



**SYNGHONG AOR**

# SYNGHONG

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# CREATE GROWTH TO OUR COMMUNITY THROUGH STEEL



## CORE VALUES

-  POSITIVE ATTITUDE
-  CONTINUOUS IMPROVEMENT
-  COMPANY GROWTH
-  GLOBAL MINDSET
-  TEAM SPIRIT
-  CUSTOMER FOCUS

To design, manufacture top quality products that:

**CUSTOMERS** select as business partners;

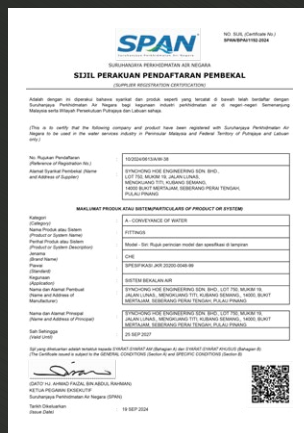
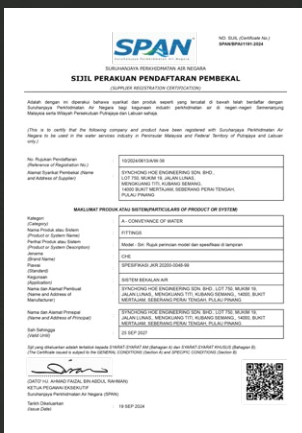
**CONSULTANTS** prefer for their clients;

**EMPLOYEES** are proud of;

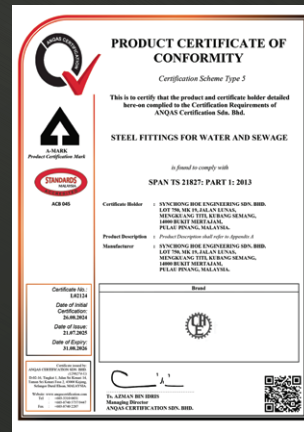
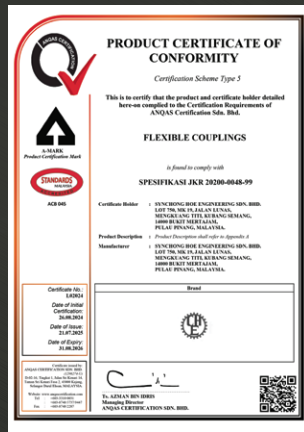
while delivering sustainable growths and values to our organisation and employees.



**ISO 9001 2015 UKAS  
ISO 9001 2015 DSM  
JKKP / DOSH UNFIRED PRESSURE VESSEL**



**SPAN - STEEL PIPE SPECIAL (SAW)  
MECHANICAL COUPLING  
FLANGE ADAPTOR**



**ANQAS - STEEL PIPES SPECIAL (SAW)  
MECHANICAL COUPLING  
FLANGE ADAPTOR**



# SYNCHONG HOE

Synchong Hoe Engineering Sdn. Bhd. (SCHE) has evolved from a **water pipe & pipe specials** and **mechanical coupling & flange adaptor** provider of water infrastructure industry, to a well diversified company engaged in pressure vessel which certified by **JKKP (DOSH)** as well as **ASME** and National Board of boiler and **pressure vessel** Inspectors of the United States of America.

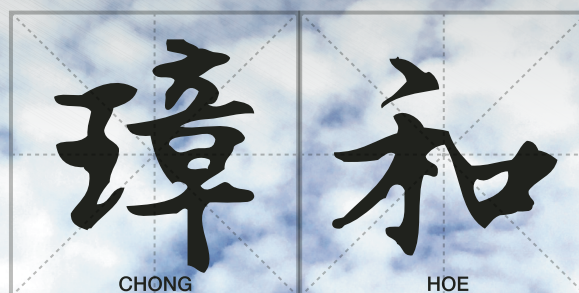
Our highly experienced and specialized workforce coupled with, SCHE strategically located yards in Penang, Malaysia enable us to undertake a range of multi-disciplined projects.

With a current strength of 100 full-time employees including in-house design and engineering team, SCHE is one of the leading premier supply vendors for mechanical coupling & flange adaptors.

SCHE's market encompasses Malaysia, Singapore, Indonesia, Thailand, Vietnam, Brunei, Philippines, Sri Lanka, USA, Middle East, Nigeria and Australia.

Fuelled by a strong commitment to excel and backed by a network that includes some of the world's leading multi-national corporations and major equipment principals, SCHE is poised to scale greater heights.

**YOUR CHALLENGE TAKES US FORWARD**



**SYNCHONG HOE ENGINEERING SDN. BHD.**

**璋和機械工程有限公司**



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### CENTRE SLEEVE

Standard and long sleeve lengths available to accommodate site conditions.

### GASKET

Ethylene Propylene (EPDM) as standard and it is water quality approved material.

### BOLT & NUT

Hot Dip Galvanized to BS EN ISO 1461. Stainless Steel 304/ 316 are also available on request.

### END FLANGE

Consist 2 end flanges fabricated rolled steel to BS EN 10025 (S275JR). Other material also available on request.

### Excellent Corrosion Protection

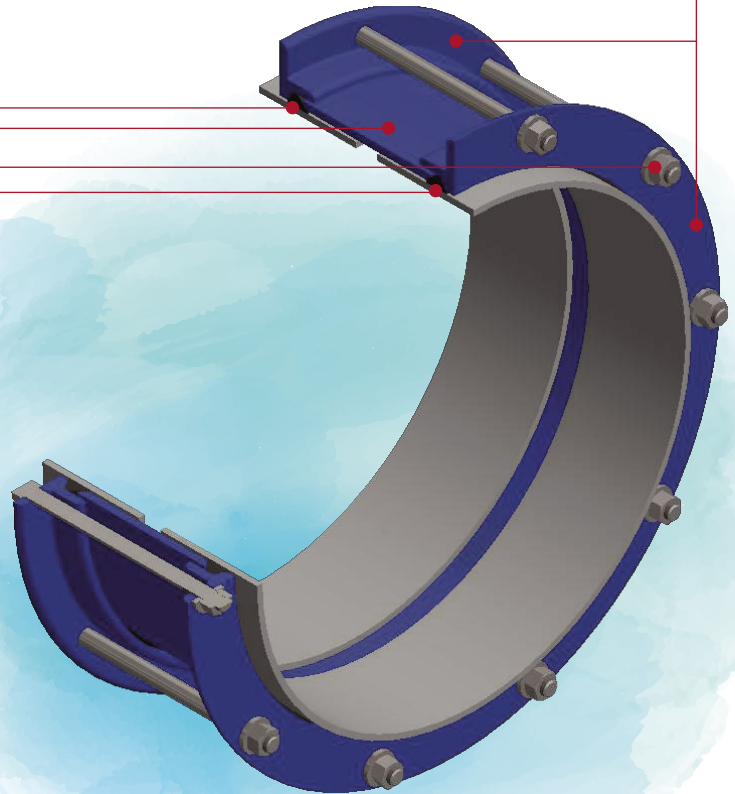
Coated by Fusion Bonded Epoxy (FBE) which provide incredibly durability and extend the life span of the fittings became more protective and highly resistant the corrosion and weather damage.

### Ultimate Sealing Capability

Fully sealing capabilities with high quality of EPDM gasket to ensure that failure compressed cannot occur when workings system is running.

### Simple To Fit

Simple installation procedure that could be installed in any weather and trench condition.



# MECHANICAL COUPLING

SCHE Mechanical Coupling accommodate angular deflection between the pipes can offer up to 3-6 degrees and allow for easy installation and better pipeline movement such as ground settlement.

**Range of Nominal Size (DN):** DN80 - DN3200

**Standard Specification:**

BS EN 1092-1 / BS 512  
BS EN 10224 / BS EN 10311  
BS EN 10220  
BS EN 1452-1 TO BS EN 1452-5

**Approvals / Certificates:**

ANQAS  
SPAN  
ISO 9001

# MECHANICAL COUPLING

SCHE fabricated mechanical coupling, for ductile iron and mild steel pipes, and suitable for drinking water and neutral liquids (sewage). Mechanical Coupling are used for joining pipes of the same material or pipes of different materials but having the same outside diameter.

## STANDARDS:

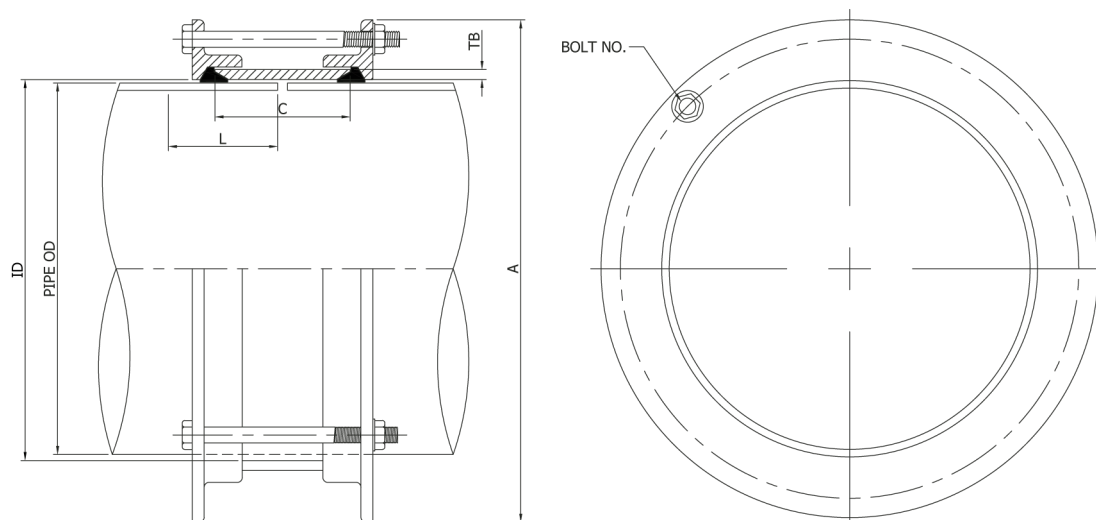
- BS EN 10217-1:2002+A1:2005, BS EN 10224:2002 (+BS EN 10311:2005), BS EN 1092-1:2013, SPAN specifications.

## FEATURES:

- Mechanical Coupling can absorb up to 10mm expansion and contraction, which allows for movement on bridge crossings, in chambers and pump stations. Often eliminates the need for special expansion joints.
- Mechanical Coupling can offer up to 6° of angular deflection; allow for the connection of misaligned pipes, take up ground settlement at structures, lay pipes to large radius bends, etc.
- Suitable for a wide range of pipework applications, above and below ground level.
- Flange and body / centre sleeve / end rings:
  - Fabricated rolled steel grade S275JR BS EN 10025-1:2004.
  - Other grade or materials are also available upon request.
- Bolt, nuts and washers:
  - Hot dip galvanised to BS EN ISO 1461:2009
  - Stainless Steel Grade 304 and 316
- Gasket / Sealing Ring:
  - Ethylene Propylene (EPDM) to MS672(1999) or BS EN 681-1:1996
- Standard Corrosion Protection:
  - FBE - Fusion Bonded Epoxy Powder Coating Internally and Externally at 250µ min. (up to DN1600)
  - Cold Applied Epoxy Coating sizes greater than DN1600.

## NOTE:

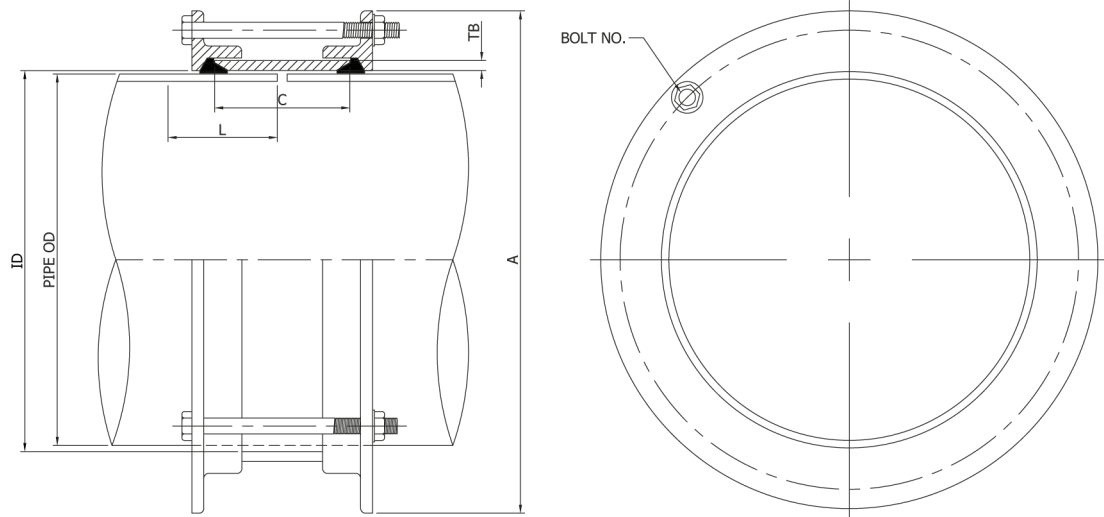
SCHE Mechanical Coupling is not designed for end load resistant applications, SCHE Mechanical Coupling do not resist longitudinal thrust loadings and pipe pull-out will occur unless the load are retained by other means, eg. Tie Lug c/w Tie Bolt.



**Dimensions (MILD STEEL PIPE TO BS EN 10224):**

| PIPE ND<br>mm | PIPE OD<br>mm | ID<br>mm | L<br>mm | A<br>mm | C<br>mm | TB<br>mm | BOLT NO. | BOLT DIA.<br>mm | BOLT L<br>mm |
|---------------|---------------|----------|---------|---------|---------|----------|----------|-----------------|--------------|
| 80            | 88.9          | 93.9     | 100     | 191     | 100     | 6.0      | 4        | 12              | 165          |
| 100           | 114.3         | 119.3    | 100     | 216     | 100     | 6.0      | 4        | 12              | 165          |
| 150           | 168.3         | 173.3    | 100     | 270     | 100     | 7.2      | 4        | 12              | 165          |
| 200           | 219.1         | 224.1    | 100     | 321     | 100     | 7.2      | 6        | 12              | 165          |
| 250           | 273.0         | 278.0    | 100     | 375     | 100     | 7.2      | 6        | 12              | 165          |
| 300           | 323.9         | 328.9    | 100     | 429     | 100     | 7.2      | 6        | 12              | 165          |
| 350           | 355.6         | 360.6    | 150     | 468     | 150     | 8.0      | 8        | 16              | 230          |
| 400           | 406.4         | 411.4    | 150     | 518     | 150     | 8.0      | 8        | 16              | 230          |
| 450           | 457.0         | 462.0    | 150     | 569     | 150     | 8.0      | 10       | 16              | 230          |
| 500           | 508.0         | 513.0    | 150     | 620     | 150     | 8.0      | 10       | 16              | 230          |
| 550           | 559.0         | 564.0    | 150     | 671     | 150     | 8.0      | 10       | 16              | 230          |
| 600           | 610.0         | 615.0    | 150     | 722     | 150     | 8.0      | 10       | 16              | 230          |
| 650           | 660.0         | 665.0    | 150     | 772     | 150     | 8.0      | 12       | 16              | 230          |
| 700           | 711.0         | 716.0    | 150     | 823     | 150     | 8.0      | 12       | 16              | 230          |
| 750           | 762.0         | 767.0    | 150     | 874     | 150     | 8.0      | 12       | 16              | 230          |
| 800           | 813.0         | 818.0    | 150     | 925     | 150     | 8.0      | 12       | 16              | 230          |
| 900           | 914.0         | 919.0    | 150     | 1026    | 178     | 8.8      | 14       | 16              | 265          |
| 1000          | 1016.0        | 1022.0   | 150     | 1128    | 178     | 8.8      | 14       | 16              | 265          |
| 1100          | 1118.0        | 1124.0   | 150     | 1244    | 178     | 11.8     | 16       | 16              | 280          |
| 1200          | 1219.0        | 1225.0   | 150     | 1345    | 178     | 11.8     | 16       | 16              | 280          |
| 1400          | 1420.0        | 1426.0   | 150     | 1546    | 178     | 11.8     | 18       | 16              | 280          |
| 1600          | 1620.0        | 1626.0   | 150     | 1746    | 178     | 11.8     | 24       | 16              | 280          |
| 1800          | 1820.0        | 1826.0   | 150     | 1946    | 178     | 11.8     | 28       | 16              | 280          |
| 2000          | 2020.0        | 2026.0   | 200     | 2155    | 254     | 15.0     | 36       | 16              | 355          |
| 2200          | 2220.0        | 2226.0   | 200     | 2355    | 254     | 15.0     | 40       | 16              | 355          |
| 2400          | 2420.0        | 2426.0   | 200     | 2580    | 254     | 22.0     | 40       | 20              | 405          |

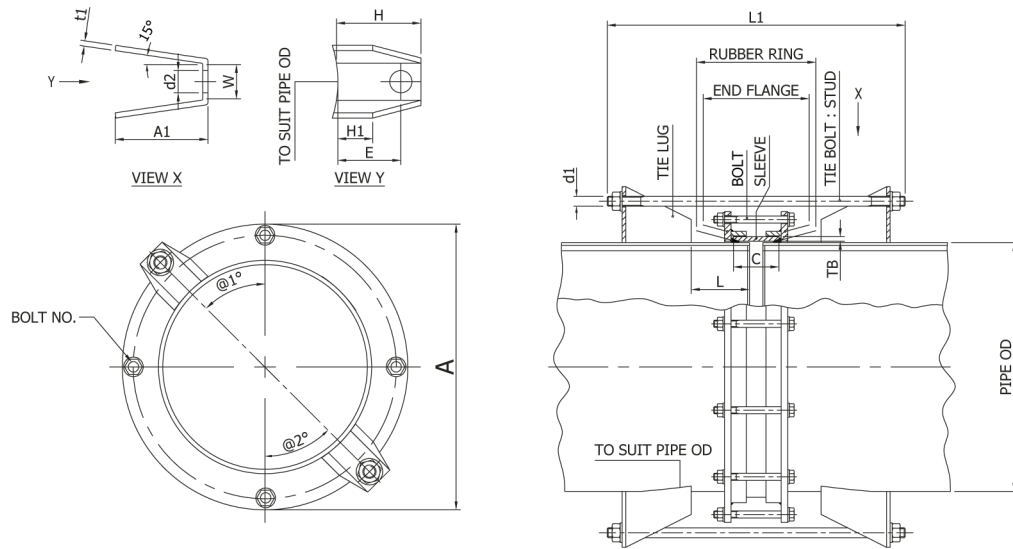
**\*\* Other sizes are also available upon request.**



**Dimensions (DUCTILE IRON PIPE TO BS EN 545):**

| PIPE ND<br>mm | PIPE OD<br>mm | ID<br>mm | L<br>mm | A<br>mm | C<br>mm | TB<br>mm | BOLT<br>NO. | BOLT<br>DIA.<br>mm | BOLT L<br>mm |
|---------------|---------------|----------|---------|---------|---------|----------|-------------|--------------------|--------------|
| mm            | mm            | mm       | mm      | mm      | mm      | mm       |             | mm                 | mm           |
| 80            | 98            | 103      | 100     | 200     | 100     | 6.0      | 4           | 12                 | 165          |
| 100           | 118           | 123      | 100     | 220     | 100     | 6.0      | 4           | 12                 | 165          |
| 150           | 170           | 175      | 100     | 272     | 100     | 7.2      | 4           | 12                 | 165          |
| 200           | 222           | 227      | 100     | 324     | 100     | 7.2      | 6           | 12                 | 165          |
| 250           | 274           | 279      | 100     | 376     | 100     | 7.2      | 6           | 12                 | 165          |
| 300           | 326           | 331      | 100     | 431     | 100     | 7.2      | 6           | 12                 | 165          |
| 350           | 378           | 383      | 150     | 490     | 150     | 8.0      | 8           | 16                 | 230          |
| 400           | 429           | 434      | 150     | 541     | 150     | 8.0      | 8           | 16                 | 230          |
| 450           | 480           | 485      | 150     | 592     | 150     | 8.0      | 10          | 16                 | 230          |
| 500           | 532           | 537      | 150     | 644     | 150     | 8.0      | 10          | 16                 | 230          |
| 600           | 635           | 640      | 150     | 747     | 150     | 8.0      | 10          | 16                 | 230          |
| 700           | 738           | 743      | 150     | 850     | 150     | 8.0      | 12          | 16                 | 230          |
| 800           | 842           | 847      | 150     | 954     | 150     | 8.0      | 12          | 16                 | 230          |
| 900           | 945           | 950      | 150     | 1057    | 178     | 8.8      | 14          | 16                 | 265          |
| 1000          | 1048          | 1054     | 150     | 1160    | 178     | 8.8      | 14          | 16                 | 265          |
| 1100          | 1152          | 1158     | 150     | 1278    | 178     | 11.8     | 16          | 16                 | 280          |
| 1200          | 1255          | 1261     | 150     | 1381    | 178     | 11.8     | 16          | 16                 | 280          |
| 1400          | 1462          | 1468     | 150     | 1588    | 178     | 11.8     | 18          | 16                 | 280          |
| 1600          | 1668          | 1674     | 150     | 1794    | 178     | 11.8     | 24          | 16                 | 280          |
| 1800          | 1875          | 1881     | 200     | 2001    | 254     | 15.0     | 32          | 16                 | 355          |
| 2000          | 2082          | 2088     | 200     | 2217    | 254     | 15.0     | 36          | 16                 | 355          |

**\*\* Other sizes are also available upon request.**



**Dimensions (MILD STEEL PIPE TO BS EN 10224):**

| PIPE ND<br>mm | PIPE OD<br>mm | ID<br>mm | L<br>mm | A<br>mm | C<br>mm | TB<br>mm | BOLT<br>NO. | BOLT<br>DIA.<br>mm | BOLT L<br>mm | TIE LUG /<br>TIE BOLT<br>set |
|---------------|---------------|----------|---------|---------|---------|----------|-------------|--------------------|--------------|------------------------------|
| 80            | 88.9          | 93.9     | 100     | 191     | 100     | 6.0      | 4           | 12                 | 165          | 2                            |
| 100           | 114.3         | 119.3    | 100     | 216     | 100     | 6.0      | 4           | 12                 | 165          | 2                            |
| 150           | 168.3         | 173.3    | 100     | 270     | 100     | 7.2      | 4           | 12                 | 165          | 4                            |
| 200           | 219.1         | 224.1    | 100     | 321     | 100     | 7.2      | 6           | 12                 | 165          | 4                            |
| 250           | 273.0         | 278.0    | 100     | 375     | 100     | 7.2      | 6           | 12                 | 165          | 4                            |
| 300           | 323.9         | 328.9    | 100     | 429     | 100     | 7.2      | 6           | 12                 | 165          | 4                            |
| 350           | 355.6         | 360.6    | 150     | 468     | 150     | 8.0      | 8           | 16                 | 230          | 4                            |
| 400           | 406.4         | 411.4    | 150     | 518     | 150     | 8.0      | 8           | 16                 | 230          | 4                            |
| 450           | 457.0         | 462.0    | 150     | 569     | 150     | 8.0      | 10          | 16                 | 230          | 4                            |
| 500           | 508.0         | 513.0    | 150     | 620     | 150     | 8.0      | 10          | 16                 | 230          | 4                            |
| 550           | 559.0         | 564.0    | 150     | 671     | 150     | 8.0      | 10          | 16                 | 230          | 4                            |
| 600           | 610.0         | 615.0    | 150     | 722     | 150     | 8.0      | 10          | 16                 | 230          | 4                            |
| 650           | 660.0         | 665.0    | 150     | 772     | 150     | 8.0      | 12          | 16                 | 230          | 4                            |
| 700           | 711.0         | 716.0    | 150     | 823     | 150     | 8.0      | 12          | 16                 | 230          | 6                            |
| 750           | 762.0         | 767.0    | 150     | 874     | 150     | 8.0      | 12          | 16                 | 230          | 6                            |
| 800           | 813.0         | 818.0    | 150     | 925     | 150     | 8.0      | 12          | 16                 | 230          | 6                            |
| 900           | 914.0         | 919.0    | 150     | 1026    | 178     | 8.8      | 14          | 16                 | 265          | 6                            |
| 1000          | 1016.0        | 1022.0   | 150     | 1128    | 178     | 8.8      | 14          | 16                 | 265          | 6                            |
| 1100          | 1118.0        | 1124.0   | 150     | 1244    | 178     | 11.8     | 16          | 16                 | 280          | 6                            |
| 1200          | 1219.0        | 1225.0   | 150     | 1345    | 178     | 11.8     | 16          | 16                 | 280          | 8                            |
| 1400          | 1420.0        | 1426.0   | 150     | 1546    | 178     | 11.8     | 18          | 16                 | 280          | 8                            |
| 1600          | 1620.0        | 1626.0   | 150     | 1746    | 178     | 11.8     | 24          | 16                 | 280          | 10                           |
| 1800          | 1820.0        | 1826.0   | 150     | 1946    | 178     | 11.8     | 28          | 16                 | 280          | 12                           |
| 2000          | 2020.0        | 2026.0   | 200     | 2155    | 254     | 15.0     | 36          | 16                 | 355          | 12                           |
| 2200          | 2220.0        | 2226.0   | 200     | 2355    | 254     | 15.0     | 40          | 16                 | 355          | 12                           |
| 2400          | 2420.0        | 2426.0   | 200     | 2580    | 254     | 22.0     | 40          | 20                 | 405          | 15                           |

\*\* Other sizes are also available upon request.



# FLANGE ADAPTOR

SCHE Flange Adaptor absorb up to 5mm expansion, which allows for movement on bridge crossings, in chambers and pump stations. Flange Adaptor offer up to 3 degree of angular deflection to allow for the connection of miss aligned pipe to flange equipment and movement/ settlement in service.

## ADAPTOR

**Flange** drilling to any standard to accommodate site requirements. Standard and long **sleeve** lengths available to accomodate site condirions.

## GASKET

Ethylene Propylene (EPDM) as standard and it is water quality approved material.

## BOLT & NUT

Hot Dip Galvanized to BS EN ISO 1461. Stainless Steel 304/ 316 are also available on request.

## Flash Butt Welding

Flash butt welding used for end ring and centre sleeve ensuring a full penetration weld with totally homogeneous material and no impurities.

## Sleeve Length

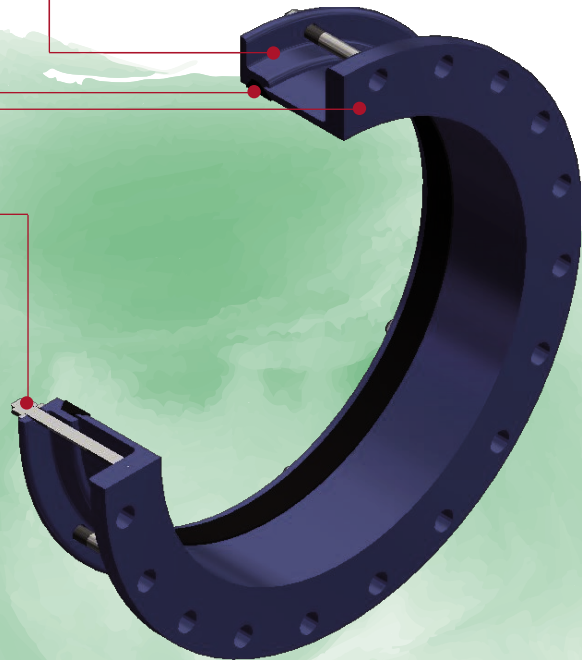
Standard and long sleeve lengths available to accomadate site conditions.

## Flange Drilling

Flange drilling to any standard to accomodate site requirements.

## END FLANGE

Consist 1 end flange fabricated rolled steel to BS EN 10025 (S275JR). Other material also available on request.



**Range of Nominal Size (DN):** DN65 - DN3200

### Standard Specification:

BS EN 1092-1 / BS 512  
BS EN 10224 / BS EN 10311  
BS EN 10220  
BS EN 1452-1 TO BS EN 1452-5

### Flange Rating:

BS4504 : PN2.5, PN6, PN10, PN16, PN25, PN40  
ANSI : Class 150, 300, 600, 900  
AWWA : Class B, D, E  
JIS : 5K, 10K, 16K, 20K

### Approvals / Certificates:

ANQAS  
SPAN  
ISO 9001

# FLANGE ADAPTOR

**SCHE fabricates flange adaptor, for ductile iron and mild steel pipes, and suitable for drinking water and neutral liquids (sewage). Flange adaptors are used to enable plain-ended pipe to be connected either to flanged valves and other fittings.**

## STANDARDS:

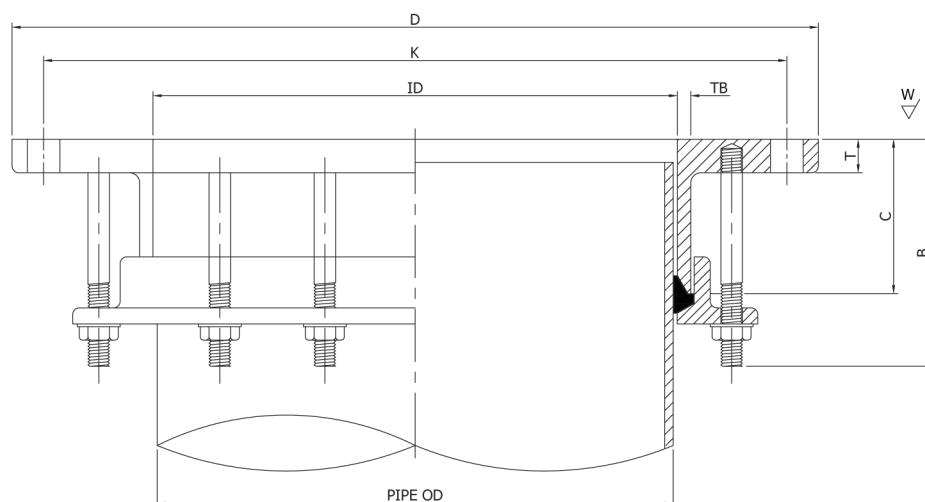
- BS EN 10217-1:2002+A1:2005, BS EN 10224:2002 (+BS EN 10311:2005), BS EN 1092-1:2013, SPAN specifications.
- Standard flange drilling to EN1092-1, PN 10/16/25/40
- Optional flange drilling: ANSI/ASME B16.5 (Class 150, 300, 600, 900), AWWA C207 (class B, D, E), JIS B2220/KS B1503 (5K, 10K, 16K, 20K).

## FEATURES:

- Can absorb up to 5mm expansion, which allows for movement on bridge crossings, in chambers and pump stations.
- Can offer up to 3° of angular deflection, to allow for the connection of miss-aligned pipe to flange equipment and movement / settlement in service.
- Flange and body / centre sleeve / end rings:
  - Fabricated rolled steel grade S275JR BS EN 10025-1:2004.
  - Other grade or materials are also available upon request.
- Bolt, nuts and washers:
  - Hot dip galvanised to BS EN ISO 1461:2009
  - Stainless Steel Grade 304 and 316
- Rubber Ring / Sealing Ring:
  - Ethylene Propylene (EPDM) to MS672(1999) or BS EN 681-1:1996
- Standard Corrosion Protection:
  - FBE - Fusion Bonded Epoxy Powder Coating Internally and Externally at 250µ min. (up to DN1600)
  - Cold Applied Epoxy Coating sizes greater than DN1600

## NOTE:

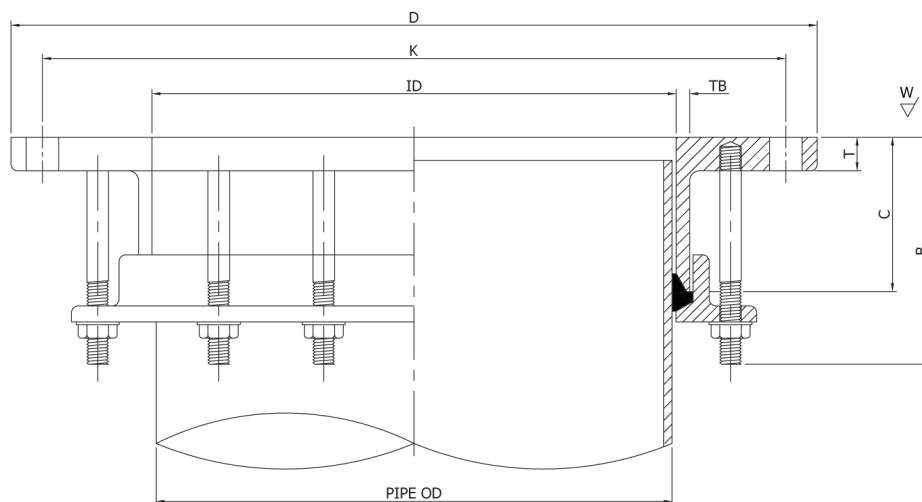
SCHE Flange Adaptor is not designed for end load resistant applications, SCHE Flange Adaptor do not resist longitudinal thrust loadings and pipe pull-out will occur unless the load are retained by other means, eg. Tie Lug c/w Tie Bolt.



**Dimensions (MILD STEEL PIPE TO BS EN 10224) PN10:**

| PIPE ND mm | PIPE OD mm | ID mm  | PN | D mm | T mm | B mm | C mm | TB mm | BOLT NO. | BOLT DIA. mm | BOLT HOLE DIA. mm | K mm | STUD NO. | STUD DIA. mm | STUD L mm |
|------------|------------|--------|----|------|------|------|------|-------|----------|--------------|-------------------|------|----------|--------------|-----------|
| 80         | 88.9       | 93.9   | 10 | 200  | 19   | 127  | 79   | 6.0   | 8        | 16           | 18                | 160  | 4        | 12           | 120       |
| 100        | 114.3      | 119.3  | 10 | 220  | 19   | 130  | 82   | 6.0   | 8        | 16           | 18                | 180  | 4        | 12           | 120       |
| 150        | 168.3      | 173.3  | 10 | 285  | 22   | 130  | 82   | 7.2   | 8        | 20           | 22                | 240  | 4        | 12           | 120       |
| 200        | 219.1      | 224.1  | 10 | 340  | 22   | 130  | 82   | 7.2   | 8        | 20           | 22                | 295  | 4        | 12           | 120       |
| 250        | 273.0      | 278.0  | 10 | 395  | 25   | 135  | 85   | 7.2   | 12       | 20           | 22                | 350  | 6        | 12           | 120       |
| 300        | 323.9      | 328.9  | 10 | 445  | 25   | 135  | 85   | 7.2   | 12       | 20           | 22                | 400  | 6        | 12           | 120       |
| 350        | 355.6      | 360.6  | 10 | 505  | 25   | 170  | 114  | 8.0   | 16       | 20           | 22                | 460  | 8        | 16           | 160       |
| 400        | 406.4      | 411.4  | 10 | 565  | 25   | 170  | 114  | 8.0   | 16       | 24           | 26                | 515  | 8        | 16           | 160       |
| 450        | 457.0      | 462.0  | 10 | 615  | 25   | 170  | 114  | 8.0   | 20       | 24           | 26                | 565  | 10       | 16           | 160       |
| 500        | 508.0      | 513.0  | 10 | 670  | 25   | 170  | 114  | 8.0   | 20       | 24           | 26                | 620  | 10       | 16           | 160       |
| 550        | 559.0      | 564.0  | 10 | 730  | 25   | 170  | 114  | 8.0   | 20       | 27           | 30                | 675  | 10       | 16           | 160       |
| 600        | 610.0      | 615.0  | 10 | 780  | 25   | 170  | 114  | 8.0   | 20       | 27           | 30                | 725  | 10       | 16           | 160       |
| 650        | 660.0      | 665.0  | 10 | 835  | 25   | 170  | 114  | 8.0   | 24       | 27           | 30                | 780  | 12       | 16           | 160       |
| 700        | 711.0      | 716.0  | 10 | 895  | 25   | 170  | 114  | 8.0   | 24       | 27           | 30                | 840  | 12       | 16           | 160       |
| 750        | 762.0      | 767.0  | 10 | 965  | 25   | 170  | 114  | 8.0   | 24       | 30           | 33                | 900  | 12       | 16           | 160       |
| 800        | 813.0      | 818.0  | 10 | 1015 | 25   | 170  | 114  | 8.0   | 24       | 30           | 33                | 950  | 12       | 16           | 160       |
| 900        | 914.0      | 919.0  | 10 | 1115 | 25   | 170  | 114  | 8.8   | 28       | 30           | 33                | 1050 | 14       | 16           | 160       |
| 1000       | 1016.0     | 1022.0 | 10 | 1230 | 25   | 170  | 114  | 8.8   | 28       | 33           | 36                | 1160 | 14       | 16           | 160       |
| 1100       | 1118.0     | 1124.0 | 10 | 1340 | 38   | 244  | 163  | 11.8  | 32       | 33           | 36                | 1270 | 16       | 16           | 210       |
| 1200       | 1219.0     | 1225.0 | 10 | 1455 | 38   | 244  | 163  | 11.8  | 32       | 36           | 39                | 1380 | 16       | 16           | 210       |
| 1400       | 1420.0     | 1426.0 | 10 | 1675 | 38   | 244  | 163  | 11.8  | 36       | 39           | 43                | 1590 | 18       | 16           | 210       |
| 1600       | 1620.0     | 1626.0 | 10 | 1915 | 60   | 266  | 185  | 11.8  | 40       | 45           | 49                | 1820 | 40       | 16           | 210       |
| 1800       | 1820.0     | 1826.0 | 10 | 2115 | 60   | 266  | 185  | 11.8  | 44       | 45           | 49                | 2020 | 44       | 16           | 210       |
| 2000       | 2020.0     | 2026.0 | 10 | 2325 | 60   | 266  | 185  | 15.0  | 48       | 45           | 49                | 2230 | 48       | 16           | 210       |

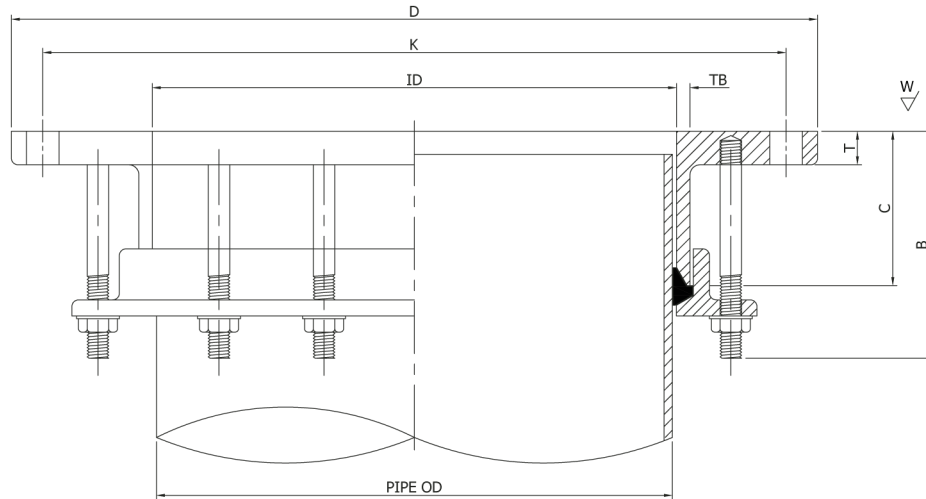
**\*\* Other sizes are also available upon request.**



**Dimensions (DUCTILE IRON PIPE TO BS EN 545) PN10:**

| PIPE ND mm | PIPE OD mm | ID mm | PN | D mm | T mm | B mm | C mm | TB mm | BOLT NO. | BOLT DIA. mm | BOLT HOLE DIA. mm | K mm | STUD NO. | STUD DIA. mm | STUD L mm |
|------------|------------|-------|----|------|------|------|------|-------|----------|--------------|-------------------|------|----------|--------------|-----------|
| 80         | 98         | 103   | 10 | 200  | 19   | 127  | 79   | 6.0   | 8        | 16           | 18                | 160  | 4        | 12           | 120       |
| 100        | 118        | 123   | 10 | 220  | 19   | 130  | 82   | 6.0   | 8        | 16           | 18                | 180  | 4        | 12           | 120       |
| 150        | 170        | 175   | 10 | 285  | 22   | 130  | 82   | 7.2   | 8        | 20           | 22                | 240  | 4        | 12           | 120       |
| 200        | 222        | 227   | 10 | 340  | 22   | 130  | 82   | 7.2   | 8        | 20           | 22                | 295  | 4        | 12           | 120       |
| 250        | 274        | 279   | 10 | 395  | 25   | 135  | 85   | 7.2   | 12       | 20           | 22                | 350  | 6        | 12           | 120       |
| 300        | 326        | 331   | 10 | 445  | 25   | 135  | 85   | 7.2   | 12       | 20           | 22                | 400  | 6        | 12           | 120       |
| 350        | 378        | 383   | 10 | 505  | 25   | 170  | 114  | 8.0   | 16       | 20           | 22                | 460  | 8        | 16           | 160       |
| 400        | 429        | 434   | 10 | 565  | 25   | 170  | 114  | 8.0   | 16       | 24           | 26                | 515  | 8        | 16           | 160       |
| 450        | 480        | 485   | 10 | 615  | 25   | 170  | 114  | 8.0   | 20       | 24           | 26                | 565  | 10       | 16           | 160       |
| 500        | 532        | 537   | 10 | 670  | 25   | 170  | 114  | 8.0   | 20       | 24           | 26                | 620  | 10       | 16           | 160       |
| 600        | 635        | 640   | 10 | 780  | 25   | 170  | 114  | 8.0   | 20       | 27           | 30                | 725  | 10       | 16           | 160       |
| 700        | 738        | 743   | 10 | 895  | 25   | 170  | 114  | 8.0   | 24       | 27           | 30                | 840  | 12       | 16           | 160       |
| 800        | 842        | 847   | 10 | 1015 | 25   | 170  | 114  | 8.0   | 24       | 30           | 33                | 950  | 12       | 16           | 160       |
| 900        | 945        | 950   | 10 | 1115 | 25   | 170  | 114  | 8.8   | 28       | 30           | 33                | 1050 | 14       | 16           | 160       |
| 1000       | 1048       | 1054  | 10 | 1230 | 25   | 170  | 114  | 8.8   | 28       | 33           | 36                | 1160 | 14       | 16           | 160       |
| 1100       | 1152       | 1158  | 10 | 1340 | 38   | 244  | 163  | 11.8  | 32       | 33           | 36                | 1270 | 16       | 16           | 210       |
| 1200       | 1255       | 1261  | 10 | 1455 | 38   | 244  | 163  | 11.8  | 32       | 36           | 39                | 1380 | 16       | 16           | 210       |
| 1400       | 1462       | 1468  | 10 | 1675 | 38   | 244  | 163  | 11.8  | 36       | 39           | 43                | 1590 | 18       | 16           | 210       |
| 1600       | 1668       | 1674  | 10 | 1915 | 60   | 266  | 185  | 11.8  | 40       | 45           | 49                | 1820 | 40       | 16           | 210       |
| 1800       | 1875       | 1881  | 10 | 2115 | 60   | 266  | 185  | 11.8  | 44       | 45           | 49                | 2020 | 44       | 16           | 210       |
| 2000       | 2082       | 2088  | 10 | 2325 | 60   | 266  | 185  | 15.0  | 48       | 45           | 49                | 2230 | 48       | 16           | 210       |

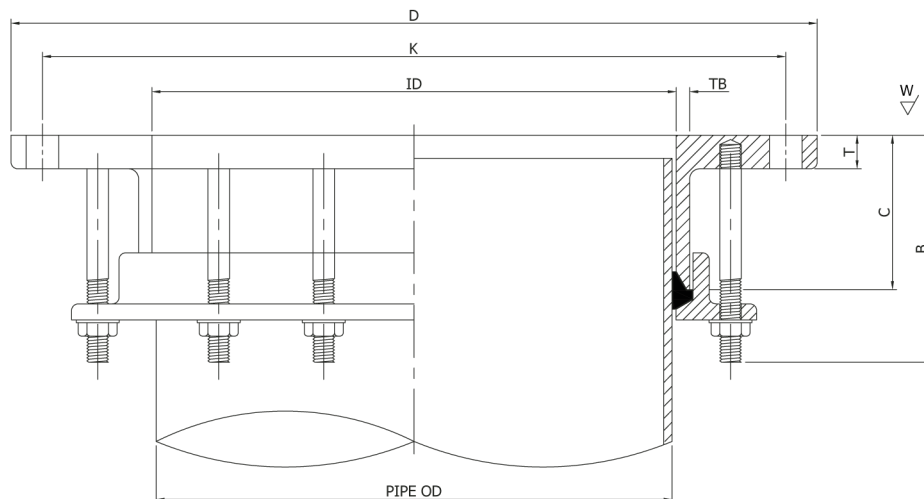
**\*\* Other sizes are also available upon request.**



**Dimensions (HDPE PIPE TO MS 1058:PART 2:2002) PN10:**

| PIPE ND mm | PIPE OD mm | ID mm | PN | D mm | T mm | B mm | C mm | TB mm | BOLT NO. | BOLT DIA. mm | BOLT HOLE DIA. mm | K mm | STUD NO. | STUD DIA. mm | STUD L mm |
|------------|------------|-------|----|------|------|------|------|-------|----------|--------------|-------------------|------|----------|--------------|-----------|
| 63         | 63         | 68    | 10 | 165  | 19   | 195  | 150  | 6.0   | 4        | 16           | 18                | 125  | 2        | 12           | 190       |
| 75         | 75         | 80    | 10 | 185  | 19   | 195  | 150  | 6.0   | 4        | 16           | 18                | 145  | 2        | 12           | 190       |
| 90         | 90         | 95    | 10 | 200  | 19   | 195  | 150  | 6.0   | 8        | 16           | 18                | 160  | 4        | 12           | 190       |
| 110        | 110        | 115   | 10 | 220  | 19   | 195  | 150  | 6.0   | 8        | 16           | 18                | 180  | 4        | 12           | 190       |
| 125        | 125        | 130   | 10 | 250  | 22   | 195  | 150  | 7.2   | 8        | 16           | 18                | 210  | 4        | 12           | 190       |
| 140        | 140        | 145   | 10 | 250  | 22   | 195  | 150  | 7.2   | 8        | 16           | 18                | 210  | 4        | 12           | 190       |
| 160        | 160        | 165   | 10 | 285  | 22   | 195  | 150  | 7.2   | 8        | 20           | 22                | 240  | 4        | 12           | 190       |
| 180        | 180        | 185   | 10 | 315  | 22   | 195  | 150  | 7.2   | 8        | 20           | 22                | 270  | 4        | 12           | 190       |
| 200        | 200        | 205   | 10 | 340  | 22   | 195  | 150  | 7.2   | 8        | 20           | 22                | 295  | 4        | 12           | 190       |
| 225        | 225        | 230   | 10 | 340  | 22   | 195  | 150  | 7.2   | 8        | 20           | 22                | 295  | 4        | 12           | 190       |
| 250        | 250        | 255   | 10 | 395  | 25   | 195  | 150  | 7.2   | 12       | 20           | 22                | 350  | 6        | 12           | 190       |
| 280        | 280        | 285   | 10 | 395  | 25   | 195  | 150  | 7.2   | 12       | 20           | 22                | 350  | 6        | 12           | 190       |
| 315        | 315        | 320   | 10 | 445  | 25   | 195  | 150  | 7.2   | 12       | 20           | 22                | 400  | 6        | 12           | 190       |
| 355        | 355        | 360   | 10 | 505  | 25   | 200  | 150  | 8.0   | 16       | 20           | 22                | 460  | 8        | 16           | 200       |
| 400        | 400        | 405   | 10 | 565  | 25   | 200  | 150  | 8.0   | 16       | 24           | 26                | 515  | 8        | 16           | 200       |
| 450        | 450        | 455   | 10 | 615  | 25   | 200  | 150  | 8.0   | 20       | 24           | 26                | 565  | 10       | 16           | 200       |
| 500        | 500        | 505   | 10 | 670  | 25   | 200  | 150  | 8.0   | 20       | 24           | 26                | 620  | 10       | 16           | 200       |

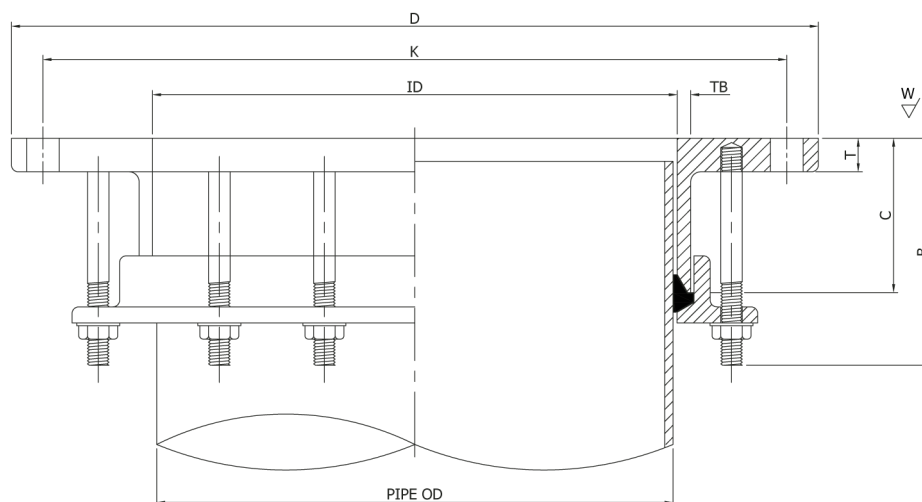
**\*\* Other sizes are also available upon request.**



Dimensions (MILD STEEL PIPE TO BS EN 10224) PN16:

| PIPE ND mm | PIPE OD mm | ID mm  | PN | D mm | T mm | B mm | C mm | TB mm | BOLT NO. | BOLT DIA. mm | BOLT HOLE DIA. mm | K mm | STUD NO. | STUD DIA. mm | STUD L mm |
|------------|------------|--------|----|------|------|------|------|-------|----------|--------------|-------------------|------|----------|--------------|-----------|
| 80         | 88.9       | 93.9   | 16 | 200  | 19   | 127  | 79   | 6.0   | 8        | 16           | 18                | 160  | 4        | 12           | 120       |
| 100        | 114.3      | 119.3  | 16 | 220  | 19   | 130  | 82   | 6.0   | 8        | 16           | 18                | 180  | 4        | 12           | 120       |
| 150        | 168.3      | 173.3  | 16 | 285  | 22   | 130  | 82   | 7.2   | 8        | 20           | 22                | 240  | 4        | 12           | 120       |
| 200        | 219.1      | 224.1  | 16 | 340  | 22   | 130  | 82   | 7.2   | 12       | 20           | 22                | 295  | 6        | 12           | 120       |
| 250        | 273.0      | 278.0  | 16 | 405  | 25   | 135  | 85   | 7.2   | 12       | 24           | 26                | 355  | 6        | 12           | 120       |
| 300        | 323.9      | 328.9  | 16 | 460  | 25   | 135  | 85   | 7.2   | 12       | 24           | 26                | 410  | 6        | 12           | 120       |
| 350        | 355.6      | 360.6  | 16 | 520  | 25   | 170  | 114  | 8.0   | 16       | 24           | 26                | 470  | 8        | 16           | 160       |
| 400        | 406.4      | 411.4  | 16 | 580  | 25   | 170  | 114  | 8.0   | 16       | 27           | 30                | 525  | 8        | 16           | 160       |
| 450        | 457.0      | 462.0  | 16 | 640  | 25   | 170  | 114  | 8.0   | 20       | 27           | 30                | 585  | 10       | 16           | 160       |
| 500        | 508.0      | 513.0  | 16 | 715  | 25   | 170  | 114  | 8.0   | 20       | 30           | 33                | 650  | 10       | 16           | 160       |
| 550        | 559.0      | 564.0  | 16 | 775  | 25   | 170  | 114  | 8.0   | 20       | 30           | 33                | 710  | 10       | 16           | 160       |
| 600        | 610.0      | 615.0  | 16 | 840  | 25   | 170  | 114  | 8.0   | 20       | 33           | 36                | 770  | 10       | 16           | 160       |
| 650        | 660.0      | 665.0  | 16 | 860  | 25   | 170  | 114  | 8.0   | 24       | 33           | 36                | 790  | 12       | 16           | 160       |
| 700        | 711.0      | 716.0  | 16 | 910  | 25   | 170  | 114  | 8.0   | 24       | 33           | 36                | 840  | 12       | 16           | 160       |
| 750        | 762.0      | 767.0  | 16 | 970  | 25   | 170  | 114  | 8.0   | 24       | 33           | 36                | 900  | 12       | 16           | 160       |
| 800        | 813.0      | 818.0  | 16 | 1025 | 25   | 170  | 114  | 8.0   | 24       | 36           | 39                | 950  | 12       | 16           | 160       |
| 900        | 914.0      | 919.0  | 16 | 1125 | 25   | 170  | 114  | 8.8   | 28       | 36           | 39                | 1050 | 14       | 16           | 160       |
| 1000       | 1016.0     | 1022.0 | 16 | 1255 | 25   | 170  | 114  | 8.8   | 28       | 39           | 43                | 1170 | 14       | 16           | 160       |
| 1100       | 1118.0     | 1124.0 | 16 | 1355 | 38   | 244  | 163  | 11.8  | 32       | 39           | 43                | 1270 | 16       | 16           | 210       |
| 1200       | 1219.0     | 1225.0 | 16 | 1485 | 38   | 244  | 163  | 11.8  | 32       | 45           | 49                | 1390 | 16       | 16           | 210       |
| 1400       | 1420.0     | 1426.0 | 16 | 1685 | 38   | 244  | 163  | 11.8  | 36       | 45           | 49                | 1590 | 18       | 16           | 210       |
| 1600       | 1620.0     | 1626.0 | 16 | 1930 | 60   | 266  | 185  | 11.8  | 40       | 52           | 56                | 1820 | 40       | 16           | 210       |
| 1800       | 1820.0     | 1826.0 | 16 | 2130 | 60   | 266  | 185  | 11.8  | 44       | 52           | 56                | 2020 | 44       | 16           | 210       |
| 2000       | 2020.0     | 2026.0 | 16 | 2345 | 60   | 266  | 185  | 15.0  | 48       | 56           | 62                | 2230 | 48       | 16           | 210       |

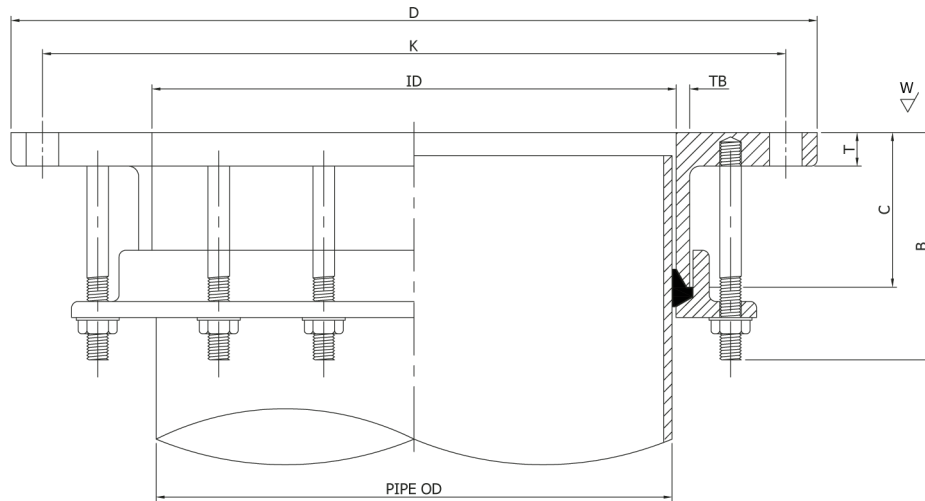
\*\* Other sizes are also available upon request.



**Dimensions (DUCTILE IRON PIPE TO BS EN 545) PN16:**

| PIPE ND mm | PIPE OD mm | ID mm | PN | D mm | T mm | B mm | C mm | TB mm | BOLT NO. | BOLT DIA. mm | BOLT HOLE DIA. mm | K mm | STUD NO. | STUD DIA. mm | STUD L mm |
|------------|------------|-------|----|------|------|------|------|-------|----------|--------------|-------------------|------|----------|--------------|-----------|
| 80         | 98         | 103   | 16 | 200  | 19   | 127  | 79   | 6.0   | 8        | 16           | 18                | 160  | 4        | 12           | 120       |
| 100        | 118        | 123   | 16 | 220  | 19   | 130  | 82   | 6.0   | 8        | 16           | 18                | 180  | 4        | 12           | 120       |
| 150        | 170        | 175   | 16 | 285  | 22   | 130  | 82   | 7.2   | 8        | 20           | 22                | 240  | 4        | 12           | 120       |
| 200        | 222        | 227   | 16 | 340  | 22   | 130  | 82   | 7.2   | 12       | 20           | 22                | 295  | 6        | 12           | 120       |
| 250        | 274        | 279   | 16 | 405  | 25   | 135  | 85   | 7.2   | 12       | 24           | 26                | 355  | 6        | 12           | 120       |
| 300        | 326        | 331   | 16 | 460  | 25   | 135  | 85   | 7.2   | 12       | 24           | 26                | 410  | 6        | 12           | 120       |
| 350        | 378        | 383   | 16 | 520  | 25   | 170  | 114  | 8.0   | 16       | 24           | 26                | 470  | 8        | 16           | 160       |
| 400        | 429        | 434   | 16 | 580  | 25   | 170  | 114  | 8.0   | 16       | 27           | 30                | 525  | 8        | 16           | 160       |
| 450        | 480        | 485   | 16 | 640  | 25   | 170  | 114  | 8.0   | 20       | 27           | 30                | 585  | 10       | 16           | 160       |
| 500        | 532        | 537   | 16 | 715  | 25   | 170  | 114  | 8.0   | 20       | 30           | 33                | 650  | 10       | 16           | 160       |
| 600        | 635        | 640   | 16 | 840  | 25   | 170  | 114  | 8.0   | 20       | 33           | 36                | 770  | 10       | 16           | 160       |
| 700        | 738        | 743   | 16 | 910  | 25   | 170  | 114  | 8.0   | 24       | 33           | 36                | 840  | 12       | 16           | 160       |
| 800        | 842        | 847   | 16 | 1025 | 25   | 170  | 114  | 8.0   | 24       | 36           | 39                | 950  | 12       | 16           | 160       |
| 900        | 945        | 950   | 16 | 1125 | 25   | 170  | 114  | 8.8   | 28       | 36           | 39                | 1050 | 14       | 16           | 160       |
| 1000       | 1048       | 1054  | 16 | 1255 | 25   | 170  | 114  | 8.8   | 28       | 39           | 43                | 1170 | 14       | 16           | 160       |
| 1100       | 1152       | 1158  | 16 | 1355 | 38   | 244  | 163  | 11.8  | 32       | 39           | 43                | 1270 | 16       | 16           | 210       |
| 1200       | 1255       | 1261  | 16 | 1485 | 38   | 244  | 163  | 11.8  | 32       | 45           | 49                | 1390 | 16       | 16           | 210       |
| 1400       | 1462       | 1468  | 16 | 1685 | 38   | 244  | 163  | 11.8  | 36       | 45           | 49                | 1590 | 18       | 16           | 210       |
| 1600       | 1668       | 1674  | 16 | 1930 | 60   | 266  | 185  | 11.8  | 40       | 52           | 56                | 1820 | 40       | 16           | 210       |
| 1800       | 1875       | 1881  | 16 | 2130 | 60   | 266  | 185  | 11.8  | 44       | 52           | 56                | 2020 | 44       | 16           | 210       |
| 2000       | 2082       | 2088  | 16 | 2345 | 60   | 266  | 185  | 15.0  | 48       | 56           | 62                | 2230 | 48       | 16           | 210       |

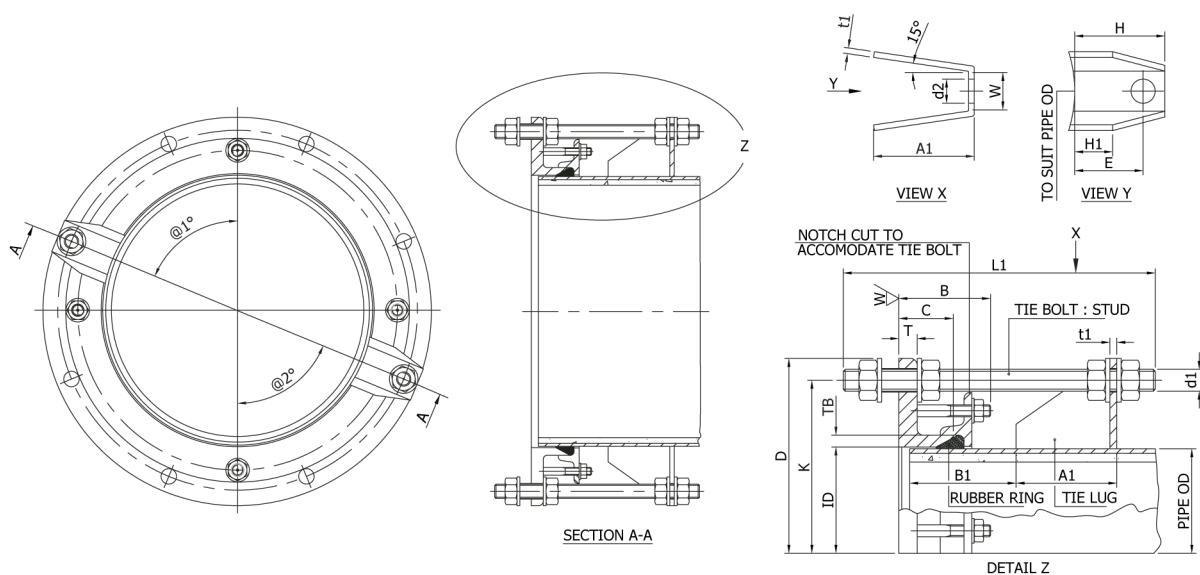
**\*\* Other sizes are also available upon request.**



Dimensions (HDPE PIPE TO MS 1058:PART 2: 2002) PN16:

| PIPE ND mm | PIPE OD mm | ID mm | PN | D mm | T mm | B mm | C mm | TB mm | BOLT NO. | BOLT DIA. mm | BOLT HOLE DIA. mm | K mm | STUD NO. | STUD DIA. mm | STUD L mm |
|------------|------------|-------|----|------|------|------|------|-------|----------|--------------|-------------------|------|----------|--------------|-----------|
| 63         | 63         | 68    | 16 | 165  | 19   | 195  | 150  | 6.0   | 4        | 16           | 18                | 125  | 2        | 12           | 190       |
| 75         | 75         | 80    | 16 | 185  | 19   | 195  | 150  | 6.0   | 4        | 16           | 18                | 145  | 2        | 12           | 190       |
| 90         | 90         | 95    | 16 | 200  | 19   | 195  | 150  | 6.0   | 8        | 16           | 18                | 160  | 4        | 12           | 190       |
| 110        | 110        | 115   | 16 | 220  | 19   | 195  | 150  | 6.0   | 8        | 16           | 18                | 180  | 4        | 12           | 190       |
| 125        | 125        | 130   | 16 | 250  | 22   | 195  | 150  | 7.2   | 8        | 16           | 18                | 210  | 4        | 12           | 190       |
| 140        | 140        | 145   | 16 | 250  | 22   | 195  | 150  | 7.2   | 8        | 16           | 18                | 210  | 4        | 12           | 190       |
| 160        | 160        | 165   | 16 | 285  | 22   | 195  | 150  | 7.2   | 8        | 20           | 22                | 240  | 4        | 12           | 190       |
| 180        | 180        | 185   | 16 | 315  | 22   | 195  | 150  | 7.2   | 8        | 20           | 22                | 270  | 4        | 12           | 190       |
| 200        | 200        | 205   | 16 | 340  | 22   | 195  | 150  | 7.2   | 12       | 20           | 22                | 295  | 6        | 12           | 190       |
| 225        | 225        | 230   | 16 | 340  | 22   | 195  | 150  | 7.2   | 12       | 20           | 22                | 295  | 6        | 12           | 190       |
| 250        | 250        | 255   | 16 | 405  | 25   | 195  | 150  | 7.2   | 12       | 24           | 26                | 355  | 6        | 12           | 190       |
| 280        | 280        | 285   | 16 | 405  | 25   | 195  | 150  | 7.2   | 12       | 24           | 26                | 355  | 6        | 12           | 190       |
| 315        | 315        | 320   | 16 | 460  | 25   | 195  | 150  | 7.2   | 12       | 24           | 26                | 410  | 6        | 12           | 190       |
| 355        | 355        | 360   | 16 | 520  | 25   | 200  | 150  | 8.0   | 16       | 24           | 26                | 470  | 8        | 16           | 200       |
| 400        | 400        | 405   | 16 | 580  | 25   | 200  | 150  | 8.0   | 16       | 27           | 30                | 525  | 8        | 16           | 200       |
| 450        | 450        | 455   | 16 | 640  | 25   | 200  | 150  | 8.0   | 20       | 27           | 30                | 585  | 10       | 16           | 200       |
| 500        | 500        | 505   | 16 | 715  | 25   | 200  | 150  | 8.0   | 20       | 30           | 33                | 650  | 10       | 16           | 200       |

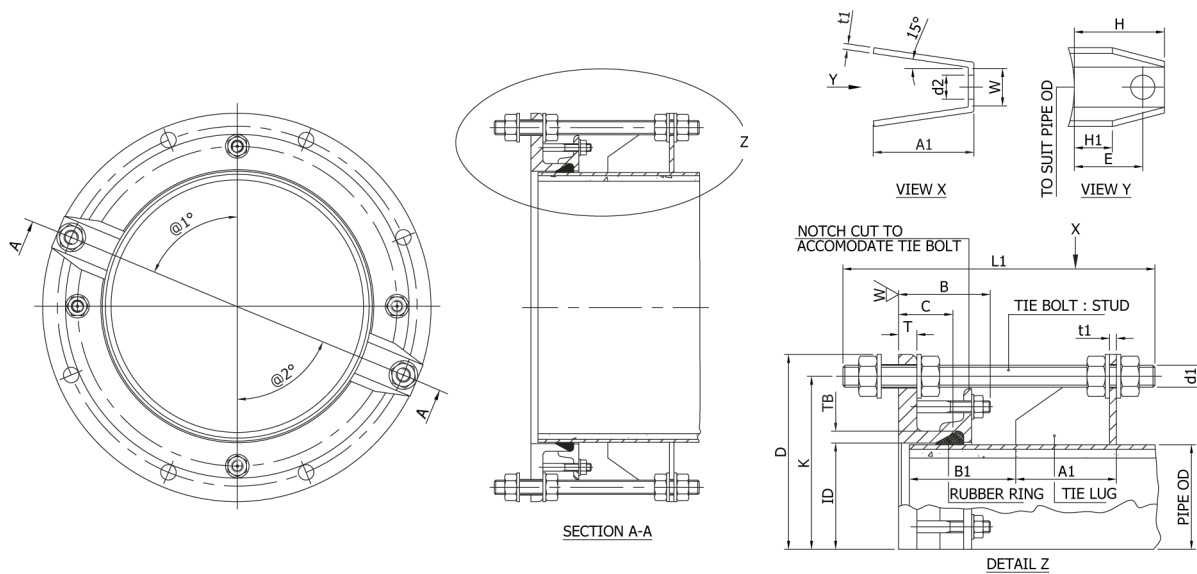
\*\* Other sizes are also available upon request.



**Dimensions (MILD STEEL PIPE TO BS EN 10224) PN10 :**

| PIPE ND mm | PIPE OD mm | ID mm  | D mm | T mm | B mm | C mm | TB mm | BOLT NO. | BOLT DIA. mm | BOLT HOLE DIA. mm | K mm | STUD NO. | STUD DIA. mm | STUD L mm | TIE LUG / TIE BOLT set |
|------------|------------|--------|------|------|------|------|-------|----------|--------------|-------------------|------|----------|--------------|-----------|------------------------|
| 80         | 88.9       | 93.9   | 200  | 19   | 127  | 79   | 6.0   | 8        | 16           | 18                | 160  | 4        | 12           | 120       | 2                      |
| 100        | 114.3      | 119.3  | 220  | 19   | 130  | 82   | 6.0   | 8        | 16           | 18                | 180  | 4        | 12           | 120       | 2                      |
| 150        | 168.3      | 173.3  | 285  | 22   | 130  | 82   | 7.2   | 8        | 20           | 22                | 240  | 4        | 12           | 120       | 2                      |
| 200        | 219.1      | 224.1  | 340  | 22   | 130  | 82   | 7.2   | 8        | 20           | 22                | 295  | 4        | 12           | 120       | 4                      |
| 250        | 273.0      | 278.0  | 395  | 25   | 135  | 85   | 7.2   | 12       | 20           | 22                | 350  | 6        | 12           | 120       | 4                      |
| 300        | 323.9      | 328.9  | 445  | 25   | 135  | 85   | 7.2   | 12       | 20           | 22                | 400  | 6        | 12           | 120       | 4                      |
| 350        | 355.6      | 360.6  | 505  | 25   | 170  | 114  | 8.0   | 16       | 20           | 22                | 460  | 8        | 16           | 160       | 4                      |
| 400        | 406.4      | 411.4  | 565  | 25   | 170  | 114  | 8.0   | 16       | 24           | 26                | 515  | 8        | 16           | 160       | 4                      |
| 450        | 457.0      | 462.0  | 615  | 25   | 170  | 114  | 8.0   | 20       | 24           | 26                | 565  | 10       | 16           | 160       | 4                      |
| 500        | 508.0      | 513.0  | 670  | 25   | 170  | 114  | 8.0   | 20       | 24           | 26                | 620  | 10       | 16           | 160       | 4                      |
| 550        | 559.0      | 564.0  | 730  | 25   | 170  | 114  | 8.0   | 20       | 27           | 30                | 675  | 10       | 16           | 160       | 4                      |
| 600        | 610.0      | 615.0  | 780  | 25   | 170  | 114  | 8.0   | 20       | 27           | 30                | 725  | 10       | 16           | 160       | 4                      |
| 650        | 660.0      | 665.0  | 835  | 25   | 170  | 114  | 8.0   | 24       | 27           | 30                | 780  | 12       | 16           | 160       | 6                      |
| 700        | 711.0      | 716.0  | 895  | 25   | 170  | 114  | 8.0   | 24       | 27           | 30                | 840  | 12       | 16           | 160       | 6                      |
| 750        | 762.0      | 767.0  | 965  | 25   | 170  | 114  | 8.0   | 24       | 30           | 33                | 900  | 12       | 16           | 160       | 6                      |
| 800        | 813.0      | 818.0  | 1015 | 25   | 170  | 114  | 8.0   | 24       | 30           | 33                | 950  | 12       | 16           | 160       | 6                      |
| 900        | 914.0      | 919.0  | 1115 | 25   | 170  | 114  | 8.8   | 28       | 30           | 33                | 1050 | 14       | 16           | 160       | 7                      |
| 1000       | 1016.0     | 1022.0 | 1230 | 25   | 170  | 114  | 8.8   | 28       | 33           | 36                | 1160 | 14       | 16           | 160       | 7                      |
| 1100       | 1118.0     | 1124.0 | 1340 | 38   | 244  | 163  | 11.8  | 32       | 33           | 36                | 1270 | 16       | 16           | 210       | 8                      |
| 1200       | 1219.0     | 1225.0 | 1455 | 38   | 244  | 163  | 11.8  | 32       | 36           | 39                | 1380 | 16       | 16           | 210       | 8                      |
| 1400       | 1420.0     | 1426.0 | 1675 | 38   | 244  | 163  | 11.8  | 36       | 39           | 43                | 1590 | 18       | 16           | 210       | 9                      |
| 1600       | 1620.0     | 1626.0 | 1915 | 60   | 266  | 185  | 11.8  | 40       | 45           | 49                | 1820 | 40       | 16           | 210       | 10                     |
| 1800       | 1820.0     | 1826.0 | 2115 | 60   | 266  | 185  | 11.8  | 44       | 45           | 49                | 2020 | 44       | 16           | 210       | 11                     |
| 2000       | 2020.0     | 2026.0 | 2325 | 60   | 266  | 185  | 15.0  | 48       | 45           | 49                | 2230 | 48       | 16           | 210       | 12                     |

**\*\* Other sizes are also available upon request.**



Dimensions (MILD STEEL PIPE TO BS EN 10224) PN16 :

| PIPE ND mm | PIPE OD mm | ID mm  | D mm | T mm | B mm | C mm | TB mm | BOLT NO. | BOLT DIA. mm | BOLT HOLE DIA. mm | K mm | STUD NO. | STUD DIA. mm | STUD L mm | TIE LUG / TIE BOLT set |
|------------|------------|--------|------|------|------|------|-------|----------|--------------|-------------------|------|----------|--------------|-----------|------------------------|
| 80         | 88.9       | 93.9   | 200  | 19   | 127  | 79   | 6.0   | 8        | 16           | 18                | 160  | 4        | 12           | 120       | 2                      |
| 100        | 114.3      | 119.3  | 220  | 19   | 130  | 82   | 6.0   | 8        | 16           | 18                | 180  | 4        | 12           | 120       | 2                      |
| 150        | 168.3      | 173.3  | 285  | 22   | 130  | 82   | 7.2   | 8        | 20           | 22                | 240  | 4        | 12           | 120       | 2                      |
| 200        | 219.1      | 224.1  | 340  | 22   | 130  | 82   | 7.2   | 12       | 20           | 22                | 295  | 6        | 12           | 120       | 4                      |
| 250        | 273.0      | 278.0  | 405  | 25   | 135  | 85   | 7.2   | 12       | 24           | 26                | 355  | 6        | 12           | 120       | 4                      |
| 300        | 323.9      | 328.9  | 460  | 25   | 135  | 85   | 7.2   | 12       | 24           | 26                | 410  | 6        | 12           | 120       | 4                      |
| 350        | 355.6      | 360.6  | 520  | 25   | 170  | 114  | 8.0   | 16       | 24           | 26                | 470  | 8        | 16           | 160       | 4                      |
| 400        | 406.4      | 411.4  | 580  | 25   | 170  | 114  | 8.0   | 16       | 27           | 30                | 525  | 8        | 16           | 160       | 4                      |
| 450        | 457.0      | 462.0  | 640  | 25   | 170  | 114  | 8.0   | 20       | 27           | 30                | 585  | 10       | 16           | 160       | 4                      |
| 500        | 508.0      | 513.0  | 715  | 25   | 170  | 114  | 8.0   | 20       | 30           | 33                | 650  | 10       | 16           | 160       | 4                      |
| 550        | 559.0      | 564.0  | 775  | 25   | 170  | 114  | 8.0   | 20       | 30           | 33                | 710  | 10       | 16           | 160       | 4                      |
| 600        | 610.0      | 615.0  | 840  | 25   | 170  | 114  | 8.0   | 20       | 33           | 36                | 770  | 10       | 16           | 160       | 4                      |
| 650        | 660.0      | 665.0  | 860  | 25   | 170  | 114  | 8.0   | 24       | 33           | 36                | 790  | 12       | 16           | 160       | 6                      |
| 700        | 711.0      | 716.0  | 910  | 25   | 170  | 114  | 8.0   | 24       | 33           | 36                | 840  | 12       | 16           | 160       | 6                      |
| 750        | 762.0      | 767.0  | 970  | 25   | 170  | 114  | 8.0   | 24       | 33           | 36                | 900  | 12       | 16           | 160       | 6                      |
| 800        | 813.0      | 818.0  | 1025 | 25   | 170  | 114  | 8.0   | 24       | 36           | 39                | 950  | 12       | 16           | 160       | 6                      |
| 900        | 914.0      | 919.0  | 1125 | 25   | 170  | 114  | 8.8   | 28       | 36           | 39                | 1050 | 14       | 16           | 160       | 7                      |
| 1000       | 1016.0     | 1022.0 | 1255 | 25   | 170  | 114  | 8.8   | 28       | 39           | 43                | 1170 | 14       | 16           | 160       | 7                      |
| 1100       | 1118.0     | 1124.0 | 1355 | 38   | 244  | 163  | 11.8  | 32       | 39           | 43                | 1270 | 16       | 16           | 210       | 8                      |
| 1200       | 1219.0     | 1225.0 | 1485 | 38   | 244  | 163  | 11.8  | 32       | 45           | 49                | 1390 | 16       | 16           | 210       | 8                      |
| 1400       | 1420.0     | 1426.0 | 1685 | 38   | 244  | 163  | 11.8  | 36       | 45           | 49                | 1590 | 18       | 16           | 210       | 9                      |
| 1600       | 1620.0     | 1626.0 | 1930 | 60   | 266  | 185  | 11.8  | 40       | 52           | 56                | 1820 | 40       | 16           | 210       | 10                     |
| 1800       | 1820.0     | 1826.0 | 2130 | 60   | 266  | 185  | 11.8  | 44       | 52           | 56                | 2020 | 44       | 16           | 210       | 11                     |
| 2000       | 2020.0     | 2026.0 | 2345 | 60   | 266  | 185  | 15.0  | 48       | 56           | 62                | 2230 | 48       | 16           | 210       | 12                     |

\*\* Other sizes are also available upon request.



**ND3000MM FLANGE ADAPTOR  
PROJECT LANGAT 2  
AT SELANGOR, MALAYSIA.  
YEAR 2016**





### ADAPTOR

Flange drilling to any standard to accommodate site requirements. Standard and long sleeve lengths available to accommodate site conditions.

### GASKET

Ethylene Propylene (EPDM) as standard and it is water quality approved material.

### BOLT & NUT

Hot Dip Galvanized to BS EN ISO 1461. Stainless Steel 304/ 316 are also available on request.

### END FLANGE

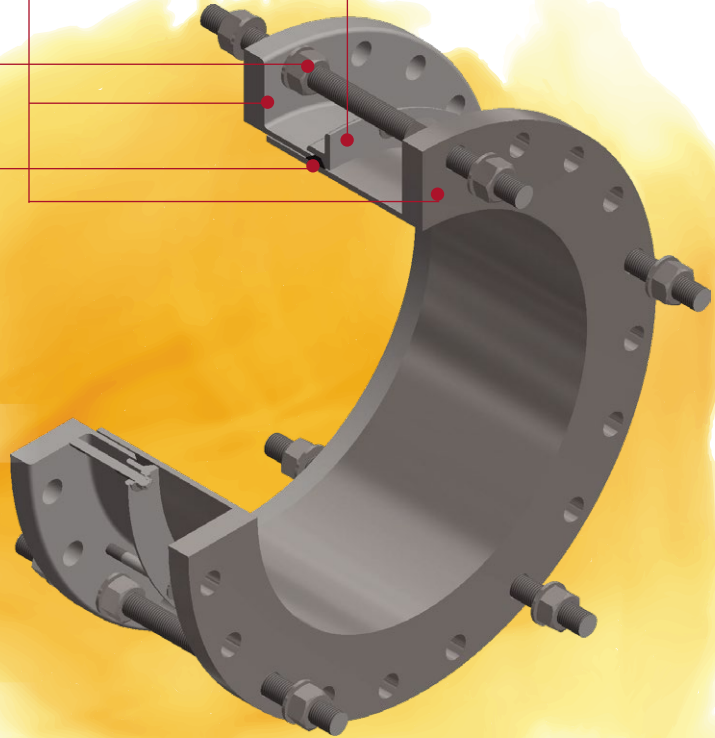
Flange drilling to any standard to accommodate site requirements.

### Longitudinal Adjustment

Longitudinal adjustment facilities installation and removal of flange equipment.

### Independent Gasket Tightening

Stud independent of the tie rods compress the gasket ensuring long term sealing performance that is not effected due to any external loading.



# DISMANTLING JOINT

SCHE Dismantling Joint consists of two flanges spigot pieces and a loose flange, one of which slides in the other flange spigot piece and a loose flange which compresses the sealing rings and is clamped by means of full threaded tie studs.

**Range of Nominal Size (DN):** DN50 - DN3200

**Standard Specification:**

BS EN 1092-1 / BS 512  
BS EN 10224 / BS EN 10311  
BS EN 10220  
BS EN 1452-1 TO BS EN 1452-5

**Flange Rating:**

BS4504 : PN2.5, PN6, PN10, PN16, PN25, PN40  
ANSI : Class 150, 300, 600, 900  
AWWA : Class B, D, E  
JIS : 5K, 10K, 16K, 20K

**Approvals / Certificates:**

ANQAS  
SPAN  
ISO 9001

# DISMANTLING JOINT TYPE A / TYPE B

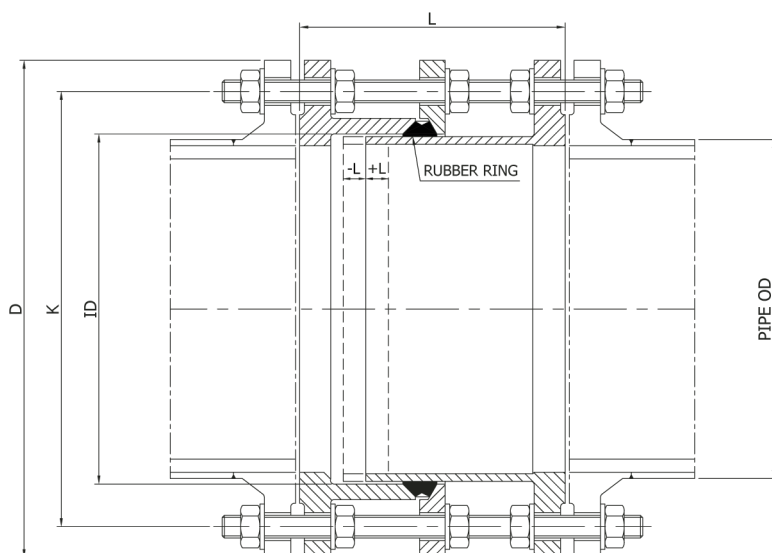
SCHE fabricated dismantling joint provides easy installation and disassembly of flanged pipework and fittings, or flanged equipment such as valves, meters and pumps. This fitting also allows for axial displacement of pipework during construction.

## STANDARDS:

- BS EN 10217-1:2002+A1:2005, BS EN 10224:2002 (+BS EN 10311:2005), BS EN 1092-1:2013, SPAN specifications.
- Standard flange drilling to EN1092-1, PN 10/16.
- Optional flange drilling: ANSI/ASME B16.5 (Class 150, 300, 600, 900), AWWA C207 (class B, D, E), JIS B2220/KS B1503 (5K, 10K, 16K, 20K).

## FEATURES:

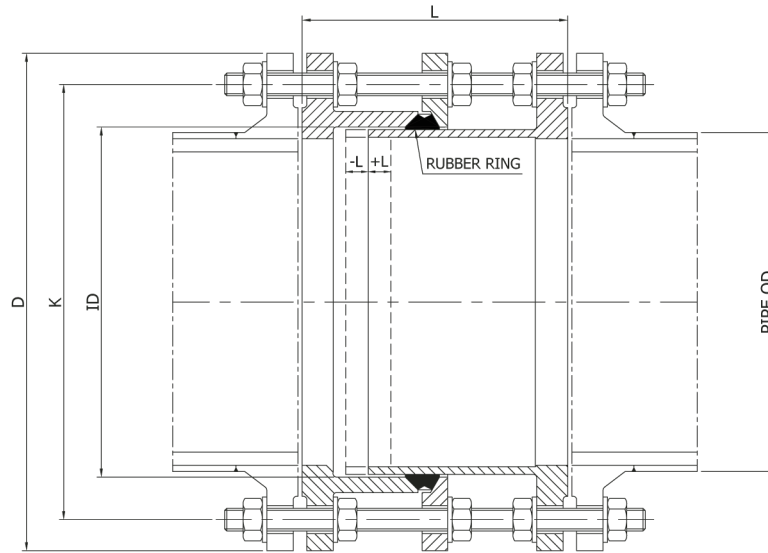
- Dismantling Joint can compensate for differences in flange to flange distance.
- Dismantling Joint simplify the installation of pipeline. With fewer tie bars than flange holes and the tie bars acting as flange jointing bolts the process is speeded up but still offers a secure, rigid, fully end load resistant system with a pressure rating equal to that of the flange.
- Flange and body / centre sleeve / end rings:
  - Fabricated rolled steel grade S275JR BS EN 10025-1:2004.
  - Other grade or materials are also available upon request.
- Bolt, nuts and washers:
  - Hot dip galvanised to BS EN ISO 1461:2009
  - Stainless Steel grade 304 and 316
- Gasket / Sealing Ring:
  - Ethylene Propylene (EPDM) to MS672 (1999) or BS EN 681-1:1996
- Standard Corrosion Protection:
  - FBE - Fusion Bonded Epoxy Powder Coating internally and externally at 250µ min. thickness.
  - Cold applied epoxy coating for size greater than DN1600



Dismantling Joint Type A - Mild Steel S275 JR PN10

| PIPE ND<br>mm | PIPE OD<br>mm | ID<br>mm | D<br>mm | K<br>mm | L<br>mm | STUD<br>NO. | STUD DIA.<br>mm | STUD<br>HOLE DIA.<br>mm | STUD L<br>mm |
|---------------|---------------|----------|---------|---------|---------|-------------|-----------------|-------------------------|--------------|
| 50            | 60.3          | 65.3     | 165     | 125     | 200     | 4           | 16              | 18                      | 310          |
| 65            | 76.1          | 81.1     | 185     | 145     | 200     | 4           | 16              | 18                      | 310          |
| 80            | 88.9          | 93.9     | 200     | 160     | 200     | 8           | 16              | 18                      | 310          |
| 100           | 114.3         | 119.3    | 220     | 180     | 220     | 8           | 16              | 18                      | 340          |
| 150           | 168.3         | 173.3    | 285     | 240     | 220     | 8           | 20              | 22                      | 350          |
| 200           | 219.1         | 224.1    | 340     | 295     | 250     | 8           | 20              | 22                      | 380          |
| 250           | 273.0         | 278.0    | 395     | 350     | 250     | 12          | 20              | 22                      | 390          |
| 300           | 323.9         | 328.9    | 445     | 400     | 250     | 12          | 20              | 22                      | 390          |
| 350           | 355.6         | 360.6    | 505     | 460     | 260     | 16          | 20              | 22                      | 400          |
| 400           | 406.4         | 411.4    | 565     | 515     | 300     | 16          | 24              | 26                      | 450          |
| 450           | 457.0         | 462.0    | 615     | 565     | 300     | 20          | 24              | 26                      | 460          |
| 500           | 508.0         | 513.0    | 670     | 620     | 300     | 20          | 24              | 26                      | 460          |
| 550           | 559.0         | 564.0    | 730     | 675     | 320     | 20          | 27              | 30                      | 490          |
| 600           | 610.0         | 615.0    | 780     | 725     | 320     | 20          | 27              | 30                      | 490          |
| 650           | 660.0         | 665.0    | 835     | 780     | 320     | 24          | 27              | 30                      | 490          |
| 700           | 711.0         | 716.0    | 895     | 840     | 320     | 24          | 27              | 30                      | 490          |
| 750           | 762.0         | 767.0    | 965     | 900     | 320     | 24          | 30              | 33                      | 500          |
| 800           | 813.0         | 818.0    | 1015    | 950     | 340     | 24          | 30              | 33                      | 525          |
| 900           | 914.0         | 919.0    | 1115    | 1050    | 340     | 28          | 30              | 33                      | 530          |
| 1000          | 1016.0        | 1022.0   | 1230    | 1160    | 360     | 28          | 33              | 36                      | 565          |
| 1100          | 1118.0        | 1124.0   | 1340    | 1270    | 360     | 32          | 33              | 36                      | 570          |
| 1200          | 1219.0        | 1225.0   | 1455    | 1380    | 380     | 32          | 36              | 39                      | 605          |
| 1400          | 1420.0        | 1426.0   | 1675    | 1590    | 380     | 36          | 39              | 42                      | 620          |
| 1600          | 1620.0        | 1626.0   | 1915    | 1820    | 400     | 40          | 45              | 48                      | 660          |
| 1800          | 1820.0        | 1826.0   | 2115    | 2020    | 400     | 44          | 45              | 48                      | 660          |
| 2000          | 2020.0        | 2026.0   | 2325    | 2230    | 400     | 48          | 45              | 48                      | 680          |
| 2200          | 2220.0        | 2226.0   | 2550    | 2440    | 420     | 52          | 52              | 56                      | 720          |
| 2400          | 2420.0        | 2426.0   | 2760    | 2650    | 440     | 56          | 52              | 56                      | 750          |

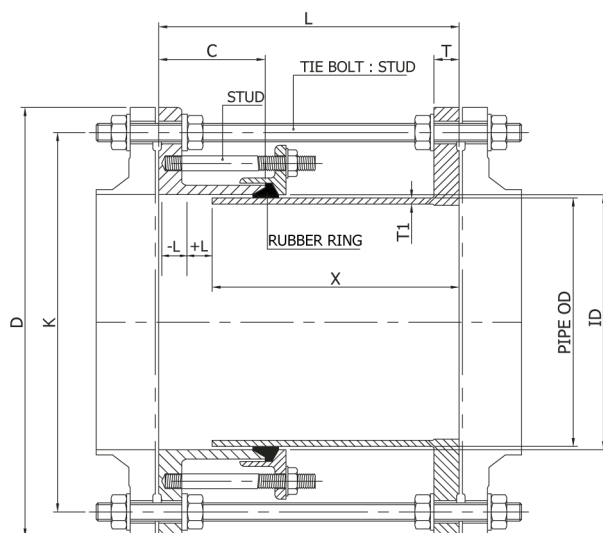
\*\* Other sizes are also available upon request.



**Dismantling Joint Type A - Mild Steel S275 JR PN16**

| PIPE ND<br>mm | PIPE OD<br>mm | ID<br>mm | D<br>mm | K<br>mm | L<br>mm | STUD<br>NO. | STUD<br>DIA.<br>mm | STUD<br>HOLE DIA.<br>mm | STUD L<br>mm |
|---------------|---------------|----------|---------|---------|---------|-------------|--------------------|-------------------------|--------------|
| 50            | 60.3          | 65.3     | 165     | 125     | 200     | 4           | 16                 | 18                      | 310          |
| 65            | 76.1          | 81.1     | 185     | 145     | 200     | 4           | 16                 | 18                      | 310          |
| 80            | 88.9          | 93.9     | 200     | 160     | 200     | 8           | 16                 | 18                      | 310          |
| 100           | 114.3         | 119.3    | 220     | 180     | 220     | 8           | 16                 | 18                      | 340          |
| 150           | 168.3         | 173.3    | 285     | 240     | 220     | 8           | 20                 | 22                      | 350          |
| 200           | 219.1         | 224.1    | 340     | 295     | 250     | 12          | 20                 | 22                      | 390          |
| 250           | 273.0         | 278.0    | 405     | 355     | 250     | 12          | 24                 | 26                      | 400          |
| 300           | 323.9         | 328.9    | 460     | 410     | 250     | 12          | 24                 | 26                      | 400          |
| 350           | 355.6         | 360.6    | 520     | 470     | 260     | 16          | 24                 | 26                      | 415          |
| 400           | 406.4         | 411.4    | 580     | 525     | 300     | 16          | 27                 | 30                      | 465          |
| 450           | 457.0         | 462.0    | 640     | 585     | 300     | 20          | 27                 | 30                      | 470          |
| 500           | 508.0         | 513.0    | 715     | 650     | 300     | 20          | 30                 | 33                      | 480          |
| 550           | 559.0         | 564.0    | 775     | 710     | 300     | 20          | 30                 | 33                      | 480          |
| 600           | 610.0         | 615.0    | 840     | 770     | 320     | 20          | 33                 | 36                      | 520          |
| 650           | 660.0         | 665.0    | 860     | 790     | 320     | 24          | 33                 | 36                      | 520          |
| 700           | 711.0         | 716.0    | 910     | 840     | 320     | 24          | 33                 | 36                      | 530          |
| 750           | 762.0         | 767.0    | 970     | 900     | 320     | 24          | 33                 | 36                      | 530          |
| 800           | 813.0         | 818.0    | 1025    | 950     | 340     | 24          | 36                 | 39                      | 560          |
| 900           | 914.0         | 919.0    | 1125    | 1050    | 340     | 28          | 36                 | 39                      | 570          |
| 1000          | 1016.0        | 1022.0   | 1255    | 1170    | 360     | 28          | 39                 | 42                      | 600          |
| 1100          | 1118.0        | 1124.0   | 1355    | 1270    | 360     | 32          | 39                 | 42                      | 610          |
| 1200          | 1219.0        | 1225.0   | 1485    | 1390    | 380     | 32          | 45                 | 48                      | 650          |
| 1400          | 1420.0        | 1426.0   | 1685    | 1590    | 380     | 36          | 45                 | 48                      | 655          |
| 1600          | 1620.0        | 1626.0   | 1930    | 1820    | 400     | 40          | 52                 | 57                      | 700          |
| 1800          | 1820.0        | 1826.0   | 2130    | 2020    | 420     | 44          | 52                 | 57                      | 730          |
| 2000          | 2020.0        | 2026.0   | 2345    | 2230    | 440     | 48          | 56                 | 62                      | 770          |
| 2200          | 2220.0        | 2226.0   | 2550    | 2440    | 420     | 52          | 52                 | 56                      | 790          |
| 2400          | 2420.0        | 2426.0   | 2760    | 2650    | 440     | 56          | 52                 | 56                      | 810          |

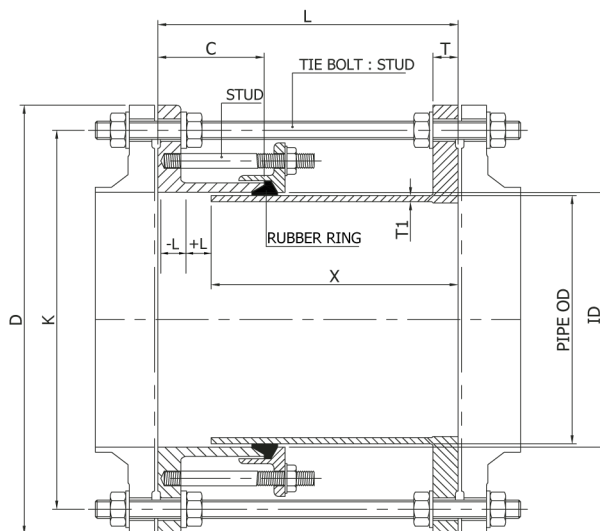
**\*\* Other sizes are also available upon request.**



**Dismantling Joint Type B - Mild Steel S275 JR PN10**

| PIPE ND mm | PIPE OD mm | ID mm  | D mm | K mm | L mm | X mm | C mm | T mm | T1 mm | TIE BOLT NO. | TIE BOLT DIA. mm | TIE BOLT L mm | STUD NO. mm | STUD DIA. mm | STUD L mm |
|------------|------------|--------|------|------|------|------|------|------|-------|--------------|------------------|---------------|-------------|--------------|-----------|
| 50         | 60.3       | 65.3   | 165  | 125  | 200  | 170  | 79   | 19   | 6     | 4            | 16               | 310           | 2           | 12           | 120       |
| 65         | 76.1       | 81.1   | 185  | 145  | 200  | 170  | 79   | 19   | 6     | 4            | 16               | 310           | 2           | 12           | 120       |
| 80         | 88.9       | 93.9   | 200  | 160  | 200  | 170  | 79   | 19   | 6     | 4            | 16               | 310           | 4           | 12           | 120       |
| 100        | 114.3      | 119.3  | 220  | 180  | 220  | 190  | 82   | 22   | 6     | 4            | 16               | 340           | 4           | 12           | 120       |
| 150        | 168.3      | 173.3  | 285  | 240  | 220  | 190  | 82   | 22   | 7.5   | 4            | 20               | 350           | 4           | 12           | 120       |
| 200        | 219.1      | 224.1  | 340  | 295  | 250  | 220  | 82   | 22   | 7.5   | 4            | 20               | 390           | 6           | 12           | 120       |
| 250        | 273.0      | 278.0  | 405  | 355  | 250  | 220  | 85   | 25   | 7.5   | 4            | 24               | 400           | 6           | 12           | 120       |
| 300        | 323.9      | 328.9  | 460  | 410  | 250  | 220  | 85   | 25   | 7.5   | 4            | 24               | 400           | 6           | 12           | 120       |
| 350        | 355.6      | 360.6  | 520  | 470  | 260  | 220  | 114  | 27   | 9     | 4            | 24               | 415           | 8           | 16           | 160       |
| 400        | 406.4      | 411.4  | 580  | 525  | 300  | 260  | 115  | 28   | 9     | 4            | 27               | 465           | 8           | 16           | 160       |
| 450        | 457.0      | 462.0  | 640  | 585  | 300  | 260  | 117  | 30   | 9     | 5            | 27               | 470           | 10          | 16           | 160       |
| 500        | 508.0      | 513.0  | 715  | 650  | 300  | 260  | 119  | 32   | 9     | 5            | 30               | 480           | 10          | 16           | 160       |
| 550        | 559.0      | 564.0  | 775  | 710  | 300  | 260  | 119  | 32   | 9     | 5            | 30               | 480           | 10          | 16           | 160       |
| 600        | 610.0      | 615.0  | 840  | 770  | 320  | 280  | 123  | 36   | 9     | 5            | 33               | 520           | 10          | 16           | 160       |
| 650        | 660.0      | 665.0  | 860  | 790  | 320  | 280  | 123  | 36   | 9     | 6            | 33               | 520           | 12          | 16           | 160       |
| 700        | 711.0      | 716.0  | 910  | 840  | 320  | 280  | 127  | 40   | 9     | 6            | 33               | 530           | 12          | 16           | 160       |
| 750        | 762.0      | 767.0  | 970  | 900  | 320  | 280  | 127  | 40   | 9     | 6            | 33               | 530           | 12          | 16           | 160       |
| 800        | 813.0      | 818.0  | 1025 | 950  | 340  | 300  | 130  | 43   | 9     | 6            | 36               | 560           | 12          | 16           | 160       |
| 900        | 914.0      | 919.0  | 1125 | 1050 | 340  | 300  | 134  | 47   | 9     | 7            | 36               | 570           | 14          | 16           | 160       |
| 1000       | 1016.0     | 1022.0 | 1255 | 1170 | 360  | 320  | 137  | 50   | 9     | 7            | 39               | 600           | 14          | 16           | 160       |
| 1100       | 1118.0     | 1124.0 | 1355 | 1270 | 360  | 320  | 179  | 54   | 12    | 8            | 39               | 610           | 16          | 16           | 210       |
| 1200       | 1219.0     | 1225.0 | 1485 | 1390 | 380  | 340  | 182  | 57   | 12    | 8            | 45               | 650           | 16          | 16           | 210       |
| 1400       | 1420.0     | 1426.0 | 1685 | 1590 | 380  | 340  | 185  | 60   | 12    | 9            | 45               | 655           | 18          | 16           | 210       |
| 1600       | 1620.0     | 1626.0 | 1930 | 1820 | 400  | 350  | 190  | 65   | 13    | 10           | 52               | 700           | 40          | 16           | 210       |
| 1800       | 1820.0     | 1826.0 | 2130 | 2020 | 420  | 370  | 195  | 70   | 13    | 11           | 52               | 730           | 44          | 16           | 210       |
| 2000       | 2020.0     | 2026.0 | 2345 | 2230 | 440  | 390  | 200  | 75   | 15    | 12           | 56               | 770           | 48          | 16           | 210       |
| 2200       | 2220.0     | 2226.0 | 2555 | 2440 | 450  | 400  | 205  | 80   | 16    | 13           | 56               | 790           | 52          | 19           | 240       |
| 2400       | 2420.0     | 2426.0 | 2765 | 2650 | 460  | 410  | 210  | 85   | 22    | 14           | 56               | 810           | 56          | 19           | 240       |

**\*\* Other sizes are also available upon request.**



**Dismantling Joint Type B - Mild Steel S275 JR PN16**

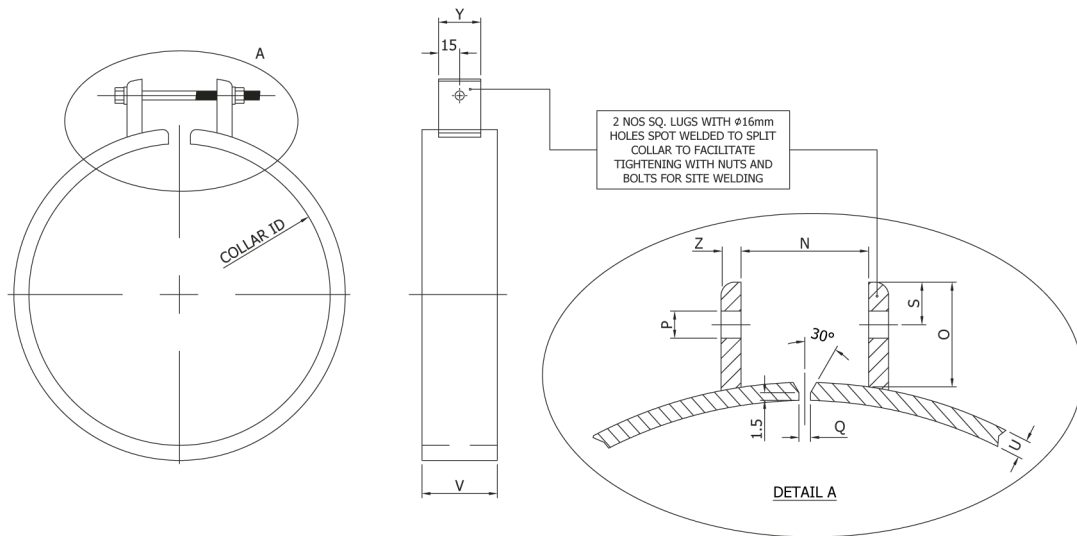
| PIPE ND<br>mm | PIPE OD<br>mm | ID<br>mm | D<br>mm | K<br>mm | L<br>mm | X<br>mm | C<br>mm | T<br>mm | T1<br>mm | TIE BOLT NO. | TIE BOLT DIA.<br>mm | TIE BOLT L<br>mm | STUD NO.<br>mm | STUD DIA.<br>mm | STUD L<br>mm |
|---------------|---------------|----------|---------|---------|---------|---------|---------|---------|----------|--------------|---------------------|------------------|----------------|-----------------|--------------|
| 50            | 60.3          | 65.3     | 165     | 125     | 200     | 170     | 79      | 19      | 6        | 4            | 16                  | 310              | 2              | 12              | 120          |
| 65            | 76.1          | 81.1     | 185     | 145     | 200     | 170     | 79      | 19      | 6        | 4            | 16                  | 310              | 2              | 12              | 120          |
| 80            | 88.9          | 93.9     | 200     | 160     | 200     | 170     | 79      | 19      | 6        | 4            | 16                  | 310              | 4              | 12              | 120          |
| 100           | 114.3         | 119.3    | 220     | 180     | 220     | 190     | 82      | 22      | 6        | 4            | 16                  | 340              | 4              | 12              | 120          |
| 150           | 168.3         | 173.3    | 285     | 240     | 220     | 190     | 82      | 22      | 7.5      | 4            | 20                  | 350              | 4              | 12              | 120          |
| 200           | 219.1         | 224.1    | 340     | 295     | 250     | 220     | 82      | 22      | 7.5      | 4            | 20                  | 390              | 6              | 12              | 120          |
| 250           | 273.0         | 278.0    | 405     | 355     | 250     | 220     | 85      | 25      | 7.5      | 4            | 24                  | 400              | 6              | 12              | 120          |
| 300           | 323.9         | 328.9    | 460     | 410     | 250     | 220     | 85      | 25      | 7.5      | 4            | 24                  | 400              | 6              | 12              | 120          |
| 350           | 355.6         | 360.6    | 520     | 470     | 260     | 220     | 114     | 27      | 9        | 4            | 24                  | 415              | 8              | 16              | 160          |
| 400           | 406.4         | 411.4    | 580     | 525     | 300     | 260     | 115     | 28      | 9        | 4            | 27                  | 465              | 8              | 16              | 160          |
| 450           | 457.0         | 462.0    | 640     | 585     | 300     | 260     | 117     | 30      | 9        | 5            | 27                  | 470              | 10             | 16              | 160          |
| 500           | 508.0         | 513.0    | 715     | 650     | 300     | 260     | 119     | 32      | 9        | 5            | 30                  | 480              | 10             | 16              | 160          |
| 550           | 559.0         | 564.0    | 775     | 710     | 300     | 260     | 119     | 32      | 9        | 5            | 30                  | 480              | 10             | 16              | 160          |
| 600           | 610.0         | 615.0    | 840     | 770     | 320     | 280     | 123     | 36      | 9        | 5            | 33                  | 520              | 10             | 16              | 160          |
| 650           | 660.0         | 665.0    | 860     | 790     | 320     | 280     | 123     | 36      | 9        | 6            | 33                  | 520              | 12             | 16              | 160          |
| 700           | 711.0         | 716.0    | 910     | 840     | 320     | 280     | 127     | 40      | 9        | 6            | 33                  | 530              | 12             | 16              | 160          |
| 750           | 762.0         | 767.0    | 970     | 900     | 320     | 280     | 127     | 40      | 9        | 6            | 33                  | 530              | 12             | 16              | 160          |
| 800           | 813.0         | 818.0    | 1025    | 950     | 340     | 300     | 130     | 43      | 9        | 6            | 36                  | 560              | 12             | 16              | 160          |
| 900           | 914.0         | 919.0    | 1125    | 1050    | 340     | 300     | 134     | 47      | 9        | 7            | 36                  | 570              | 14             | 16              | 160          |
| 1000          | 1016.0        | 1022.0   | 1255    | 1170    | 360     | 320     | 137     | 50      | 9        | 7            | 39                  | 600              | 14             | 16              | 160          |
| 1100          | 1118.0        | 1124.0   | 1355    | 1270    | 360     | 320     | 179     | 54      | 12       | 8            | 39                  | 610              | 16             | 16              | 210          |
| 1200          | 1219.0        | 1225.0   | 1485    | 1390    | 380     | 340     | 182     | 57      | 12       | 8            | 45                  | 650              | 16             | 16              | 210          |
| 1400          | 1420.0        | 1426.0   | 1685    | 1590    | 380     | 340     | 185     | 60      | 12       | 9            | 45                  | 655              | 18             | 16              | 210          |
| 1600          | 1620.0        | 1626.0   | 1930    | 1820    | 400     | 350     | 190     | 65      | 13       | 10           | 52                  | 700              | 40             | 16              | 210          |
| 1800          | 1820.0        | 1826.0   | 2130    | 2020    | 420     | 370     | 195     | 70      | 13       | 11           | 52                  | 730              | 44             | 16              | 210          |
| 2000          | 2020.0        | 2026.0   | 2345    | 2230    | 440     | 390     | 200     | 75      | 15       | 12           | 56                  | 770              | 48             | 16              | 210          |
| 2200          | 2220.0        | 2226.0   | 2555    | 2440    | 450     | 400     | 205     | 80      | 16       | 13           | 56                  | 790              | 52             | 19              | 240          |
| 2400          | 2420.0        | 2426.0   | 2765    | 2650    | 460     | 410     | 210     | 85      | 22       | 14           | 56                  | 810              | 56             | 19              | 240          |

**\*\* Other sizes are also available upon request.**



**ND1000MM  
DISMANTLING  
JOINT TYPE B  
YEAR 2019**

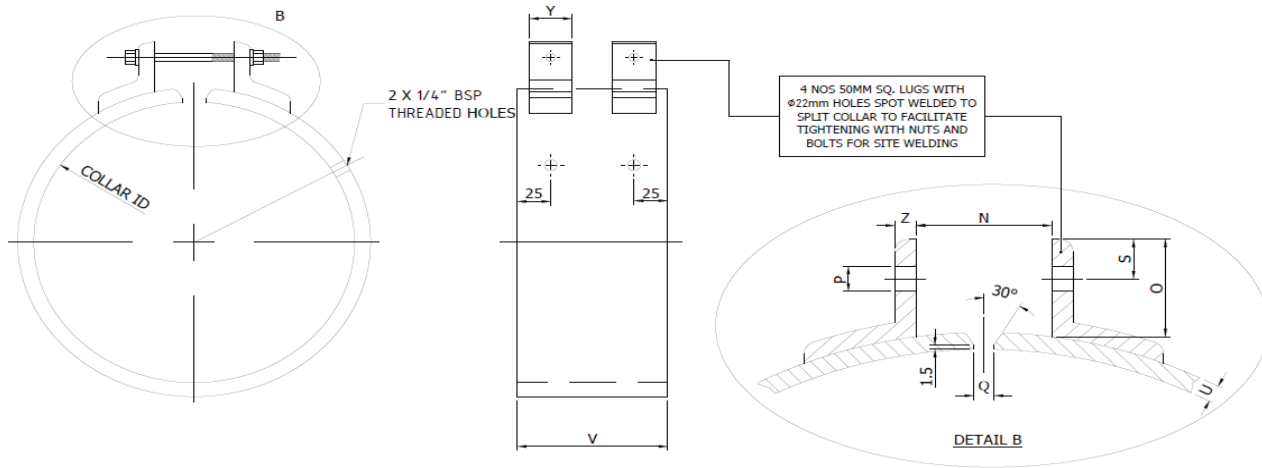
# COLLAR JOINT



FOR PIPE OD 88.9 TO 660.0

| PIPE ND<br>mm | PIPE OD<br>mm | ID<br>mm | N<br>mm | O<br>mm | P<br>mm | Q<br>mm | S<br>mm | U<br>mm | V<br>mm | Y<br>mm | Z<br>mm |
|---------------|---------------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 80            | 88.9          | 91.9     | 25      | 30      | 16      | 0       | 15      | 3.6     | 100     | 30      | 3.6     |
| 100           | 114.3         | 117.3    | 25      | 30      | 16      | 0       | 15      | 3.6     | 100     | 30      | 3.6     |
| 150           | 168.3         | 171.3    | 25      | 30      | 16      | 0       | 15      | 3.6     | 100     | 30      | 3.6     |
| 200           | 219.1         | 222.1    | 25      | 30      | 16      | 0       | 15      | 4.1     | 100     | 30      | 4.1     |
| 250           | 273.0         | 276.0    | 25      | 30      | 16      | 0       | 15      | 4.1     | 100     | 30      | 4.1     |
| 300           | 323.9         | 326.9    | 25      | 30      | 16      | 0       | 15      | 4.1     | 125     | 30      | 4.1     |
| 350           | 355.6         | 358.6    | 25      | 30      | 16      | 0       | 15      | 4.5     | 150     | 30      | 4.5     |
| 400           | 406.4         | 409.4    | 25      | 30      | 16      | 0       | 15      | 6.0     | 150     | 30      | 6.0     |
| 450           | 457.0         | 460.0    | 25      | 30      | 16      | 0       | 15      | 6.0     | 150     | 30      | 6.0     |
| 500           | 508.0         | 511.0    | 25      | 30      | 16      | 0       | 15      | 6.0     | 150     | 30      | 6.0     |
| 550           | 559.0         | 562.0    | 25      | 30      | 16      | 0       | 15      | 6.0     | 150     | 30      | 6.0     |
| 600           | 610.0         | 613.0    | 25      | 30      | 16      | 0       | 15      | 6.0     | 150     | 30      | 6.0     |
| 650           | 660.0         | 663.0    | 25      | 30      | 16      | 0       | 15      | 6.0     | 150     | 30      | 6.0     |

\*\* Other sizes are also available upon request.

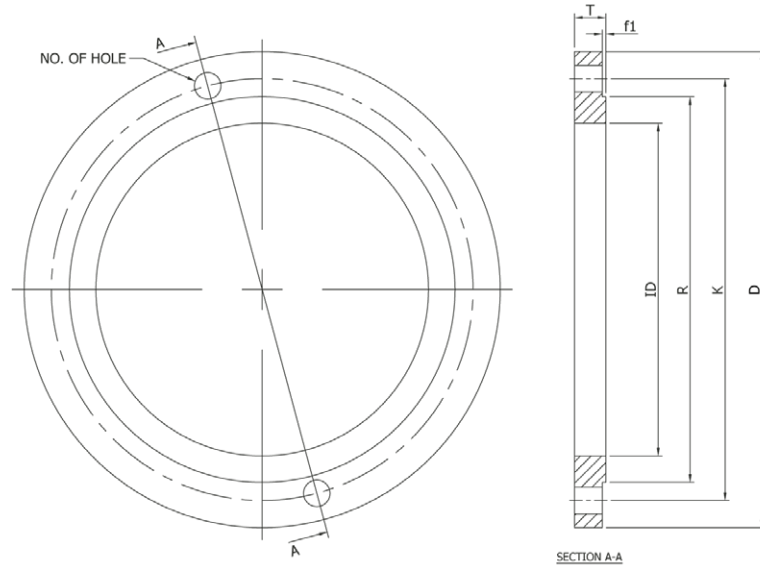


FOR PIPE OD 711.0 TO 2420.0

| PIPE ND<br>mm | PIPE OD<br>mm | ID<br>mm | N<br>mm | O<br>mm | P<br>mm | Q<br>mm | S<br>mm | U<br>mm | V<br>mm | Y<br>mm | Z<br>mm |
|---------------|---------------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 700           | 711.0         | 714.0    | 100     | 50      | 22      | 0       | 22      | 6.3     | 200     | 50      | 6.3     |
| 750           | 762.0         | 765.0    | 100     | 50      | 22      | 0       | 22      | 7.4     | 200     | 50      | 7.4     |
| 800           | 813.0         | 816.0    | 100     | 50      | 22      | 0       | 22      | 7.1     | 200     | 50      | 7.1     |
| 900           | 914.0         | 917.0    | 100     | 50      | 22      | 0       | 22      | 7.1     | 200     | 50      | 7.1     |
| 1000          | 1016.0        | 1019.0   | 100     | 50      | 22      | 0       | 22      | 7.1     | 250     | 50      | 7.1     |
| 1100          | 1118.0        | 1121.0   | 100     | 50      | 22      | 0       | 22      | 8.0     | 250     | 50      | 8.0     |
| 1200          | 1219.0        | 1222.0   | 100     | 50      | 22      | 0       | 22      | 8.0     | 250     | 50      | 8.0     |
| 1400          | 1420.0        | 1423.0   | 100     | 50      | 22      | 0       | 22      | 8.8     | 250     | 50      | 8.8     |
| 1600          | 1620.0        | 1623.0   | 100     | 50      | 22      | 0       | 22      | 10.0    | 250     | 50      | 10.0    |
| 1800          | 1820.0        | 1823.0   | 100     | 50      | 22      | 0       | 22      | 12.5    | 250     | 50      | 12.5    |
| 2000          | 2020.0        | 2023.0   | 100     | 50      | 22      | 0       | 22      | 14.2    | 250     | 50      | 14.2    |
| 2200          | 2220.0        | 2223.0   | 100     | 50      | 22      | 0       | 22      | 16.0    | 250     | 50      | 16.0    |
| 2400          | 2420.0        | 2423.0   | 100     | 50      | 22      | 0       | 22      | 16.0    | 250     | 50      | 16.0    |

\*\* Other sizes are also available upon request.

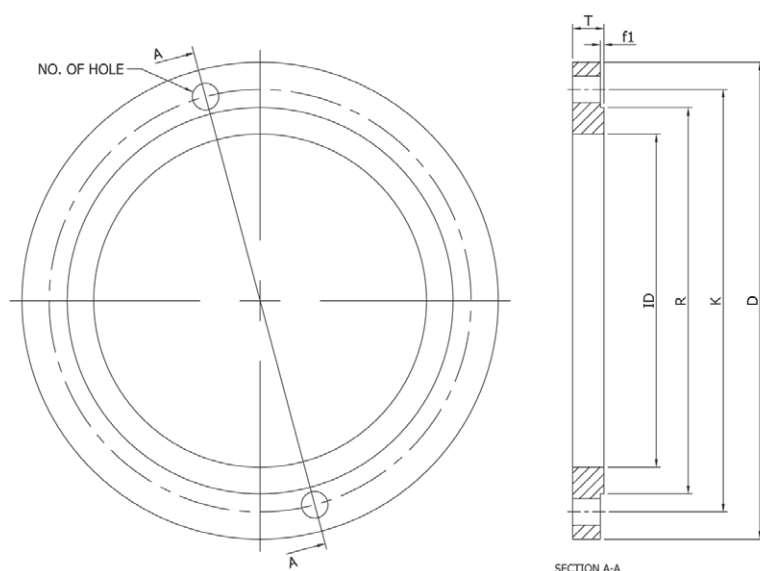
# RING FLANGE



**Dimensions (FLAT FACE BS EN 1092-1 PN10):**

| PIPE ND<br>mm | PIPE OD<br>mm | ID<br>mm | D<br>mm | K<br>mm | R<br>mm | T<br>mm | f1<br>mm | NO. OF<br>HOLE | BOLT<br>DIA.<br>mm | BOLT<br>HOLE DIA.<br>mm |
|---------------|---------------|----------|---------|---------|---------|---------|----------|----------------|--------------------|-------------------------|
| 50            | 60.3          | 63.3     | 165     | 125     | 102     | 20      | 3        | 4              | 16                 | 18                      |
| 65            | 76.1          | 79.1     | 185     | 145     | 122     | 20      | 3        | 4              | 16                 | 18                      |
| 80            | 88.9          | 91.9     | 200     | 160     | 138     | 20      | 3        | 8              | 16                 | 18                      |
| 100           | 114.3         | 117.3    | 220     | 180     | 158     | 22      | 3        | 8              | 16                 | 18                      |
| 150           | 168.3         | 171.3    | 285     | 240     | 212     | 24      | 3        | 8              | 20                 | 22                      |
| 200           | 219.1         | 222.1    | 340     | 295     | 268     | 24      | 3        | 8              | 20                 | 22                      |
| 250           | 273.0         | 276.0    | 395     | 350     | 320     | 26      | 3        | 12             | 20                 | 22                      |
| 300           | 323.9         | 326.9    | 445     | 400     | 370     | 26      | 4        | 12             | 20                 | 22                      |
| 350           | 355.6         | 358.6    | 505     | 460     | 430     | 28      | 4        | 16             | 20                 | 22                      |
| 400           | 406.4         | 409.4    | 565     | 515     | 482     | 32      | 4        | 16             | 24                 | 26                      |
| 450           | 457.0         | 460.0    | 615     | 565     | 532     | 36      | 4        | 20             | 24                 | 26                      |
| 500           | 508.0         | 511.0    | 670     | 620     | 585     | 38      | 4        | 20             | 24                 | 26                      |
| 550           | 559.0         | 562.0    | 730     | 675     | 638     | 42      | 4        | 20             | 27                 | 30                      |
| 600           | 610.0         | 613.0    | 780     | 725     | 685     | 42      | 5        | 20             | 27                 | 30                      |
| 650           | 660.0         | 663.0    | 835     | 780     | 744     | 50      | 5        | 24             | 27                 | 30                      |
| 700           | 711.0         | 714.0    | 895     | 840     | 800     | 50      | 5        | 24             | 27                 | 30                      |
| 750           | 762.0         | 765.0    | 965     | 900     | 855     | 56      | 5        | 24             | 30                 | 33                      |
| 800           | 813.0         | 816.0    | 1015    | 950     | 905     | 56      | 5        | 24             | 30                 | 33                      |
| 900           | 914.0         | 917.0    | 1115    | 1050    | 1005    | 62      | 5        | 28             | 30                 | 33                      |
| 1000          | 1016.0        | 1020.0   | 1230    | 1160    | 1110    | 62      | 5        | 28             | 33                 | 36                      |
| 1100          | 1118.0        | 1122.0   | 1340    | 1270    | 1215    | 68      | 5        | 32             | 33                 | 36                      |
| 1200          | 1219.0        | 1223.0   | 1455    | 1380    | 1330    | 74      | 5        | 32             | 36                 | 39                      |
| 1400          | 1420.0        | 1424.0   | 1675    | 1590    | 1535    | 78      | 5        | 36             | 39                 | 42                      |
| 1600          | 1620.0        | 1624.0   | 1915    | 1820    | 1760    | 88      | 5        | 40             | 45                 | 48                      |
| 1800          | 1820.0        | 1824.0   | 2115    | 2020    | 1960    | 96      | 5        | 44             | 45                 | 48                      |
| 2000          | 2020.0        | 2024.0   | 2325    | 2230    | 2170    | 110     | 5        | 48             | 45                 | 48                      |

**\*\* Other sizes are also available upon request.**

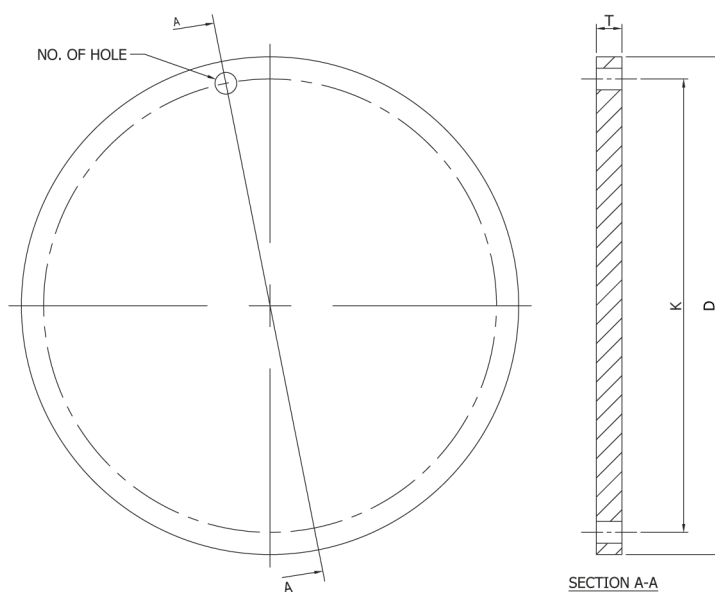


**Dimensions (FLAT FACE BS EN 1092-1 PN16):**

| PIPE ND<br>mm | PIPE OD<br>mm | ID<br>mm | D<br>mm | K<br>mm | R<br>mm | T<br>mm | f1<br>mm | NO. OF<br>HOLE | BOLT<br>DIA.<br>mm | BOLT<br>HOLE DIA.<br>mm |
|---------------|---------------|----------|---------|---------|---------|---------|----------|----------------|--------------------|-------------------------|
| 50            | 60.3          | 63.3     | 165     | 125     | 102     | 20      | 3        | 4              | 16                 | 18                      |
| 65            | 76.1          | 79.1     | 185     | 145     | 122     | 20      | 3        | 4              | 16                 | 18                      |
| 80            | 88.9          | 91.9     | 200     | 160     | 138     | 20      | 3        | 8              | 16                 | 18                      |
| 100           | 114.3         | 117.3    | 220     | 180     | 158     | 22      | 3        | 8              | 16                 | 18                      |
| 150           | 168.3         | 171.3    | 285     | 240     | 212     | 24      | 3        | 8              | 20                 | 22                      |
| 200           | 219.1         | 222.1    | 340     | 295     | 268     | 26      | 3        | 12             | 20                 | 22                      |
| 250           | 273.0         | 276.0    | 405     | 355     | 320     | 29      | 3        | 12             | 24                 | 26                      |
| 300           | 323.9         | 326.9    | 460     | 410     | 378     | 32      | 4        | 12             | 24                 | 26                      |
| 350           | 355.6         | 358.6    | 520     | 470     | 438     | 35      | 4        | 16             | 24                 | 26                      |
| 400           | 406.4         | 409.4    | 580     | 525     | 490     | 38      | 4        | 16             | 27                 | 30                      |
| 450           | 457.0         | 460.0    | 640     | 585     | 550     | 42      | 4        | 20             | 27                 | 30                      |
| 500           | 508.0         | 511.0    | 715     | 650     | 610     | 46      | 4        | 20             | 30                 | 33                      |
| 550           | 559.0         | 562.0    | 775     | 710     | 670     | 48      | 4        | 20             | 30                 | 33                      |
| 600           | 610.0         | 613.0    | 840     | 770     | 725     | 52      | 5        | 20             | 33                 | 36                      |
| 650           | 660.0         | 663.0    | 860     | 790     | 745     | 56      | 5        | 24             | 33                 | 36                      |
| 700           | 711.0         | 714.0    | 910     | 840     | 795     | 60      | 5        | 24             | 33                 | 36                      |
| 750           | 762.0         | 765.0    | 970     | 900     | 855     | 68      | 5        | 24             | 33                 | 36                      |
| 800           | 813.0         | 816.0    | 1025    | 950     | 900     | 68      | 5        | 24             | 36                 | 39                      |
| 900           | 914.0         | 917.0    | 1125    | 1050    | 1000    | 76      | 5        | 28             | 36                 | 39                      |
| 1000          | 1016.0        | 1020.0   | 1255    | 1170    | 1115    | 84      | 5        | 28             | 39                 | 42                      |
| 1100          | 1118.0        | 1122.0   | 1355    | 1270    | 1215    | 90      | 5        | 32             | 39                 | 43                      |
| 1200          | 1219.0        | 1223.0   | 1485    | 1390    | 1330    | 98      | 5        | 32             | 45                 | 48                      |
| 1400          | 1420.0        | 1424.0   | 1685    | 1590    | 1530    | 104     | 5        | 36             | 45                 | 48                      |
| 1600          | 1620.0        | 1624.0   | 1930    | 1820    | 1750    | 110     | 5        | 40             | 52                 | 56                      |
| 1800          | 1820.0        | 1824.0   | 2130    | 2020    | 1950    | 130     | 5        | 44             | 52                 | 56                      |
| 2000          | 2020.0        | 2024.0   | 2345    | 2230    | 2150    | 140     | 5        | 48             | 56                 | 62                      |

**\*\* Other sizes are also available upon request.**

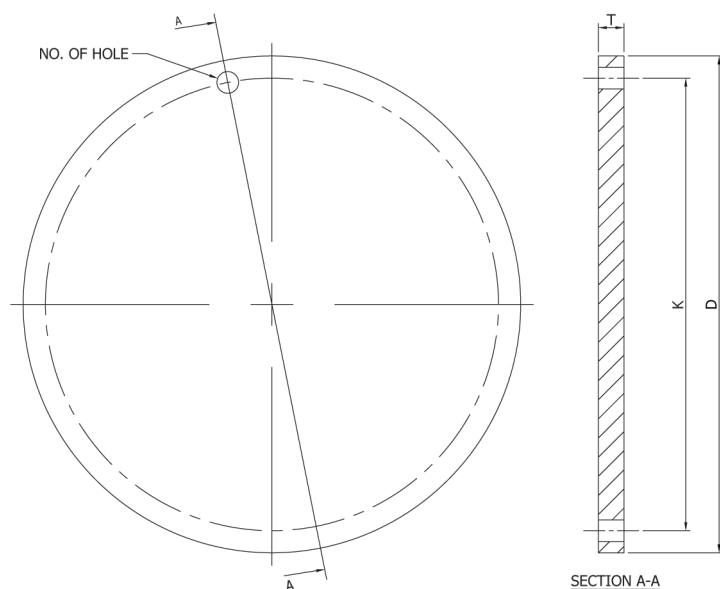
# BLANK FLANGE



**Dimensions (BS EN 1092-1 PN10):**

| PIPE ND<br>mm | PIPE OD<br>mm | D<br>mm | K<br>mm | T<br>mm | NO. OF<br>HOLE | BOLT DIA.<br>mm | BOLT HOLE DIA.<br>mm |
|---------------|---------------|---------|---------|---------|----------------|-----------------|----------------------|
| 50            | 60.3          | 165     | 125     | 20      | 4              | 16              | 18                   |
| 65            | 76.1          | 185     | 145     | 20      | 4              | 16              | 18                   |
| 80            | 88.9          | 200     | 160     | 20      | 8              | 16              | 18                   |
| 100           | 114.3         | 220     | 180     | 20      | 8              | 16              | 18                   |
| 150           | 168.3         | 285     | 240     | 22      | 8              | 20              | 22                   |
| 200           | 219.1         | 340     | 295     | 24      | 8              | 20              | 22                   |
| 250           | 273.0         | 395     | 350     | 26      | 12             | 20              | 22                   |
| 300           | 323.9         | 445     | 400     | 26      | 12             | 20              | 22                   |
| 350           | 355.6         | 505     | 460     | 26      | 16             | 20              | 22                   |
| 400           | 406.4         | 565     | 515     | 26      | 16             | 24              | 26                   |
| 450           | 457.0         | 615     | 565     | 28      | 20             | 24              | 26                   |
| 500           | 508.0         | 670     | 620     | 28      | 20             | 24              | 26                   |
| 550           | 559.0         | 730     | 675     | 34      | 20             | 27              | 30                   |
| 600           | 610.0         | 780     | 725     | 34      | 20             | 27              | 30                   |
| 650           | 660.0         | 835     | 780     | 38      | 24             | 27              | 30                   |
| 700           | 711.0         | 895     | 840     | 38      | 24             | 27              | 30                   |
| 750           | 762.0         | 965     | 900     | 40      | 24             | 30              | 33                   |
| 800           | 813.0         | 1015    | 950     | 42      | 24             | 30              | 33                   |
| 900           | 914.0         | 1115    | 1050    | 46      | 28             | 30              | 33                   |
| 1000          | 1016.0        | 1230    | 1160    | 52      | 28             | 33              | 36                   |
| 1100          | 1118.0        | 1340    | 1270    | 58      | 32             | 33              | 36                   |
| 1200          | 1219.0        | 1455    | 1380    | 60      | 32             | 36              | 39                   |
| 1400          | 1420.0        | 1675    | 1590    | 66      | 36             | 39              | 42                   |
| 1600          | 1620.0        | 1915    | 1820    | 73      | 40             | 45              | 48                   |
| 1800          | 1820.0        | 2115    | 2020    | 76      | 44             | 45              | 48                   |
| 2000          | 2020.0        | 2325    | 2230    | 78      | 48             | 45              | 48                   |

**\*\* Other sizes are also available upon request.**

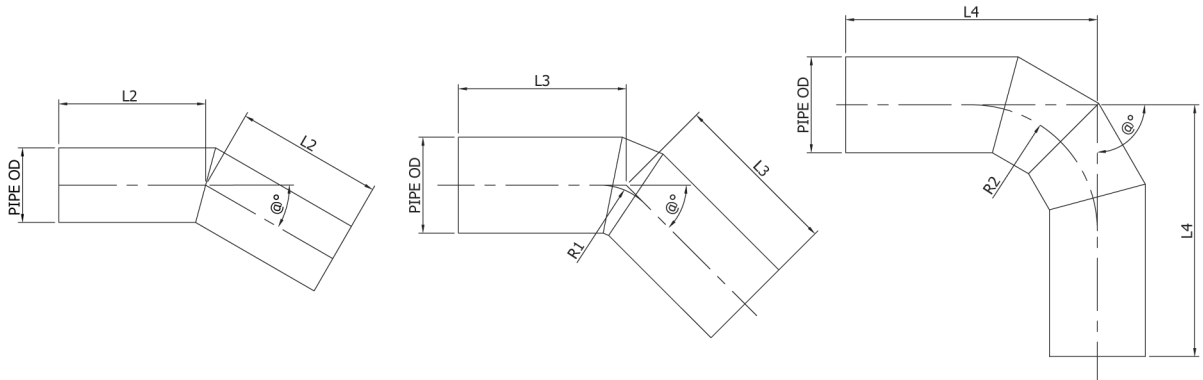


Dimensions (BS EN 1092-1 PN16):

| PIPE ND<br>mm | PIPE OD<br>mm | D<br>mm | K<br>mm | T<br>mm | NO. OF HOLE | BOLT DIA.<br>mm | BOLT HOLE DIA.<br>mm |
|---------------|---------------|---------|---------|---------|-------------|-----------------|----------------------|
| 50            | 60.3          | 165     | 125     | 20      | 4           | 16              | 18                   |
| 65            | 76.1          | 185     | 145     | 20      | 4           | 16              | 18                   |
| 80            | 88.9          | 200     | 160     | 20      | 8           | 16              | 18                   |
| 100           | 114.3         | 220     | 180     | 22      | 8           | 16              | 18                   |
| 150           | 168.3         | 285     | 240     | 22      | 8           | 20              | 22                   |
| 200           | 219.1         | 340     | 295     | 24      | 12          | 20              | 22                   |
| 250           | 273.0         | 405     | 355     | 26      | 12          | 24              | 26                   |
| 300           | 323.9         | 460     | 410     | 28      | 12          | 24              | 26                   |
| 350           | 355.6         | 520     | 470     | 30      | 16          | 24              | 26                   |
| 400           | 406.4         | 580     | 525     | 32      | 16          | 27              | 30                   |
| 450           | 457.0         | 640     | 585     | 36      | 20          | 27              | 30                   |
| 500           | 508.0         | 715     | 650     | 36      | 20          | 30              | 33                   |
| 550           | 559.0         | 775     | 710     | 44      | 20          | 30              | 33                   |
| 600           | 610.0         | 840     | 770     | 44      | 20          | 33              | 36                   |
| 650           | 660.0         | 860     | 790     | 48      | 24          | 33              | 36                   |
| 700           | 711.0         | 910     | 840     | 48      | 24          | 33              | 36                   |
| 750           | 762.0         | 970     | 900     | 50      | 24          | 33              | 36                   |
| 800           | 813.0         | 1025    | 950     | 52      | 24          | 36              | 39                   |
| 900           | 914.0         | 1125    | 1050    | 58      | 28          | 36              | 39                   |
| 1000          | 1016.0        | 1255    | 1170    | 64      | 28          | 39              | 42                   |
| 1100          | 1118.0        | 1355    | 1270    | 70      | 32          | 39              | 43                   |
| 1200          | 1219.0        | 1485    | 1390    | 76      | 32          | 45              | 48                   |
| 1400          | 1420.0        | 1685    | 1590    | 86      | 36          | 45              | 48                   |
| 1600          | 1620.0        | 1930    | 1820    | 98      | 40          | 52              | 56                   |
| 1800          | 1820.0        | 2130    | 2020    | 110     | 44          | 52              | 56                   |
| 2000          | 2020.0        | 2345    | 2230    | 110     | 48          | 56              | 62                   |

\*\* Other sizes are also available upon request.

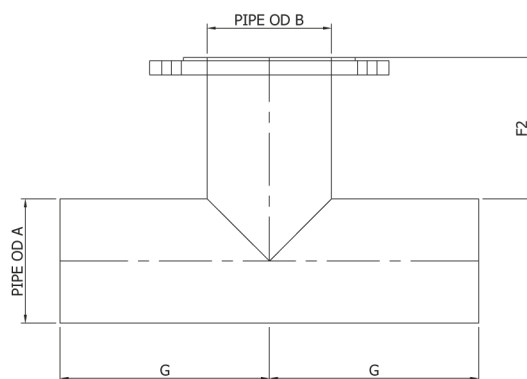
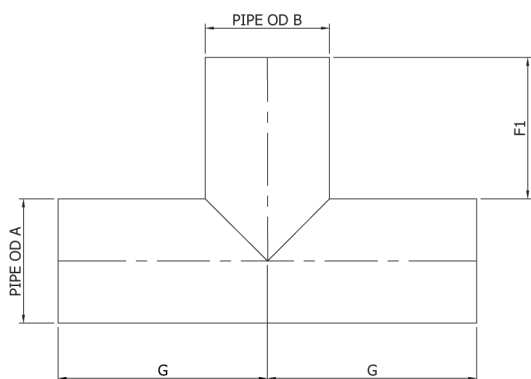
# GUSSETED BEND



| PIPE ND<br>mm | PIPE OD<br>mm | TYPE 1            | TYPE 2          |          |                 |          | TYPE 3          |          |
|---------------|---------------|-------------------|-----------------|----------|-----------------|----------|-----------------|----------|
|               |               | NOT MORE THAN 30° | OVER 30° TO 45° |          | OVER 45° TO 60° |          | OVER 60° TO 90° |          |
|               |               | L2<br>mm          | R1<br>mm        | L3<br>mm | R1<br>mm        | L3<br>mm | R2<br>mm        | L4<br>mm |
| 80            | 88.9          | 125               | 150             | 150      | 150             | 160      | 150             | 230      |
| 100           | 114.3         | 130               | 150             | 200      | 150             | 220      | 150             | 280      |
| 150           | 168.3         | 200               | 225             | 220      | 225             | 250      | 225             | 340      |
| 200           | 219.1         | 210               | 300             | 250      | 300             | 280      | 300             | 400      |
| 250           | 273.0         | 230               | 375             | 260      | 375             | 310      | 375             | 470      |
| 300           | 323.9         | 240               | 450             | 280      | 450             | 340      | 450             | 530      |
| 350           | 355.6         | 250               | 525             | 300      | 525             | 360      | 525             | 600      |
| 400           | 406.4         | 260               | 600             | 320      | 600             | 400      | 600             | 650      |
| 450           | 457.0         | 280               | 675             | 340      | 450             | 400      | 450             | 650      |
| 500           | 508.0         | 290               | 750             | 370      | 500             | 400      | 500             | 700      |
| 550           | 559.0         | 300               | 825             | 390      | 550             | 400      | 550             | 700      |
| 600           | 610.0         | 320               | 900             | 410      | 600             | 420      | 600             | 700      |
| 650           | 660.0         | 330               | 975             | 430      | 650             | 440      | 600             | 700      |
| 700           | 711.0         | 400               | 1050            | 500      | 700             | 520      | 700             | 800      |
| 750           | 762.0         | 410               | 1125            | 520      | 750             | 540      | 750             | 800      |
| 800           | 813.0         | 420               | 1200            | 540      | 800             | 560      | 800             | 900      |
| 900           | 914.0         | 450               | 1350            | 580      | 900             | 600      | 900             | 1000     |
| 1000          | 1016.0        | 530               | 1500            | 680      | 1000            | 700      | 1000            | 1200     |
| 1200          | 1219.0        | 580               | 1800            | 760      | 1200            | 800      | 1200            | 1300     |
| 1400          | 1420.0        | 640               | 2100            | 880      | 1400            | 880      | 1400            | 1500     |
| 1600          | 1620.0        | 690               | 2400            | 1000     | 1600            | 1000     | 1600            | 1700     |
| 1800          | 1820.0        | 740               | 2700            | 1200     | 1800            | 1200     | 1700            | 1800     |
| 2000          | 2020.0        | 800               | 3000            | 1250     | 2000            | 1250     | 2000            | 2000     |
| 2200          | 2220.0        | 850               | 3300            | 1400     | 2200            | 1400     | 2200            | 2200     |

\*\* Other sizes are also available upon request.

# EQUAL TEE



| PIPE ND<br>mm | PIPE OD A<br>mm | G<br>mm | PIPE OD B<br>mm | F1<br>mm | F2<br>mm |
|---------------|-----------------|---------|-----------------|----------|----------|
| 50            | 60.3            | 240     | 60.3            | 200      | 100      |
| 65            | 76.1            | 240     | 76.1            | 200      | 100      |
| 80            | 88.9            | 250     | 88.9            | 200      | 110      |
| 100           | 114.3           | 270     | 114.3           | 200      | 130      |
| 150           | 168.3           | 290     | 168.3           | 200      | 140      |
| 200           | 219.1           | 370     | 219.1           | 250      | 150      |
| 250           | 273.0           | 410     | 273.0           | 250      | 160      |
| 300           | 323.9           | 450     | 323.9           | 250      | 180      |
| 350           | 355.6           | 530     | 355.6           | 300      | 200      |
| 400           | 406.4           | 600     | 406.4           | 300      | 230      |
| 450           | 457.0           |         | 457.0           | 300      | 300      |
| 500           | 508.0           |         | 508.0           | 300      | 300      |
| 550           | 559.0           |         | 559.0           | 300      | 300      |
| 600           | 610.0           |         | 610.0           | 300      | 300      |
| 650           | 660.0           |         | 660.0           | 300      | 300      |
| 700           | 711.0           |         | 711.0           | 300      | 300      |
| 750           | 762.0           |         | 762.0           | 380      | 300      |
| 800           | 813.0           |         | 813.0           | 380      | 300      |
| 900           | 914.0           |         | 914.0           | 380      | 300      |
| 1000          | 1016.0          |         | 1016.0          | 380      | 380      |
| 1200          | 1219.0          |         | 1219.0          | 380      | 380      |
| 1400          | 1420.0          |         | 1420.0          | 380      | 380      |
| 1600          | 1620.0          |         | 1620.0          | 380      | 380      |
| 1800          | 1820.0          |         | 1820.0          | 380      | 380      |
| 2000          | 2020.0          |         | 2020.0          | 380      | 380      |
| 2200          | 2220.0          |         | 2220.0          | 380      | 380      |

1.5 TIMES ND OF  
BRANCH 'B' BUT  
WITH A MINIMUM  
OF 0.5 TIMES ND  
OF BARREL 'A'

\*\* Other sizes are also available upon request.



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**SYNCHONG HOE ENGINEERING SDN. BHD.**  
**SYNCHONG HOE PIPING SDN. BHD.**

Lot 750, MK 19, Jalan Lunas, Mengkuang Titi, Kubang Semang,  
14000 Bukit Mertajam, Seberang Perai, Penang, Malaysia.

☎ +604 521 5262

☎ +604 521 3037 / 3929

Email: [sch.engineering@synchonghoe.com](mailto:sch.engineering@synchonghoe.com)

[www.synchonghoe.com](http://www.synchonghoe.com)