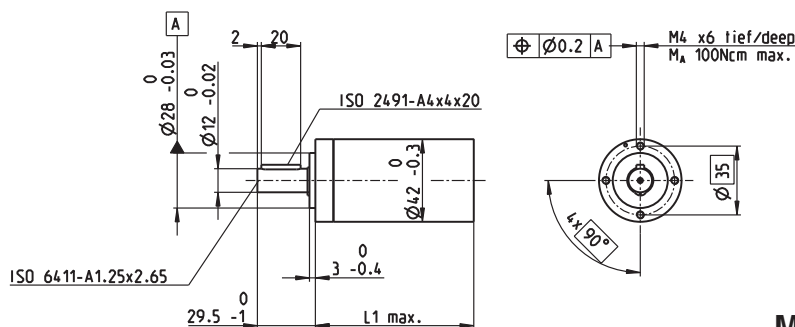


# Planetary Gearhead GP 42 C Ø42 mm, 3–15 Nm

Ceramic Version



M 1:4

## Technical Data

|                                       |                                 |
|---------------------------------------|---------------------------------|
| Planetary Gearhead                    | straight teeth                  |
| Output shaft                          | stainless steel                 |
| Bearing at output                     | preloaded ball bearings         |
| Radial play, 12 mm from flange        | max. 0.06 mm                    |
| Axial play at axial load              | < 5 N 0 mm<br>> 5 N max. 0.3 mm |
| Max. permissible axial load           | 150 N                           |
| Max. permissible force for press fits | 300 N                           |
| Sense of rotation, drive to output    | =                               |
| Recommended input speed               | < 8000 rpm                      |
| Recommended temperature range         | -40...+100°C                    |
| Number of stages                      | 1 2 3 4                         |
| Max. radial load, 12 mm from flange   | 120 N 240 N 360 N 360 N         |

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

## Part Numbers

### Gearhead Data

|                                                    | 203113               | 203115        | 203119  | 203120        | 203124  | 203129  | 203128        | 203133   | 203137        | 203141  |
|----------------------------------------------------|----------------------|---------------|---------|---------------|---------|---------|---------------|----------|---------------|---------|
| 1 Reduction                                        | 3.5:1                | 12:1          | 26:1    | 43:1          | 81:1    | 156:1   | 150:1         | 285:1    | 441:1         | 756:1   |
| 2 Reduction absolute                               | 7/2                  | 49/4          | 26      | 343/8         | 2197/27 | 156     | 2401/16       | 15379/54 | 441           | 756     |
| 10 Mass inertia                                    | gcm <sup>2</sup> 14  | 15            | 9.1     | 15            | 9.4     | 9.1     | 15            | 15       | 14            | 14      |
| 3 Max. motor shaft diameter                        | mm 10                | 10            | 8       | 10            | 8       | 8       | 10            | 10       | 10            | 10      |
| <b>Part Numbers</b>                                | <b>203114</b>        | <b>203116</b> | 260552* | 203121        | 203125  | 260553* | 203130        | 203134   | 203138        | 203142  |
| 1 Reduction                                        | 4.3:1                | 15:1          | 36:1    | 53:1          | 91:1    | 216:1   | 186:1         | 319:1    | 488:1         | 936:1   |
| 2 Reduction absolute                               | 13/3                 | 91/6          | 36/1    | 637/12        | 91      | 216/1   | 4459/24       | 637/2    | 4394/9        | 936     |
| 10 Mass inertia                                    | gcm <sup>2</sup> 9.1 | 15            | 5.0     | 15            | 15      | 5.0     | 15            | 15       | 9.4           | 9.1     |
| 3 Max. motor shaft diameter                        | mm 8                 | 10            | 4       | 10            | 10      | 4       | 10            | 10       | 8             | 8       |
| <b>Part Numbers</b>                                | 260551*              | 203117        |         | 203122        | 203126  |         | <b>203131</b> | 203135   | <b>203139</b> | 260554* |
| 1 Reduction                                        | 6:1                  | 19:1          |         | 66:1          | 113:1   |         | 230:1         | 353:1    | 546:1         | 1296:1  |
| 2 Reduction absolute                               | 6/1                  | 169/9         |         | 1183/18       | 338/3   |         | 8281/36       | 28561/81 | 546           | 1296/1  |
| 10 Mass inertia                                    | gcm <sup>2</sup> 4.9 | 9.4           |         | 15            | 9.4     |         | 15            | 9.4      | 14            | 5.0     |
| 3 Max. motor shaft diameter                        | mm 4                 | 8             |         | 10            | 8       |         | 10            | 8        | 10            | 4       |
| <b>Part Numbers</b>                                |                      | 203118        |         | <b>203123</b> | 203127  |         | 203132        | 203136   | 203140        |         |
| 1 Reduction                                        |                      | 21:1          |         | 74:1          | 126:1   |         | 257:1         | 394:1    | 676:1         |         |
| 2 Reduction absolute                               |                      | 21            |         | 147/2         | 126     |         | 1029/4        | 1183/3   | 676           |         |
| 10 Mass inertia                                    | gcm <sup>2</sup>     | 14            |         | 15            | 14      |         | 15            | 15       | 9.1           |         |
| 3 Max. motor shaft diameter                        | mm                   | 10            |         | 10            | 10      |         | 10            | 10       | 8             |         |
| 4 Number of stages                                 | 1                    | 2             | 2       | 3             | 3       | 3       | 4             | 4        | 4             | 4       |
| 5 Max. continuous torque                           | Nm 3.0               | 7.5           | 7.5     | 15.0          | 15.0    | 15.0    | 15.0          | 15.0     | 15.0          | 15.0    |
| 6 Intermittently permissible torque at gear output | Nm 4.5               | 11.3          | 11.3    | 22.5          | 22.5    | 22.5    | 22.5          | 22.5     | 22.5          | 22.5    |
| 7 Max. efficiency                                  | % 90                 | 81            | 81      | 72            | 72      | 72      | 64            | 64       | 64            | 64      |
| 8 Weight                                           | g 260                | 360           | 360     | 460           | 460     | 460     | 560           | 560      | 560           | 560     |
| 9 Average backlash no load                         | ° 0.6                | 0.8           | 0.8     | 1.0           | 1.0     | 1.0     | 1.0           | 1.0      | 1.0           | 1.0     |
| 11 Gearhead length L1                              | mm 41.0              | 55.5          | 55.5    | 70.0          | 70.0    | 70.0    | 84.5          | 84.5     | 84.5          | 84.5    |

\*no combination with EC 45 (150 W and 250 W)

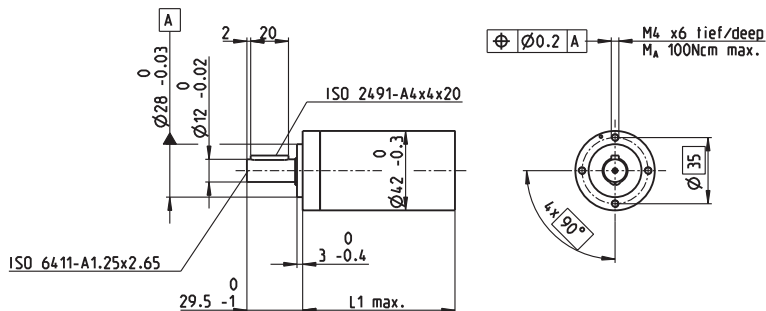


## maxon Modular System

| + Motor      | Page | + Sensor  | Page    | Brake | Page | Overall length [mm] = Motor length + gearhead length + (sensor/brake) + assembly parts |       |       |       |       |       |       |       |       |       |
|--------------|------|-----------|---------|-------|------|----------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| RE 35, 90 W  | 104  |           |         |       |      | 112.1                                                                                  | 126.6 | 126.6 | 141.1 | 141.1 | 141.1 | 155.6 | 155.6 | 155.6 | 155.6 |
| RE 35, 90 W  | 104  | MR        | 303     |       |      | 123.5                                                                                  | 138.0 | 138.0 | 152.5 | 152.5 | 152.5 | 167.0 | 167.0 | 167.0 | 167.0 |
| RE 35, 90 W  | 104  | HED_ 5540 | 305/307 |       |      | 132.8                                                                                  | 147.3 | 147.3 | 161.8 | 161.8 | 161.8 | 176.3 | 176.3 | 176.3 | 176.3 |
| RE 35, 90 W  | 104  | DCT 22    | 315     |       |      | 130.2                                                                                  | 144.7 | 144.7 | 159.2 | 159.2 | 159.2 | 173.7 | 173.7 | 173.7 | 173.7 |
| RE 35, 90 W  | 104  |           |         | AB 28 | 348  | 148.2                                                                                  | 162.7 | 162.7 | 177.2 | 177.2 | 177.2 | 191.7 | 191.7 | 191.7 | 191.7 |
| RE 35, 90 W  | 104  | HED_ 5540 | 305/307 | AB 28 | 348  | 165.4                                                                                  | 179.9 | 179.9 | 194.4 | 194.4 | 194.4 | 208.9 | 208.9 | 208.9 | 208.9 |
| RE 40, 150 W | 105  |           |         |       |      | 112.1                                                                                  | 126.6 | 126.6 | 141.1 | 141.1 | 141.1 | 155.6 | 155.6 | 155.6 | 155.6 |
| RE 40, 150 W | 105  | MR        | 303     |       |      | 123.5                                                                                  | 138.0 | 138.0 | 152.5 | 152.5 | 152.5 | 167.0 | 167.0 | 167.0 | 167.0 |
| RE 40, 150 W | 105  | HED_ 5540 | 305/307 |       |      | 132.8                                                                                  | 147.3 | 147.3 | 161.8 | 161.8 | 161.8 | 176.3 | 176.3 | 176.3 | 176.3 |
| RE 40, 150 W | 105  | HEDL 9140 | 310     |       |      | 166.2                                                                                  | 180.7 | 180.7 | 195.2 | 195.2 | 195.2 | 209.7 | 209.7 | 209.7 | 209.7 |
| RE 40, 150 W | 105  |           |         | AB 28 | 348  | 148.2                                                                                  | 162.7 | 162.7 | 177.2 | 177.2 | 177.2 | 191.7 | 191.7 | 191.7 | 191.7 |
| RE 40, 150 W | 105  |           |         | AB 28 | 349  | 156.2                                                                                  | 170.7 | 170.7 | 185.2 | 185.2 | 185.2 | 199.7 | 199.7 | 199.7 | 199.7 |
| RE 40, 150 W | 105  | HED_ 5540 | 305/307 | AB 28 | 348  | 165.4                                                                                  | 179.9 | 179.9 | 194.4 | 194.4 | 194.4 | 208.9 | 208.9 | 208.9 | 208.9 |
| RE 40, 150 W | 105  | HEDL 9140 | 310     | AB 28 | 349  | 176.7                                                                                  | 191.2 | 191.2 | 205.7 | 205.7 | 205.7 | 220.2 | 220.2 | 220.2 | 220.2 |
| EC 40, 170 W | 181  |           |         |       |      | 121.1                                                                                  | 135.6 | 135.6 | 150.1 | 150.1 | 150.1 | 164.6 | 164.6 | 164.6 | 164.6 |
| EC 40, 170 W | 181  | HED_ 5540 | 306/308 |       |      | 144.5                                                                                  | 159.0 | 159.0 | 175.5 | 175.5 | 175.5 | 188.0 | 188.0 | 188.0 | 188.0 |
| EC 40, 170 W | 181  | Res 26    | 316     |       |      | 148.3                                                                                  | 162.8 | 162.8 | 177.3 | 177.3 | 177.3 | 191.8 | 191.8 | 191.8 | 191.8 |
| EC 40, 170 W | 181  |           |         | AB 32 | 350  | 163.8                                                                                  | 178.3 | 178.3 | 192.8 | 192.8 | 192.8 | 207.3 | 207.3 | 207.3 | 207.3 |
| EC 40, 170 W | 181  | HED_ 5540 | 306/308 | AB 32 | 350  | 187.2                                                                                  | 201.7 | 201.7 | 216.2 | 216.2 | 216.2 | 230.7 | 230.7 | 230.7 | 230.7 |
| EC 45, 150 W | 182  |           |         |       |      | 152.3                                                                                  | 166.8 | 166.8 | 181.3 | 181.3 | 181.3 | 195.8 | 195.8 | 195.8 | 195.8 |
| EC 45, 150 W | 182  | HEDL 9140 | 310     |       |      | 167.9                                                                                  | 182.4 | 182.4 | 196.9 | 196.9 | 196.9 | 211.4 | 211.4 | 211.4 | 211.4 |
| EC 45, 150 W | 182  | Res 26    | 316     |       |      | 152.3                                                                                  | 166.8 | 166.8 | 181.3 | 181.3 | 181.3 | 195.8 | 195.8 | 195.8 | 195.8 |
| EC 45, 150 W | 182  |           |         | AB 28 | 349  | 159.7                                                                                  | 174.2 | 174.2 | 188.7 | 188.7 | 188.7 | 203.2 | 203.2 | 203.2 | 203.2 |
| EC 45, 150 W | 182  | HEDL 9140 | 310     | AB 28 | 349  | 176.7                                                                                  | 191.2 | 191.2 | 205.7 | 205.7 | 205.7 | 220.2 | 220.2 | 220.2 | 220.2 |
| EC 45, 250 W | 183  |           |         |       |      | 185.1                                                                                  | 199.6 | 199.6 | 214.1 | 214.1 | 214.1 | 228.6 | 228.6 | 228.6 | 228.6 |
| EC 45, 250 W | 183  | HEDL 9140 | 310     |       |      | 200.7                                                                                  | 215.2 | 215.2 | 229.7 | 229.7 | 229.7 | 244.2 | 244.2 | 244.2 | 244.2 |
| EC 45, 250 W | 183  | Res 26    | 316     |       |      | 185.1                                                                                  | 199.6 | 199.6 | 214.1 | 214.1 | 214.1 | 228.6 | 228.6 | 228.6 | 228.6 |
| EC 45, 250 W | 183  |           |         | AB 28 | 349  | 192.5                                                                                  | 207.0 | 207.0 | 221.5 | 221.5 | 221.5 | 236.0 | 236.0 | 236.0 | 236.0 |
| EC 45, 250 W | 183  | HEDL 9140 | 310     | AB 28 | 349  | 209.5                                                                                  | 224.0 | 224.0 | 238.5 | 238.5 | 238.5 | 253.0 | 253.0 | 253.0 | 253.0 |

# Planetary Gearhead GP 42 C $\varnothing 42$ mm, 3–15 Nm

Ceramic Version



## Technical Data

|                                       |                                 |
|---------------------------------------|---------------------------------|
| Planetary Gearhead                    | straight teeth                  |
| Output shaft                          | stainless steel                 |
| Bearing at output                     | preloaded ball bearings         |
| Radial play, 12 mm from flange        | max. 0.06 mm                    |
| Axial play at axial load              | < 5 N 0 mm<br>> 5 N max. 0.3 mm |
| Max. permissible axial load           | 150 N                           |
| Max. permissible force for press fits | 300 N                           |
| Sense of rotation, drive to output    | =                               |
| Recommended input speed               | < 8000 rpm                      |
| Recommended temperature range         | -40...+100°C                    |
| Number of stages                      | 1 2 3 4                         |
| Max. radial load, 12 mm from flange   | 120 N 240 N 360 N 360 N         |

M 1:4

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

## Part Numbers

### Gearhead Data

|                                                    | 203113               | 203115        | 203119         | 203120        | 203124        | 203129         | 203128        | 203133        | 203137        | 203141         |
|----------------------------------------------------|----------------------|---------------|----------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|
| 1 Reduction                                        | 3.5:1                | 12:1          | 26:1           | 43:1          | 81:1          | 156:1          | 150:1         | 285:1         | 441:1         | 756:1          |
| 2 Reduction absolute                               | 7/2                  | 49/4          | 26             | 343/8         | 2197/27       | 156            | 2401/16       | 15379/54      | 441           | 756            |
| 10 Mass inertia                                    | gcm <sup>2</sup> 14  | 15            | 9.1            | 15            | 9.4           | 9.1            | 15            | 15            | 14            | 14             |
| 3 Max. motor shaft diameter                        | mm 10                | 10            | 8              | 10            | 8             | 8              | 10            | 10            | 10            | 10             |
| <b>Part Numbers</b>                                | <b>203114</b>        | <b>203116</b> | <b>260552*</b> | <b>203121</b> | <b>203125</b> | <b>260553*</b> | <b>203130</b> | <b>203134</b> | <b>203138</b> | <b>203142</b>  |
| 1 Reduction                                        | 4.3:1                | 15:1          | 36:1           | 53:1          | 91:1          | 216:1          | 186:1         | 319:1         | 488:1         | 936:1          |
| 2 Reduction absolute                               | 13/3                 | 91/6          | 36/1           | 637/12        | 91            | 216/1          | 4459/24       | 637/2         | 4394/9        | 936            |
| 10 Mass inertia                                    | gcm <sup>2</sup> 9.1 | 15            | 5.0            | 15            | 15            | 5.0            | 15            | 15            | 9.4           | 9.1            |
| 3 Max. motor shaft diameter                        | mm 8                 | 10            | 4              | 10            | 10            | 4              | 10            | 10            | 8             | 8              |
| <b>Part Numbers</b>                                | <b>260551*</b>       | <b>203117</b> |                | <b>203122</b> | <b>203126</b> |                | <b>203131</b> | <b>203135</b> | <b>203139</b> | <b>260554*</b> |
| 1 Reduction                                        | 6:1                  | 19:1          |                | 66:1          | 113:1         |                | 230:1         | 353:1         | 546:1         | 1296:1         |
| 2 Reduction absolute                               | 6/1                  | 169/9         |                | 1183/18       | 338/3         |                | 8281/36       | 28561/81      | 546           | 1296/1         |
| 10 Mass inertia                                    | gcm <sup>2</sup> 4.9 | 9.4           |                | 15            | 9.4           |                | 15            | 9.4           | 14            | 5.0            |
| 3 Max. motor shaft diameter                        | mm 4                 | 8             |                | 10            | 8             |                | 10            | 8             | 10            | 4              |
| <b>Part Numbers</b>                                |                      | <b>203118</b> |                | <b>203123</b> | <b>203127</b> |                | <b>203132</b> | <b>203136</b> | <b>203140</b> |                |
| 1 Reduction                                        |                      | 21:1          |                | 74:1          | 126:1         |                | 257:1         | 394:1         | 676:1         |                |
| 2 Reduction absolute                               |                      | 21            |                | 147/2         | 126           |                | 1029/4        | 1183/3        | 676           |                |
| 10 Mass inertia                                    | gcm <sup>2</sup>     | 14            |                | 15            | 14            |                | 15            | 15            | 9.1           |                |
| 3 Max. motor shaft diameter                        | mm                   | 10            |                | 10            | 10            |                | 10            | 10            | 8             |                |
| 4 Number of stages                                 | 1                    | 2             | 2              | 3             | 3             | 3              | 4             | 4             | 4             | 4              |
| 5 Max. continuous torque                           | Nm 3.0               | 7.5           | 7.5            | 15.0          | 15.0          | 15.0           | 15.0          | 15.0          | 15.0          | 15.0           |
| 6 Intermittently permissible torque at gear output | Nm 4.5               | 11.3          | 11.3           | 22.5          | 22.5          | 22.5           | 22.5          | 22.5          | 22.5          | 22.5           |
| 7 Max. efficiency                                  | % 90                 | 81            | 81             | 72            | 72            | 72             | 64            | 64            | 64            | 64             |
| 8 Weight                                           | g 260                | 360           | 360            | 460           | 460           | 460            | 560           | 560           | 560           | 560            |
| 9 Average backlash no load                         | ° 0.6                | 0.8           | 0.8            | 1.0           | 1.0           | 1.0            | 1.0           | 1.0           | 1.0           | 1.0            |
| 11 Gearhead length L1**                            | mm 41.0              | 55.5          | 55.5           | 70.0          | 70.0          | 70.0           | 84.5          | 84.5          | 84.5          | 84.5           |

\*no combination with EC 45 (150 W and 250 W) \*\*for EC 45 flat L1 is -3.5 mm



## maxon Modular System

| + Motor             | Page | + Sensor  | Page | Brake | Page | Overall length [mm] = Motor length + gearhead length + (sensor/brake) + assembly parts |       |       |       |       |
|---------------------|------|-----------|------|-------|------|----------------------------------------------------------------------------------------|-------|-------|-------|-------|
| EC-max 30, 60 W     | 193  |           |      |       |      | 105.1                                                                                  | 119.6 | 119.6 | 134.1 | 134.1 |
| EC-max 30, 60 W     | 193  | MR        | 302  |       |      | 117.3                                                                                  | 131.8 | 131.8 | 146.3 | 146.3 |
| EC-max 30, 60 W     | 193  | HEDL 5540 | 308  |       |      | 125.7                                                                                  | 140.2 | 140.2 | 154.7 | 154.7 |
| EC-max 30, 60 W     | 193  |           |      | AB 20 | 346  | 140.6                                                                                  | 155.1 | 155.1 | 169.6 | 169.6 |
| EC-max 30, 60 W     | 193  | HEDL 5540 | 308  | AB 20 | 346  | 161.4                                                                                  | 175.9 | 175.9 | 190.4 | 190.4 |
| EC-max 40, 70 W     | 194  |           |      |       |      | 99.1                                                                                   | 113.6 | 113.6 | 128.1 | 128.1 |
| EC-max 40, 70 W     | 194  | MR        | 303  |       |      | 115.0                                                                                  | 129.5 | 129.5 | 144.0 | 144.0 |
| EC-max 40, 70 W     | 194  | HEDL 5540 | 308  |       |      | 122.5                                                                                  | 137.0 | 137.0 | 151.5 | 151.5 |
| EC-max 40, 70 W     | 194  |           |      | AB 28 | 347  | 133.4                                                                                  | 147.9 | 147.9 | 162.4 | 162.4 |
| EC-max 40, 70 W     | 194  | HEDL 5540 | 308  | AB 28 | 347  | 151.7                                                                                  | 166.2 | 166.2 | 180.7 | 180.7 |
| EC-4pole 30, 100 W  | 201  |           |      |       |      | 88.1                                                                                   | 102.6 | 102.6 | 117.1 | 117.1 |
| EC-4pole 30, 100 W  | 201  | MR        | 302  |       |      | 100.3                                                                                  | 114.8 | 114.8 | 129.3 | 129.3 |
| EC-4pole 30, 100 W  | 201  | HEDL 5540 | 309  |       |      | 108.7                                                                                  | 123.2 | 123.2 | 137.7 | 137.7 |
| EC-4pole 30, 100 W  | 201  |           |      | AB 20 | 346  | 124.3                                                                                  | 138.8 | 138.8 | 153.3 | 153.3 |
| EC-4pole 30, 100 W  | 201  | HEDL 5540 | 309  | AB 20 | 346  | 145.1                                                                                  | 159.6 | 159.6 | 174.1 | 174.1 |
| EC-4pole 30, 200 W  | 202  |           |      |       |      | 105.1                                                                                  | 119.6 | 119.6 | 134.1 | 134.1 |
| EC-4pole 30, 200 W  | 202  | MR        | 302  |       |      | 117.3                                                                                  | 131.8 | 131.8 | 146.3 | 146.3 |
| EC-4pole 30, 200 W  | 202  | HEDL 5540 | 309  |       |      | 125.7                                                                                  | 140.2 | 140.2 | 154.7 | 154.7 |
| EC-4pole 30, 200 W  | 202  |           |      | AB 20 | 346  | 141.3                                                                                  | 155.8 | 155.8 | 170.3 | 170.3 |
| EC-4pole 30, 200 W  | 202  | HEDL 5540 | 309  | AB 20 | 346  | 162.1                                                                                  | 176.6 | 176.6 | 191.1 | 191.1 |
| EC 45 flat, 30 W    | 219  |           |      |       |      | 53.9                                                                                   | 68.4  | 68.4  | 82.9  | 82.9  |
| EC 45 flat, 50 W    | 220  |           |      |       |      | 58.8                                                                                   | 73.3  | 73.3  | 87.8  | 87.8  |
| EC 45 fl, 70 W      | 221  |           |      |       |      | 64.2                                                                                   | 78.7  | 78.7  | 93.2  | 93.2  |
| EC 45 fl, IE, IP 00 | 222  |           |      |       |      | 72.7                                                                                   | 87.2  | 87.2  | 101.7 | 101.7 |
| EC 45 fl, IE, IP 40 | 222  |           |      |       |      | 74.9                                                                                   | 89.4  | 89.4  | 103.9 | 103.9 |
| EC 45 fl, IE, IP 00 | 223  |           |      |       |      | 77.7                                                                                   | 92.2  | 92.2  | 106.7 | 106.7 |
| EC 45 fl, IE, IP 40 | 223  |           |      |       |      | 79.9                                                                                   | 94.4  | 94.4  | 108.9 | 108.9 |
| MCD EPOS, 60 W      | 343  |           |      |       |      | 161.1                                                                                  | 175.6 | 175.6 | 190.1 | 190.1 |
| MCD EPOS P, 60 W    | 343  |           |      |       |      | 161.1                                                                                  | 175.6 | 175.6 | 190.1 | 190.1 |