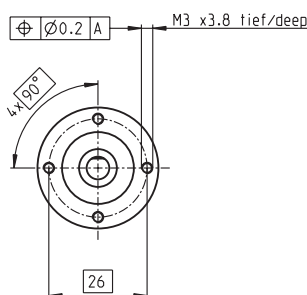
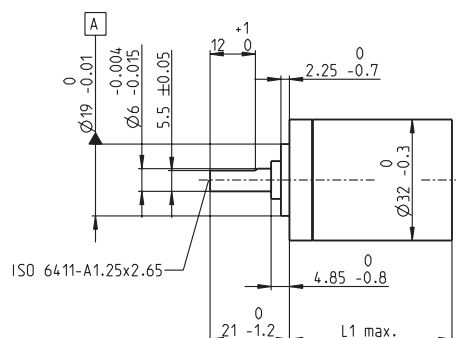


# Planetary Gearhead GP 32 A Ø32 mm, 0.75–4.5 Nm



## Technical Data

|                                       |                               |
|---------------------------------------|-------------------------------|
| Planetary Gearhead                    | straight teeth                |
| Output shaft                          | stainless steel               |
| Shaft diameter as option              | 8 mm                          |
| Bearing at output                     | ball bearing                  |
| Radial play, 5 mm from flange         | max. 0.14 mm                  |
| Axial play                            | max. 0.4 mm                   |
| Max. permissible axial load           | 120 N                         |
| Max. permissible force for press fits | 120 N                         |
| Sense of rotation, drive to output    | =                             |
| Recommended input speed               | < 6000 rpm                    |
| Recommended temperature range         | -40...+100°C                  |
| Number of stages                      | 1 2 3 4 5                     |
| Max. radial load, 10 mm from flange   | 140 N 140 N 200 N 220 N 220 N |

M 1:2

Option: Low-noise version

- Stock program
- Standard program
- Special program (on request)

## Part Numbers

### Gearhead Data

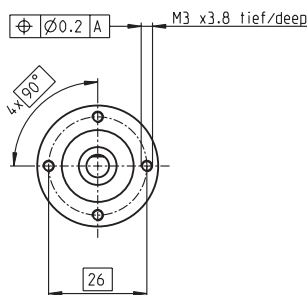
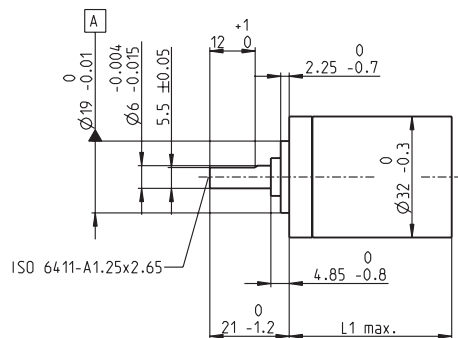
|                                                    | 166155               | 166158        | 166163 | 166164        | 166169        | 166174        | 166179        | 166184        | 166187        | 166192        | 166197        | 166202        |
|----------------------------------------------------|----------------------|---------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 1 Reduction                                        | 3.7:1                | 14:1          | 33:1   | 51:1          | 111:1         | 246:1         | 492:1         | 762:1         | 1181:1        | 1972:1        | 2829:1        | 4380:1        |
| 2 Reduction absolute                               | 26/7                 | 676/49        | 529/16 | 17576/343     | 13824/125     | 421824/1715   | 86112/175     | 19044/25      | 10123776/8575 | 8626176/4375  | 495144/175    | 109503/25     |
| 3 Max. motor shaft diameter                        | mm 6                 | 6             | 3      | 6             | 4             | 4             | 3             | 3             | 4             | 4             | 3             | 3             |
| <b>Part Numbers</b>                                | <b>166156</b>        | <b>166159</b> |        | <b>166165</b> | <b>166170</b> | <b>166175</b> | <b>166180</b> | <b>166185</b> | <b>166188</b> | <b>166193</b> | <b>166198</b> | <b>166203</b> |
| 1 Reduction                                        | 4.8:1                | 18:1          |        | 66:1          | 123:1         | 295:1         | 531:1         | 913:1         | 1414:1        | 2189:1        | 3052:1        | 5247:1        |
| 2 Reduction absolute                               | 24/5                 | 624/35        |        | 16224/245     | 6877/56       | 101062/343    | 331776/625    | 36501/40      | 2425488/1715  | 536406/245    | 712/625       | 523/160       |
| 3 Max. motor shaft diameter                        | mm 4                 | 4             |        | 4             | 3             | 3             | 4             | 3             | 3             | 3             | 3             | 3             |
| <b>Part Numbers</b>                                | <b>166157</b>        | <b>166160</b> |        | <b>166166</b> | <b>166171</b> | <b>166176</b> | <b>166181</b> | <b>166186</b> | <b>166189</b> | <b>166194</b> | <b>166199</b> | <b>166204</b> |
| 1 Reduction                                        | 5.8:1                | 21:1          |        | 79:1          | 132:1         | 318:1         | 589:1         | 1093:1        | 1526:1        | 2362:1        | 3389:1        | 6285:1        |
| 2 Reduction absolute                               | 23/4                 | 299/14        |        | 3887/49       | 3312/25       | 389376/1225   | 20631/35      | 279841/256    | 9345024/125   | 2066688/675   | 474513/140    | 6436343/1024  |
| 3 Max. motor shaft diameter                        | mm 3                 | 3             |        | 3             | 3             | 4             | 3             | 3             | 4             | 3             | 3             | 3             |
| <b>Part Numbers</b>                                |                      | <b>166161</b> |        | <b>166167</b> | <b>166172</b> | <b>166177</b> | <b>166182</b> |               | <b>166190</b> | <b>166195</b> | <b>166200</b> |               |
| 1 Reduction                                        |                      | 23:1          |        | 86:1          | 159:1         | 411:1         | 636:1         |               | 1694:1        | 2548:1        | 3656:1        |               |
| 2 Reduction absolute                               |                      | 576/25        |        | 14976/175     | 1587/10       | 359424/875    | 79488/125     |               | 1162213/686   | 7962624/3125  | 457056/125    |               |
| 3 Max. motor shaft diameter                        |                      | 4             |        | 4             | 3             | 4             | 3             |               | 3             | 4             | 3             |               |
| <b>Part Numbers</b>                                |                      | <b>166162</b> |        | <b>166168</b> | <b>166173</b> | <b>166178</b> | <b>166183</b> |               | <b>166191</b> | <b>166196</b> | <b>166201</b> |               |
| 1 Reduction                                        |                      | 28:1          |        | 103:1         | 190:1         | 456:1         | 706:1         |               | 1828:1        | 2623:1        | 4060:1        |               |
| 2 Reduction absolute                               |                      | 138/5         |        | 3588/35       | 12167/64      | 89401/196     | 158171/224    |               | 2238912/1225  | 2056223/784   | 3637933/896   |               |
| 3 Max. motor shaft diameter                        |                      | 3             |        | 3             | 3             | 3             | 3             |               | 3             | 3             | 3             |               |
| 4 Number of stages                                 | 1                    | 2             | 2      | 3             | 3             | 4             | 4             | 4             | 5             | 5             | 5             | 5             |
| 5 Max. continuous torque                           | Nm 0.75              | 2.25          | 2.25   | 4.50          | 4.50          | 4.50          | 4.50          | 4.50          | 4.50          | 4.50          | 4.50          | 4.50          |
| 6 Intermittently permissible torque at gear output | Nm 1.1               | 3.4           | 3.4    | 6.5           | 6.5           | 6.5           | 6.5           | 6.5           | 6.5           | 6.5           | 6.5           | 6.5           |
| 7 Max. efficiency                                  | % 80                 | 75            | 75     | 70            | 70            | 60            | 60            | 60            | 50            | 50            | 50            | 50            |
| 8 Weight                                           | g 118                | 162           | 162    | 194           | 194           | 226           | 226           | 226           | 258           | 258           | 258           | 258           |
| 9 Average backlash no load                         | ° 0.7                | 0.8           | 0.8    | 1.0           | 1.0           | 1.0           | 1.0           | 1.0           | 1.0           | 1.0           | 1.0           | 1.0           |
| 10 Mass inertia                                    | gcm <sup>2</sup> 1.5 | 0.8           | 0.8    | 0.7           | 0.7           | 0.7           | 0.7           | 0.7           | 0.7           | 0.7           | 0.7           | 0.7           |
| 11 Gearhead length L1                              | mm 26.5              | 36.4          | 36.4   | 43.1          | 43.1          | 49.8          | 49.8          | 49.8          | 56.5          | 56.5          | 56.5          | 56.5          |



## maxon Modular System

| + Motor     | Page    | + Sensor/Brake    | Page    | Overall length [mm] = Motor length + gearhead length + (sensor/brake) + assembly parts |       |       |       |       |       |       |       |       |       |
|-------------|---------|-------------------|---------|----------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| RE 25       | 99/101  |                   |         | 81.1                                                                                   | 91.0  | 91.0  | 97.7  | 97.7  | 104.4 | 104.4 | 104.4 | 111.1 | 111.1 |
| RE 25       | 99/101  | MR                | 302     | 92.1                                                                                   | 102.0 | 102.0 | 108.7 | 108.7 | 115.4 | 115.4 | 115.4 | 122.1 | 122.1 |
| RE 25       | 99/101  | Enc 22            | 304     | 95.2                                                                                   | 105.1 | 105.1 | 111.8 | 111.8 | 118.5 | 118.5 | 118.5 | 125.2 | 125.2 |
| RE 25       | 99/101  | HED_ 5540         | 305/307 | 101.9                                                                                  | 111.8 | 111.8 | 118.5 | 118.5 | 125.2 | 125.2 | 125.2 | 131.9 | 131.9 |
| RE 25       | 99/101  | DCT 22            | 315     | 103.4                                                                                  | 113.3 | 113.3 | 120.0 | 120.0 | 126.7 | 126.7 | 126.7 | 133.4 | 133.4 |
| RE 25, 20 W | 100     |                   |         | 69.6                                                                                   | 79.5  | 79.5  | 86.2  | 86.2  | 92.9  | 92.9  | 92.9  | 99.6  | 99.6  |
| RE 25, 20 W | 100     | MR                | 302     | 80.6                                                                                   | 90.5  | 90.5  | 97.2  | 97.2  | 103.9 | 103.9 | 103.9 | 110.6 | 110.6 |
| RE 25, 20 W | 100     | HED_ 5540         | 306/309 | 90.4                                                                                   | 100.3 | 100.3 | 107.0 | 107.0 | 113.7 | 113.7 | 113.7 | 120.4 | 120.4 |
| RE 25, 20 W | 100     | DCT22             | 315     | 91.9                                                                                   | 101.8 | 101.8 | 108.5 | 108.5 | 115.2 | 115.2 | 115.2 | 121.9 | 121.9 |
| RE 25, 20 W | 100     | AB 28             | 348     | 103.7                                                                                  | 113.6 | 113.6 | 120.3 | 120.3 | 127.0 | 127.0 | 127.0 | 133.7 | 133.7 |
| RE 25, 20 W | 100     | HED_ 5540 / AB 28 | 306/348 | 120.9                                                                                  | 130.8 | 130.8 | 137.5 | 137.5 | 144.2 | 144.2 | 144.2 | 150.9 | 150.9 |
| RE 25, 20 W | 101     | AB 28             | 348     | 115.2                                                                                  | 125.1 | 125.1 | 131.8 | 131.8 | 138.5 | 138.5 | 138.5 | 145.2 | 145.2 |
| RE 25, 20 W | 101     | HED_ 5540/AB 28   | 305/348 | 132.4                                                                                  | 142.3 | 142.3 | 149.0 | 149.0 | 155.7 | 155.7 | 155.7 | 162.4 | 162.4 |
| A-max 26    | 125-132 |                   |         | 71.3                                                                                   | 81.2  | 81.2  | 87.9  | 87.9  | 94.6  | 94.6  | 94.6  | 101.3 | 101.3 |
| A-max 26    | 126-132 | MEnc 13           | 314     | 78.4                                                                                   | 88.3  | 88.3  | 95.0  | 95.0  | 101.7 | 101.7 | 101.7 | 108.4 | 108.4 |
| A-max 26    | 126-132 | MR                | 302     | 80.1                                                                                   | 90.0  | 90.0  | 96.7  | 96.7  | 103.4 | 103.4 | 103.4 | 110.1 | 110.1 |
| A-max 26    | 126-132 | Enc 22            | 304     | 85.7                                                                                   | 95.6  | 95.6  | 102.3 | 102.3 | 109.0 | 109.0 | 109.0 | 115.7 | 115.7 |
| A-max 26    | 126-132 | HED_ 5540         | 306/307 | 89.7                                                                                   | 99.6  | 99.6  | 106.3 | 106.3 | 113.0 | 113.0 | 113.0 | 119.7 | 119.7 |
| RE-max 29   | 155-158 |                   |         | 71.3                                                                                   | 81.2  | 81.2  | 87.9  | 87.9  | 94.6  | 94.6  | 94.6  | 101.3 | 101.3 |
| RE-max 29   | 156/158 | MR                | 302     | 80.1                                                                                   | 90.0  | 90.0  | 96.7  | 96.7  | 103.4 | 103.4 | 103.4 | 110.1 | 110.1 |

# Planetary Gearhead GP 32 A Ø32 mm, 0.75–4.5 Nm



M 1:2

## Technical Data

|                                       |                              |
|---------------------------------------|------------------------------|
| Planetary Gearhead                    | straight teeth               |
| Output shaft                          | stainless steel              |
| Shaft diameter as option              | 8 mm                         |
| Bearing at output                     | ball bearing                 |
| Radial play, 5 mm from flange         | max. 0.14 mm                 |
| Axial play                            | max. 0.4 mm                  |
| Max. permissible axial load           | 120 N                        |
| Max. permissible force for press fits | 120 N                        |
| Sense of rotation, drive to output    | =                            |
| Recommended input speed               | < 6000 rpm                   |
| Recommended temperature range         | -40...+100°C                 |
| Number of stages                      | 1 2 3 4 5                    |
| Max. radial load, 10 mm from flange   | 90 N 140 N 200 N 220 N 220 N |

Option: Low-noise version

maxon gear

- Stock program
- Standard program
- Special program (on request)

## Part Numbers

### Gearhead Data

|                                                    | 166155           | 166158        | 166163 | 166164        | 166169        | 166174        | 166179        | 166184        | 166187        | 166192        | 166197        | 166202        |
|----------------------------------------------------|------------------|---------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 1 Reduction                                        | 3.7:1            | 14:1          | 33:1   | 51:1          | 111:1         | 246:1         | 492:1         | 762:1         | 1181:1        | 1972:1        | 2829:1        | 4380:1        |
| 2 Reduction absolute                               | 26/7             | 676/49        | 529/16 | 17576/343     | 13824/125     | 421824/1715   | 86112/175     | 19044/25      | 10123776/8575 | 8626176/4375  | 495144/175    | 109503/25     |
| 3 Max. motor shaft diameter                        | mm 6             | 6             | 3      | 6             | 4             | 4             | 3             | 3             | 4             | 4             | 3             | 3             |
| <b>Part Numbers</b>                                | <b>166156</b>    | <b>166159</b> |        | <b>166165</b> | <b>166170</b> | <b>166175</b> | <b>166180</b> | <b>166185</b> | <b>166188</b> | <b>166193</b> | <b>166198</b> | <b>166203</b> |
| 1 Reduction                                        | 4.8:1            | 18:1          |        | 66:1          | 123:1         | 295:1         | 531:1         | 913:1         | 1414:1        | 2189:1        | 3052:1        | 5247:1        |
| 2 Reduction absolute                               | 24/5             | 624/35        |        | 16224/245     | 6877/56       | 101062/343    | 331776/625    | 36501/40      | 2425488/1715  | 536406/245    | 1907712/625   | 839523/160    |
| 3 Max. motor shaft diameter                        | mm 4             | 4             |        | 4             | 3             | 3             | 4             | 3             | 3             | 3             | 3             | 3             |
| <b>Part Numbers</b>                                | <b>166157</b>    | <b>166160</b> |        | <b>166166</b> | <b>166171</b> | <b>166176</b> | <b>166181</b> | <b>166186</b> | <b>166189</b> | <b>166194</b> | <b>166199</b> | <b>166204</b> |
| 1 Reduction                                        | 5.8:1            | 21:1          |        | 79:1          | 132:1         | 318:1         | 589:1         | 1093:1        | 1526:1        | 2362:1        | 3389:1        | 6285:1        |
| 2 Reduction absolute                               | 23/4             | 299/14        |        | 3887/49       | 3312/25       | 38978/1225    | 20631/35      | 279841/256    | 9345024/6125  | 2066688/675   | 474513/140    | 6436343/1024  |
| 3 Max. motor shaft diameter                        | mm 3             | 3             |        | 3             | 3             | 4             | 3             | 3             | 4             | 3             | 3             | 3             |
| <b>Part Numbers</b>                                |                  | <b>166161</b> |        | <b>166167</b> | <b>166172</b> | <b>166177</b> | <b>166182</b> |               | <b>166190</b> | <b>166195</b> | <b>166200</b> |               |
| 1 Reduction                                        |                  | 23:1          |        | 86:1          | 159:1         | 411:1         | 636:1         |               | 1694:1        | 2548:1        | 3656:1        |               |
| 2 Reduction absolute                               |                  | 576/25        |        | 14976/175     | 1587/10       | 359424/875    | 79488/125     |               | 1162213/686   | 7962624/3125  | 457056/125    |               |
| 3 Max. motor shaft diameter                        |                  | 4             |        | 4             | 3             | 4             | 3             |               | 3             | 4             | 3             |               |
| <b>Part Numbers</b>                                |                  | <b>166162</b> |        | <b>166168</b> | <b>166173</b> | <b>166178</b> | <b>166183</b> |               | <b>166191</b> | <b>166196</b> | <b>166201</b> |               |
| 1 Reduction                                        |                  | 28:1          |        | 103:1         | 190:1         | 456:1         | 706:1         |               | 1828:1        | 2623:1        | 4060:1        |               |
| 2 Reduction absolute                               |                  | 138/5         |        | 3588/35       | 12167/64      | 89401/196     | 158171/224    |               | 2238912/1225  | 2056223/784   | 3637933/896   |               |
| 3 Max. motor shaft diameter                        |                  | 3             |        | 3             | 3             | 3             | 3             |               | 3             | 3             | 3             |               |
| 4 Number of stages                                 |                  | 1             | 2      | 2             | 3             | 3             | 4             | 4             | 4             | 5             | 5             | 5             |
| 5 Max. continuous torque                           | Nm               | 0.75          | 2.25   | 2.25          | 4.50          | 4.50          | 4.50          | 4.50          | 4.50          | 4.50          | 4.50          | 4.50          |
| 6 Intermittently permissible torque at gear output | Nm               | 1.1           | 3.4    | 3.4           | 6.5           | 6.5           | 6.5           | 6.5           | 6.5           | 6.5           | 6.5           | 6.5           |
| 7 Max. efficiency                                  | %                | 80            | 75     | 75            | 70            | 70            | 60            | 60            | 60            | 50            | 50            | 50            |
| 8 Weight                                           | g                | 118           | 162    | 162           | 194           | 194           | 226           | 226           | 226           | 258           | 258           | 258           |
| 9 Average backlash no load                         | °                | 0.7           | 0.8    | 0.8           | 1.0           | 1.0           | 1.0           | 1.0           | 1.0           | 1.0           | 1.0           | 1.0           |
| 10 Mass inertia                                    | gcm <sup>2</sup> | 1.5           | 0.8    | 0.8           | 0.7           | 0.7           | 0.7           | 0.7           | 0.7           | 0.7           | 0.7           | 0.7           |
| 11 Gearhead length L1*                             | mm               | 26.5          | 36.4   | 36.4          | 43.1          | 43.1          | 49.8          | 49.8          | 49.8          | 56.5          | 56.5          | 56.5          |

\*for EC 32 flat L1 is + 2.0 mm



## maxon Modular System

| + Motor               | Page    | + Sensor/Brake    | Page    | Overall length [mm] = Motor length + gearhead length + (sensor/brake) + assembly parts |       |       |       |       |       |       |       |       |       |
|-----------------------|---------|-------------------|---------|----------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| RE 30, 15 W           | 102     |                   |         | 94.6                                                                                   | 104.5 | 104.5 | 111.2 | 111.2 | 117.9 | 117.9 | 124.6 | 124.6 | 124.6 |
| RE 30, 15 W           | 102     | MR                | 303     | 106.0                                                                                  | 115.9 | 115.9 | 122.6 | 122.6 | 129.3 | 129.3 | 136.0 | 136.0 | 136.0 |
| RE 30, 15 W           | 102     | HED_ 5540         | 305/307 | 115.4                                                                                  | 125.3 | 125.3 | 132.0 | 132.0 | 138.7 | 138.7 | 145.4 | 145.4 | 145.4 |
| RE 30, 60 W           | 103     |                   |         | 94.6                                                                                   | 104.5 | 104.5 | 111.2 | 111.2 | 117.9 | 117.9 | 124.6 | 124.6 | 124.6 |
| RE 30, 60 W           | 103     | MR                | 303     | 106.0                                                                                  | 115.9 | 115.9 | 122.6 | 122.6 | 129.3 | 129.3 | 136.0 | 136.0 | 136.0 |
| RE 30, 60 W           | 103     | HED_ 5540         | 305/307 | 115.4                                                                                  | 125.3 | 125.3 | 132.0 | 132.0 | 138.7 | 138.7 | 145.4 | 145.4 | 145.4 |
| RE 35, 90 W           | 104     |                   |         | 97.6                                                                                   | 107.5 | 107.5 | 114.2 | 114.2 | 120.9 | 120.9 | 127.6 | 127.6 | 127.6 |
| RE 35, 90 W           | 104     | MR                | 303     | 109.0                                                                                  | 118.9 | 118.9 | 125.6 | 125.6 | 132.3 | 132.3 | 139.0 | 139.0 | 139.0 |
| RE 35, 90 W           | 104     | HED_ 5540         | 305/307 | 118.3                                                                                  | 128.2 | 128.2 | 134.9 | 134.9 | 141.6 | 141.6 | 148.3 | 148.3 | 148.3 |
| RE 35, 90 W           | 104     | DCT 22            | 315     | 115.7                                                                                  | 125.6 | 125.6 | 132.3 | 132.3 | 139.0 | 139.0 | 145.7 | 145.7 | 145.7 |
| RE 35, 90 W           | 104     | AB 28             | 348     | 133.7                                                                                  | 143.6 | 143.6 | 150.3 | 150.3 | 157.0 | 157.0 | 163.7 | 163.7 | 163.7 |
| RE 35, 90 W           | 104     | HEDS 5540 / AB 28 | 305/348 | 150.9                                                                                  | 160.8 | 160.8 | 167.5 | 167.5 | 174.2 | 174.2 | 180.9 | 180.9 | 180.9 |
| A-max 32              | 133/135 |                   |         | 89.5                                                                                   | 99.4  | 99.4  | 106.1 | 106.1 | 112.8 | 112.8 | 119.5 | 119.5 | 119.5 |
| A-max 32              | 134/136 |                   |         | 88.1                                                                                   | 98.0  | 98.0  | 104.7 | 104.7 | 111.4 | 111.4 | 118.1 | 118.1 | 118.1 |
| A-max 32              | 134/136 | MR                | 303     | 99.3                                                                                   | 109.2 | 109.2 | 115.9 | 115.9 | 122.6 | 122.6 | 129.3 | 129.3 | 129.3 |
| A-max 32              | 134/136 | HED_ 5540         | 306/307 | 108.9                                                                                  | 118.8 | 118.8 | 125.5 | 125.5 | 132.2 | 132.2 | 138.9 | 138.9 | 138.9 |
| EC 32, 80 W           | 180     |                   |         | 86.6                                                                                   | 96.5  | 96.5  | 103.2 | 103.2 | 109.9 | 109.9 | 116.6 | 116.6 | 116.6 |
| EC 32, 80 W           | 180     | HED_ 5540         | 306/308 | 105.0                                                                                  | 114.9 | 114.9 | 121.6 | 121.6 | 128.3 | 128.3 | 135.0 | 135.0 | 135.0 |
| EC 32, 80 W           | 180     | Res 26            | 316     | 106.7                                                                                  | 116.6 | 116.6 | 123.3 | 123.3 | 130.0 | 130.0 | 136.7 | 136.7 | 136.7 |
| EC 32 flat, 15 W      | 214     |                   |         | 44.5                                                                                   | 54.4  | 54.4  | 61.1  | 61.1  | 67.8  | 67.8  | 74.5  | 74.5  | 74.5  |
| EC 32 flat, IE, IP 00 | 215     |                   |         | 54.6                                                                                   | 64.5  | 64.5  | 71.2  | 71.2  | 77.9  | 77.9  | 84.6  | 84.6  | 84.6  |
| EC 32 flat, IE, IP 40 | 215     |                   |         | 56.3                                                                                   | 66.2  | 66.2  | 72.9  | 72.9  | 79.6  | 79.6  | 86.3  | 86.3  | 86.3  |