

# Synoflex Couplers, Flange Adaptors & End Caps

Fully restrained, this is a multifit pipe coupling and flange adapter system suited to most pipe materials.



TECHNICAL GUIDE: **APF2.3**

## Applications

Pump stations  
Treatment plants  
Pipelines  
Pipe repairs

## Product Attributes

Fits most common pipe materials  
Restraint coupler  
Wide fitting range  
Reversible bolts  
4 degrees of alignment each end

## Approvals/Standards

Kiwa BRL-K 775/03  
EN 14525, RAL, AS4020  
Flanges to AS4087 B5

## Quality

ISO 9001 Quality Management

An easy to install quality range of restraint couplings from Hawle. High tolerance range to accept most pipe materials with separate torque zones, reversible stainless steel captive fasteners and full end restraint.



FIG. 1

#### Product Attributes

- Can connect all common types of pipe
- Restraint coupler
- Wide fitting range
- Reversible bolts
- 4 degrees of alignment each end
- 10 year Hawle warrantee
- Patented restraint system
- Liner not required for SDR 11 - SDR 17 (and thicker) pipes under pressure



FIG. 2 Synoflex connector

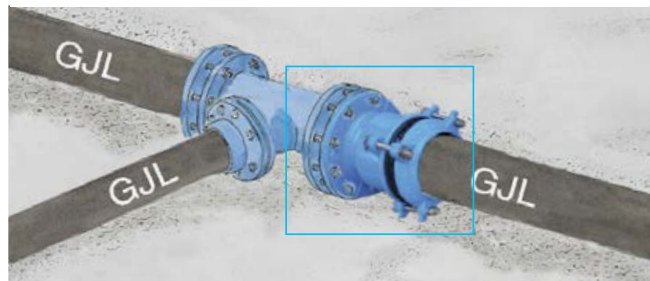


FIG. 3 Synoflex flange adaptor



## Synoflex flange adaptor

Socket / Flange adaptor for all common types of pipe (DCI, PE, PVC, steel)

### Features

- Flanges according to AS4087 Figure B5 or AS 2129 Table D PN16 rated
- Body and lock ring of ductile iron EN 681-1 epoxy powder coated
- Flexible elastomer gasket to EN681-1 (suitable for potable water)
- Flexible Synoflex ring of POM
- Tension locks of 316 stainless steel  
Each support element holds a tension lock element
- Bolts and nuts of 316 stainless steel, coated against seizing
- Bolt head locking devices of 316 stainless steel, with protective cap of elastomer
- Reversible bolts
- Spacer bush made of plastic
- Angle compensation max. 4°



FIG. 4

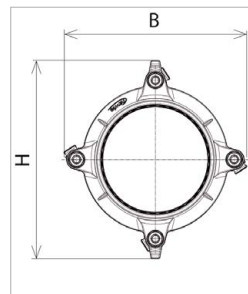


FIG. 5

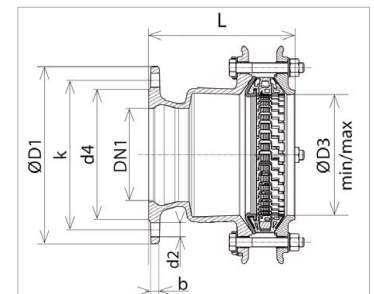


FIG. 6

## Synoflex connector

Restrained system for various kinds of pipes (DCI, PE, PVC, steel)

### Features

- Body and lock ring of ductile iron EN-GJS-400 epoxy powder coated
- Flexible gasket of elastomer to EN 681-1 suitable for potable water
- Flexible Synoflex ring of POM
- Tension locks of stainless steel. Each support element holds a tension lock element.
- Bolts and nuts of stainless steel, coated against seizing
- Bolt head locking devices of stainless steel A4 with protective cap of elastomer
- Reversible bolts
- Spacer bushes of plastic
- Angle compensation max. 8° (+/- 4° each socket)



FIG. 7

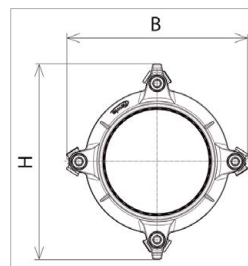


FIG. 8

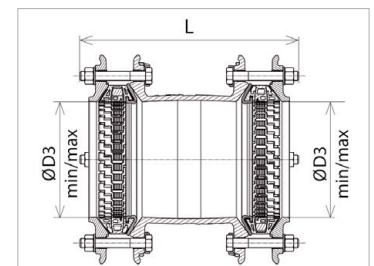


FIG. 9

**TABLE 1** Synoflex flange - Socket / Flange adaptor for various kinds of pipes (DCI, PE, PVC, steel)

| Flange<br>DN1 | Socket<br>DN | PN | Flange |    |     |     | Bolts (Flange) |        |    | B   | H   | Pipe øD3<br>min / max | L   | Bolts        | Weight<br>kg |
|---------------|--------------|----|--------|----|-----|-----|----------------|--------|----|-----|-----|-----------------------|-----|--------------|--------------|
|               |              |    | øD1    | b  | k   | d4  | Qty.           | Thread | d2 |     |     |                       |     |              |              |
| 50            | 50           | 16 | 165    | 18 | 114 | 98  | 4              | M16    | 18 | 141 | 170 | 56 – 71               | 203 | 3xM12 – 80   | 5.1          |
| 65            | 65           |    | 185    | 18 | 127 | 118 | 4              | M16    | 18 | 156 | 187 | 71 – 88               | 203 | 3xM12 – 80   | 6.1          |
| 80            | 65           |    | 198    | 18 | 146 | 133 | 4              | M16    | 18 | 156 | 187 | 71 – 88               | 203 | 3xM12 – 80   | 6.3          |
| 80            | 80           |    | 198    | 18 | 146 | 133 | 4              | M16    | 18 | 171 | 204 | 85 – 105              | 193 | 3xM12 – 80   | 6.7          |
| 80            | 100          |    | 198    | 18 | 146 | 133 | 4              | M16    | 18 | 226 | 260 | 104 – 132             | 263 | 3xM16 – 100  | 10.0         |
| 100           | 80           |    | 220    | 18 | 178 | 153 | 4              | M16    | 18 | 171 | 204 | 85 – 105              | 188 | 3xM12 – 80   | 7.3          |
| 100           | 100          |    | 220    | 18 | 178 | 153 | 4              | M16    | 18 | 226 | 260 | 104 – 132             | 228 | 3xM16 – 100  | 10.3         |
| 100           | 125          |    | 220    | 18 | 178 | 153 | 4              | M16    | 18 | 250 | 290 | 131 – 160             | 278 | 3xM16 – 110  | 12.5         |
| 125           | 125          |    | 250    | 18 | 210 | 183 | 8              | M16    | 18 | 250 | 290 | 131 – 160             | 248 | 3xM16 – 110  | 12.9         |
| 150           | 125          |    | 285    | 18 | 235 | 209 | 8              | M20    | 18 | 250 | 290 | 131 – 160             | 245 | 3xM16 – 110  | 13.8         |
| 150           | 150          |    | 285    | 18 | 235 | 209 | 8              | M16    | 18 | 315 | 350 | 155 – 192             | 258 | 4xM16 – 110  | 16.5         |
| 200           | 200          |    | 340    | 19 | 292 | 264 | 8              | M16    | 18 | 326 | 405 | 198 – 230             | 277 | 6xM16 – 120  | 25.4         |
| 200           | 225          |    | 340    | 19 | 292 | 264 | 8              | M16    | 18 | 361 | 445 | 230 – 260             | 322 | 6xM20 – 130  | 32.8         |
| 250           | 250          |    | 405    | 24 | 356 | 319 | 8              | M20    | 22 | 408 | 499 | 265 – 310             | 335 | 6xM20 – 130  | 42.7         |
| 300           | 300          | 10 | 455    | 30 | 406 | 367 | 12             | M24    | 28 | 510 | 510 | 313 – 356             | 344 | 8xM20 – 130  | 59.1         |
| 350           | 350          |    | 520    | 20 | 470 | 427 | 16             | M24    | 26 | 550 | 550 | 352 – 396             | 358 | 12xM20 – 130 | 71.0         |
| 400           | 400          |    | 580    | 21 | 521 | 477 | 16             | M24    | 26 | 596 | 596 | 398 – 442             | 373 | 12xM20 – 130 | 83.0         |
|               |              |    |        |    |     |     |                |        |    |     |     |                       |     |              |              |

**TABLE 2** Synoflex connector - Socket / Socket connector for various kinds of pipes (DCI, PE, PVC, steel)

| Socket 1<br>DN | Socket 2<br>DN | PN | Socket 1 |     |                       |            | Socket 2 |     |                       |              | L   | Weight<br>kg |
|----------------|----------------|----|----------|-----|-----------------------|------------|----------|-----|-----------------------|--------------|-----|--------------|
|                |                |    | B        | H   | Pipe øD3<br>min / max | Bolts      | B        | H   | Pipe øD3<br>min / max | Bolts        |     |              |
| 50             | 50             | 16 | 141      | 170 | 56 – 71               | 3xM12-80   | 141      | 170 | 56 – 71               | 3xM12 – 80   | 253 | 5.0          |
| 65             | 65             |    | 156      | 187 | 71 – 88               | 3xM12-80   | 156      | 187 | 71 – 88               | 3xM12 – 80   | 264 | 5.6          |
| 80             | 65             |    | 171      | 204 | 85 – 105              | 3xM12-80   | 156      | 187 | 71 – 88               | 3xM12 – 80   | 274 | 6.2          |
| 80             | 80             |    | 171      | 204 | 85 – 105              | 3xM12-80   | 171      | 204 | 85 – 105              | 3xM12 – 80   | 270 | 6.5          |
| 100            | 80             |    | 226      | 260 | 104 – 132             | 3xM16-100  | 171      | 204 | 85 – 105              | 3xM12 – 80   | 312 | 9.5          |
| 100            | 100            |    | 226      | 260 | 104 – 132             | 3xM16-100  | 226      | 260 | 104 – 132             | 3xM16 – 100  | 332 | 11.7         |
| 125            | 125            |    | 250      | 290 | 131 – 160             | 3xM16-110  | 250      | 290 | 131 – 160             | 3xM16 – 110  | 357 | 14.5         |
| 150            | 100            |    | 315      | 350 | 155 – 192             | 4xM16-110  | 226      | 260 | 104 – 132             | 3xM16 – 100  | 361 | 16.2         |
| 150            | 150            |    | 315      | 350 | 155 – 192             | 4xM16-110  | 315      | 350 | 155 – 192             | 4xM16 – 110  | 367 | 18.7         |
| 200            | 200            |    | 326      | 405 | 198 – 230             | 6xM16-120  | 326      | 405 | 198 – 230             | 6xM16 – 120  | 406 | 31.1         |
| 225            | 200            |    | 361      | 410 | 230 – 260             | 6xM20-130  | 326      | 371 | 198 – 230             | 6xM16 – 120  | 450 | 61.3         |
| 225            | 225            |    | 361      | 445 | 230 – 260             | 6xM20-130  | 361      | 445 | 230 – 260             | 6xM20 – 130  | 429 | 41.8         |
| 250            | 200            |    | 408      | 464 | 265 – 310             | 6xM20-130  | 326      | 371 | 198 – 230             | 6xM16 – 120  | 468 | 42.4         |
| 250            | 225            |    | 408      | 464 | 265 – 310             | 6xM20-130  | 361      | 410 | 230 – 260             | 6xM20 – 130  | 454 | 50.2         |
| 250            | 250            | 10 | 408      | 499 | 265 – 310             | 6xM20-130  | 408      | 499 | 265 – 310             | 6xM20 – 130  | 441 | 51.0         |
| 300            | 250            |    | 510      | 510 | 313 – 356             | 8xM20-130  | 408      | 464 | 265 – 310             | 8xM20 – 130  | 473 | 61.4         |
| 300            | 300            |    | 510      | 545 | 313 – 356             | 8xM20-130  | 510      | 545 | 313 – 356             | 8xM20 – 130  | 460 | 68.0         |
| 350            | 300            |    | 550      | 550 | 352 – 396             | 12xM20-130 | 550      | 550 | 352 – 396             | 12xM20 – 130 | 502 | 82.6         |
| 350            | 350            | 10 | 550      | 550 | 352 – 396             | 12xM20-130 | 550      | 550 | 352 – 396             | 12xM20 – 130 | 499 | 86.0         |
| 400            | 400            | 10 | 596      | 596 | 398 – 442             | 12xM20-130 | 596      | 596 | 398 – 442             | 12xM20 – 130 | 519 | 100.0        |

**TABLE 3** Synoflex end cap

| DN  | MOP (PN) | Socket |     |                    |             | L   | Weight kg |
|-----|----------|--------|-----|--------------------|-------------|-----|-----------|
|     |          | B      | H   | Pipe øD3 min / max | Bolts       |     |           |
| 225 | 16       | 360    | 410 | 230 – 260          | 6xM20 – 130 | 321 | 31.3      |
| 250 |          | 156    | 187 | 265 – 310          | 6xM20 – 130 | 329 | 39.0      |
| 300 | 10       | 171    | 204 | 313 – 356          | 6xM20 – 130 | 339 | 50.3      |



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