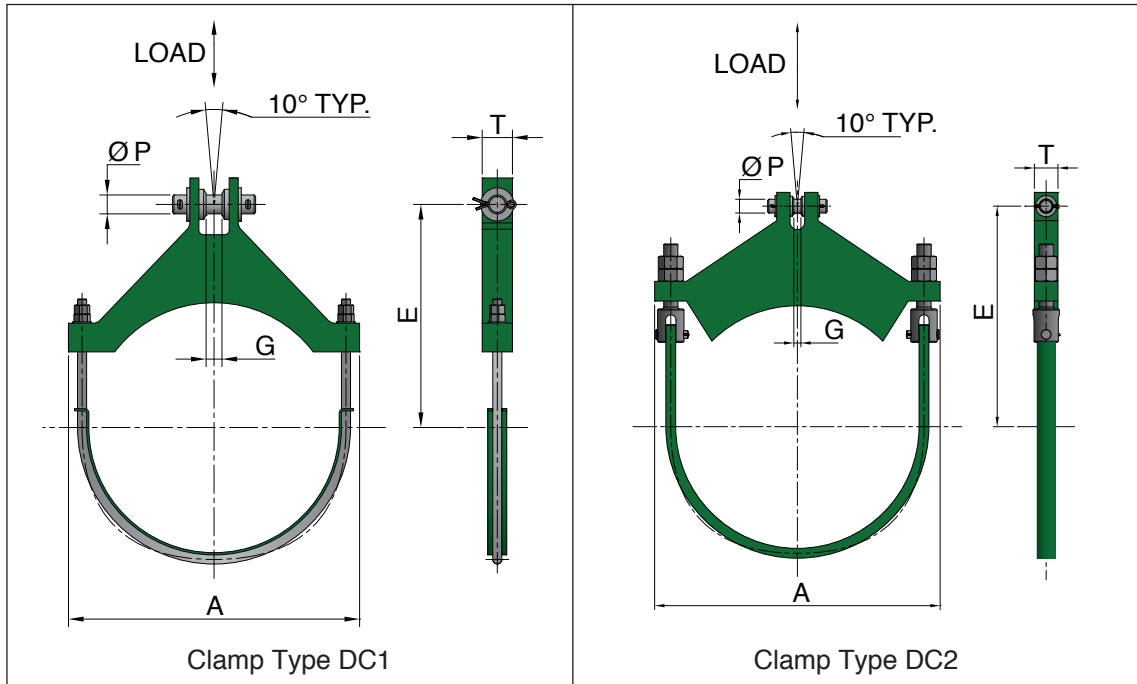
| Figure No.     | Pipe NB | Pipe O/D | Maximum Load | Maximum Temp. | Ø P | A   | E   | G    | T   | Weight |
|----------------|---------|----------|--------------|---------------|-----|-----|-----|------|-----|--------|
|                | mm      | mm       | kN           | Deg. C        | mm  | mm  | mm  | mm   | mm  | kg     |
| DC1-200-48-T1  | 200     | 219.1    | 48           | 450           | 25  | 315 | 315 | 20.5 | 40  | 15.8   |
| DC1-250-8-T1   | 250     | 273.0    | 8            | 450           | 12  | 345 | 355 | 10.5 | 30  | 10.9   |
| DC1-250-16-T1  | 250     | 273.0    | 16           | 450           | 15  | 345 | 355 | 12.5 | 30  | 10.9   |
| DC1-250-48-T1  | 250     | 273.0    | 48           | 450           | 25  | 370 | 365 | 20.5 | 40  | 19.9   |
| DC1-250-80-T1  | 250     | 273.0    | 80           | 450           | 35  | 370 | 370 | 25.5 | 130 | 55.3   |
| DC1-300-8-T1   | 300     | 323.9    | 8            | 450           | 12  | 400 | 380 | 10.5 | 30  | 12.7   |
| DC1-300-16-T1  | 300     | 323.9    | 16           | 450           | 15  | 400 | 380 | 12.5 | 30  | 12.7   |
| DC1-300-48-T1  | 300     | 323.9    | 48           | 450           | 25  | 425 | 390 | 20.5 | 40  | 22.8   |
| DC1-300-80-T1  | 300     | 323.9    | 80           | 450           | 35  | 425 | 395 | 25.5 | 130 | 62.9   |
| DC1-350-8-T1   | 350     | 355.6    | 8            | 450           | 12  | 430 | 395 | 10.5 | 30  | 13.6   |
| DC1-350-16-T1  | 350     | 355.6    | 16           | 450           | 15  | 430 | 395 | 12.5 | 30  | 13.6   |
| DC1-350-48-T1  | 350     | 355.6    | 48           | 450           | 25  | 455 | 405 | 20.5 | 40  | 24.3   |
| DC1-350-80-T1  | 350     | 355.6    | 80           | 450           | 35  | 475 | 410 | 25.5 | 55  | 38     |
| DC1-350-120-T1 | 350     | 355.6    | 120          | 450           | 40  | 475 | 415 | 28.5 | 150 | 102.8  |
| DC1-400-8-T1   | 400     | 406.4    | 8            | 450           | 12  | 480 | 440 | 10.5 | 30  | 16.4   |
| DC1-400-16-T1  | 400     | 406.4    | 16           | 450           | 15  | 480 | 440 | 12.5 | 30  | 16.4   |
| DC1-400-48-T1  | 400     | 406.4    | 48           | 450           | 25  | 505 | 450 | 20.5 | 40  | 28.6   |
| DC1-400-80-T1  | 400     | 406.4    | 80           | 450           | 35  | 525 | 455 | 25.5 | 55  | 44.2   |
| DC1-400-120-T1 | 400     | 406.4    | 120          | 450           | 40  | 545 | 460 | 28.5 | 60  | 54.6   |
| DC1-400-200-T1 | 400     | 406.4    | 200          | 450           | 50  | 525 | 475 | 36   | 170 | 118.3  |
| DC1-450-8-T1   | 450     | 457.2    | 8            | 450           | 12  | 535 | 465 | 10.5 | 30  | 18.2   |
| DC1-450-16-T1  | 450     | 457.2    | 16           | 450           | 15  | 535 | 465 | 12.5 | 30  | 18.2   |
| DC1-450-48-T1  | 450     | 457.2    | 48           | 450           | 25  | 555 | 475 | 20.5 | 40  | 31.6   |
| DC1-450-80-T1  | 450     | 457.2    | 80           | 450           | 35  | 575 | 480 | 25.5 | 55  | 48.4   |
| DC1-450-120-T1 | 450     | 457.2    | 120          | 450           | 40  | 595 | 485 | 28.5 | 60  | 59.6   |
| DC1-450-200-T1 | 450     | 457.2    | 200          | 450           | 50  | 575 | 500 | 36   | 170 | 131.8  |
| DC1-500-8-T1   | 500     | 508.0    | 8            | 450           | 12  | 585 | 495 | 10.5 | 30  | 20.3   |
| DC1-500-16-T1  | 500     | 508.0    | 16           | 450           | 15  | 585 | 495 | 12.5 | 30  | 20.3   |
| DC1-500-48-T1  | 500     | 508.0    | 48           | 450           | 25  | 610 | 505 | 20.5 | 40  | 35     |
| DC2-500-80-T1  | 500     | 508.0    | 80           | 450           | 35  | 610 | 510 | 25.5 | 55  | 63.7   |
| DC2-500-120-T1 | 500     | 508.0    | 120          | 450           | 40  | 625 | 515 | 28.5 | 60  | 86     |
| DC2-500-200-T1 | 500     | 508.0    | 200          | 450           | 50  | 655 | 530 | 36   | 80  | 128.5  |

## STIFF CLAMPS



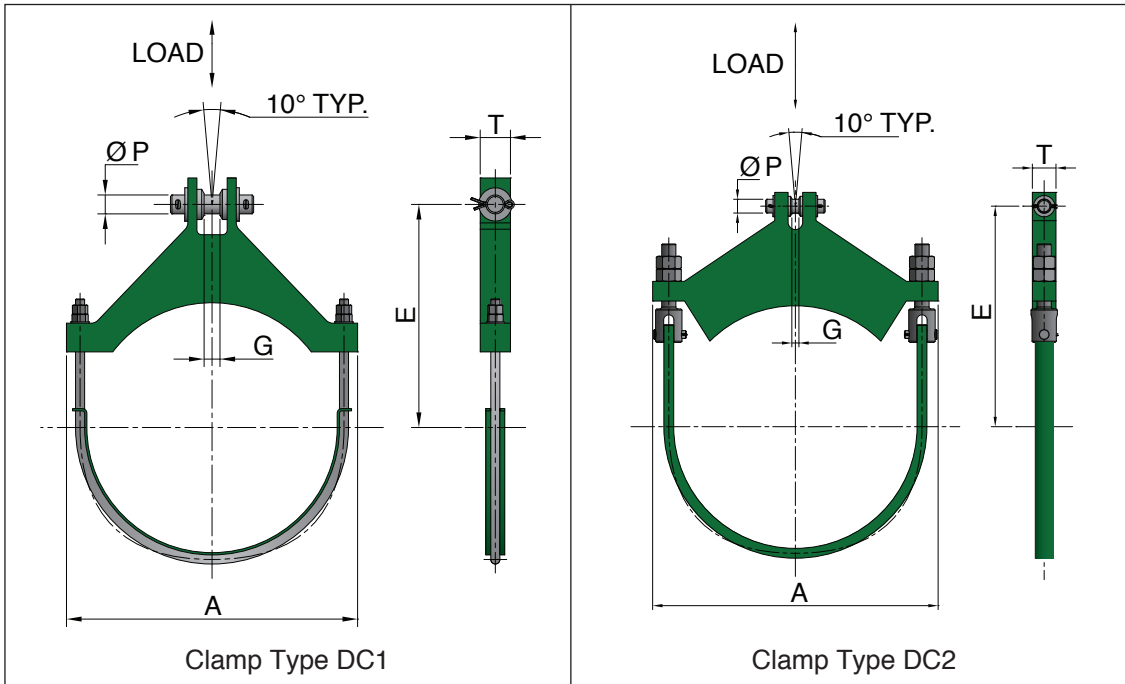
| Figure No.     | Pipe NB | Pipe O/D | Maximum Load | Maximum Temp. | Ø P | A   | E   | G    | T   | Weight |
|----------------|---------|----------|--------------|---------------|-----|-----|-----|------|-----|--------|
|                | mm      | mm       | kN           | Deg. C        | mm  | mm  | mm  | mm   | mm  | kg     |
| DC2-500-320-T1 | 500     | 508.0    | 320          | 450           | 60  | 665 | 535 | 45   | 90  | 165.4  |
| DC1-550-8-T1   | 550     | 558.8    | 8            | 450           | 12  | 635 | 520 | 10.5 | 30  | 22.1   |
| DC1-550-16-T1  | 550     | 558.8    | 16           | 450           | 15  | 635 | 520 | 12.5 | 30  | 22.1   |
| DC1-550-48-T1  | 550     | 558.8    | 48           | 450           | 25  | 660 | 530 | 20.5 | 40  | 37.9   |
| DC2-550-80-T1  | 550     | 558.8    | 80           | 450           | 35  | 660 | 535 | 25.5 | 55  | 68.7   |
| DC2-550-120-T1 | 550     | 558.8    | 120          | 450           | 40  | 675 | 540 | 28.5 | 60  | 92.4   |
| DC2-550-200-T1 | 550     | 558.8    | 200          | 450           | 50  | 705 | 555 | 36   | 80  | 138    |
| DC2-550-320-T1 | 550     | 558.8    | 320          | 450           | 60  | 715 | 560 | 45   | 90  | 176.7  |
| DC1-600-48-T1  | 600     | 609.6    | 48           | 450           | 25  | 710 | 565 | 20.5 | 40  | 41.9   |
| DC2-600-80-T1  | 600     | 609.6    | 80           | 450           | 35  | 715 | 570 | 25.5 | 55  | 75.4   |
| DC2-600-120-T1 | 600     | 609.6    | 120          | 450           | 40  | 730 | 575 | 28.5 | 60  | 100.8  |
| DC2-600-200-T1 | 600     | 609.6    | 200          | 450           | 50  | 755 | 590 | 36   | 80  | 149.9  |
| DC2-600-320-T1 | 600     | 609.6    | 320          | 450           | 60  | 765 | 595 | 45   | 90  | 190.9  |
| DC2-600-500-T1 | 600     | 609.6    | 500          | 450           | 80  | 780 | 620 | 56   | 120 | 286.6  |
| DC1-650-48-T1  | 650     | 660.4    | 48           | 450           | 25  | 765 | 590 | 20.5 | 40  | 45.1   |
| DC2-650-80-T1  | 650     | 660.4    | 80           | 450           | 35  | 765 | 595 | 25.5 | 55  | 80.8   |
| DC2-650-120-T1 | 650     | 660.4    | 120          | 450           | 40  | 780 | 600 | 28.5 | 60  | 107.6  |
| DC2-650-200-T1 | 650     | 660.4    | 200          | 450           | 50  | 810 | 615 | 36   | 80  | 160.1  |
| DC2-650-320-T1 | 650     | 660.4    | 320          | 450           | 60  | 820 | 620 | 45   | 90  | 203.1  |
| DC2-650-500-T1 | 650     | 660.4    | 500          | 450           | 80  | 830 | 645 | 56   | 120 | 303.7  |
| DC1-700-48-T1  | 700     | 711.2    | 48           | 450           | 25  | 815 | 615 | 20.5 | 40  | 48.2   |
| DC2-700-80-T1  | 700     | 711.2    | 80           | 450           | 35  | 815 | 620 | 25.5 | 55  | 86.1   |
| DC2-700-120-T1 | 700     | 711.2    | 120          | 450           | 40  | 830 | 625 | 28.5 | 60  | 114.4  |
| DC2-700-200-T1 | 700     | 711.2    | 200          | 450           | 50  | 860 | 640 | 36   | 80  | 170    |
| DC2-700-320-T1 | 700     | 711.2    | 320          | 450           | 60  | 870 | 645 | 45   | 90  | 214.9  |
| DC2-700-500-T1 | 700     | 711.2    | 500          | 450           | 80  | 880 | 670 | 56   | 120 | 320.8  |
| DC1-750-48-T1  | 750     | 762.0    | 48           | 450           | 25  | 865 | 665 | 20.5 | 40  | 52.7   |
| DC2-750-80-T1  | 750     | 762.0    | 80           | 450           | 35  | 865 | 670 | 25.5 | 55  | 95.6   |
| DC2-750-120-T1 | 750     | 762.0    | 120          | 450           | 40  | 880 | 675 | 28.5 | 60  | 125.7  |
| DC2-750-200-T1 | 750     | 762.0    | 200          | 450           | 50  | 910 | 690 | 36   | 80  | 186.2  |
| DC2-750-320-T1 | 750     | 762.0    | 320          | 450           | 60  | 920 | 695 | 45   | 90  | 234.1  |
| DC2-750-500-T1 | 750     | 762.0    | 500          | 450           | 80  | 930 | 720 | 56   | 120 | 348    |

## STIFF CLAMPS



| Figure No.      | Pipe NB | Pipe O/D | Maximum Load | Maximum Temp. | Ø P | A    | E   | G    | T   | Weight |
|-----------------|---------|----------|--------------|---------------|-----|------|-----|------|-----|--------|
|                 | mm      | mm       | kN           | Deg. C        | mm  | mm   | mm  | mm   | mm  | kg     |
| DC1-800-48-T1   | 800     | 812.8    | 48           | 450           | 25  | 915  | 690 | 20.5 | 40  | 57.4   |
| DC2-800-80-T1   | 800     | 812.8    | 80           | 450           | 35  | 915  | 695 | 25.5 | 55  | 101.1  |
| DC2-800-120-T1  | 800     | 812.8    | 120          | 450           | 40  | 930  | 700 | 28.5 | 60  | 132.6  |
| DC2-800-200-T1  | 800     | 812.8    | 200          | 450           | 50  | 960  | 715 | 36   | 80  | 196.3  |
| DC2-800-320-T1  | 800     | 812.8    | 320          | 450           | 60  | 970  | 720 | 45   | 90  | 246    |
| DC2-800-500-T1  | 800     | 812.8    | 500          | 450           | 80  | 980  | 745 | 56   | 120 | 365.3  |
| DC1-850-48-T1   | 850     | 863.6    | 48           | 450           | 25  | 965  | 715 | 20.5 | 40  | 60.6   |
| DC2-850-80-T1   | 850     | 863.6    | 80           | 450           | 35  | 965  | 720 | 25.5 | 55  | 106.8  |
| DC2-850-120-T1  | 850     | 863.6    | 120          | 450           | 40  | 980  | 725 | 28.5 | 60  | 139.8  |
| DC2-850-200-T1  | 850     | 863.6    | 200          | 450           | 50  | 1010 | 740 | 36   | 80  | 206.8  |
| DC2-850-320-T1  | 850     | 863.6    | 320          | 450           | 60  | 1020 | 745 | 45   | 90  | 258.5  |
| DC2-850-500-T1  | 850     | 863.6    | 500          | 450           | 80  | 1030 | 770 | 56   | 120 | 383.3  |
| DC1-900-48-T1   | 900     | 914.4    | 48           | 450           | 25  | 1015 | 760 | 20.5 | 40  | 67.1   |
| DC2-900-80-T1   | 900     | 914.4    | 80           | 450           | 35  | 1020 | 765 | 25.5 | 55  | 116.8  |
| DC2-900-120-T1  | 900     | 914.4    | 120          | 450           | 40  | 1035 | 770 | 28.5 | 60  | 151.8  |
| DC2-900-200-T1  | 900     | 914.4    | 200          | 450           | 50  | 1060 | 785 | 36   | 80  | 223.6  |
| DC2-900-320-T1  | 900     | 914.4    | 320          | 450           | 60  | 1070 | 790 | 45   | 90  | 278.3  |
| DC2-900-500-T1  | 900     | 914.4    | 500          | 450           | 80  | 1085 | 815 | 56   | 120 | 411.7  |
| DC1-950-48-T1   | 950     | 965.2    | 48           | 450           | 25  | 1070 | 790 | 20.5 | 40  | 71.1   |
| DC2-950-80-T1   | 950     | 965.2    | 80           | 450           | 35  | 1070 | 795 | 25.5 | 55  | 123.5  |
| DC2-950-120-T1  | 950     | 965.2    | 120          | 450           | 40  | 1085 | 800 | 28.5 | 60  | 160    |
| DC2-950-200-T1  | 950     | 965.2    | 200          | 450           | 50  | 1115 | 815 | 36   | 80  | 235.7  |
| DC2-950-320-T1  | 950     | 965.2    | 320          | 450           | 60  | 1125 | 820 | 45   | 90  | 292.8  |
| DC2-950-500-T1  | 950     | 965.2    | 500          | 450           | 80  | 1135 | 845 | 56   | 120 | 432    |
| DC2-1000-80-T1  | 1000    | 1016.0   | 80           | 450           | 35  | 1125 | 820 | 25.5 | 55  | 129.7  |
| DC2-1000-120-T1 | 1000    | 1016.0   | 120          | 450           | 40  | 1140 | 825 | 28.5 | 60  | 167.9  |
| DC2-1000-200-T1 | 1000    | 1016.0   | 200          | 450           | 50  | 1170 | 840 | 36   | 80  | 247.1  |
| DC2-1000-320-T1 | 1000    | 1016.0   | 320          | 450           | 60  | 1180 | 845 | 45   | 90  | 306.3  |
| DC2-1000-500-T1 | 1000    | 1016.0   | 500          | 450           | 80  | 1190 | 870 | 56   | 120 | 451.3  |
| DC2-1050-80-T1  | 1050    | 1066.8   | 80           | 450           | 35  | 1170 | 845 | 25.5 | 55  | 135.3  |
| DC2-1050-120-T1 | 1050    | 1066.8   | 120          | 450           | 40  | 1185 | 850 | 28.5 | 60  | 174.8  |
| DC2-1050-200-T1 | 1050    | 1066.8   | 200          | 450           | 50  | 1215 | 865 | 36   | 80  | 257.1  |

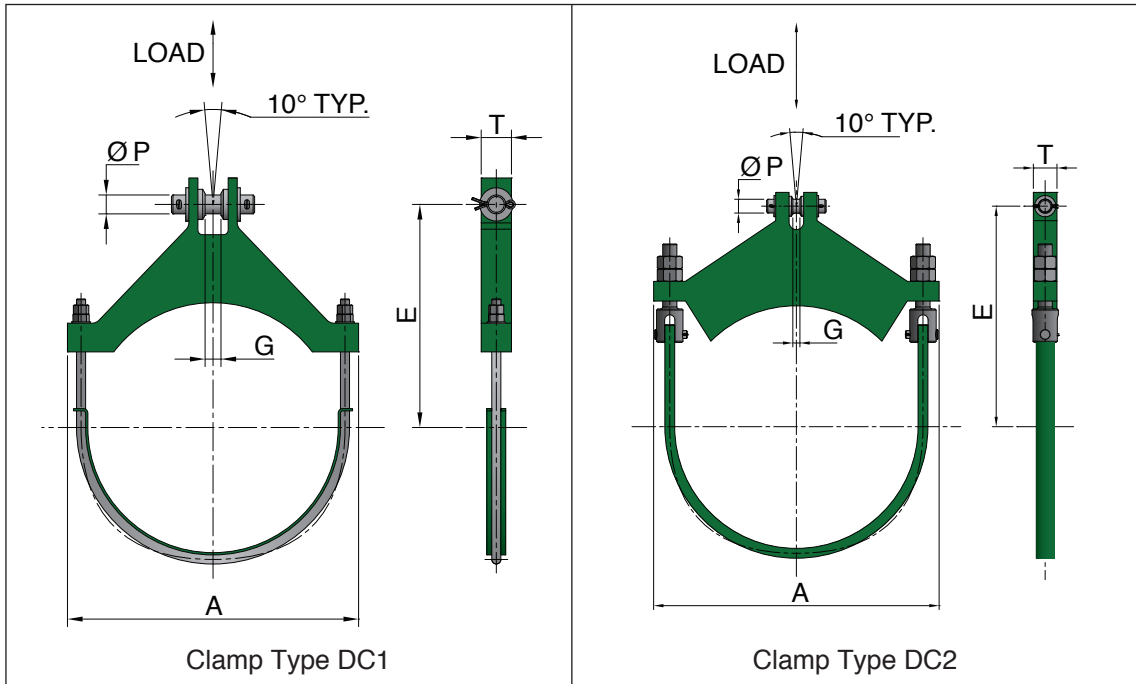
## STIFF CLAMPS



| Figure No.      | Pipe NB | Pipe O/D | Maximum Load | Maximum Temp. | $\varnothing P$ | A    | E   | G    | T   | Weight |
|-----------------|---------|----------|--------------|---------------|-----------------|------|-----|------|-----|--------|
|                 | mm      | mm       | kN           | Deg. C        | mm              | mm   | mm  | mm   | mm  | kg     |
| DC2-1050-320-T1 | 1050    | 1066.8   | 320          | 450           | 60              | 1225 | 870 | 45   | 90  | 318.2  |
| DC2-1050-500-T1 | 1050    | 1066.8   | 500          | 450           | 80              | 1235 | 895 | 56   | 120 | 468.4  |
| DC2-1100-80-T1  | 1100    | 1117.6   | 80           | 450           | 35              | 1225 | 875 | 25.5 | 55  | 142.6  |
| DC2-1100-120-T1 | 1100    | 1117.6   | 120          | 450           | 40              | 1240 | 880 | 28.5 | 60  | 183.8  |
| DC2-1100-200-T1 | 1100    | 1117.6   | 200          | 450           | 50              | 1270 | 895 | 36   | 80  | 270.1  |
| DC2-1100-320-T1 | 1100    | 1117.6   | 320          | 450           | 60              | 1280 | 900 | 45   | 90  | 333.5  |
| DC2-1100-500-T1 | 1100    | 1117.6   | 500          | 450           | 80              | 1290 | 925 | 56   | 120 | 490.2  |
| DC2-1150-80-T1  | 1150    | 1168.4   | 80           | 450           | 35              | 1275 | 900 | 25.5 | 55  | 148.6  |
| DC2-1150-120-T1 | 1150    | 1168.4   | 120          | 450           | 40              | 1290 | 905 | 28.5 | 60  | 191.4  |
| DC2-1150-200-T1 | 1150    | 1168.4   | 200          | 450           | 50              | 1320 | 920 | 36   | 80  | 281    |
| DC2-1150-320-T1 | 1150    | 1168.4   | 320          | 450           | 60              | 1330 | 925 | 45   | 90  | 346.4  |
| DC2-1150-500-T1 | 1150    | 1168.4   | 500          | 450           | 80              | 1340 | 950 | 56   | 120 | 508.7  |
| DC2-1200-80-T1  | 1200    | 1219.2   | 80           | 450           | 35              | 1327 | 926 | 25.5 | 55  | 155    |
| DC2-1200-120-T1 | 1200    | 1219.2   | 120          | 450           | 40              | 1342 | 931 | 28.5 | 60  | 199.2  |
| DC2-1200-200-T1 | 1200    | 1219.2   | 200          | 450           | 50              | 1372 | 946 | 36   | 80  | 292.2  |
| DC2-1200-320-T1 | 1200    | 1219.2   | 320          | 450           | 60              | 1382 | 951 | 45   | 90  | 359.7  |
| DC2-1200-500-T1 | 1200    | 1219.2   | 500          | 450           | 80              | 1392 | 976 | 56   | 120 | 528.1  |
| DC1-100-8-T2    | 100     | 114.3    | 8            | 550           | 12              | 185  | 260 | 10.5 | 30  | 5.3    |
| DC1-100-16-T2   | 100     | 114.3    | 16           | 550           | 15              | 185  | 260 | 12.5 | 30  | 5.3    |
| DC1-150-8-T2    | 150     | 168.3    | 8            | 550           | 12              | 240  | 290 | 10.5 | 30  | 7.1    |
| DC1-150-16-T2   | 150     | 168.3    | 16           | 550           | 15              | 240  | 290 | 12.5 | 30  | 7.1    |
| DC1-150-48-T2   | 150     | 168.3    | 48           | 550           | 25              | 265  | 300 | 20.5 | 40  | 13.7   |
| DC1-200-8-T2    | 200     | 219.1    | 8            | 550           | 12              | 290  | 335 | 10.5 | 30  | 9.3    |
| DC1-200-16-T2   | 200     | 219.1    | 16           | 550           | 15              | 290  | 335 | 12.5 | 30  | 9.3    |
| DC1-200-48-T2   | 200     | 219.1    | 48           | 550           | 25              | 315  | 345 | 20.5 | 40  | 17.2   |
| DC1-250-8-T2    | 250     | 273.0    | 8            | 550           | 12              | 345  | 395 | 10.5 | 30  | 12.3   |
| DC1-250-16-T2   | 250     | 273.0    | 16           | 550           | 15              | 345  | 395 | 12.5 | 30  | 12.3   |
| DC1-250-48-T2   | 250     | 273.0    | 48           | 550           | 25              | 370  | 405 | 20.5 | 40  | 22.1   |
| DC1-250-80-T2   | 250     | 273.0    | 80           | 550           | 35              | 370  | 450 | 25.5 | 130 | 38     |
| DC1-300-8-T2    | 300     | 323.9    | 8            | 550           | 12              | 400  | 420 | 10.5 | 30  | 14.3   |
| DC1-300-16-T2   | 300     | 323.9    | 16           | 550           | 15              | 400  | 420 | 12.5 | 30  | 14.3   |
| DC1-300-48-T2   | 300     | 323.9    | 48           | 550           | 25              | 425  | 430 | 20.5 | 40  | 25.3   |

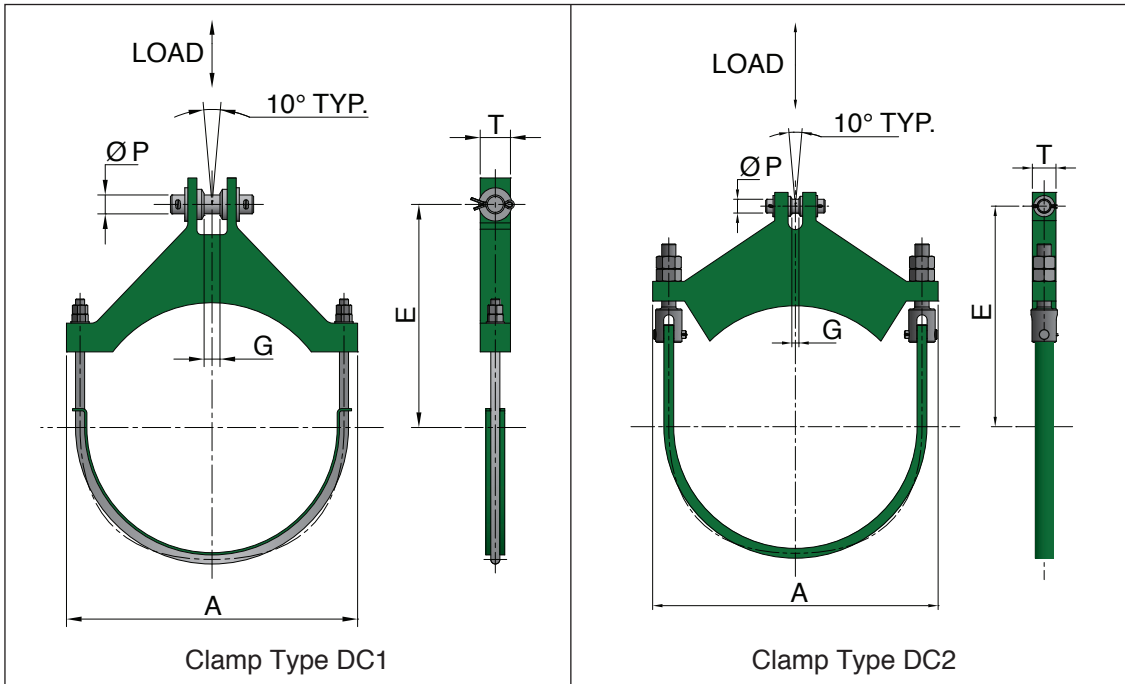


## STIFF CLAMPS



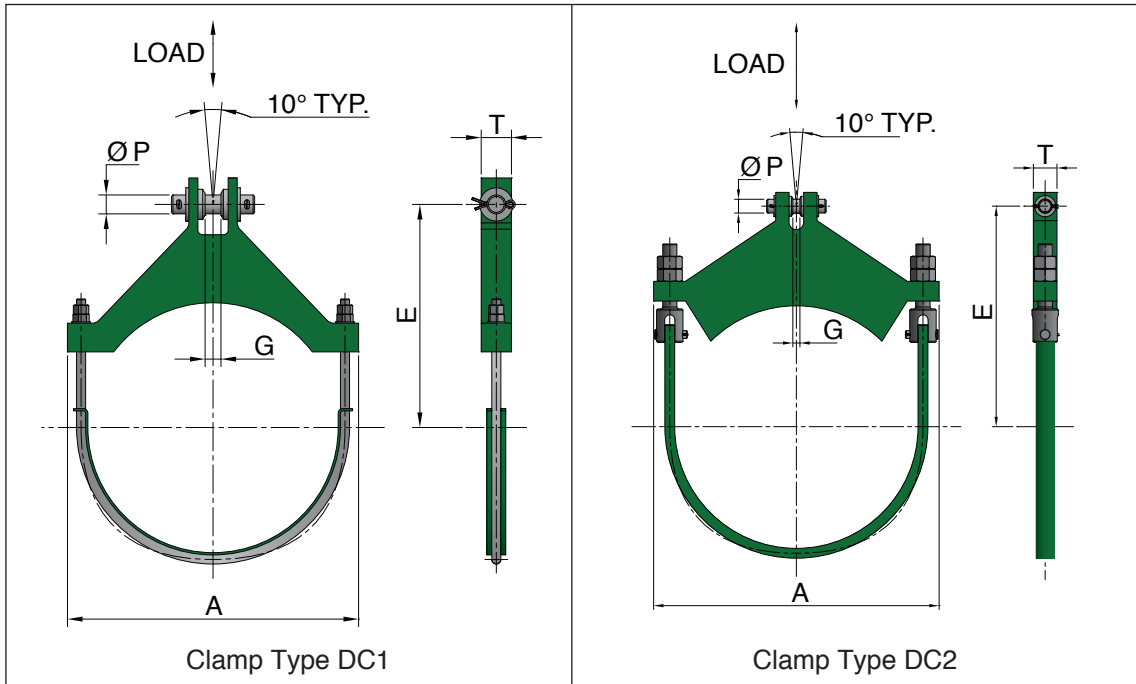
| Figure No.     | Pipe NB | Pipe O/D | Maximum Load | Maximum Temp. | Ø P | A   | E   | G    | T   | Weight |
|----------------|---------|----------|--------------|---------------|-----|-----|-----|------|-----|--------|
|                | mm      | mm       | kN           | Deg. C        | mm  | mm  | mm  | mm   | mm  | kg     |
| DC1-300-80-T2  | 300     | 323.9    | 80           | 550           | 35  | 425 | 475 | 25.5 | 130 | 42     |
| DC1-350-8-T2   | 350     | 355.6    | 8            | 550           | 12  | 430 | 440 | 10.5 | 30  | 15.6   |
| DC1-350-16-T2  | 350     | 355.6    | 16           | 550           | 15  | 430 | 440 | 12.5 | 30  | 15.6   |
| DC1-350-48-T2  | 350     | 355.6    | 48           | 550           | 25  | 455 | 450 | 20.5 | 40  | 27.4   |
| DC1-350-80-T2  | 350     | 355.6    | 80           | 550           | 35  | 475 | 495 | 25.5 | 90  | 40.5   |
| DC1-350-120-T2 | 350     | 355.6    | 120          | 550           | 40  | 475 | 505 | 28.5 | 150 | 62.4   |
| DC1-400-8-T2   | 400     | 406.4    | 8            | 550           | 12  | 480 | 485 | 10.5 | 30  | 18.6   |
| DC1-400-16-T2  | 400     | 406.4    | 16           | 550           | 15  | 480 | 485 | 12.5 | 30  | 18.6   |
| DC1-400-48-T2  | 400     | 406.4    | 48           | 550           | 25  | 505 | 495 | 20.5 | 40  | 32     |
| DC1-400-80-T2  | 400     | 406.4    | 80           | 550           | 35  | 525 | 540 | 25.5 | 90  | 45.4   |
| DC1-400-120-T2 | 400     | 406.4    | 120          | 550           | 40  | 545 | 550 | 28.5 | 95  | 57.1   |
| DC1-400-200-T2 | 400     | 406.4    | 200          | 550           | 50  | 525 | 560 | 36   | 150 | 75.7   |
| DC1-450-8-T2   | 450     | 457.2    | 8            | 550           | 12  | 535 | 510 | 10.5 | 30  | 20.7   |
| DC1-450-16-T2  | 450     | 457.2    | 16           | 550           | 15  | 535 | 510 | 12.5 | 30  | 20.7   |
| DC1-450-48-T2  | 450     | 457.2    | 48           | 550           | 25  | 555 | 520 | 20.5 | 40  | 35.4   |
| DC1-450-80-T2  | 450     | 457.2    | 80           | 550           | 35  | 575 | 565 | 25.5 | 90  | 48.9   |
| DC1-450-120-T2 | 450     | 457.2    | 120          | 550           | 40  | 595 | 575 | 28.5 | 95  | 61.2   |
| DC1-450-200-T2 | 450     | 457.2    | 200          | 550           | 50  | 575 | 585 | 36   | 150 | 80.5   |
| DC1-450-320-T2 | 450     | 457.2    | 320          | 550           | 60  | 615 | 605 | 45   | 210 | 152.8  |
| DC1-500-8-T2   | 500     | 508.0    | 8            | 550           | 12  | 585 | 535 | 10.5 | 30  | 22.8   |
| DC1-500-16-T2  | 500     | 508.0    | 16           | 550           | 15  | 585 | 535 | 12.5 | 30  | 22.8   |
| DC1-500-48-T2  | 500     | 508.0    | 48           | 550           | 25  | 610 | 545 | 20.5 | 40  | 38.7   |
| DC2-500-80-T2  | 500     | 508.0    | 80           | 550           | 35  | 610 | 590 | 25.5 | 115 | 62.6   |
| DC2-500-120-T2 | 500     | 508.0    | 120          | 550           | 40  | 635 | 600 | 28.5 | 140 | 96.5   |
| DC2-500-200-T2 | 500     | 508.0    | 200          | 550           | 50  | 665 | 610 | 36   | 180 | 155.2  |
| DC2-500-320-T2 | 500     | 508.0    | 320          | 550           | 60  | 685 | 630 | 45   | 190 | 197.3  |
| DC1-550-8-T2   | 550     | 558.8    | 8            | 550           | 12  | 635 | 560 | 10.5 | 30  | 24.8   |
| DC1-550-16-T2  | 550     | 558.8    | 16           | 550           | 15  | 635 | 560 | 12.5 | 30  | 24.8   |
| DC1-550-48-T2  | 550     | 558.8    | 48           | 550           | 25  | 660 | 570 | 20.5 | 40  | 41.9   |
| DC2-550-80-T2  | 550     | 558.8    | 80           | 550           | 35  | 660 | 615 | 25.5 | 115 | 66.7   |
| DC2-550-120-T2 | 550     | 558.8    | 120          | 550           | 40  | 685 | 625 | 28.5 | 140 | 102    |
| DC2-550-200-T2 | 550     | 558.8    | 200          | 550           | 50  | 715 | 635 | 36   | 180 | 163.6  |

## STIFF CLAMPS



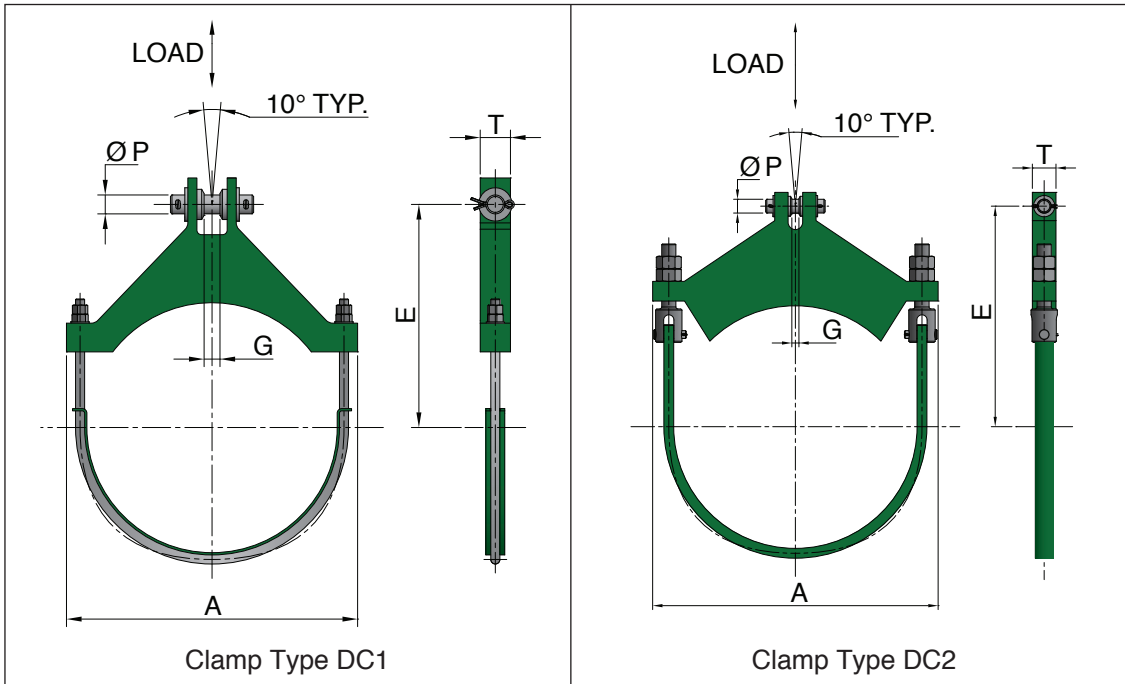
| Figure No.     | Pipe NB | Pipe O/D | Maximum Load | Maximum Temp. | Ø P | A   | E   | G    | T   | Weight |
|----------------|---------|----------|--------------|---------------|-----|-----|-----|------|-----|--------|
|                | mm      | mm       | kN           | Deg. C        | mm  | mm  | mm  | mm   | mm  | kg     |
| DC2-550-320-T2 | 550     | 558.8    | 320          | 550           | 60  | 735 | 655 | 45   | 190 | 207    |
| DC1-600-48-T2  | 600     | 609.6    | 48           | 550           | 25  | 710 | 620 | 20.5 | 40  | 47.9   |
| DC2-600-80-T2  | 600     | 609.6    | 80           | 550           | 35  | 715 | 665 | 25.5 | 115 | 73.9   |
| DC2-600-120-T2 | 600     | 609.6    | 120          | 550           | 40  | 740 | 675 | 28.5 | 140 | 110.6  |
| DC2-600-200-T2 | 600     | 609.6    | 200          | 550           | 50  | 765 | 685 | 36   | 180 | 176.3  |
| DC2-600-320-T2 | 600     | 609.6    | 320          | 550           | 60  | 790 | 705 | 45   | 190 | 221.7  |
| DC2-600-500-T2 | 600     | 609.6    | 500          | 550           | 80  | 765 | 735 | 56   | 330 | 339    |
| DC1-650-48-T2  | 650     | 660.4    | 48           | 550           | 25  | 765 | 645 | 20.5 | 40  | 51.6   |
| DC2-650-80-T2  | 650     | 660.4    | 80           | 550           | 35  | 765 | 690 | 25.5 | 115 | 78.4   |
| DC2-650-120-T2 | 650     | 660.4    | 120          | 550           | 40  | 790 | 700 | 28.5 | 140 | 116.5  |
| DC2-650-200-T2 | 650     | 660.4    | 200          | 550           | 50  | 820 | 710 | 36   | 180 | 185.7  |
| DC2-650-320-T2 | 650     | 660.4    | 320          | 550           | 60  | 840 | 730 | 45   | 190 | 231.9  |
| DC2-650-500-T2 | 650     | 660.4    | 500          | 550           | 80  | 820 | 760 | 56   | 330 | 354.5  |
| DC1-700-48-T2  | 700     | 711.2    | 48           | 550           | 25  | 815 | 670 | 20.5 | 40  | 55.1   |
| DC2-700-80-T2  | 700     | 711.2    | 80           | 550           | 35  | 815 | 715 | 25.5 | 115 | 82.8   |
| DC2-700-120-T2 | 700     | 711.2    | 120          | 550           | 40  | 840 | 725 | 28.5 | 140 | 122.3  |
| DC2-700-200-T2 | 700     | 711.2    | 200          | 550           | 50  | 870 | 735 | 36   | 180 | 194.5  |
| DC2-700-320-T2 | 700     | 711.2    | 320          | 550           | 60  | 890 | 755 | 45   | 190 | 242.1  |
| DC2-700-500-T2 | 700     | 711.2    | 500          | 550           | 80  | 870 | 785 | 56   | 330 | 369.3  |
| DC1-750-48-T2  | 750     | 762.0    | 48           | 550           | 25  | 865 | 720 | 20.5 | 40  | 59.8   |
| DC2-750-80-T2  | 750     | 762.0    | 80           | 550           | 35  | 865 | 765 | 25.5 | 115 | 90.4   |
| DC2-750-120-T2 | 750     | 762.0    | 120          | 550           | 40  | 890 | 775 | 28.5 | 140 | 131.3  |
| DC2-750-200-T2 | 750     | 762.0    | 200          | 550           | 50  | 920 | 785 | 36   | 180 | 208.3  |
| DC2-750-320-T2 | 750     | 762.0    | 320          | 550           | 60  | 940 | 805 | 45   | 190 | 257.4  |
| DC2-750-500-T2 | 750     | 762.0    | 500          | 550           | 80  | 920 | 835 | 56   | 330 | 390.6  |
| DC1-800-48-T2  | 800     | 812.8    | 48           | 550           | 25  | 915 | 745 | 20.5 | 40  | 65.2   |
| DC2-800-80-T2  | 800     | 812.8    | 80           | 550           | 35  | 915 | 790 | 25.5 | 115 | 95     |
| DC2-800-120-T2 | 800     | 812.8    | 120          | 550           | 40  | 940 | 800 | 28.5 | 140 | 137.3  |
| DC2-800-200-T2 | 800     | 812.8    | 200          | 550           | 50  | 970 | 810 | 36   | 180 | 217.4  |
| DC2-800-320-T2 | 800     | 812.8    | 320          | 550           | 60  | 990 | 830 | 45   | 190 | 267.7  |
| DC2-800-500-T2 | 800     | 812.8    | 500          | 550           | 80  | 970 | 860 | 56   | 330 | 405.6  |
| DC1-850-48-T2  | 850     | 863.6    | 48           | 550           | 25  | 965 | 770 | 20.5 | 40  | 68.9   |

## STIFF CLAMPS



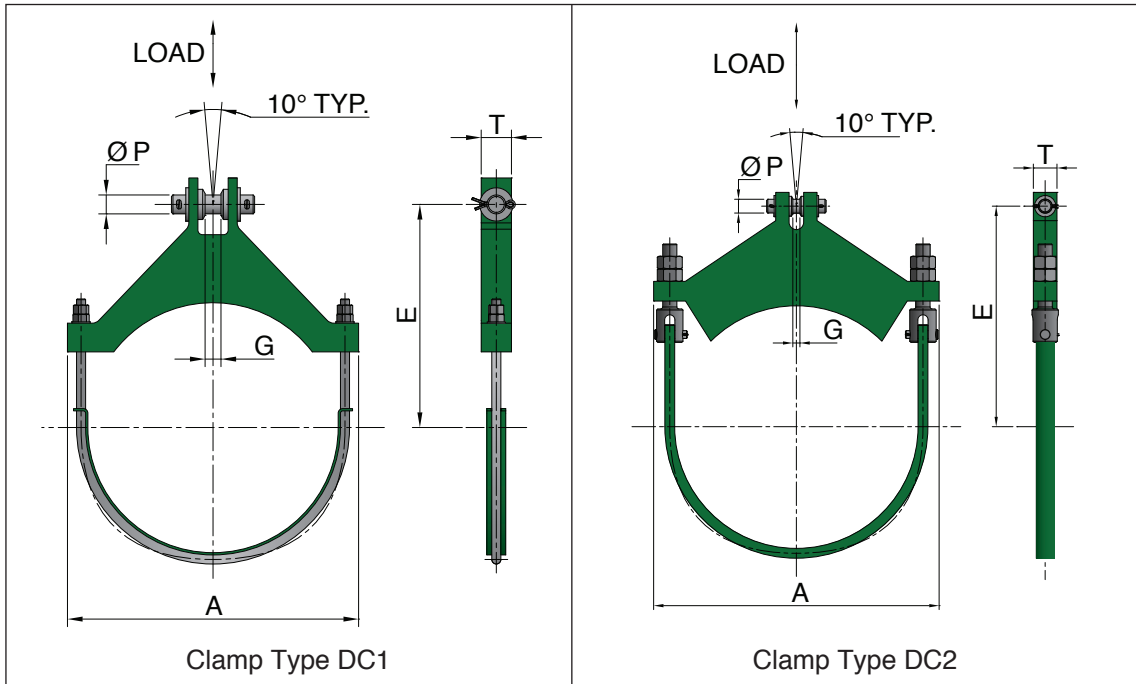
| Figure No.      | Pipe NB | Pipe O/D | Maximum Load | Maximum Temp. | Ø P | A    | E    | G    | T   | Weight |
|-----------------|---------|----------|--------------|---------------|-----|------|------|------|-----|--------|
|                 | mm      | mm       | kN           | Deg. C        | mm  | mm   | mm   | mm   | mm  | kg     |
| DC2-850-80-T2   | 850     | 863.6    | 80           | 550           | 35  | 965  | 815  | 25.5 | 115 | 99.7   |
| DC2-850-120-T2  | 850     | 863.6    | 120          | 550           | 40  | 990  | 825  | 28.5 | 140 | 143.3  |
| DC2-850-200-T2  | 850     | 863.6    | 200          | 550           | 50  | 1020 | 835  | 36   | 180 | 226.5  |
| DC2-850-320-T2  | 850     | 863.6    | 320          | 550           | 60  | 1040 | 855  | 45   | 190 | 278.1  |
| DC2-850-500-T2  | 850     | 863.6    | 500          | 550           | 80  | 1020 | 885  | 56   | 330 | 420.8  |
| DC1-900-48-T2   | 900     | 914.4    | 48           | 550           | 25  | 1015 | 815  | 20.5 | 40  | 75.8   |
| DC2-900-80-T2   | 900     | 914.4    | 80           | 550           | 35  | 1020 | 860  | 25.5 | 115 | 107.9  |
| DC2-900-120-T2  | 900     | 914.4    | 120          | 550           | 40  | 1045 | 870  | 28.5 | 140 | 153    |
| DC2-900-200-T2  | 900     | 914.4    | 200          | 550           | 50  | 1070 | 880  | 36   | 180 | 240.7  |
| DC2-900-320-T2  | 900     | 914.4    | 320          | 550           | 60  | 1095 | 900  | 45   | 190 | 294.4  |
| DC2-900-500-T2  | 900     | 914.4    | 500          | 550           | 80  | 1070 | 930  | 56   | 330 | 442.6  |
| DC1-950-48-T2   | 950     | 965.2    | 48           | 550           | 25  | 1070 | 845  | 20.5 | 40  | 80.3   |
| DC2-950-80-T2   | 950     | 965.2    | 80           | 550           | 35  | 1070 | 890  | 25.5 | 115 | 113.3  |
| DC2-950-120-T2  | 950     | 965.2    | 120          | 550           | 40  | 1095 | 900  | 28.5 | 140 | 159.8  |
| DC2-950-200-T2  | 950     | 965.2    | 200          | 550           | 50  | 1125 | 910  | 36   | 180 | 251.7  |
| DC2-950-320-T2  | 950     | 965.2    | 320          | 550           | 60  | 1145 | 930  | 45   | 190 | 306.2  |
| DC2-950-500-T2  | 950     | 965.2    | 500          | 550           | 80  | 1125 | 960  | 56   | 330 | 460.3  |
| DC2-1000-80-T2  | 1000    | 1016.0   | 80           | 550           | 35  | 1125 | 915  | 25.5 | 115 | 118.6  |
| DC2-1000-120-T2 | 1000    | 1016.0   | 120          | 550           | 40  | 1150 | 925  | 28.5 | 140 | 166.5  |
| DC2-1000-200-T2 | 1000    | 1016.0   | 200          | 550           | 50  | 1180 | 935  | 36   | 180 | 261.8  |
| DC2-1000-320-T2 | 1000    | 1016.0   | 320          | 550           | 60  | 1200 | 955  | 45   | 190 | 317.7  |
| DC2-1000-500-T2 | 1000    | 1016.0   | 500          | 550           | 80  | 1180 | 985  | 56   | 330 | 477    |
| DC2-1050-80-T2  | 1050    | 1066.8   | 80           | 550           | 35  | 1170 | 940  | 25.5 | 115 | 123.2  |
| DC2-1050-120-T2 | 1050    | 1066.8   | 120          | 550           | 40  | 1195 | 950  | 28.5 | 140 | 172.5  |
| DC2-1050-200-T2 | 1050    | 1066.8   | 200          | 550           | 50  | 1225 | 960  | 36   | 180 | 270.8  |
| DC2-1050-320-T2 | 1050    | 1066.8   | 320          | 550           | 60  | 1245 | 980  | 45   | 190 | 327.8  |
| DC2-1050-500-T2 | 1050    | 1066.8   | 500          | 550           | 80  | 1225 | 1010 | 56   | 330 | 491.6  |
| DC2-1100-80-T2  | 1100    | 1117.6   | 80           | 550           | 35  | 1225 | 970  | 25.5 | 115 | 124.8  |
| DC2-1100-120-T2 | 1100    | 1117.6   | 120          | 550           | 40  | 1250 | 980  | 28.5 | 140 | 175.5  |
| DC2-1100-200-T2 | 1100    | 1117.6   | 200          | 550           | 50  | 1280 | 990  | 36   | 180 | 275.5  |
| DC2-1100-320-T2 | 1100    | 1117.6   | 320          | 550           | 60  | 1300 | 1010 | 45   | 190 | 333.9  |
| DC2-1100-500-T2 | 1100    | 1117.6   | 500          | 550           | 80  | 1280 | 1040 | 56   | 330 | 501    |

## STIFF CLAMPS



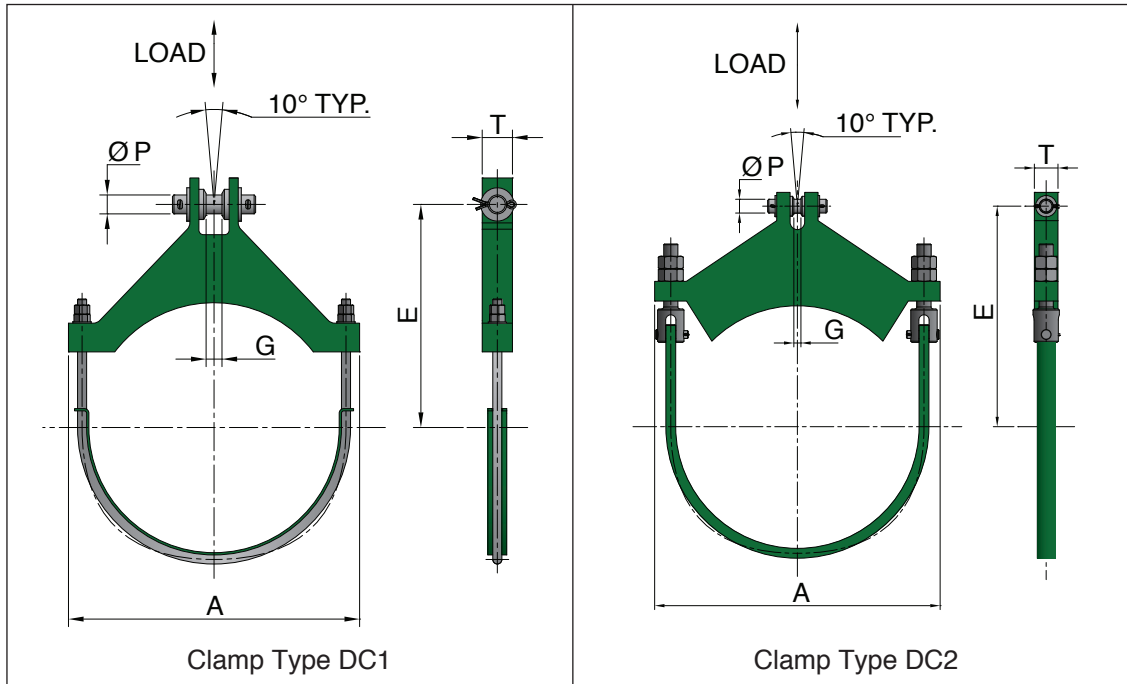
| Figure No.      | Pipe NB | Pipe O/D | Maximum Load | Maximum Temp. | $\varnothing P$ | A    | E    | G    | T   | Weight |
|-----------------|---------|----------|--------------|---------------|-----------------|------|------|------|-----|--------|
|                 | mm      | mm       | kN           | Deg. C        | mm              | mm   | mm   | mm   | mm  | kg     |
| DC2-1150-80-T2  | 1150    | 1168.4   | 80           | 550           | 35              | 1275 | 995  | 25.5 | 115 | 126    |
| DC2-1150-120-T2 | 1150    | 1168.4   | 120          | 550           | 40              | 1300 | 1005 | 28.5 | 140 | 177.7  |
| DC2-1150-200-T2 | 1150    | 1168.4   | 200          | 550           | 50              | 1330 | 1015 | 36   | 180 | 278.9  |
| DC2-1150-320-T2 | 1150    | 1168.4   | 320          | 550           | 60              | 1350 | 1035 | 45   | 190 | 338.3  |
| DC2-1150-500-T2 | 1150    | 1168.4   | 500          | 550           | 80              | 1330 | 1065 | 56   | 330 | 507.9  |
| DC2-1200-80-T2  | 1200    | 1219.2   | 80           | 550           | 35              | 1327 | 1021 | 25.5 | 115 | 127.2  |
| DC2-1200-120-T2 | 1200    | 1219.2   | 120          | 550           | 40              | 1352 | 1031 | 28.5 | 140 | 180    |
| DC2-1200-200-T2 | 1200    | 1219.2   | 200          | 550           | 50              | 1382 | 1041 | 36   | 180 | 282.5  |
| DC2-1200-320-T2 | 1200    | 1219.2   | 320          | 550           | 60              | 1402 | 1061 | 45   | 190 | 342.9  |
| DC2-1200-500-T2 | 1200    | 1219.2   | 500          | 550           | 80              | 1382 | 1091 | 56   | 330 | 515.1  |
| DC1-100-8-T3    | 100     | 114.3    | 8            | 600           | 12              | 195  | 260  | 10.5 | 40  | 6.8    |
| DC1-100-16-T3   | 100     | 114.3    | 16           | 600           | 15              | 195  | 260  | 12.5 | 40  | 6.8    |
| DC1-150-8-T3    | 150     | 168.3    | 8            | 600           | 12              | 255  | 290  | 10.5 | 40  | 9.3    |
| DC1-150-16-T3   | 150     | 168.3    | 16           | 600           | 15              | 255  | 290  | 12.5 | 40  | 9.3    |
| DC1-200-8-T3    | 200     | 219.1    | 8            | 600           | 12              | 305  | 335  | 10.5 | 40  | 12.1   |
| DC1-200-16-T3   | 200     | 219.1    | 16           | 600           | 15              | 305  | 335  | 12.5 | 40  | 12.1   |
| DC1-200-48-T3   | 200     | 219.1    | 48           | 600           | 25              | 315  | 365  | 20.5 | 125 | 24.6   |
| DC1-250-8-T3    | 250     | 273.0    | 8            | 600           | 12              | 360  | 395  | 10.5 | 40  | 16     |
| DC1-250-16-T3   | 250     | 273.0    | 16           | 600           | 15              | 360  | 395  | 12.5 | 40  | 16     |
| DC1-250-48-T3   | 250     | 273.0    | 48           | 600           | 25              | 370  | 425  | 20.5 | 125 | 29.1   |
| DC1-250-80-T3   | 250     | 273.0    | 80           | 600           | 35              | 390  | 450  | 25.5 | 150 | 48.8   |
| DC1-300-8-T3    | 300     | 323.9    | 8            | 600           | 12              | 410  | 420  | 10.5 | 40  | 18.6   |
| DC1-300-16-T3   | 300     | 323.9    | 16           | 600           | 15              | 410  | 420  | 12.5 | 40  | 18.6   |
| DC1-300-48-T3   | 300     | 323.9    | 48           | 600           | 25              | 425  | 450  | 20.5 | 125 | 32.5   |
| DC1-300-80-T3   | 300     | 323.9    | 80           | 600           | 35              | 445  | 475  | 25.5 | 150 | 53.7   |
| DC1-350-8-T3    | 350     | 355.6    | 8            | 600           | 12              | 440  | 440  | 10.5 | 40  | 20.3   |
| DC1-350-16-T3   | 350     | 355.6    | 16           | 600           | 15              | 440  | 440  | 12.5 | 40  | 20.3   |
| DC1-350-48-T3   | 350     | 355.6    | 48           | 600           | 25              | 490  | 470  | 20.5 | 95  | 38.5   |
| DC1-350-80-T3   | 350     | 355.6    | 80           | 600           | 35              | 475  | 495  | 25.5 | 150 | 56.7   |
| DC1-350-120-T3  | 350     | 355.6    | 120          | 600           | 40              | 490  | 505  | 28.5 | 170 | 73.8   |
| DC1-400-8-T3    | 400     | 406.4    | 8            | 600           | 12              | 495  | 485  | 10.5 | 40  | 24.1   |
| DC1-400-16-T3   | 400     | 406.4    | 16           | 600           | 15              | 495  | 485  | 12.5 | 40  | 24.1   |

## STIFF CLAMPS



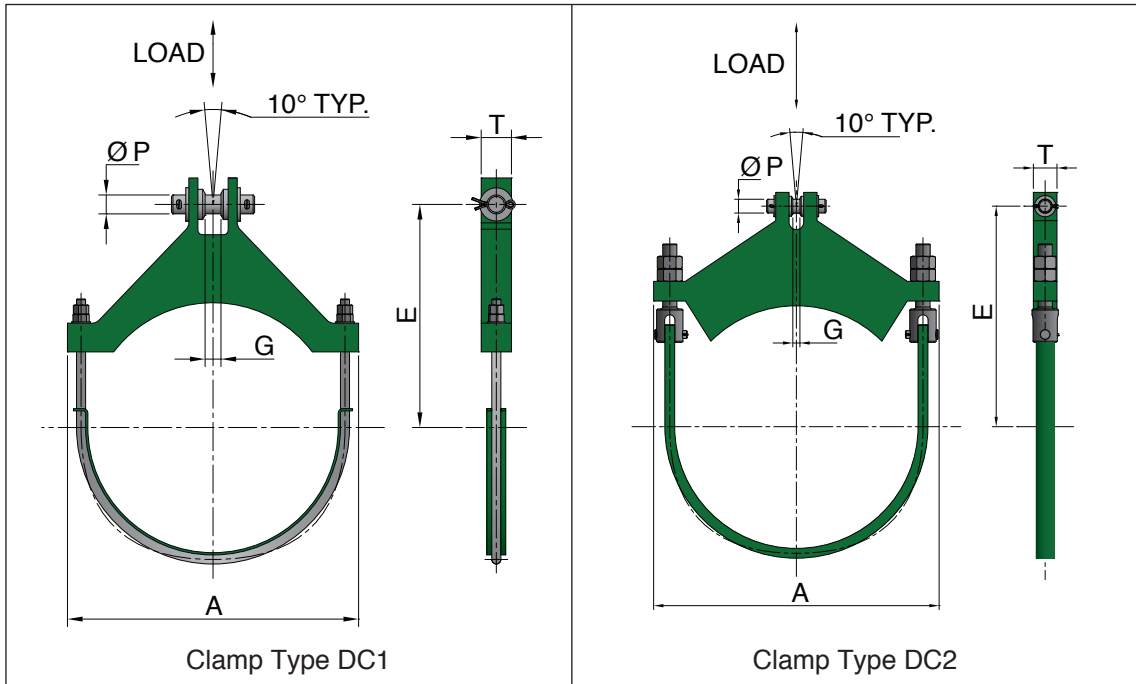
| Figure No.     | Pipe NB | Pipe O/D | Maximum Load | Maximum Temp. | Ø P | A   | E   | G    | T   | Weight |
|----------------|---------|----------|--------------|---------------|-----|-----|-----|------|-----|--------|
|                | mm      | mm       | kN           | Deg. C        | mm  | mm  | mm  | mm   | mm  | kg     |
| DC1-400-48-T3  | 400     | 406.4    | 48           | 600           | 25  | 545 | 515 | 20.5 | 95  | 43.1   |
| DC1-400-80-T3  | 400     | 406.4    | 80           | 600           | 35  | 560 | 540 | 25.5 | 100 | 61.9   |
| DC1-400-120-T3 | 400     | 406.4    | 120          | 600           | 40  | 545 | 550 | 28.5 | 170 | 80.9   |
| DC1-400-200-T3 | 400     | 406.4    | 200          | 600           | 50  | 580 | 560 | 36   | 230 | 151.3  |
| DC1-450-8-T3   | 450     | 457.2    | 8            | 600           | 12  | 545 | 510 | 10.5 | 40  | 26.9   |
| DC1-450-16-T3  | 450     | 457.2    | 16           | 600           | 15  | 545 | 510 | 12.5 | 40  | 26.9   |
| DC1-450-48-T3  | 450     | 457.2    | 48           | 600           | 25  | 595 | 540 | 20.5 | 95  | 46.5   |
| DC1-450-80-T3  | 450     | 457.2    | 80           | 600           | 35  | 615 | 565 | 25.5 | 100 | 66.7   |
| DC1-450-120-T3 | 450     | 457.2    | 120          | 600           | 40  | 595 | 575 | 28.5 | 170 | 86.4   |
| DC1-450-200-T3 | 450     | 457.2    | 200          | 600           | 50  | 635 | 585 | 36   | 230 | 160.8  |
| DC1-500-8-T3   | 500     | 508.0    | 8            | 600           | 12  | 595 | 535 | 10.5 | 40  | 29.6   |
| DC1-500-16-T3  | 500     | 508.0    | 16           | 600           | 15  | 595 | 535 | 12.5 | 40  | 29.6   |
| DC2-500-48-T3  | 500     | 508.0    | 48           | 600           | 25  | 605 | 565 | 20.5 | 90  | 40.9   |
| DC2-500-80-T3  | 500     | 508.0    | 80           | 600           | 35  | 630 | 590 | 25.5 | 110 | 64.8   |
| DC2-500-120-T3 | 500     | 508.0    | 120          | 600           | 40  | 645 | 600 | 28.5 | 140 | 98.3   |
| DC2-500-200-T3 | 500     | 508.0    | 200          | 600           | 50  | 690 | 610 | 36   | 180 | 173.6  |
| DC2-500-320-T3 | 500     | 508.0    | 320          | 600           | 60  | 660 | 630 | 45   | 305 | 265.4  |
| DC1-550-8-T3   | 550     | 558.8    | 8            | 600           | 12  | 645 | 560 | 10.5 | 40  | 32.1   |
| DC1-550-16-T3  | 550     | 558.8    | 16           | 600           | 15  | 645 | 560 | 12.5 | 40  | 32.1   |
| DC2-550-48-T3  | 550     | 558.8    | 48           | 600           | 25  | 655 | 590 | 20.5 | 90  | 43.9   |
| DC2-550-80-T3  | 550     | 558.8    | 80           | 600           | 35  | 680 | 615 | 25.5 | 110 | 69     |
| DC2-550-120-T3 | 550     | 558.8    | 120          | 600           | 40  | 695 | 625 | 28.5 | 140 | 103.7  |
| DC2-550-200-T3 | 550     | 558.8    | 200          | 600           | 50  | 740 | 635 | 36   | 180 | 182.1  |
| DC2-550-320-T3 | 550     | 558.8    | 320          | 600           | 60  | 710 | 655 | 45   | 305 | 276.8  |
| DC2-600-48-T3  | 600     | 609.6    | 48           | 600           | 25  | 710 | 640 | 20.5 | 90  | 49.3   |
| DC2-600-80-T3  | 600     | 609.6    | 80           | 600           | 35  | 735 | 665 | 25.5 | 110 | 76     |
| DC2-600-120-T3 | 600     | 609.6    | 120          | 600           | 40  | 745 | 675 | 28.5 | 140 | 111.8  |
| DC2-600-200-T3 | 600     | 609.6    | 200          | 600           | 50  | 795 | 685 | 36   | 180 | 195.2  |
| DC2-600-320-T3 | 600     | 609.6    | 320          | 600           | 60  | 765 | 705 | 45   | 305 | 294.2  |
| DC2-600-500-T3 | 600     | 609.6    | 500          | 600           | 80  | 810 | 735 | 56   | 330 | 475.8  |
| DC2-650-48-T3  | 650     | 660.4    | 48           | 600           | 25  | 760 | 665 | 20.5 | 90  | 52.6   |
| DC2-650-80-T3  | 650     | 660.4    | 80           | 600           | 35  | 785 | 690 | 25.5 | 110 | 80.5   |

## STIFF CLAMPS



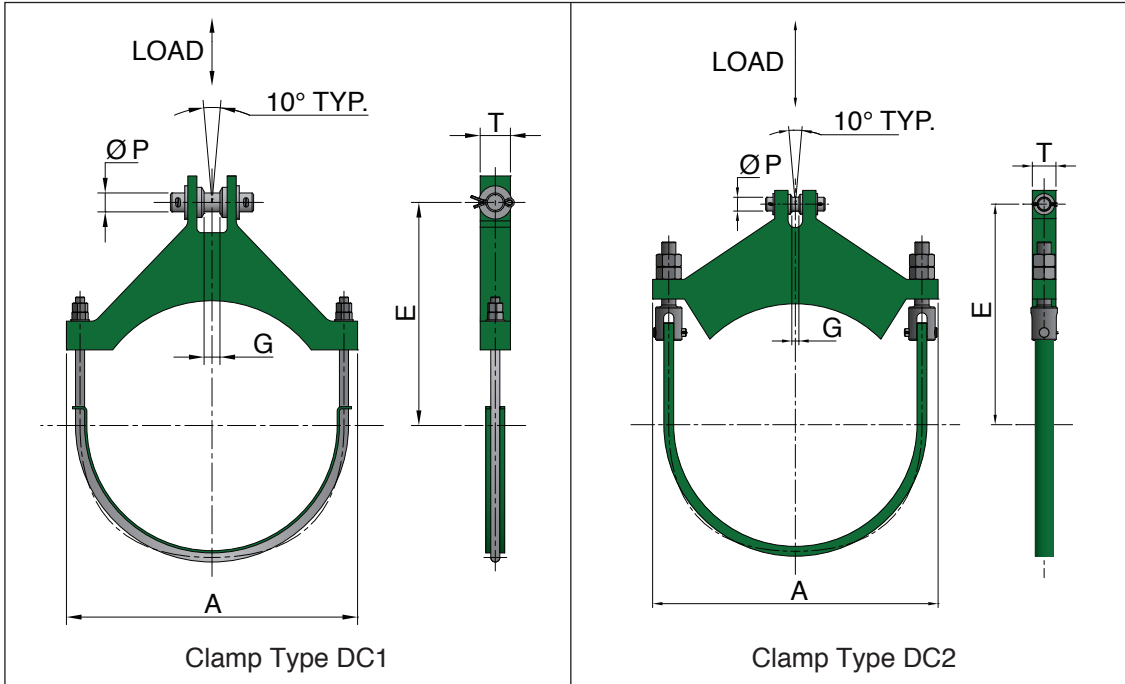
| Figure No.     | Pipe NB | Pipe O/D | Maximum Load | Maximum Temp. | $\varnothing P$ | A    | E   | G    | T   | Weight |
|----------------|---------|----------|--------------|---------------|-----------------|------|-----|------|-----|--------|
|                | mm      | mm       | kN           | Deg. C        | mm              | mm   | mm  | mm   | mm  | kg     |
| DC2-650-120-T3 | 650     | 660.4    | 120          | 600           | 40              | 800  | 700 | 28.5 | 140 | 117.9  |
| DC2-650-200-T3 | 650     | 660.4    | 200          | 600           | 50              | 845  | 710 | 36   | 180 | 204.2  |
| DC2-650-320-T3 | 650     | 660.4    | 320          | 600           | 60              | 815  | 730 | 45   | 305 | 306.3  |
| DC2-650-500-T3 | 650     | 660.4    | 500          | 600           | 80              | 860  | 760 | 56   | 330 | 491.4  |
| DC2-700-48-T3  | 700     | 711.2    | 48           | 600           | 25              | 815  | 690 | 20.5 | 90  | 56.1   |
| DC2-700-80-T3  | 700     | 711.2    | 80           | 600           | 35              | 835  | 715 | 25.5 | 110 | 84.9   |
| DC2-700-120-T3 | 700     | 711.2    | 120          | 600           | 40              | 850  | 725 | 28.5 | 140 | 123.6  |
| DC2-700-200-T3 | 700     | 711.2    | 200          | 600           | 50              | 895  | 735 | 36   | 180 | 213.2  |
| DC2-700-320-T3 | 700     | 711.2    | 320          | 600           | 60              | 865  | 755 | 45   | 305 | 318.3  |
| DC2-700-500-T3 | 700     | 711.2    | 500          | 600           | 80              | 915  | 785 | 56   | 330 | 507.7  |
| DC2-750-48-T3  | 750     | 762.0    | 48           | 600           | 25              | 860  | 740 | 20.5 | 90  | 61.6   |
| DC2-750-80-T3  | 750     | 762.0    | 80           | 600           | 35              | 885  | 765 | 25.5 | 110 | 92.4   |
| DC2-750-120-T3 | 750     | 762.0    | 120          | 600           | 40              | 900  | 775 | 28.5 | 140 | 132.3  |
| DC2-750-200-T3 | 750     | 762.0    | 200          | 600           | 50              | 945  | 785 | 36   | 180 | 226.9  |
| DC2-750-320-T3 | 750     | 762.0    | 320          | 600           | 60              | 915  | 805 | 45   | 305 | 336.5  |
| DC2-750-500-T3 | 750     | 762.0    | 500          | 600           | 80              | 960  | 835 | 56   | 330 | 528.3  |
| DC2-800-48-T3  | 800     | 812.8    | 48           | 600           | 25              | 910  | 765 | 20.5 | 90  | 65     |
| DC2-800-80-T3  | 800     | 812.8    | 80           | 600           | 35              | 935  | 790 | 25.5 | 110 | 97     |
| DC2-800-120-T3 | 800     | 812.8    | 120          | 600           | 40              | 950  | 800 | 28.5 | 140 | 138.2  |
| DC2-800-200-T3 | 800     | 812.8    | 200          | 600           | 50              | 995  | 810 | 36   | 180 | 236.1  |
| DC2-800-320-T3 | 800     | 812.8    | 320          | 600           | 60              | 965  | 830 | 45   | 305 | 348.8  |
| DC2-800-500-T3 | 800     | 812.8    | 500          | 600           | 80              | 1010 | 860 | 56   | 330 | 544    |
| DC2-850-48-T3  | 850     | 863.6    | 48           | 600           | 25              | 965  | 790 | 20.5 | 90  | 68.8   |
| DC2-850-80-T3  | 850     | 863.6    | 80           | 600           | 35              | 985  | 815 | 25.5 | 110 | 101.6  |
| DC2-850-120-T3 | 850     | 863.6    | 120          | 600           | 40              | 1000 | 825 | 28.5 | 140 | 144.1  |
| DC2-850-200-T3 | 850     | 863.6    | 200          | 600           | 50              | 1045 | 835 | 36   | 180 | 245.3  |
| DC2-850-320-T3 | 850     | 863.6    | 320          | 600           | 60              | 1015 | 855 | 45   | 305 | 361.2  |
| DC2-850-500-T3 | 850     | 863.6    | 500          | 600           | 80              | 1065 | 885 | 56   | 330 | 560.9  |
| DC2-900-48-T3  | 900     | 914.4    | 48           | 600           | 25              | 1015 | 835 | 20.5 | 90  | 74.7   |
| DC2-900-80-T3  | 900     | 914.4    | 80           | 600           | 35              | 1040 | 860 | 25.5 | 110 | 109.8  |
| DC2-900-120-T3 | 900     | 914.4    | 120          | 600           | 40              | 1055 | 870 | 28.5 | 140 | 153.6  |
| DC2-900-200-T3 | 900     | 914.4    | 200          | 600           | 50              | 1100 | 880 | 36   | 180 | 260    |

## STIFF CLAMPS



| Figure No.      | Pipe NB | Pipe O/D | Maximum Load | Maximum Temp. | Ø P | A    | E    | G    | T   | Weight |
|-----------------|---------|----------|--------------|---------------|-----|------|------|------|-----|--------|
|                 | mm      | mm       | kN           | Deg. C        | mm  | mm   | mm   | mm   | mm  | kg     |
| DC2-900-320-T3  | 900     | 914.4    | 320          | 600           | 60  | 1070 | 900  | 45   | 305 | 380.8  |
| DC2-900-500-T3  | 900     | 914.4    | 500          | 600           | 80  | 1115 | 930  | 56   | 330 | 583    |
| DC2-950-48-T3   | 950     | 965.2    | 48           | 600           | 25  | 1065 | 865  | 20.5 | 90  | 78.7   |
| DC2-950-80-T3   | 950     | 965.2    | 80           | 600           | 35  | 1090 | 890  | 25.5 | 110 | 115.2  |
| DC2-950-120-T3  | 950     | 965.2    | 120          | 600           | 40  | 1105 | 900  | 28.5 | 140 | 160.3  |
| DC2-950-200-T3  | 950     | 965.2    | 200          | 600           | 50  | 1150 | 910  | 36   | 180 | 270.5  |
| DC2-950-320-T3  | 950     | 965.2    | 320          | 600           | 60  | 1120 | 930  | 45   | 305 | 394.8  |
| DC2-950-500-T3  | 950     | 965.2    | 500          | 600           | 80  | 1165 | 960  | 56   | 330 | 600.5  |
| DC2-1000-80-T3  | 1000    | 1016.0   | 80           | 600           | 35  | 1145 | 915  | 25.5 | 110 | 120.4  |
| DC2-1000-120-T3 | 1000    | 1016.0   | 120          | 600           | 40  | 1160 | 925  | 28.5 | 140 | 166.9  |
| DC2-1000-200-T3 | 1000    | 1016.0   | 200          | 600           | 50  | 1205 | 935  | 36   | 180 | 280.8  |
| DC2-1000-320-T3 | 1000    | 1016.0   | 320          | 600           | 60  | 1175 | 955  | 45   | 305 | 408.6  |
| DC2-1000-500-T3 | 1000    | 1016.0   | 500          | 600           | 80  | 1220 | 985  | 56   | 330 | 618.1  |
| DC2-1050-80-T3  | 1050    | 1066.8   | 80           | 600           | 35  | 1190 | 940  | 25.5 | 110 | 125.1  |
| DC2-1050-120-T3 | 1050    | 1066.8   | 120          | 600           | 40  | 1205 | 950  | 28.5 | 140 | 172.7  |
| DC2-1050-200-T3 | 1050    | 1066.8   | 200          | 600           | 50  | 1250 | 960  | 36   | 180 | 289.8  |
| DC2-1050-320-T3 | 1050    | 1066.8   | 320          | 600           | 60  | 1220 | 980  | 45   | 305 | 420.8  |
| DC2-1050-500-T3 | 1050    | 1066.8   | 500          | 600           | 80  | 1265 | 1010 | 56   | 330 | 633.3  |
| DC2-1100-120-T3 | 1100    | 1117.6   | 120          | 600           | 40  | 1260 | 980  | 28.5 | 140 | 199.7  |
| DC2-1100-200-T3 | 1100    | 1117.6   | 200          | 600           | 50  | 1305 | 990  | 36   | 180 | 330.6  |
| DC2-1100-320-T3 | 1100    | 1117.6   | 320          | 600           | 60  | 1275 | 1010 | 45   | 305 | 426.8  |
| DC2-1100-500-T3 | 1100    | 1117.6   | 500          | 600           | 80  | 1320 | 1040 | 56   | 330 | 642.7  |
| DC2-1150-120-T3 | 1150    | 1168.4   | 120          | 600           | 40  | 1310 | 1005 | 28.5 | 140 | 201.9  |
| DC2-1150-200-T3 | 1150    | 1168.4   | 200          | 600           | 50  | 1355 | 1015 | 36   | 180 | 334    |
| DC2-1150-320-T3 | 1150    | 1168.4   | 320          | 600           | 60  | 1325 | 1035 | 45   | 305 | 431.3  |
| DC2-1150-500-T3 | 1150    | 1168.4   | 500          | 600           | 80  | 1370 | 1065 | 56   | 330 | 649.6  |
| DC2-1200-120-T3 | 1200    | 1219.2   | 120          | 600           | 40  | 1362 | 1031 | 28.5 | 140 | 204.2  |
| DC2-1200-200-T3 | 1200    | 1219.2   | 200          | 600           | 50  | 1407 | 1041 | 36   | 180 | 337.6  |
| DC2-1200-320-T3 | 1200    | 1219.2   | 320          | 600           | 60  | 1377 | 1061 | 45   | 305 | 435.8  |
| DC2-1200-500-T3 | 1200    | 1219.2   | 500          | 600           | 80  | 1422 | 1091 | 56   | 330 | 656.7  |
| DC1-100-8-T4    | 100     | 114.3    | 8            | 600           | 12  | 195  | 260  | 10.5 | 40  | 6.8    |
| DC1-100-16-T4   | 100     | 114.3    | 16           | 600           | 15  | 195  | 260  | 12.5 | 40  | 6.8    |

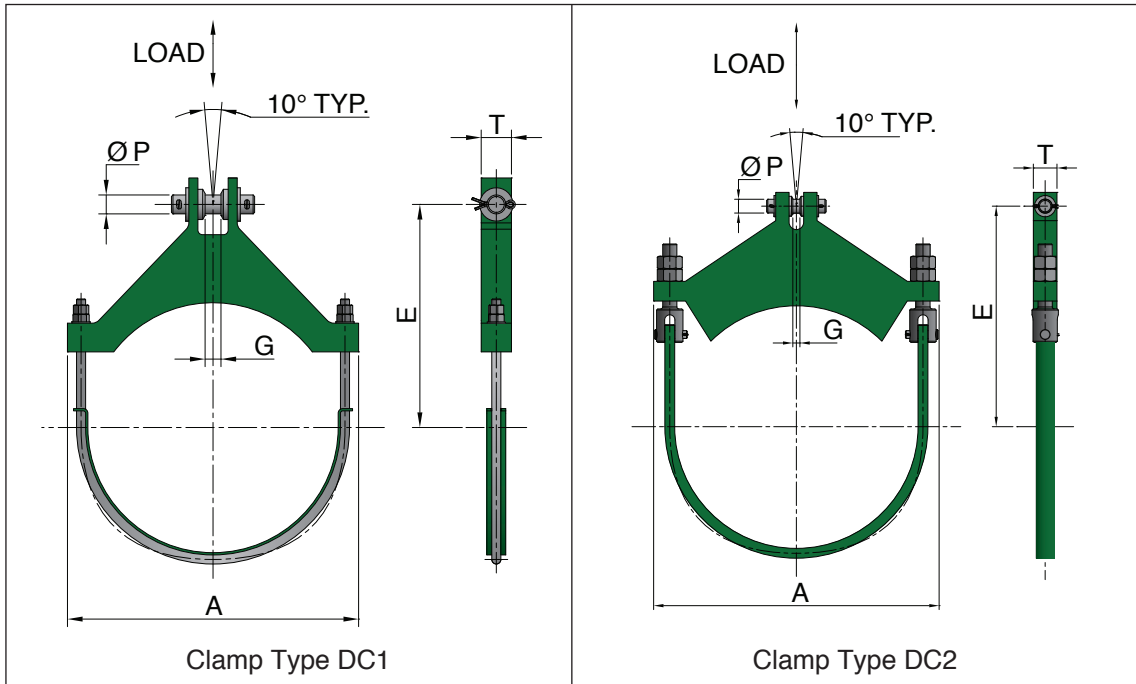
## STIFF CLAMPS



| Figure No.     | Pipe NB | Pipe O/D | Maximum Load | Maximum Temp. | Ø P | A   | E   | G    | T   | Weight |
|----------------|---------|----------|--------------|---------------|-----|-----|-----|------|-----|--------|
|                | mm      | mm       | kN           | Deg. C        | mm  | mm  | mm  | mm   | mm  | kg     |
| DC1-150-8-T4   | 150     | 168.3    | 8            | 600           | 12  | 255 | 290 | 10.5 | 40  | 9.3    |
| DC1-150-16-T4  | 150     | 168.3    | 16           | 600           | 15  | 255 | 290 | 12.5 | 40  | 9.3    |
| DC1-200-8-T4   | 200     | 219.1    | 8            | 600           | 12  | 305 | 335 | 10.5 | 40  | 12.1   |
| DC1-200-16-T4  | 200     | 219.1    | 16           | 600           | 15  | 305 | 335 | 12.5 | 40  | 12.1   |
| DC1-200-48-T4  | 200     | 219.1    | 48           | 600           | 25  | 315 | 365 | 20.5 | 117 | 20.5   |
| DC1-250-8-T4   | 250     | 273      | 8            | 600           | 12  | 360 | 395 | 10.5 | 40  | 16     |
| DC1-250-16-T4  | 250     | 273      | 16           | 600           | 15  | 360 | 395 | 12.5 | 40  | 16     |
| DC1-250-48-T4  | 250     | 273      | 48           | 600           | 25  | 370 | 425 | 20.5 | 117 | 24.2   |
| DC1-250-80-T4  | 250     | 273      | 80           | 600           | 35  | 390 | 450 | 25.5 | 140 | 40.7   |
| DC1-300-8-T4   | 300     | 323.9    | 8            | 600           | 12  | 410 | 420 | 10.5 | 40  | 18.6   |
| DC1-300-16-T4  | 300     | 323.9    | 16           | 600           | 15  | 410 | 420 | 12.5 | 40  | 18.6   |
| DC1-300-48-T4  | 300     | 323.9    | 48           | 600           | 25  | 425 | 450 | 20.5 | 117 | 27.1   |
| DC1-300-80-T4  | 300     | 323.9    | 80           | 600           | 35  | 445 | 475 | 25.5 | 140 | 44.7   |
| DC1-350-8-T4   | 350     | 355.6    | 8            | 600           | 12  | 440 | 440 | 10.5 | 40  | 20.3   |
| DC1-350-16-T4  | 350     | 355.6    | 16           | 600           | 15  | 440 | 440 | 12.5 | 40  | 20.3   |
| DC1-350-48-T4  | 350     | 355.6    | 48           | 600           | 25  | 490 | 470 | 20.5 | 87  | 32.1   |
| DC1-350-80-T4  | 350     | 355.6    | 80           | 600           | 35  | 475 | 495 | 25.5 | 140 | 47.2   |
| DC1-350-120-T4 | 350     | 355.6    | 120          | 600           | 40  | 490 | 505 | 28.5 | 160 | 61.5   |
| DC1-400-8-T4   | 400     | 406.4    | 8            | 600           | 12  | 495 | 485 | 10.5 | 40  | 24.1   |
| DC1-400-16-T4  | 400     | 406.4    | 16           | 600           | 15  | 495 | 485 | 12.5 | 40  | 24.1   |
| DC1-400-48-T4  | 400     | 406.4    | 48           | 600           | 25  | 545 | 515 | 20.5 | 87  | 35.9   |
| DC1-400-80-T4  | 400     | 406.4    | 80           | 600           | 35  | 560 | 540 | 25.5 | 90  | 51.6   |
| DC1-400-120-T4 | 400     | 406.4    | 120          | 600           | 40  | 545 | 550 | 28.5 | 160 | 67.4   |
| DC1-400-200-T4 | 400     | 406.4    | 200          | 600           | 50  | 580 | 560 | 36   | 220 | 134.5  |
| DC1-450-8-T4   | 450     | 457      | 8            | 600           | 12  | 545 | 510 | 10.5 | 40  | 26.9   |
| DC1-450-16-T4  | 450     | 457      | 16           | 600           | 15  | 545 | 510 | 12.5 | 40  | 26.9   |
| DC1-450-48-T4  | 450     | 457      | 48           | 600           | 25  | 595 | 540 | 20.5 | 87  | 38.8   |
| DC1-450-80-T4  | 450     | 457      | 80           | 600           | 35  | 615 | 565 | 25.5 | 90  | 55.5   |
| DC1-450-120-T4 | 450     | 457      | 120          | 600           | 40  | 595 | 575 | 28.5 | 160 | 72     |
| DC1-450-200-T4 | 450     | 457      | 200          | 600           | 50  | 635 | 585 | 36   | 220 | 142.9  |
| DC1-500-8-T4   | 500     | 508      | 8            | 600           | 12  | 595 | 535 | 10.5 | 40  | 29.6   |
| DC1-500-16-T4  | 500     | 508      | 16           | 600           | 15  | 595 | 535 | 12.5 | 40  | 29.6   |

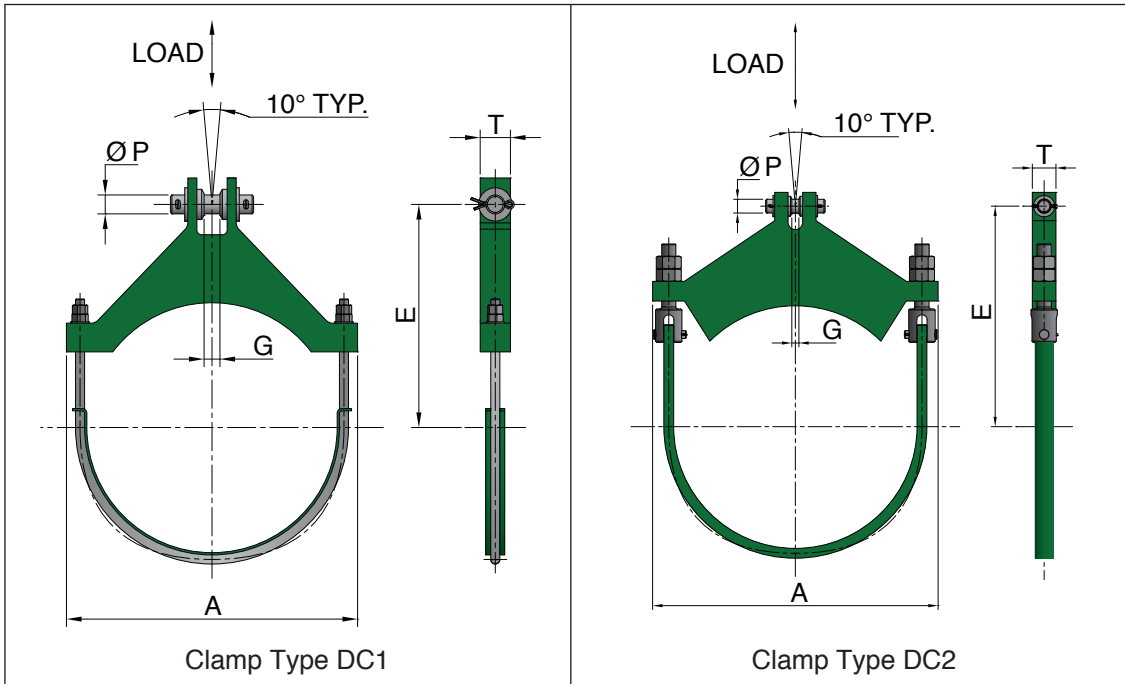


## STIFF CLAMPS



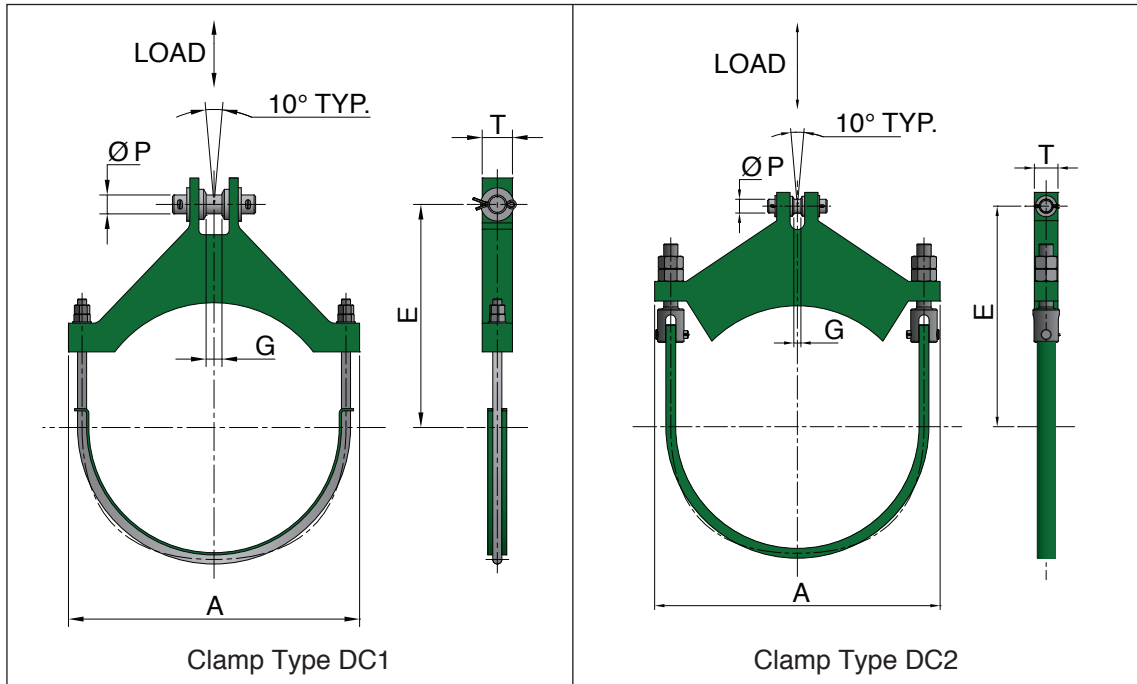
| Figure No.     | Pipe NB | Pipe O/D | Maximum Load | Maximum Temp. | Ø P | A   | E   | G    | T   | Weight |
|----------------|---------|----------|--------------|---------------|-----|-----|-----|------|-----|--------|
|                | mm      | mm       | kN           | Deg. C        | mm  | mm  | mm  | mm   | mm  | kg     |
| DC1-550-8-T4   | 550     | 559      | 8            | 600           | 12  | 645 | 560 | 10.5 | 40  | 32.1   |
| DC1-550-16-T4  | 550     | 559      | 16           | 600           | 15  | 645 | 560 | 12.5 | 40  | 32.1   |
| DC2-500-48-T4  | 500     | 508      | 48           | 600           | 25  | 605 | 565 | 20.5 | 80  | 34.1   |
| DC2-500-80-T4  | 500     | 508      | 80           | 600           | 35  | 630 | 590 | 25.5 | 100 | 54     |
| DC2-500-120-T4 | 500     | 508      | 120          | 600           | 40  | 645 | 600 | 28.5 | 130 | 81.9   |
| DC2-500-200-T4 | 500     | 508      | 200          | 600           | 50  | 690 | 610 | 36   | 170 | 154.3  |
| DC2-500-320-T4 | 500     | 508      | 320          | 600           | 60  | 660 | 630 | 45   | 285 | 221.2  |
| DC2-550-48-T4  | 550     | 558.8    | 48           | 600           | 25  | 655 | 590 | 20.5 | 80  | 36.6   |
| DC2-550-80-T4  | 550     | 558.8    | 80           | 600           | 35  | 680 | 615 | 25.5 | 100 | 57.5   |
| DC2-550-120-T4 | 550     | 558.8    | 120          | 600           | 40  | 695 | 625 | 28.5 | 130 | 86.5   |
| DC2-550-200-T4 | 550     | 558.8    | 200          | 600           | 50  | 740 | 635 | 36   | 170 | 161.8  |
| DC2-550-320-T4 | 550     | 558.8    | 320          | 600           | 60  | 710 | 655 | 45   | 285 | 230.7  |
| DC2-600-48-T4  | 600     | 609.6    | 48           | 600           | 25  | 710 | 640 | 20.5 | 80  | 41.1   |
| DC2-600-80-T4  | 600     | 609.6    | 80           | 600           | 35  | 735 | 665 | 25.5 | 100 | 63.4   |
| DC2-600-120-T4 | 600     | 609.6    | 120          | 600           | 40  | 745 | 675 | 28.5 | 130 | 93.1   |
| DC2-600-200-T4 | 600     | 609.6    | 200          | 600           | 50  | 795 | 685 | 36   | 170 | 173.5  |
| DC2-600-320-T4 | 600     | 609.6    | 320          | 600           | 60  | 765 | 705 | 45   | 285 | 245.2  |
| DC2-600-500-T4 | 600     | 609.6    | 500          | 600           | 80  | 810 | 735 | 56   | 310 | 396.5  |
| DC2-650-48-T4  | 650     | 660.4    | 48           | 600           | 25  | 760 | 665 | 20.5 | 80  | 43.8   |
| DC2-650-80-T4  | 650     | 660.4    | 80           | 600           | 35  | 785 | 690 | 25.5 | 100 | 67.1   |
| DC2-650-120-T4 | 650     | 660.4    | 120          | 600           | 40  | 800 | 700 | 28.5 | 130 | 98.2   |
| DC2-650-200-T4 | 650     | 660.4    | 200          | 600           | 50  | 845 | 710 | 36   | 170 | 181.5  |
| DC2-650-320-T4 | 650     | 660.4    | 320          | 600           | 60  | 815 | 730 | 45   | 285 | 255.3  |
| DC2-650-500-T4 | 650     | 660.4    | 500          | 600           | 80  | 860 | 760 | 56   | 310 | 409.5  |
| DC2-700-48-T4  | 700     | 711.2    | 48           | 600           | 25  | 815 | 690 | 20.5 | 80  | 46.8   |
| DC2-700-80-T4  | 700     | 711.2    | 80           | 600           | 35  | 835 | 715 | 25.5 | 100 | 70.7   |
| DC2-700-120-T4 | 700     | 711.2    | 120          | 600           | 40  | 850 | 725 | 28.5 | 130 | 103    |
| DC2-700-200-T4 | 700     | 711.2    | 200          | 600           | 50  | 895 | 735 | 36   | 170 | 189.5  |
| DC2-700-320-T4 | 700     | 711.2    | 320          | 600           | 60  | 865 | 755 | 45   | 285 | 265.3  |
| DC2-700-500-T4 | 700     | 711.2    | 500          | 600           | 80  | 915 | 785 | 56   | 310 | 423.1  |
| DC2-750-48-T4  | 750     | 762      | 48           | 600           | 25  | 860 | 740 | 20.5 | 80  | 51.3   |
| DC2-750-80-T4  | 750     | 762      | 80           | 600           | 35  | 885 | 765 | 25.5 | 100 | 77     |

## STIFF CLAMPS



| Figure No.      | Pipe NB | Pipe O/D | Maximum Load | Maximum Temp. | $\varnothing P$ | A    | E   | G    | T   | Weight |
|-----------------|---------|----------|--------------|---------------|-----------------|------|-----|------|-----|--------|
|                 | mm      | mm       | kN           | Deg. C        | mm              | mm   | mm  | mm   | mm  | kg     |
| DC2-750-120-T4  | 750     | 762      | 120          | 600           | 40              | 900  | 775 | 28.5 | 130 | 110.3  |
| DC2-750-200-T4  | 750     | 762      | 200          | 600           | 50              | 945  | 785 | 36   | 170 | 201.7  |
| DC2-750-320-T4  | 750     | 762      | 320          | 600           | 60              | 915  | 805 | 45   | 285 | 280.4  |
| DC2-750-500-T4  | 750     | 762      | 500          | 600           | 80              | 960  | 835 | 56   | 310 | 440.2  |
| DC2-800-48-T4   | 800     | 812.8    | 48           | 600           | 25              | 910  | 765 | 20.5 | 80  | 54.2   |
| DC2-800-80-T4   | 800     | 812.8    | 80           | 600           | 35              | 935  | 790 | 25.5 | 100 | 80.8   |
| DC2-800-120-T4  | 800     | 812.8    | 120          | 600           | 40              | 950  | 800 | 28.5 | 130 | 115.2  |
| DC2-800-200-T4  | 800     | 812.8    | 200          | 600           | 50              | 995  | 810 | 36   | 170 | 209.8  |
| DC2-800-320-T4  | 800     | 812.8    | 320          | 600           | 60              | 965  | 830 | 45   | 285 | 290.6  |
| DC2-800-500-T4  | 800     | 812.8    | 500          | 600           | 80              | 1010 | 860 | 56   | 310 | 453.4  |
| DC2-850-48-T4   | 850     | 863.6    | 48           | 600           | 25              | 965  | 790 | 20.5 | 80  | 57.3   |
| DC2-850-80-T4   | 850     | 863.6    | 80           | 600           | 35              | 985  | 815 | 25.5 | 100 | 84.7   |
| DC2-850-120-T4  | 850     | 863.6    | 120          | 600           | 40              | 1000 | 825 | 28.5 | 130 | 120.1  |
| DC2-850-200-T4  | 850     | 863.6    | 200          | 600           | 50              | 1045 | 835 | 36   | 170 | 218.1  |
| DC2-850-320-T4  | 850     | 863.6    | 320          | 600           | 60              | 1015 | 855 | 45   | 285 | 301    |
| DC2-850-500-T4  | 850     | 863.6    | 500          | 600           | 80              | 1065 | 885 | 56   | 310 | 467.4  |
| DC2-900-48-T4   | 900     | 914.4    | 48           | 600           | 25              | 1015 | 835 | 20.5 | 80  | 62.2   |
| DC2-900-80-T4   | 900     | 914.4    | 80           | 600           | 35              | 1040 | 860 | 25.5 | 100 | 91.5   |
| DC2-900-120-T4  | 900     | 914.4    | 120          | 600           | 40              | 1055 | 870 | 28.5 | 130 | 128    |
| DC2-900-200-T4  | 900     | 914.4    | 200          | 600           | 50              | 1100 | 880 | 36   | 170 | 231.2  |
| DC2-900-320-T4  | 900     | 914.4    | 320          | 600           | 60              | 1070 | 900 | 45   | 285 | 317.3  |
| DC2-900-500-T4  | 900     | 914.4    | 500          | 600           | 80              | 1115 | 930 | 56   | 310 | 485.8  |
| DC2-950-48-T4   | 950     | 965.2    | 48           | 600           | 25              | 1065 | 865 | 20.5 | 80  | 65.6   |
| DC2-950-80-T4   | 950     | 965.2    | 80           | 600           | 35              | 1090 | 890 | 25.5 | 100 | 96     |
| DC2-950-120-T4  | 950     | 965.2    | 120          | 600           | 40              | 1105 | 900 | 28.5 | 130 | 133.6  |
| DC2-950-200-T4  | 950     | 965.2    | 200          | 600           | 50              | 1150 | 910 | 36   | 170 | 240.5  |
| DC2-950-320-T4  | 950     | 965.2    | 320          | 600           | 60              | 1120 | 930 | 45   | 285 | 329    |
| DC2-950-500-T4  | 950     | 965.2    | 500          | 600           | 80              | 1165 | 960 | 56   | 310 | 500.5  |
| DC2-1000-80-T4  | 1000    | 1016     | 80           | 600           | 35              | 1145 | 915 | 25.5 | 100 | 100.3  |
| DC2-1000-120-T4 | 1000    | 1016     | 120          | 600           | 40              | 1160 | 925 | 28.5 | 130 | 139.1  |
| DC2-1000-200-T4 | 1000    | 1016     | 200          | 600           | 50              | 1205 | 935 | 36   | 170 | 249.6  |
| DC2-1000-320-T4 | 1000    | 1016     | 320          | 600           | 60              | 1175 | 955 | 45   | 285 | 340.5  |

## STIFF CLAMPS



| Figure No.      | Pipe NB | Pipe O/D | Maximum Load | Maximum Temp. | Ø P | A    | E    | G    | T   | Weight |
|-----------------|---------|----------|--------------|---------------|-----|------|------|------|-----|--------|
|                 | mm      | mm       | kN           | Deg. C        | mm  | mm   | mm   | mm   | mm  | kg     |
| DC2-1000-500-T4 | 1000    | 1016     | 500          | 600           | 80  | 1220 | 985  | 56   | 310 | 515.1  |
| DC2-1050-80-T4  | 1050    | 1066.8   | 80           | 600           | 35  | 1190 | 940  | 25.5 | 100 | 104.2  |
| DC2-1050-120-T4 | 1050    | 1066.8   | 120          | 600           | 40  | 1205 | 950  | 28.5 | 130 | 143.9  |
| DC2-1050-200-T4 | 1050    | 1066.8   | 200          | 600           | 50  | 1250 | 960  | 36   | 170 | 257.6  |
| DC2-1050-320-T4 | 1050    | 1066.8   | 320          | 600           | 60  | 1220 | 980  | 45   | 285 | 350.6  |
| DC2-1050-500-T4 | 1050    | 1066.8   | 500          | 600           | 80  | 1265 | 1010 | 56   | 310 | 527.7  |
| DC2-1100-120-T4 | 1100    | 1117.6   | 120          | 600           | 40  | 1260 | 980  | 28.5 | 130 | 166.4  |
| DC2-1100-200-T4 | 1100    | 1117.6   | 200          | 600           | 50  | 1305 | 990  | 36   | 170 | 293.8  |
| DC2-1100-320-T4 | 1100    | 1117.6   | 320          | 600           | 60  | 1275 | 1010 | 45   | 285 | 355.7  |
| DC2-1100-500-T4 | 1100    | 1117.6   | 500          | 600           | 80  | 1320 | 1040 | 56   | 310 | 535.6  |
| DC2-1150-120-T4 | 1150    | 1168.4   | 120          | 600           | 40  | 1310 | 1005 | 28.5 | 130 | 168.3  |
| DC2-1150-200-T4 | 1150    | 1168.4   | 200          | 600           | 50  | 1355 | 1015 | 36   | 170 | 296.9  |
| DC2-1150-320-T4 | 1150    | 1168.4   | 320          | 600           | 60  | 1325 | 1035 | 45   | 285 | 359.4  |
| DC2-1150-500-T4 | 1150    | 1168.4   | 500          | 600           | 80  | 1370 | 1065 | 56   | 310 | 541.3  |
| DC2-1200-120-T4 | 1200    | 1219.2   | 120          | 600           | 40  | 1362 | 1031 | 28.5 | 130 | 170.2  |
| DC2-1200-200-T4 | 1200    | 1219.2   | 200          | 600           | 50  | 1407 | 1041 | 36   | 170 | 300.1  |
| DC2-1200-320-T4 | 1200    | 1219.2   | 320          | 600           | 60  | 1377 | 1061 | 45   | 285 | 363.2  |
| DC2-1200-500-T4 | 1200    | 1219.2   | 500          | 600           | 80  | 1422 | 1091 | 56   | 310 | 547.3  |



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