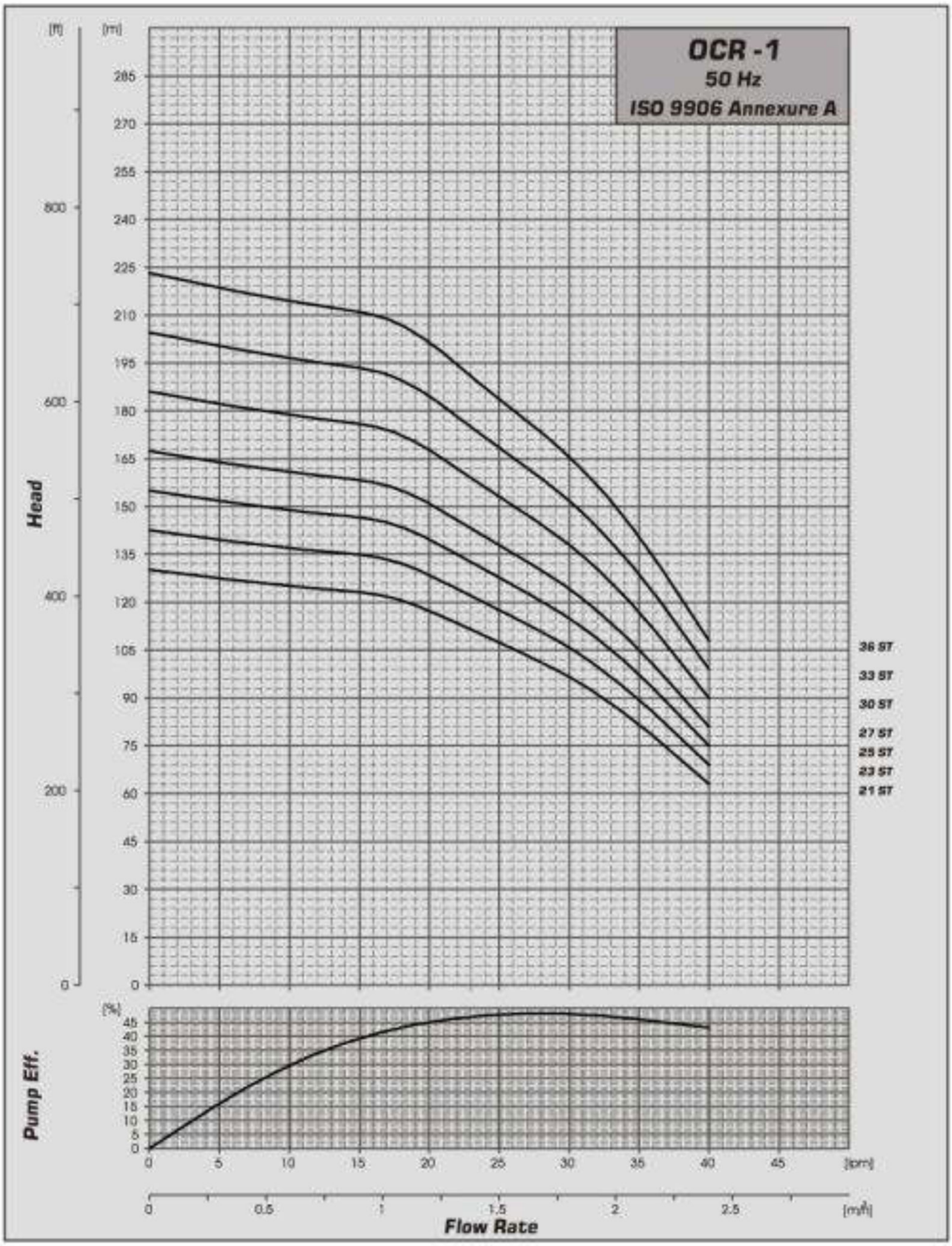
# OSWAL

## Vertical Multistage Centrifugal Pumps

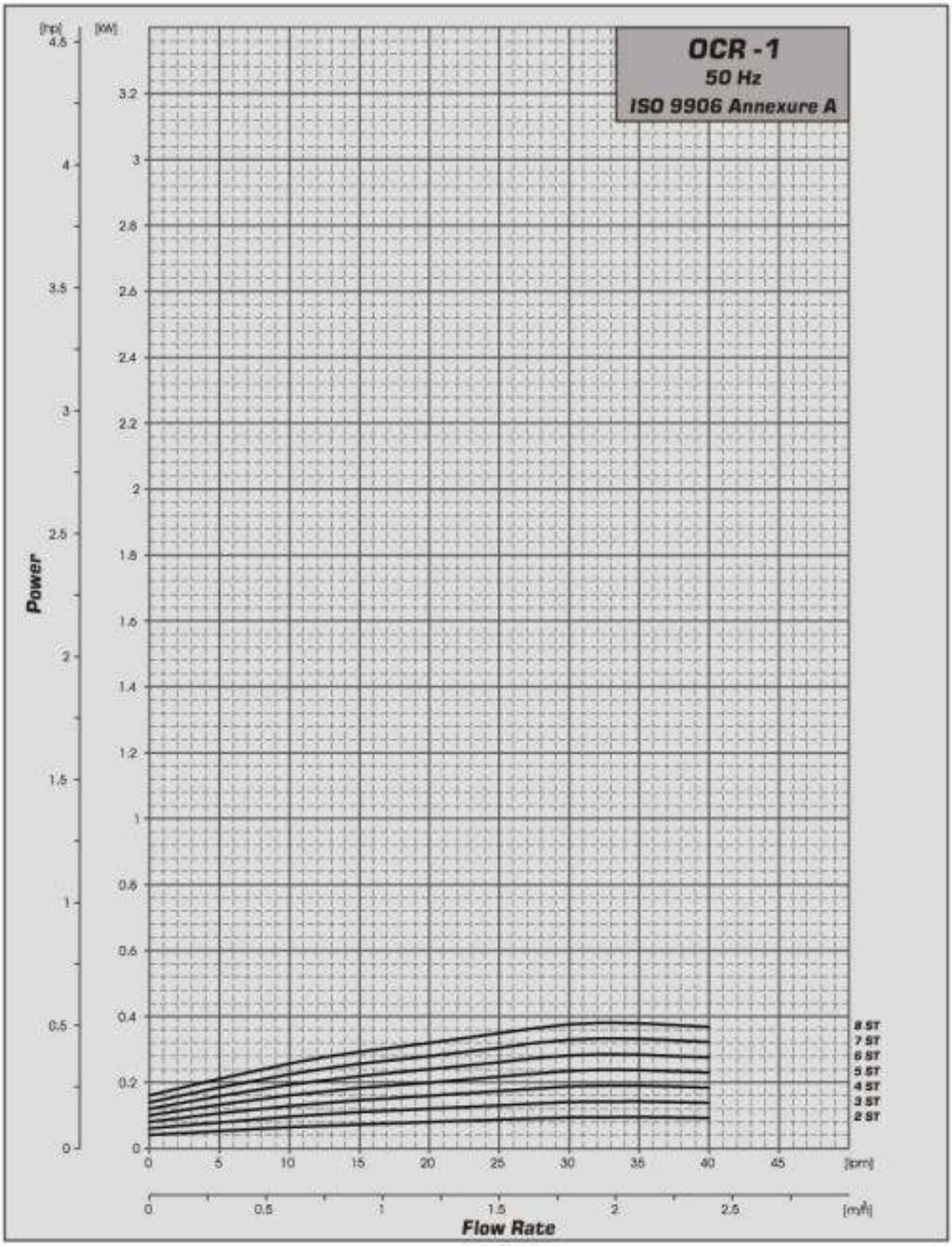

An ISO 9001, 14001 Certified Company

Energy Efficient Range....

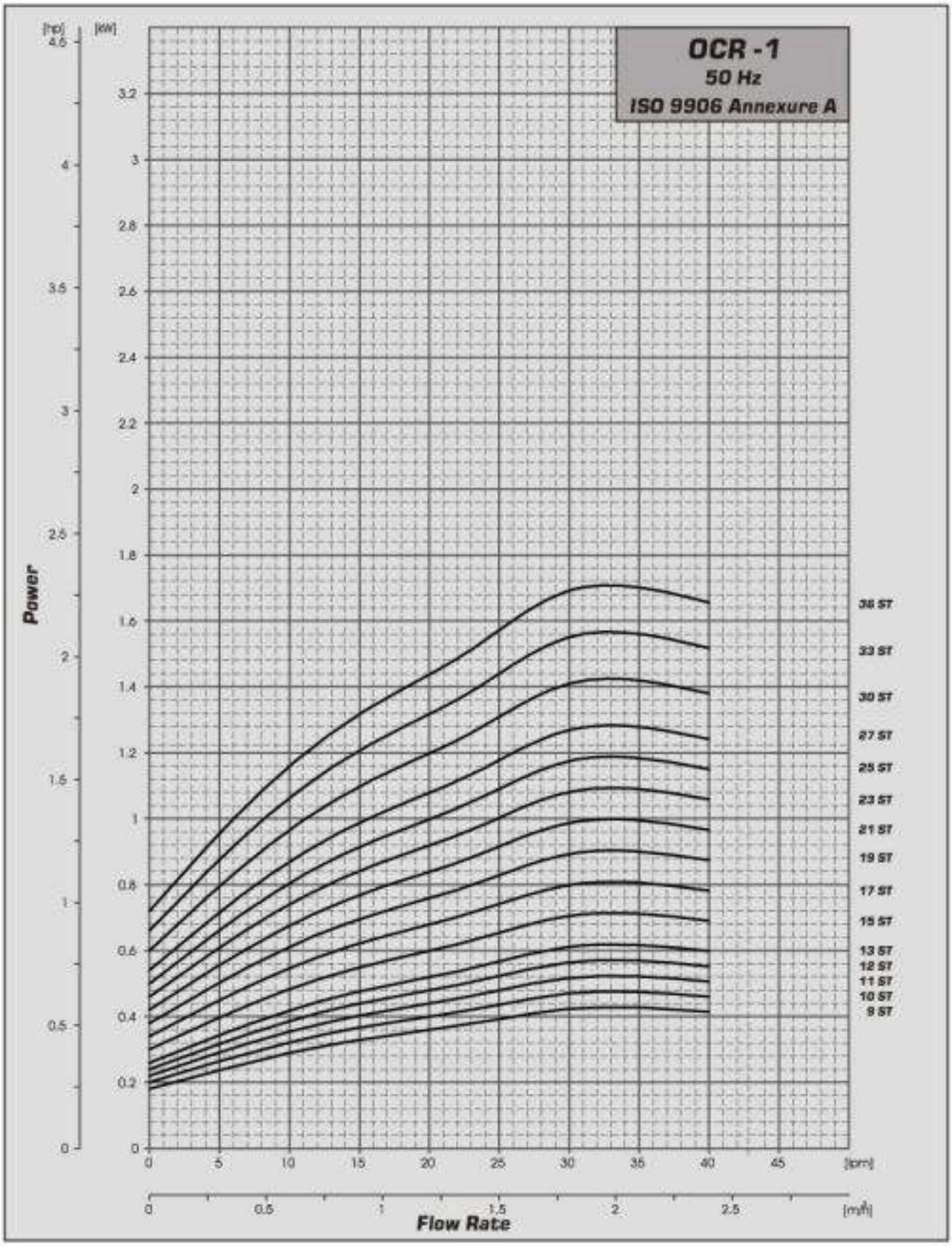
# Performance Curves



# Power Curves



# Power Curves



# Performance Table

**OCR -1**

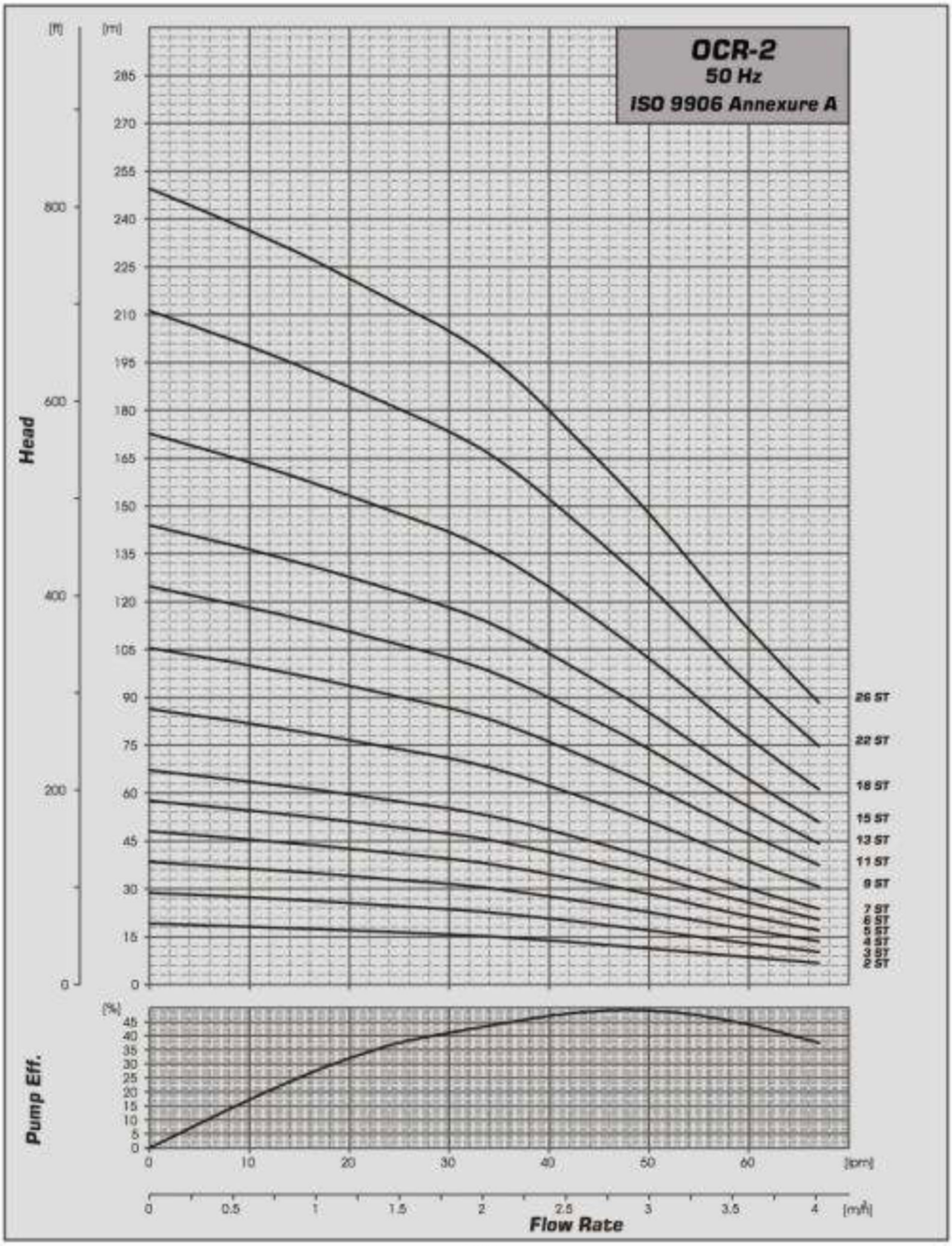
| MODEL | K.W. | H.P. | Stage | Amp. | Discharge | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | $M^3/H$ | 0 | 0.8 | 1 | 1.2 | 1.4 | 1.6 | 1.8 | 2 |
| | | | | | LPM | 0 | 13 | 17 | 20 | 23 | 27 | 30 | 33 |
| OCR 1 | 0.37 | 0.5 | 2 | 1 | (HEAD (METERS) | 12 | 12 | 12 | 11 | 11 | 10 | 9 | 8 |
| OCR 1 | 0.37 | 0.5 | 3 | 1 | | 19 | 18 | 17 | 17 | 16 | 15 | 14 | 12 |
| OCR 1 | 0.37 | 0.5 | 4 | 1 | | 25 | 24 | 23 | 22 | 21 | 20 | 18 | 16 |
| OCR 1 | 0.37 | 0.5 | 5 | 1 | | 31 | 30 | 29 | 28 | 27 | 25 | 23 | 21 |
| OCR 1 | 0.37 | 0.5 | 6 | 1 | | 37 | 35 | 35 | 34 | 32 | 30 | 28 | 25 |
| OCR 1 | 0.37 | 0.5 | 7 | 1 | | 43 | 41 | 41 | 39 | 37 | 35 | 32 | 29 |
| OCR 1 | 0.55 | 0.75 | 8 | 1.5 | | 50 | 47 | 46 | 45 | 42 | 40 | 37 | 33 |
| OCR 1 | 0.55 | 0.75 | 9 | 1.5 | | 56 | 53 | 52 | 50 | 48 | 45 | 41 | 37 |
| OCR 1 | 0.55 | 0.75 | 10 | 1.5 | | 62 | 59 | 58 | 56 | 53 | 50 | 46 | 41 |
| OCR 1 | 0.55 | 0.75 | 11 | 1.5 | | 68 | 65 | 64 | 62 | 58 | 55 | 51 | 45 |
| OCR 1 | 0.75 | 1 | 12 | 1.9 | | 74 | 71 | 70 | 67 | 64 | 60 | 55 | 49 |
| OCR 1 | 0.75 | 1 | 13 | 1.9 | | 81 | 77 | 75 | 73 | 69 | 65 | 60 | 53 |
| OCR 1 | 0.75 | 1 | 15 | 1.9 | | 93 | 89 | 87 | 84 | 80 | 75 | 69 | 62 |
| OCR 1 | 1.1 | 1.5 | 17 | 2.7 | | 105 | 100 | 99 | 95 | 90 | 85 | 78 | 70 |
| OCR 1 | 1.1 | 1.5 | 19 | 2.7 | | 118 | 112 | 110 | 106 | 101 | 95 | 87 | 78 |
| OCR 1 | 1.1 | 1.5 | 21 | 2.7 | | 130 | 124 | 122 | 118 | 111 | 105 | 97 | 86 |
| OCR 1 | 1.1 | 1.5 | 23 | 2.7 | | 143 | 136 | 133 | 129 | 122 | 115 | 106 | 94 |
| OCR 1 | 1.5 | 2 | 25 | 3.4 | | 155 | 148 | 145 | 140 | 133 | 125 | 115 | 103 |
| OCR 1 | 1.5 | 2 | 27 | 3.4 | | 167 | 159 | 157 | 151 | 143 | 135 | 124 | 111 |
| OCR 1 | 1.5 | 2 | 30 | 3.4 | | 186 | 177 | 174 | 168 | 159 | 150 | 138 | 123 |
| OCR 1 | 2.2 | 3 | 33 | 4.8 | | 205 | 195 | 191 | 185 | 175 | 165 | 152 | 135 |
| OCR 1 | 2.2 | 3 | 36 | 4.8 | | 223 | 212 | 209 | 202 | 191 | 180 | 166 | 148 |

# Dimension and Weight

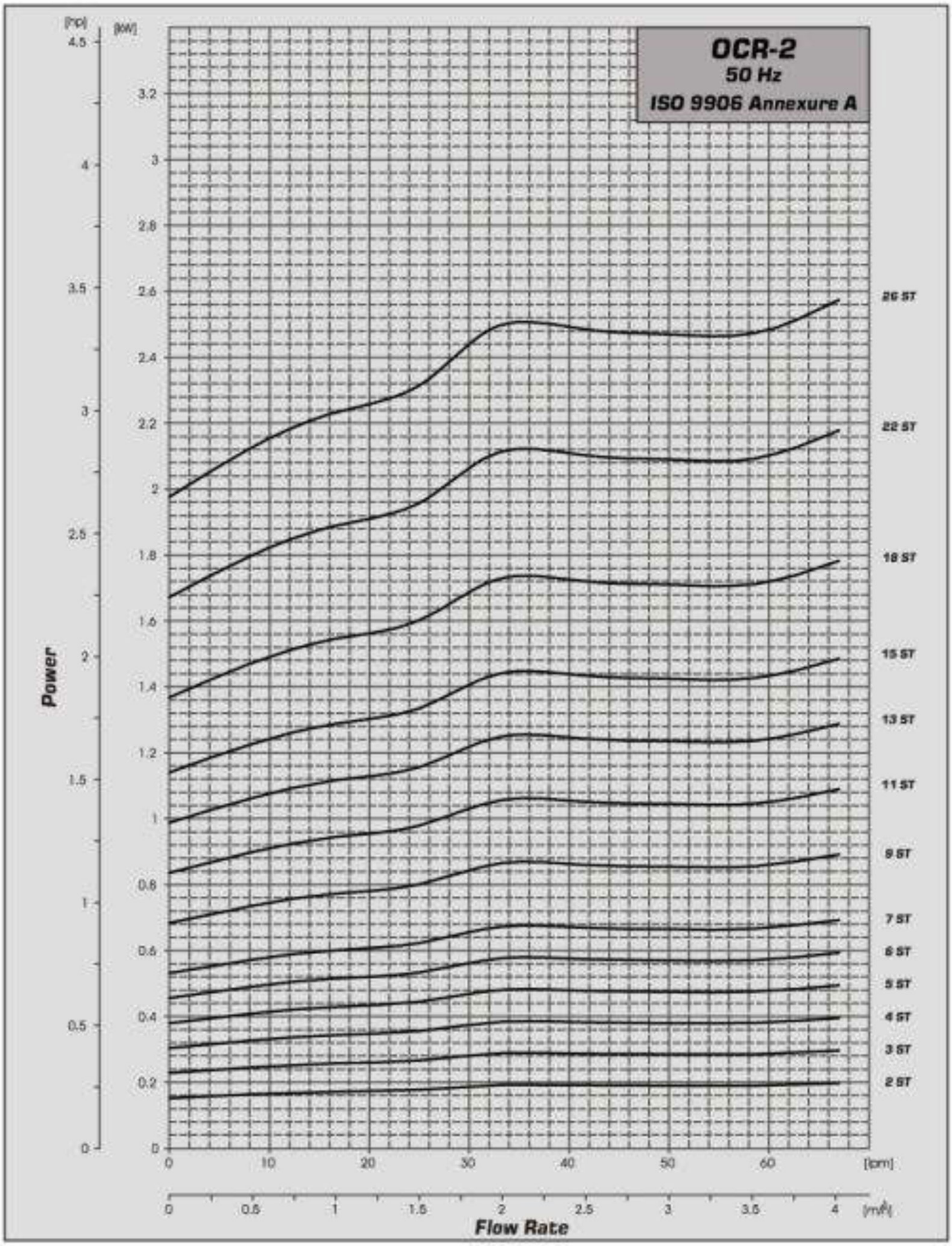
**OCR - 1**

| MODEL | H.P. | Stage | Size in mm | | | | | Weight |
|---|---|---|---|---|---|---|---|---|
| | | | B1 | B2 | D1 | D2 | D3 | Kg |
| OCR 1 | 0.5 | 2 | 279 | 219 | 134 | 103 | ..... | 28.6 |
| OCR 1 | 0.5 | 3 | 279 | 219 | 134 | 103 | ..... | 29 |
| OCR 1 | 0.5 | 4 | 297 | 219 | 134 | 103 | ..... | 29.5 |
| OCR 1 | 0.5 | 5 | 315 | 219 | 134 | 103 | ..... | 30.0 |
| OCR 1 | 0.5 | 6 | 333 | 219 | 134 | 103 | ..... | 30.4 |
| OCR 1 | 0.5 | 7 | 351 | 219 | 134 | 103 | ..... | 30.9 |
| OCR 1 | 0.75 | 8 | 369 | 239 | 134 | 103 | ..... | 32.3 |
| OCR 1 | 0.75 | 9 | 387 | 239 | 134 | 103 | ..... | 32.8 |
| OCR 1 | 0.75 | 10 | 405 | 239 | 134 | 103 | ..... | 33.2 |
| OCR 1 | 0.75 | 11 | 423 | 239 | 134 | 103 | ..... | 33.7 |
| OCR 1 | 1 | 12 | 447 | 255 | 138 | 115 | ..... | 41.2 |
| OCR 1 | 1 | 13 | 465 | 255 | 138 | 115 | ..... | 41.7 |
| OCR 1 | 1 | 15 | 501 | 255 | 138 | 115 | ..... | 42.6 |
| OCR 1 | 1.5 | 17 | 537 | 255 | 138 | 115 | ..... | 47 |
| OCR 1 | 1.5 | 19 | 573 | 255 | 138 | 115 | ..... | 48 |
| OCR 1 | 1.5 | 21 | 609 | 255 | 138 | 115 | ..... | 48.9 |
| OCR 1 | 1.5 | 23 | 645 | 255 | 138 | 115 | ..... | 49.8 |
| OCR 1 | 2 | 25 | 697 | 300 | 156 | 124 | ..... | 53 |
| OCR 1 | 2 | 27 | 733 | 300 | 156 | 124 | ..... | 53.9 |
| OCR 1 | 2 | 30 | 787 | 300 | 156 | 124 | ..... | 55.2 |
| OCR 1 | 3 | 33 | 841 | 335 | 156 | 124 | ..... | 64.3 |
| OCR 1 | 3 | 36 | 895 | 335 | 156 | 124 | ..... | 65.6 |

# Performance Curves



# Power Curves



## Performance Table

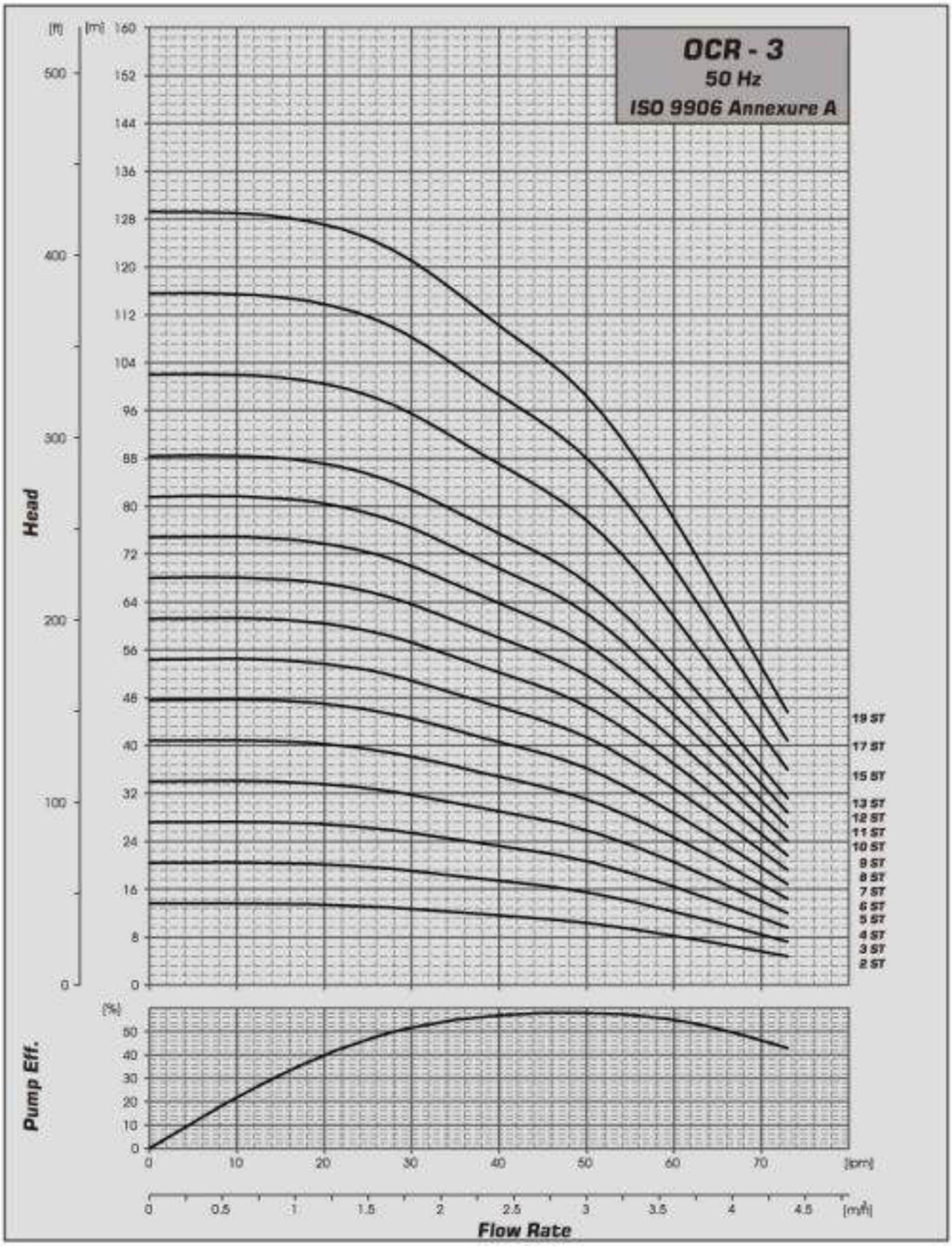
**OCR - 2**

| MODEL | K.W. | H.P. | Stage | Amp. 3Ph. | Discharge | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | $M^3/H$ | 0 | 1 | 1.5 | 2 | 2.5 | 3 | 3.5 | 4 |
| | | | | | (LPM) | 0 | 17 | 25 | 33 | 42 | 50 | 58 | 67 |
| OCR 2 | 0.37 | 0.5 | 2 | 1 | (HEAD (METERS) | 19 | 17 | 16 | 15 | 13 | 11 | 10 | 6 |
| OCR 2 | 0.37 | 0.5 | 3 | 1 | | 29 | 26 | 25 | 23 | 21 | 18 | 14 | 10 |
| OCR 2 | 0.55 | 0.75 | 4 | 1.5 | | 38 | 35 | 33 | 31 | 29 | 25 | 18 | 14 |
| OCR 2 | 0.55 | 0.75 | 5 | 1.5 | | 48 | 44 | 41 | 38 | 35 | 30 | 23 | 17 |
| OCR 2 | 0.75 | 1 | 6 | 1.9 | | 58 | 52 | 49 | 46 | 42 | 36 | 27 | 20 |
| OCR 2 | 0.75 | 1 | 7 | 1.9 | | 67 | 61 | 57 | 54 | 49 | 40 | 32 | 24 |
| OCR 2 | 1.1 | 1.5 | 9 | 2.7 | | 86 | 78 | 74 | 69 | 61 | 51 | 41 | 31 |
| OCR 2 | 1.1 | 1.5 | 11 | 2.7 | | 106 | 96 | 90 | 84 | 73 | 62 | 50 | 37 |
| OCR 2 | 1.5 | 2 | 13 | 3.4 | | 125 | 113 | 107 | 99 | 87 | 74 | 59 | 44 |
| OCR 2 | 1.5 | 2 | 15 | 3.4 | | 144 | 131 | 123 | 115 | 100 | 85 | 68 | 51 |
| OCR 2 | 2.2 | 3 | 18 | 4.8 | | 173 | 157 | 148 | 138 | 120 | 102 | 82 | 61 |
| OCR 2 | 2.2 | 3 | 22 | 4.8 | | 211 | 191 | 180 | 168 | 147 | 125 | 100 | 75 |
| OCR 2 | 3 | 4 | 26 | 6.4 | | 250 | 226 | 213 | 199 | 174 | 148 | 118 | 88 |

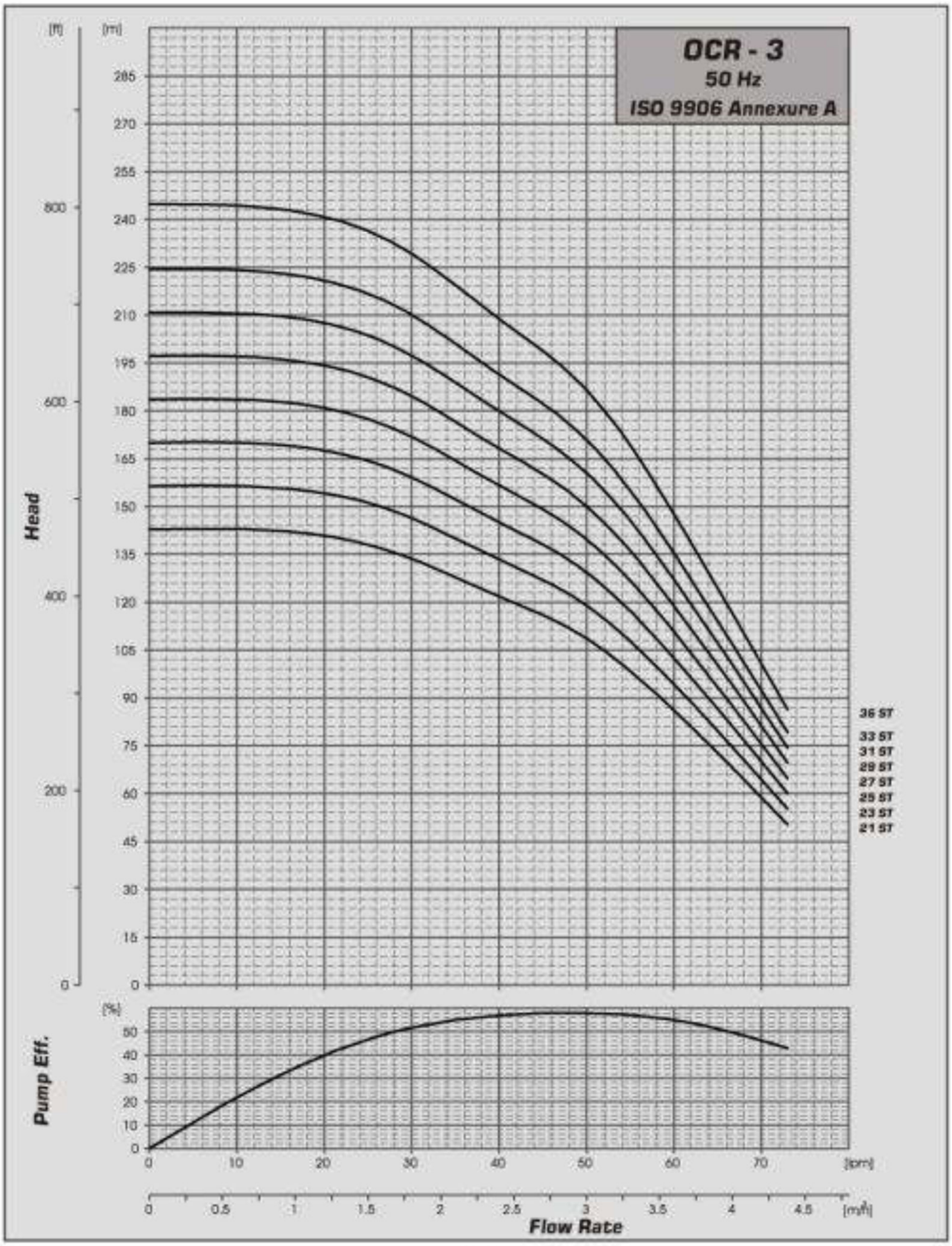
## Dimension and Weight

| MODEL | H.P. | Stage | Size in mm | | | | | Weight |
|---|---|---|---|---|---|---|---|---|
| | | | B1 | B2 | D1 | D2 | D3 | Kg |
| OCR 2 | 0.5 | 2 | 279 | 219 | 134 | 103 | ..... | 28.6 |
| OCR 2 | 0.5 | 3 | 279 | 219 | 134 | 103 | ..... | 29 |
| OCR 2 | 0.75 | 4 | 297 | 2369 | 134 | 103 | ..... | 30.5 |
| OCR 2 | 0.75 | 5 | 315 | 239 | 134 | 103 | ..... | 31 |
| OCR 2 | 1 | 6 | 333 | 255 | 138 | 115 | ..... | 38.5 |
| OCR 2 | 1 | 7 | 351 | 255 | 138 | 115 | ..... | 39 |
| OCR 2 | 1.5 | 9 | 393 | 255 | 138 | 115 | ..... | 43.5 |
| OCR 2 | 1.5 | 11 | 429 | 255 | 138 | 115 | ..... | 44.5 |
| OCR 2 | 2 | 13 | 465 | 300 | 156 | 124 | ..... | 47.5 |
| OCR 2 | 2 | 15 | 501 | 300 | 156 | 124 | ..... | 48.5 |
| OCR 2 | 3 | 18 | 571 | 335 | 156 | 124 | ..... | 57.5 |
| OCR 2 | 3 | 22 | 643 | 335 | 156 | 124 | ..... | 59.5 |
| OCR 2 | 4 | 26 | 715 | 315 | 194 | 143 | ..... | 62.5 |

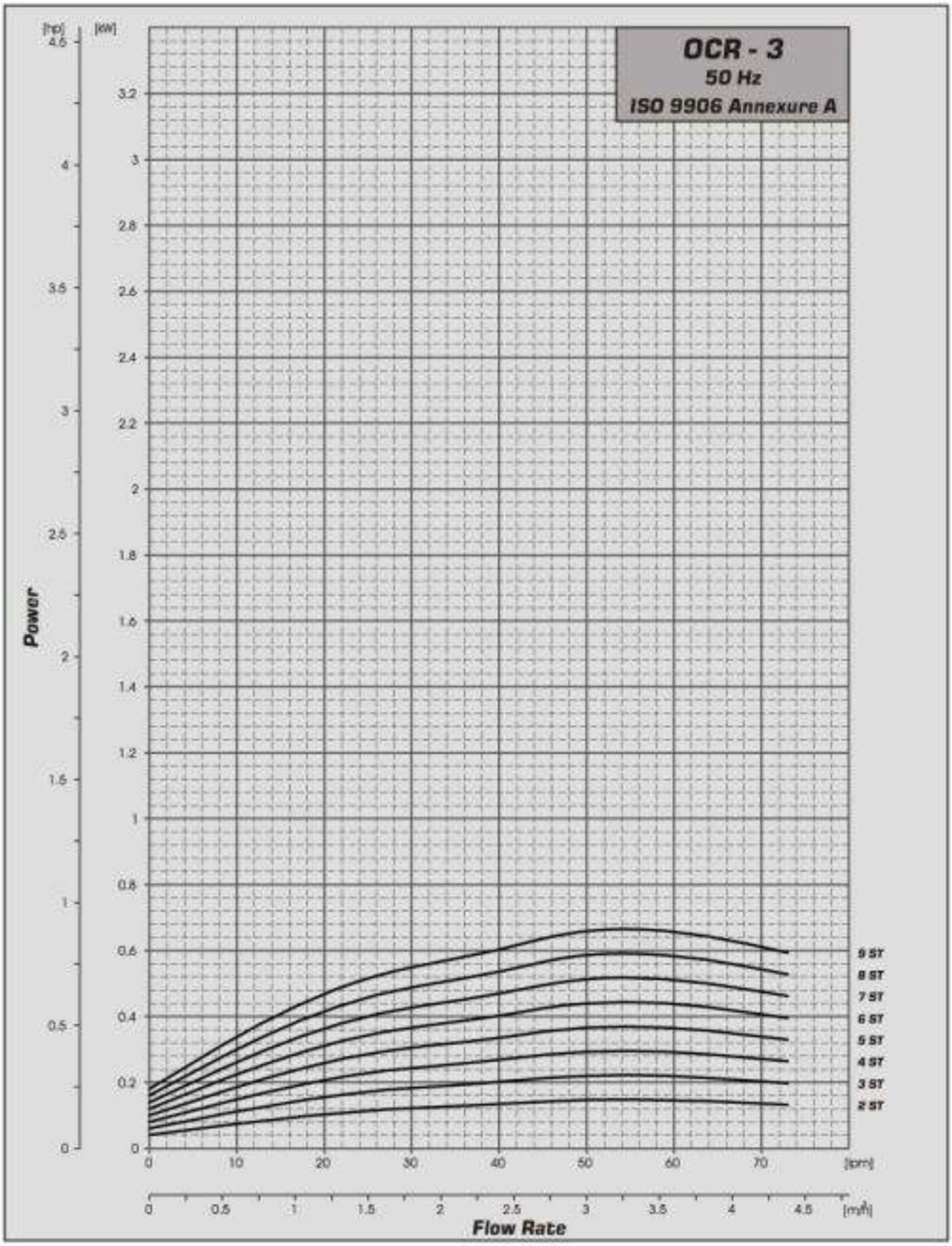
# Performance Curves



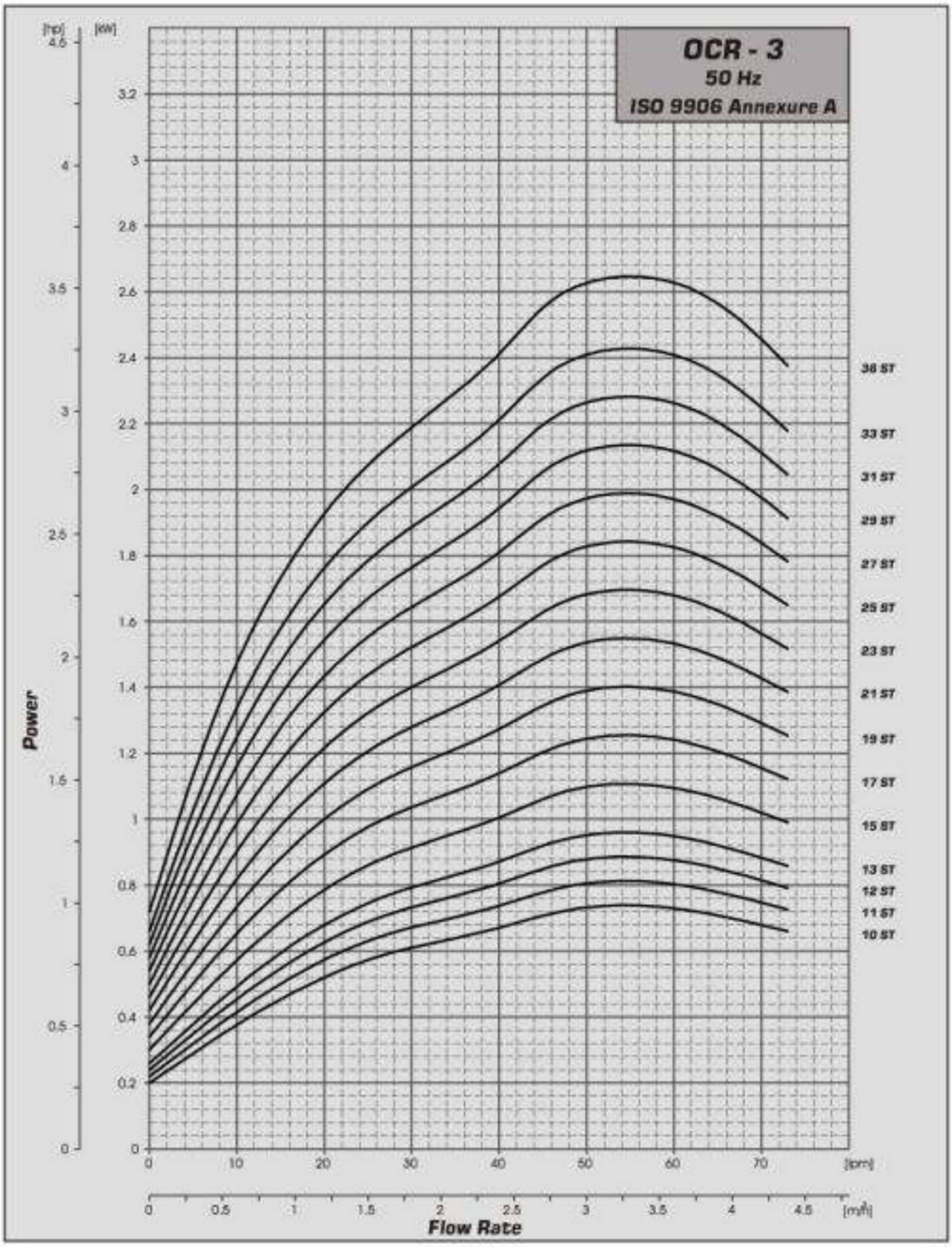
# Performance Curves



# Power Curves



# Power Curves



# Performance Table

**OCR - 3**

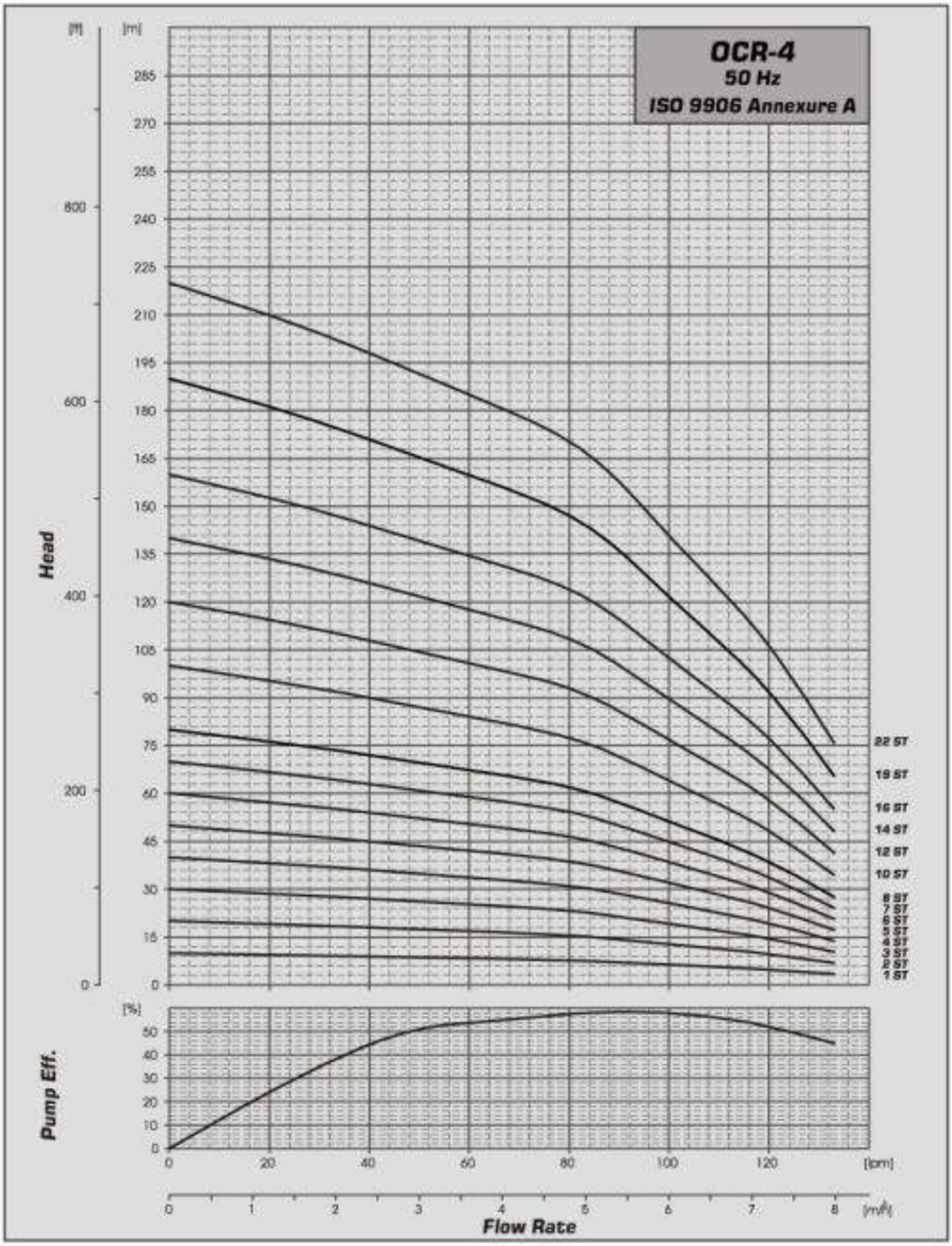
| MODEL | K.W. | H.P. | Stage | Amp. | Discharge | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | $M^3/H$ | 0 | 1.6 | 2 | 2.4 | 2.8 | 3.2 | 3.6 | 4 |
| | | | | | LPM | 0 | 27 | 33 | 40 | 47 | 53 | 60 | 67 |
| OCR 3 | 0.37 | 0.5 | 2 | 1 | (HEAD (METERS) | 14 | 13 | 13 | 12 | 11 | 10 | 8 | 7 |
| OCR 3 | 0.37 | 0.5 | 3 | 1 | | 20 | 19 | 19 | 17 | 16 | 14 | 12 | 10 |
| OCR 3 | 0.37 | 0.5 | 4 | 1 | | 27 | 26 | 25 | 23 | 22 | 19 | 16 | 14 |
| OCR 3 | 0.37 | 0.5 | 5 | 1 | | 34 | 33 | 32 | 29 | 27 | 24 | 21 | 17 |
| OCR 3 | 0.55 | 0.75 | 6 | 1.5 | | 41 | 39 | 38 | 35 | 32 | 29 | 25 | 20 |
| OCR 3 | 0.55 | 0.75 | 7 | 1.5 | | 48 | 46 | 44 | 41 | 38 | 34 | 29 | 24 |
| OCR 3 | 0.75 | 1 | 8 | 1.9 | | 54 | 52 | 50 | 46 | 43 | 38 | 33 | 27 |
| OCR 3 | 0.75 | 1 | 9 | 1.9 | | 61 | 59 | 57 | 52 | 49 | 43 | 37 | 31 |
| OCR 3 | 0.75 | 1 | 10 | 1.9 | | 68 | 65 | 63 | 58 | 54 | 48 | 41 | 34 |
| OCR 3 | 1.1 | 1.5 | 11 | 2.7 | | 75 | 72 | 69 | 64 | 59 | 53 | 45 | 37 |
| OCR 3 | 1.1 | 1.5 | 12 | 2.7 | | 82 | 78 | 76 | 70 | 65 | 58 | 49 | 41 |
| OCR 3 | 1.1 | 1.5 | 13 | 2.7 | | 88 | 85 | 82 | 75 | 70 | 62 | 53 | 44 |
| OCR 3 | 1.1 | 1.5 | 15 | 2.7 | | 102 | 98 | 95 | 87 | 81 | 72 | 62 | 51 |
| OCR 3 | 1.5 | 2 | 17 | 3.4 | | 116 | 111 | 107 | 99 | 92 | 82 | 70 | 58 |
| OCR 3 | 1.5 | 2 | 19 | 3.4 | | 129 | 124 | 120 | 110 | 103 | 91 | 78 | 65 |
| OCR 3 | 2.2 | 3 | 21 | 4.8 | | 143 | 137 | 132 | 122 | 113 | 101 | 86 | 71 |
| OCR 3 | 2.2 | 3 | 23 | 4.8 | | 156 | 150 | 145 | 133 | 124 | 110 | 94 | 78 |
| OCR 3 | 2.2 | 3 | 25 | 4.8 | | 170 | 163 | 158 | 145 | 135 | 120 | 103 | 85 |
| OCR 3 | 2.2 | 3 | 27 | 4.8 | | 184 | 176 | 170 | 157 | 146 | 130 | 111 | 92 |
| OCR 3 | 2.2 | 3 | 29 | 4.8 | | 197 | 189 | 183 | 168 | 157 | 139 | 119 | 99 |
| OCR 3 | 3 | 4 | 31 | 6.4 | | 211 | 202 | 195 | 180 | 167 | 149 | 127 | 105 |
| OCR 3 | 3 | 4 | 33 | 6.4 | | 224 | 215 | 208 | 191 | 178 | 158 | 135 | 112 |
| OCR 3 | 3 | 4 | 36 | 6.4 | | 245 | 234 | 227 | 209 | 194 | 173 | 148 | 122 |

# Dimension and Weight

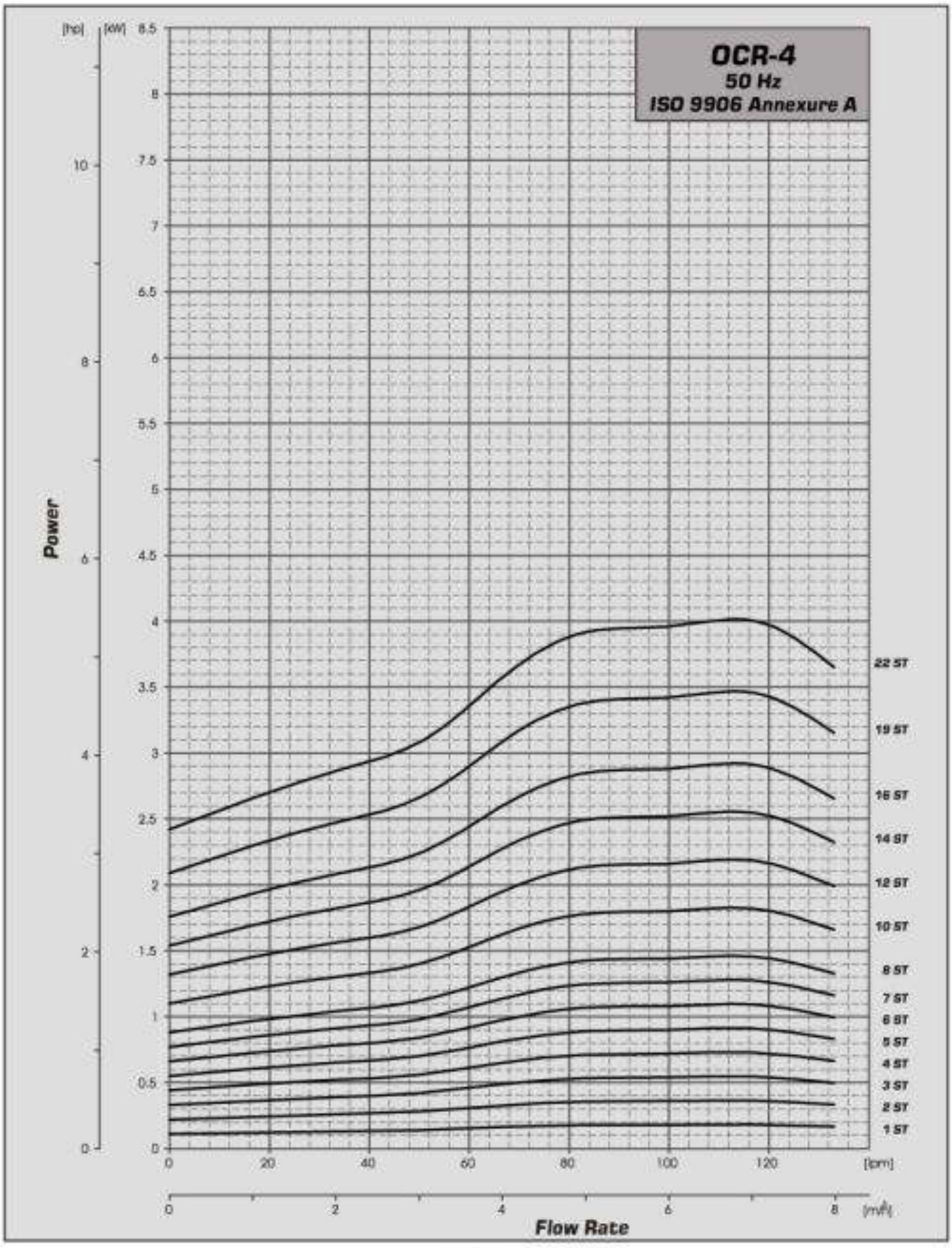
**OCR - 3**

| MODEL | H.P. | Stage | Size in mm | | | | | Weight |
|---|---|---|---|---|---|---|---|---|
| | | | B1 | B2 | D1 | D2 | D3 | Kg |
| OCR 3 | 0.5 | 2 | 279 | 219 | 134 | 103 | ..... | 28.6 |
| OCR 3 | 0.5 | 3 | 279 | 219 | 134 | 103 | ..... | 29.1 |
| OCR 3 | 0.5 | 4 | 297 | 219 | 134 | 103 | ..... | 29.5 |
| OCR 3 | 0.5 | 5 | 315 | 219 | 134 | 103 | ..... | 30.0 |
| OCR 3 | 0.75 | 6 | 333 | 239 | 134 | 103 | ..... | 31.5 |
| OCR 3 | 0.75 | 7 | 351 | 239 | 134 | 103 | ..... | 31.9 |
| OCR 3 | 1 | 8 | 375 | 255 | 138 | 115 | ..... | 39.4 |
| OCR 3 | 1 | 9 | 393 | 255 | 138 | 115 | ..... | 39.9 |
| OCR 3 | 1 | 10 | 411 | 255 | 138 | 115 | ..... | 40.3 |
| OCR 3 | 1.5 | 11 | 429 | 255 | 138 | 115 | ..... | 44.4 |
| OCR 3 | 1.5 | 12 | 447 | 255 | 138 | 115 | ..... | 44.8 |
| OCR 3 | 1.5 | 13 | 465 | 255 | 138 | 115 | ..... | 45.3 |
| OCR 3 | 1.5 | 15 | 501 | 255 | 138 | 115 | ..... | 46.2 |
| OCR 3 | 2 | 17 | 553 | 300 | 156 | 124 | ..... | 49.4 |
| OCR 3 | 2 | 19 | 589 | 300 | 156 | 124 | ..... | 50.3 |
| OCR 3 | 3 | 21 | 625 | 335 | 156 | 124 | ..... | 58.9 |
| OCR 3 | 3 | 23 | 661 | 335 | 156 | 124 | ..... | 59.8 |
| OCR 3 | 3 | 25 | 697 | 335 | 156 | 124 | ..... | 60.7 |
| OCR 3 | 3 | 27 | 733 | 335 | 156 | 124 | ..... | 61.6 |
| OCR 3 | 3 | 29 | 769 | 335 | 156 | 124 | ..... | 62.5 |
| OCR 3 | 4 | 31 | 809 | 315 | 194 | 143 | ..... | 64.4 |
| OCR 3 | 4 | 33 | 845 | 315 | 194 | 143 | ..... | 65.3 |
| OCR 3 | 4 | 36 | 899 | 315 | 194 | 143 | ..... | 66.6 |

# Performance Curves



# Power Curves



# Performance Table

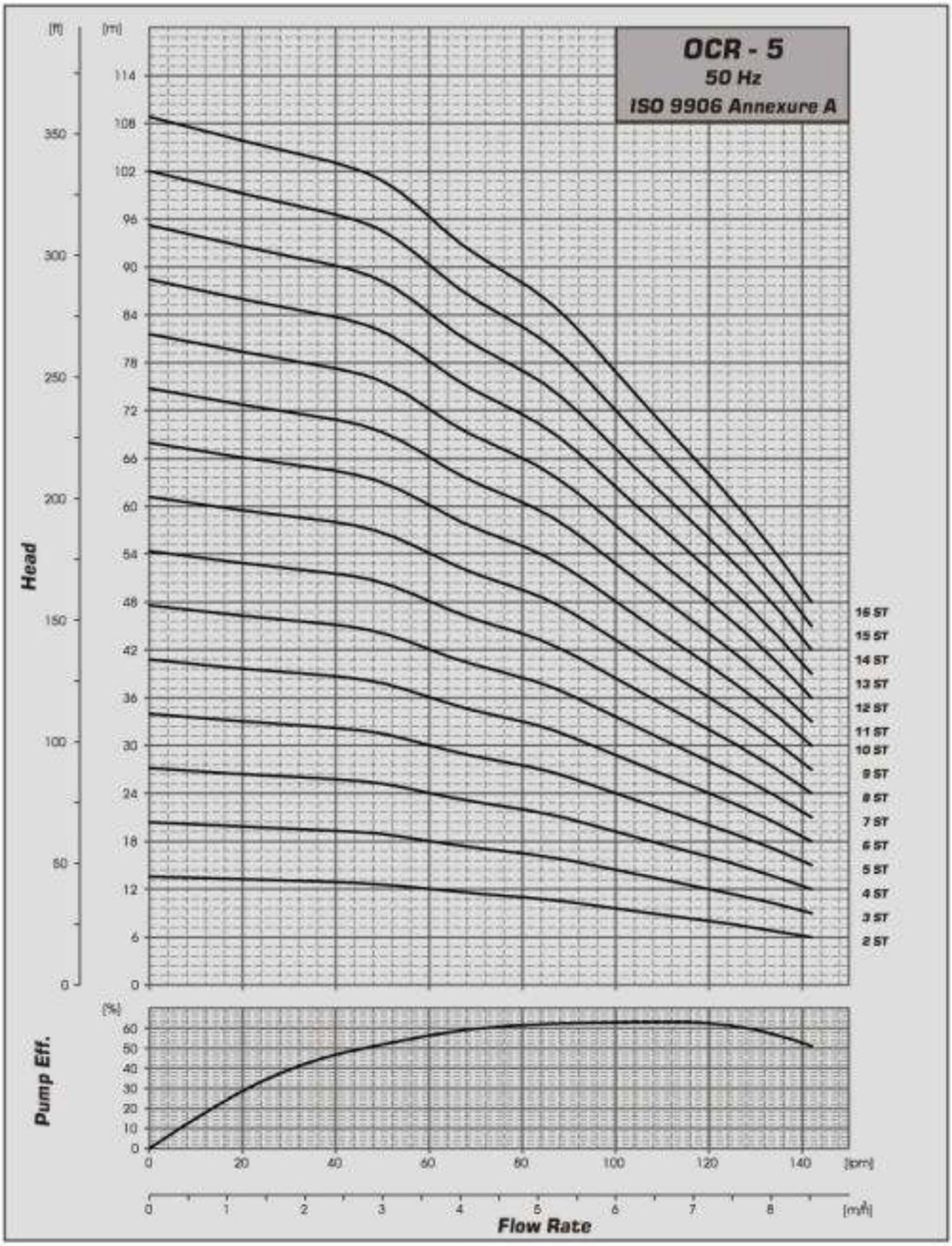
**OCR - 4**

| MODEL | K.W. | H.P. | Stage | Amp. 3Ph. | Discharge | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | $M^3/H$ | 0 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | | | | | LPM | 0 | 33 | 50 | 67 | 83 | 100 | 117 | 133 |
| OCR 4 | 0.37 | 0.5 | 1 | 1 | (HEAD (METERS) | 10 | 9 | 8.0 | 7.5 | 7 | 6 | 4 | 3 |
| OCR 4 | 0.37 | 0.5 | 2 | 1 | | 20 | 18 | 17 | 16 | 14 | 12 | 9 | 6 |
| OCR 4 | 0.55 | 0.75 | 3 | 1.5 | | 30 | 28 | 26 | 25 | 23 | 19 | 14 | 9 |
| OCR 4 | 0.75 | 1 | 4 | 1.9 | | 40 | 37 | 35 | 33 | 30 | 26 | 20 | 10 |
| OCR 4 | 1.1 | 1.5 | 5 | 2.7 | | 50 | 46 | 44 | 41 | 38 | 32 | 26 | 17 |
| OCR 4 | 1.1 | 1.5 | 6 | 2.7 | | 60 | 55 | 52 | 49 | 46 | 38 | 31 | 21 |
| OCR 4 | 1.5 | 2 | 7 | 3.4 | | 70 | 64 | 61 | 57 | 53 | 45 | 36 | 24 |
| OCR 4 | 1.5 | 2 | 8 | 3.4 | | 80 | 74 | 70 | 66 | 61 | 51 | 41 | 28 |
| OCR 4 | 2.2 | 3 | 10 | 4.8 | | 100 | 92 | 87 | 82 | 76 | 64 | 51 | 35 |
| OCR 4 | 2.2 | 3 | 12 | 4.8 | | 120 | 110 | 104 | 98 | 91 | 77 | 61 | 41 |
| OCR 4 | 3 | 4 | 14 | 6.4 | | 140 | 129 | 122 | 115 | 106 | 90 | 71 | 48 |
| OCR 4 | 3 | 4 | 16 | 6.4 | | 160 | 147 | 139 | 131 | 122 | 102 | 82 | 55 |
| OCR 4 | 3.7 | 5 | 19 | 8 | | 190 | 175 | 165 | 156 | 144 | 122 | 97 | 66 |
| OCR 4 | 4.5 | 6 | 22 | 9 | | 220 | 202 | 191 | 180 | 167 | 141 | 112 | 76 |

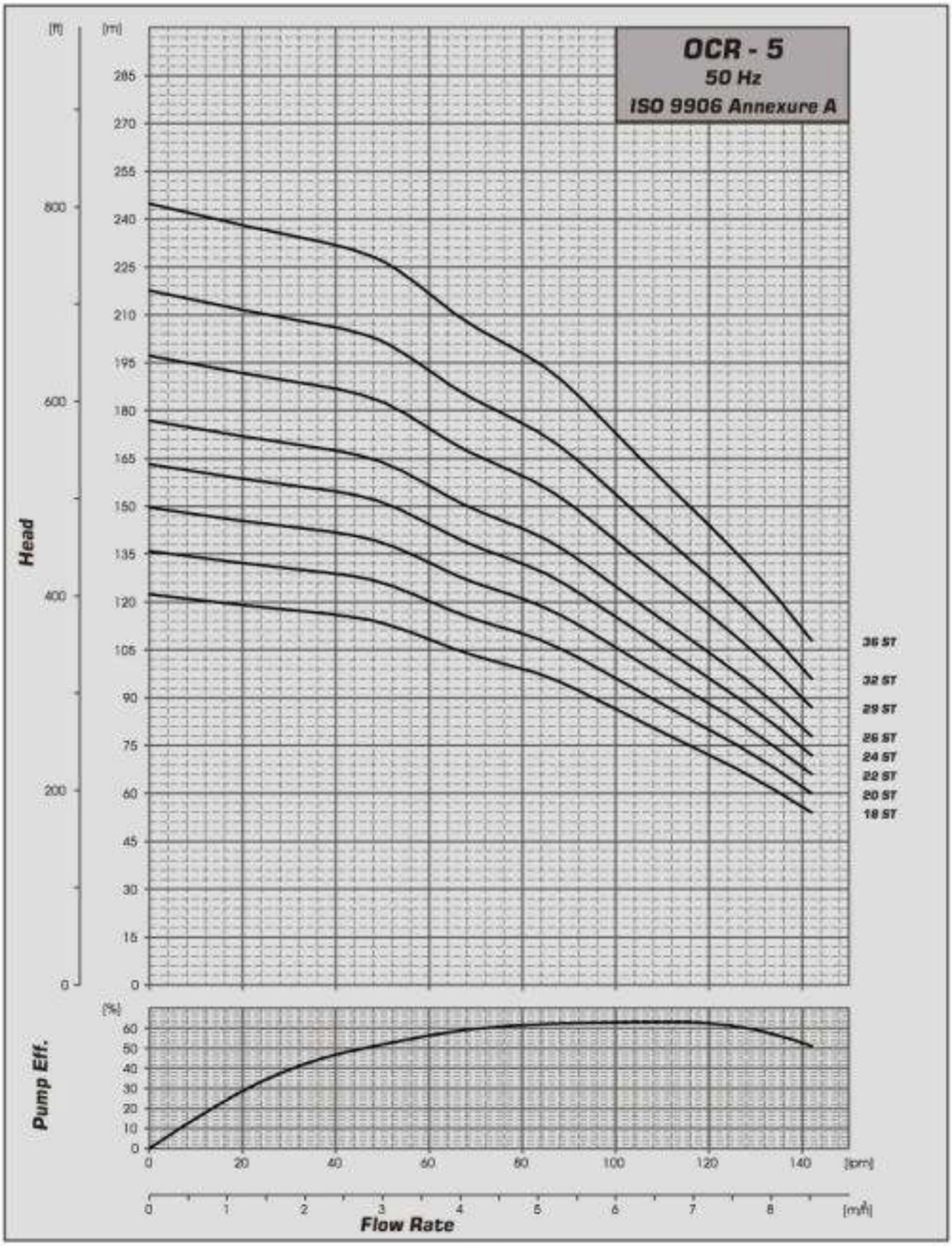
# Dimension and Weight

| MODEL | H.P. | Stage | Size in mm | | | | | Weight |
|---|---|---|---|---|---|---|---|---|
| | | | B1 | B2 | D1 | D2 | D3 | Kg |
| OCR 4 | 0.5 | 1 | 270 | 219 | 134 | 103 | ..... | 28.5 |
| OCR 4 | 0.5 | 2 | 279 | 219 | 134 | 103 | ..... | 29 |
| OCR 4 | 0.75 | 3 | 306 | 239 | 134 | 103 | ..... | 30.5 |
| OCR 4 | 1 | 4 | 333 | 255 | 138 | 115 | ..... | 38.5 |
| OCR 4 | 1.5 | 5 | 366 | 255 | 138 | 115 | ..... | 42.5 |
| OCR 4 | 1.5 | 6 | 393 | 255 | 138 | 115 | ..... | 43.5 |
| OCR 4 | 2 | 7 | 420 | 255 | 138 | 115 | ..... | 46 |
| OCR 4 | 2 | 8 | 447 | 255 | 138 | 115 | ..... | 47 |
| OCR 4 | 3 | 10 | 517 | 300 | 156 | 124 | ..... | 55.6 |
| OCR 4 | 3 | 12 | 571 | 300 | 156 | 124 | ..... | 57 |
| OCR 4 | 4 | 14 | 625 | 315 | 194 | 143 | ..... | 59 |
| OCR 4 | 4 | 16 | 679 | 315 | 194 | 143 | ..... | 60.5 |
| OCR 4 | 5 | 19 | 764 | 315 | 194 | 143 | ..... | 63.5 |
| OCR 4 | 6 | 22 | 845 | | | | ..... | 65 |

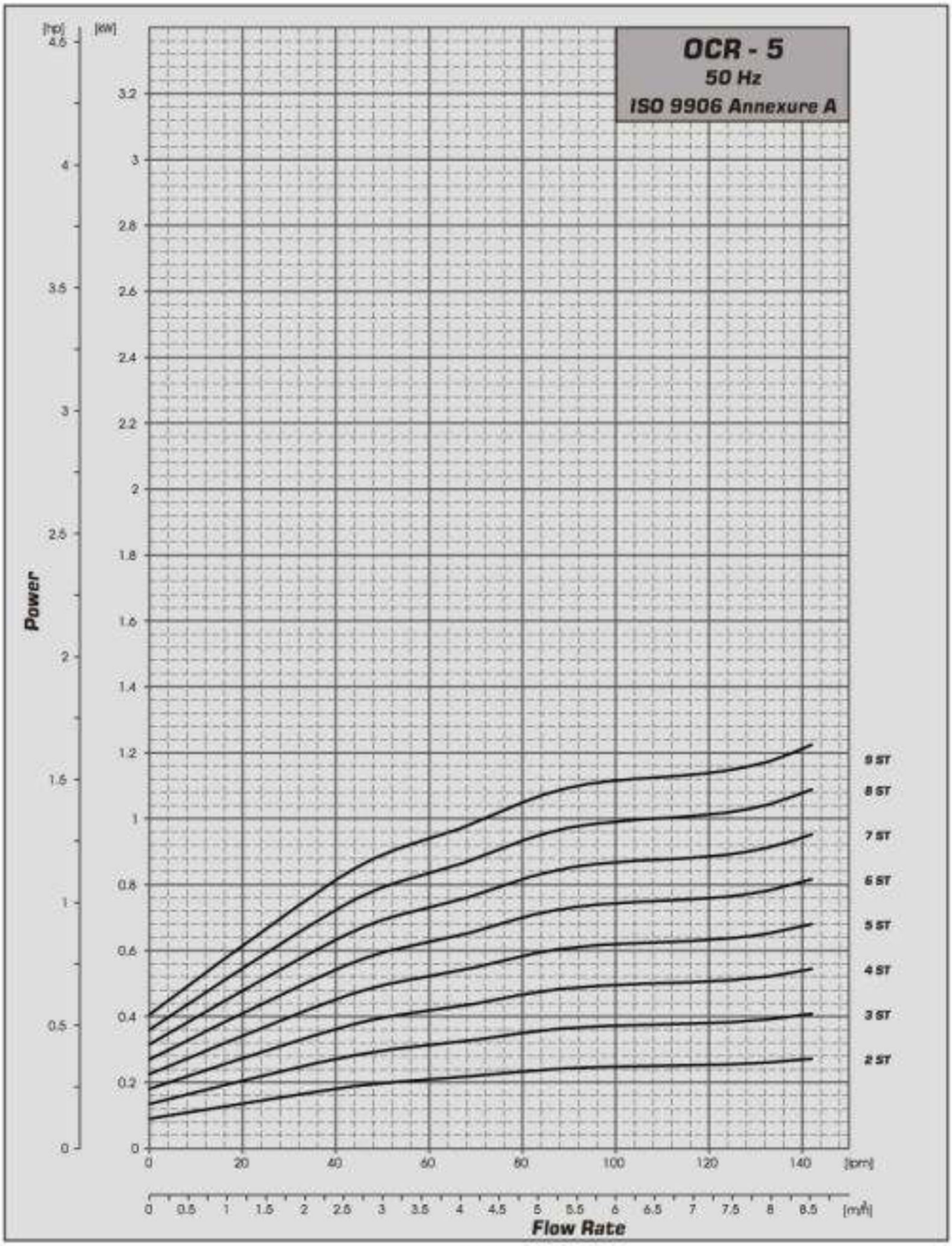
# Performance Curves



# Performance Curves

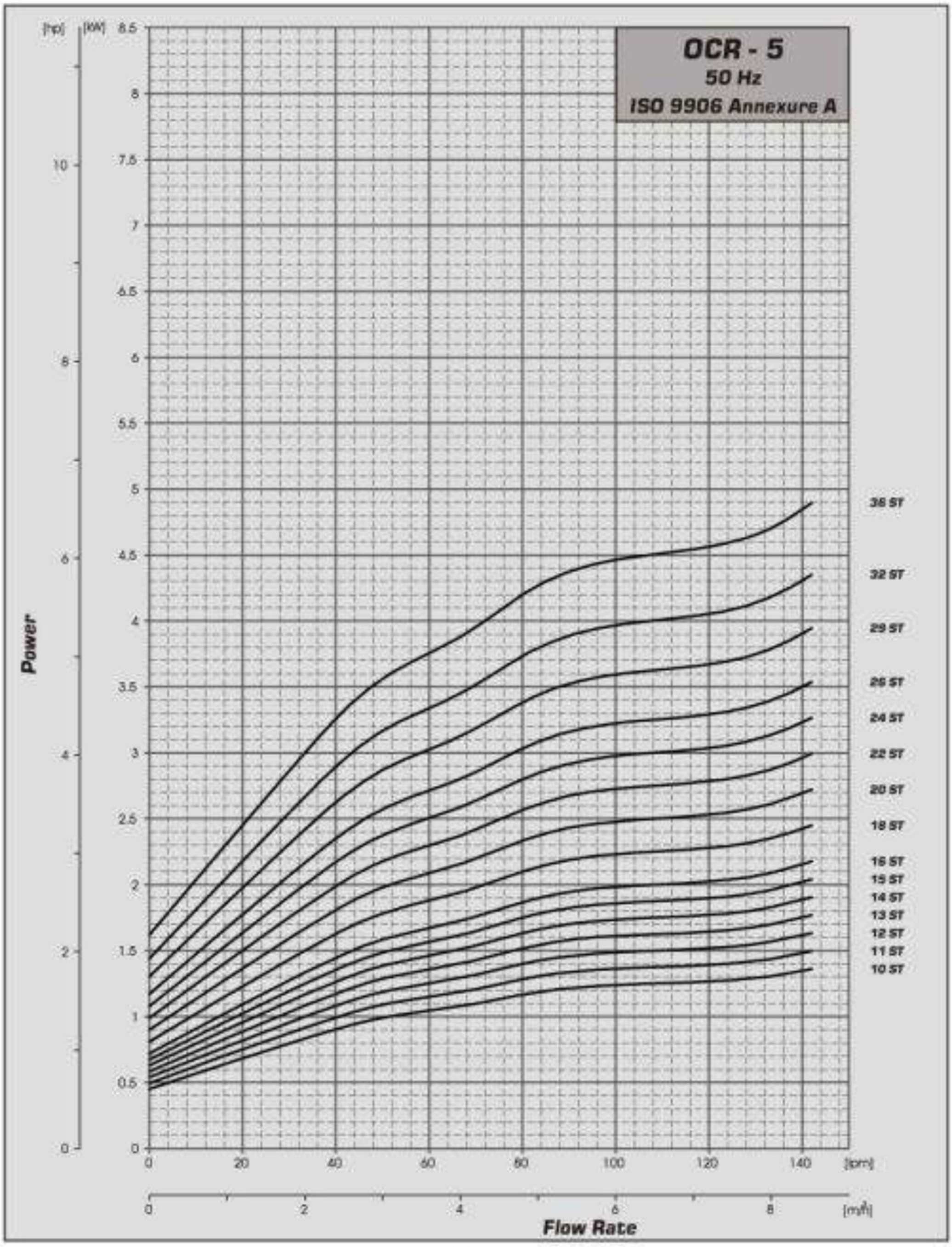


# Power Curves



# Contents

# Power Curves



# Performance Table

**OCR - 5**

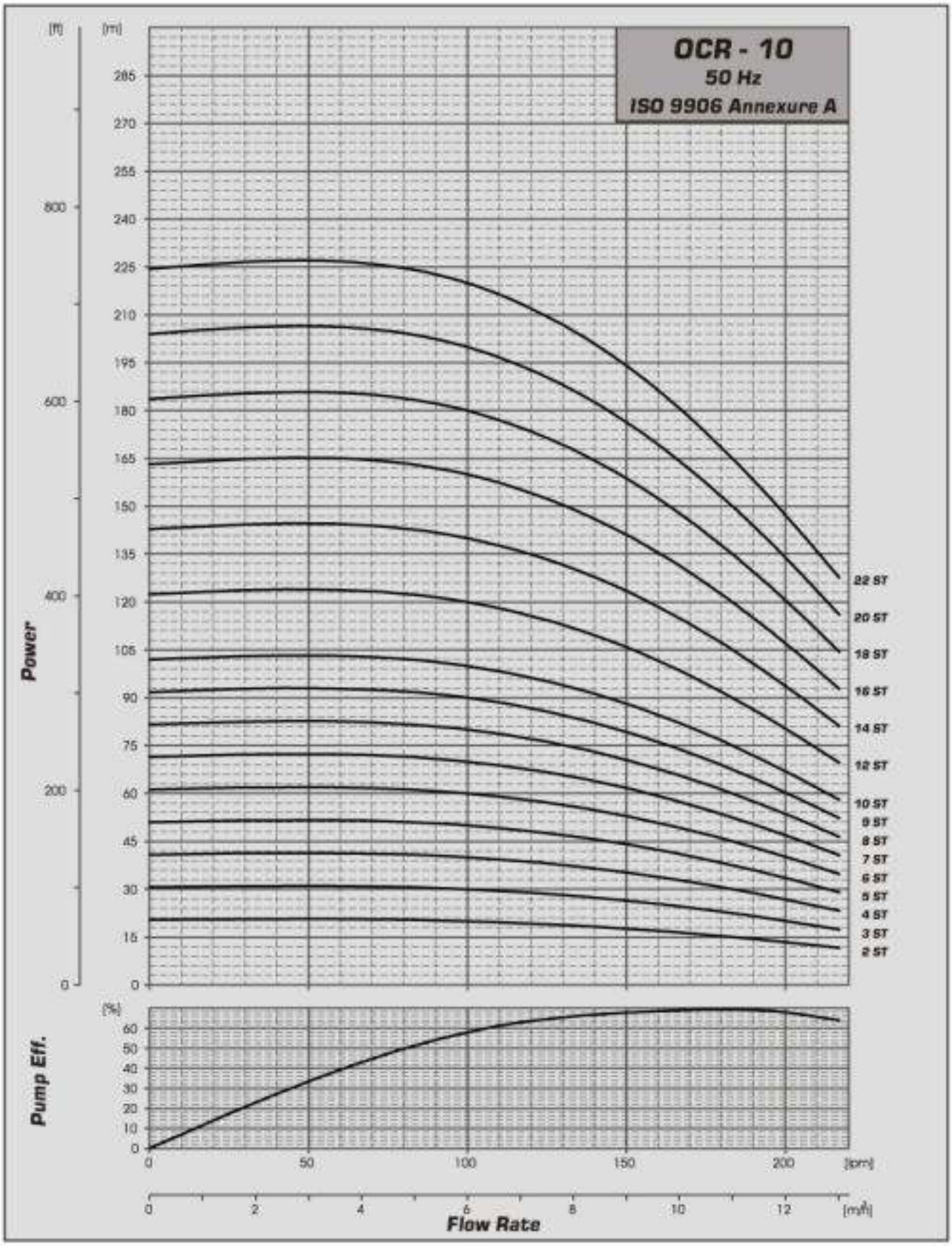
| MODEL | K.W. | H.P. | Stage | Amp. | Discharge | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | $M^3/H$ | 0 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | | | | | LPM | 0 | 33 | 50 | 67 | 84 | 100 | 117 | 134 |
| OCR 5 | 0.37 | 0.5 | 2 | 1 | (HEAD (METERS) | 14 | 13 | 13 | 12 | 11 | 10 | 8 | 7 |
| OCR 5 | 0.55 | 0.75 | 3 | 1.5 | | 20 | 20 | 19 | 17 | 16 | 14 | 12 | 10 |
| OCR 5 | 0.55 | 0.75 | 4 | 1.5 | | 27 | 26 | 25 | 23 | 22 | 19 | 16 | 14 |
| OCR 5 | 0.75 | 1 | 5 | 1.9 | | 34 | 33 | 32 | 29 | 27 | 24 | 21 | 17 |
| OCR 5 | 1.1 | 1.5 | 6 | 2.7 | | 41 | 39 | 38 | 35 | 32 | 29 | 25 | 20 |
| OCR 5 | 1.1 | 1.5 | 7 | 2.7 | | 48 | 46 | 44 | 41 | 38 | 34 | 29 | 24 |
| OCR 5 | 1.1 | 1.5 | 8 | 2.7 | | 54 | 52 | 50 | 46 | 43 | 38 | 33 | 27 |
| OCR 5 | 1.5 | 2 | 9 | 3.4 | | 61 | 59 | 57 | 52 | 49 | 43 | 37 | 31 |
| OCR 5 | 1.5 | 2 | 10 | 3.4 | | 68 | 65 | 63 | 58 | 54 | 48 | 41 | 34 |
| OCR 5 | 2.2 | 3 | 11 | 4.8 | | 75 | 72 | 69 | 64 | 59 | 53 | 45 | 37 |
| OCR 5 | 2.2 | 3 | 12 | 4.8 | | 82 | 78 | 76 | 70 | 65 | 58 | 49 | 41 |
| OCR 5 | 2.2 | 3 | 13 | 4.8 | | 88 | 85 | 82 | 75 | 70 | 62 | 53 | 44 |
| OCR 5 | 2.2 | 3 | 14 | 4.8 | | 95 | 91 | 88 | 81 | 76 | 67 | 57 | 48 |
| OCR 5 | 2.2 | 3 | 15 | 4.8 | | 102 | 98 | 95 | 87 | 81 | 72 | 62 | 51 |
| OCR 5 | 2.2 | 3 | 16 | 4.8 | | 109 | 104 | 101 | 93 | 86 | 77 | 66 | 54 |
| OCR 5 | 3 | 4 | 18 | 6.4 | | 122 | 117 | 113 | 104 | 97 | 86 | 74 | 61 |
| OCR 5 | 3 | 4 | 20 | 6.4 | | 136 | 130 | 126 | 116 | 108 | 96 | 82 | 68 |
| OCR 5 | 3.7 | 5 | 22 | 8 | | 150 | 143 | 139 | 128 | 119 | 106 | 90 | 75 |
| OCR 5 | 3.7 | 5 | 24 | 8 | | 163 | 156 | 151 | 139 | 130 | 115 | 98 | 82 |
| OCR 5 | 3.7 | 5 | 26 | 8 | | 177 | 169 | 164 | 151 | 140 | 125 | 107 | 88 |
| OCR 5 | 3.7 | 5 | 29 | 8 | | 197 | 189 | 183 | 168 | 157 | 139 | 119 | 99 |
| OCR 5 | 5.5 | 7.5 | 32 | 11 | | 218 | 208 | 202 | 186 | 173 | 154 | 131 | 109 |
| OCR 5 | 5.5 | 7.5 | 36 | 11 | | 245 | 234 | 227 | 209 | 194 | 173 | 148 | 122 |

# Dimension and Weight

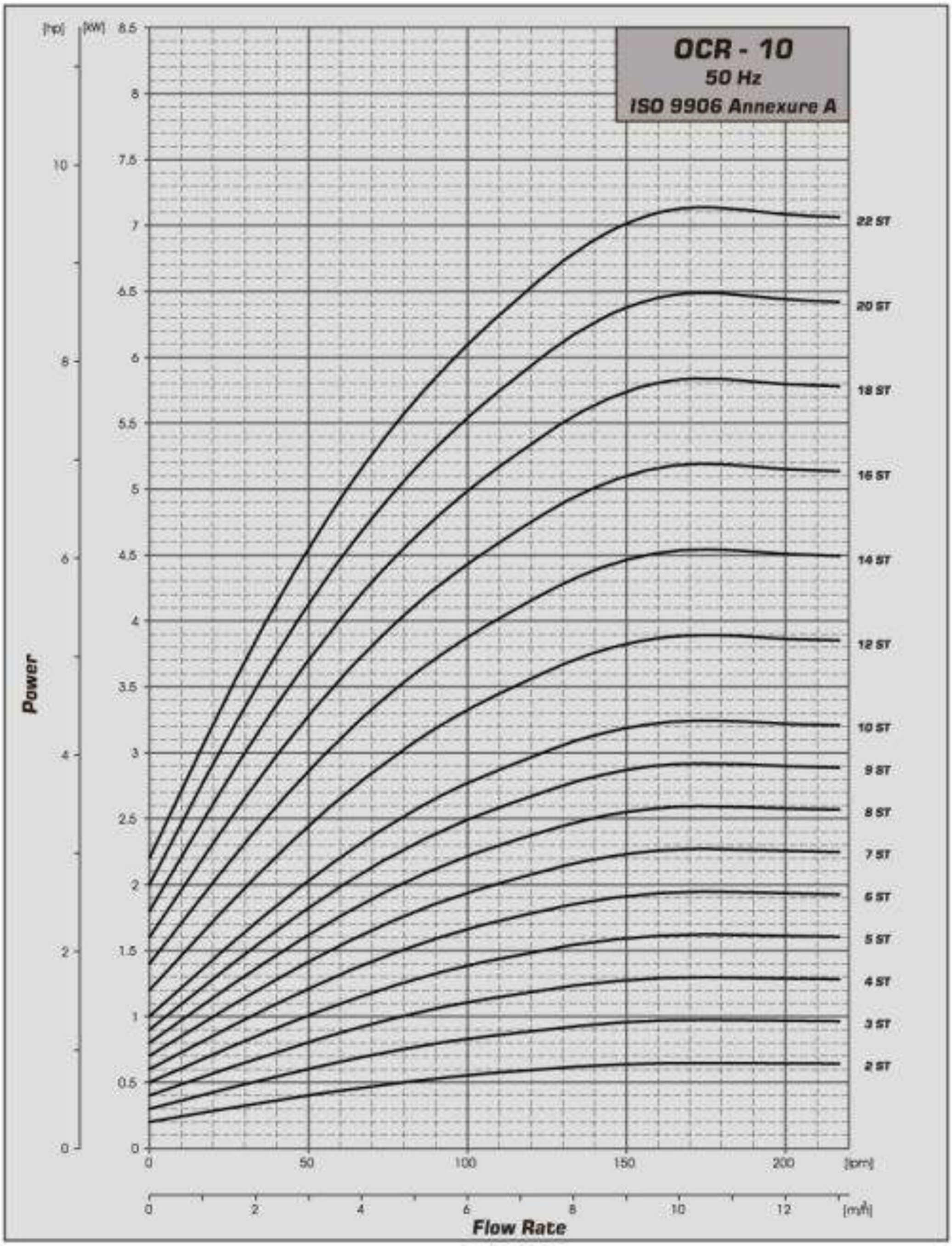
**OCR - 5**

| MODEL | H.P. | Stage | Size in mm | | | | | Weight |
|---|---|---|---|---|---|---|---|---|
| | | | B1 | B2 | D1 | D2 | D3 | Kg |
| OCR 5 | 0.5 | 2 | 279 | 219 | 134 | 103 | ..... | 29 |
| OCR 5 | 0.75 | 3 | 306 | 239 | 134 | 103 | ..... | 30.6 |
| OCR 5 | 0.75 | 4 | 333 | 239 | 134 | 103 | ..... | 31.2 |
| OCR 5 | 1 | 5 | 366 | 255 | 138 | 115 | ..... | 38.9 |
| OCR 5 | 1.5 | 6 | 393 | 255 | 138 | 115 | ..... | 43.2 |
| OCR 5 | 1.5 | 7 | 420 | 255 | 138 | 115 | ..... | 43.8 |
| OCR 5 | 1.5 | 8 | 447 | 255 | 138 | 115 | ..... | 44.4 |
| OCR 5 | 2 | 9 | 490 | 300 | 156 | 124 | ..... | 47.3 |
| OCR 5 | 2 | 10 | 517 | 300 | 156 | 124 | ..... | 47.9 |
| OCR 5 | 3 | 11 | 544 | 335 | 156 | 124 | ..... | 56.3 |
| OCR 5 | 3 | 12 | 571 | 335 | 156 | 124 | ..... | 56.9 |
| OCR 5 | 3 | 13 | 598 | 335 | 156 | 124 | ..... | 57.5 |
| OCR 5 | 3 | 14 | 625 | 335 | 156 | 124 | ..... | 58.1 |
| OCR 5 | 3 | 15 | 652 | 335 | 156 | 124 | ..... | 58.7 |
| OCR 5 | 3 | 16 | 679 | 335 | 156 | 124 | ..... | 59.3 |
| OCR 5 | 4 | 18 | 737 | 315 | 194 | 143 | ..... | 61.6 |
| OCR 5 | 4 | 20 | 791 | 315 | 194 | 143 | ..... | 62.8 |
| OCR 5 | 5 | 22 | 845 | 315 | 194 | 143 | ..... | 65.0 |
| OCR 5 | 5 | 24 | 899 | 315 | 194 | 143 | ..... | 66.3 |
| OCR 5 | 5 | 26 | 953 | 315 | 194 | 143 | ..... | 67.5 |
| OCR 5 | 5 | 29 | 1034 | 315 | 194 | 143 | ..... | 69.4 |
| OCR 5 | 7.5 | 32 | 1145 | 415 | 260 | 166 | 300 | 99.3 |
| OCR 5 | 7.5 | 36 | 1253 | 415 | 260 | 166 | 300 | 101.8 |

# Performance Curves



# Power Curves



# Performance Table

**OCR - 10**

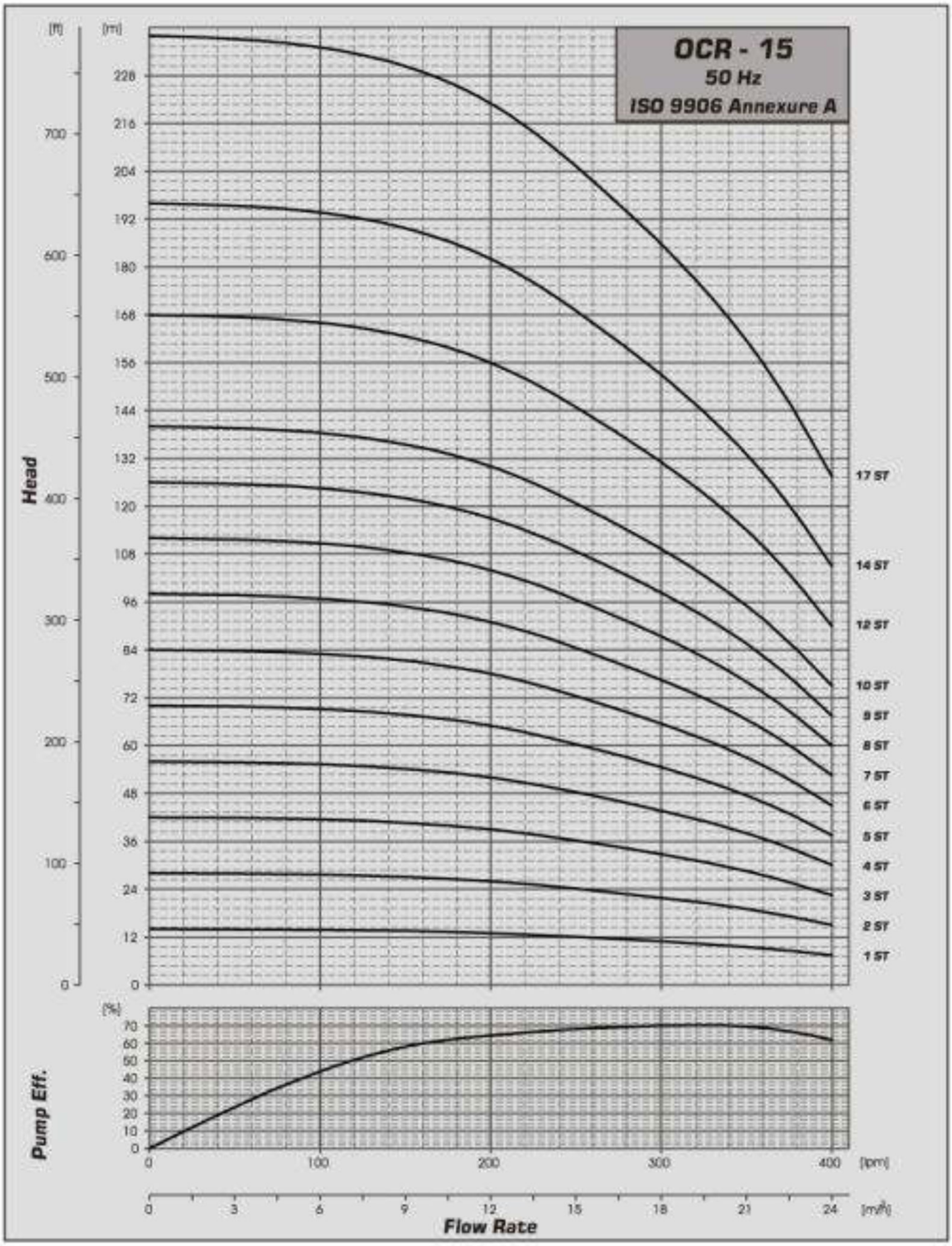
| MODEL | K.W. | H.P. | Stage | Amp. | Discharge | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | $M^3/H$ | 0 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| | | | | | LPM | 0 | 100 | 117 | 134 | 150 | 167 | 184 | 200 |
| OCR 10 | 0.37 | 0.5 | 1 | 1 | (HEAD (METERS) | 10 | 10 | 10 | 9 | 9 | 8 | 7 | 7 |
| OCR 10 | 0.75 | 1 | 2 | 1.9 | | 20 | 20 | 19 | 19 | 18 | 16 | 15 | 13 |
| OCR 10 | 1.1 | 1.5 | 3 | 2.7 | | 31 | 30 | 29 | 28 | 26 | 25 | 23 | 20 |
| OCR 10 | 1.5 | 2 | 4 | 3.4 | | 41 | 40 | 39 | 37 | 35 | 33 | 30 | 27 |
| OCR 10 | 2.2 | 3 | 5 | 4.8 | | 51 | 50 | 49 | 47 | 44 | 41 | 38 | 34 |
| OCR 10 | 2.2 | 3 | 6 | 4.8 | | 61 | 60 | 58 | 56 | 53 | 49 | 45 | 40 |
| OCR 10 | 3 | 4 | 7 | 6.4 | | 71 | 70 | 68 | 65 | 62 | 57 | 53 | 47 |
| OCR 10 | 3 | 4 | 8 | 6.4 | | 82 | 80 | 78 | 74 | 70 | 66 | 60 | 54 |
| OCR 10 | 3 | 4 | 9 | 6.4 | | 92 | 90 | 87 | 84 | 79 | 74 | 68 | 60 |
| OCR 10 | 3.7 | 5 | 10 | 8 | | 102 | 100 | 97 | 93 | 88 | 82 | 75 | 67 |
| OCR 10 | 4.5 | 6 | 12 | 9 | | 122 | 120 | 116 | 112 | 106 | 98 | 90 | 80 |
| OCR 10 | 5.5 | 7.5 | 14 | 11 | | 143 | 140 | 136 | 130 | 123 | 115 | 105 | 94 |
| OCR 10 | 5.5 | 7.5 | 16 | 11 | | 163 | 160 | 155 | 149 | 141 | 131 | 120 | 107 |
| OCR 10 | 7.5 | 10 | 18 | 15.2 | | 184 | 180 | 175 | 167 | 158 | 148 | 135 | 121 |
| OCR 10 | 7.5 | 10 | 20 | 15.2 | | 204 | 200 | 194 | 186 | 176 | 164 | 150 | 134 |
| OCR 10 | 7.5 | 10 | 22 | 15.2 | | 224 | 220 | 213 | 205 | 194 | 180 | 165 | 147 |

# Dimension and Weight

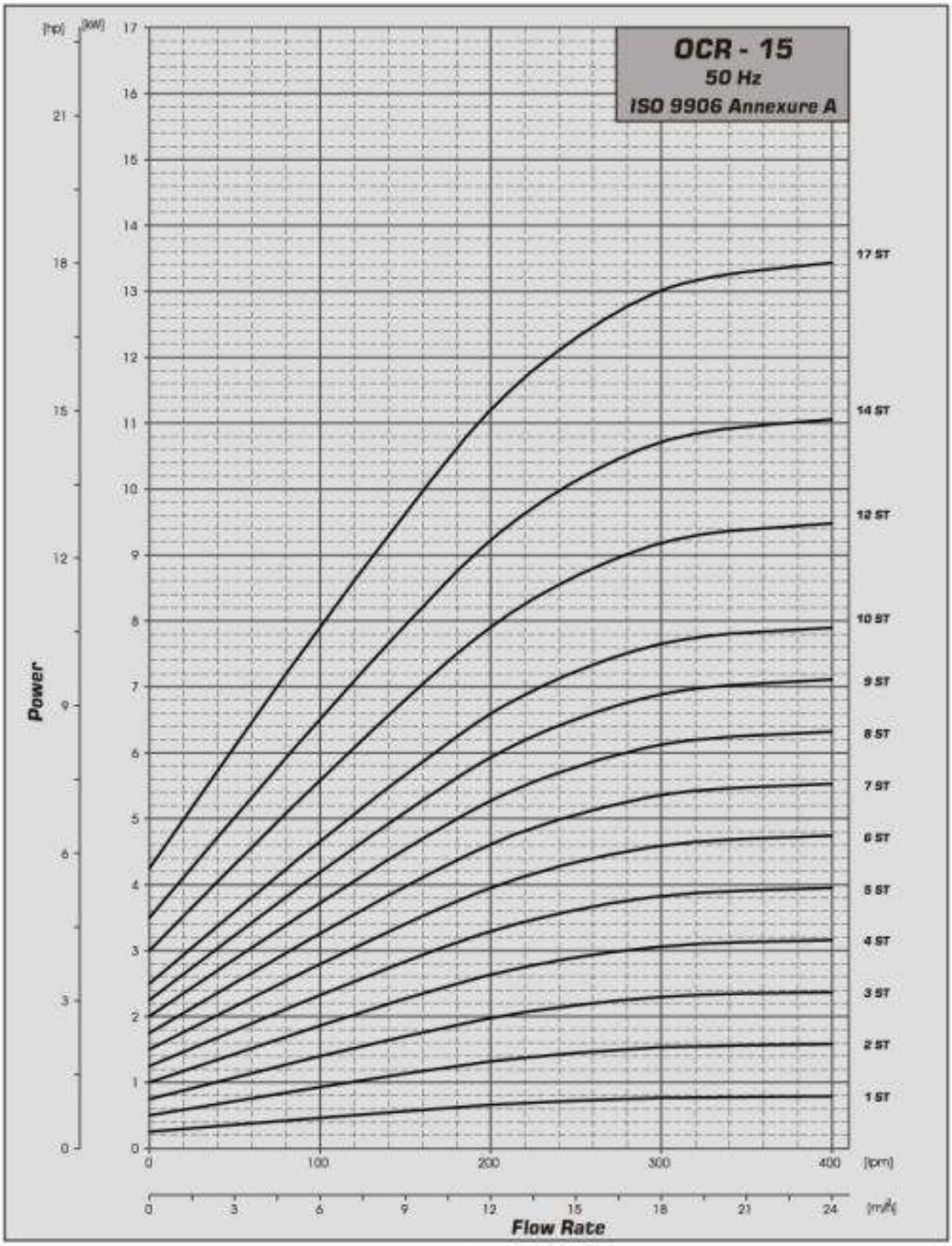
**OCR - 10**

| MODEL | H.P. | Stage | Size in mm | | | | | Weight |
|---|---|---|---|---|---|---|---|---|
| | | | B1 | B2 | D1 | D2 | D3 | Kg |
| OCR 10 | 0.5 | 1 | 343 | 219 | 134 | 103 | ..... | 39 |
| OCR 10 | 1 | 2 | 347 | 255 | 138 | 115 | ..... | 43 |
| OCR 10 | 1.5 | 3 | 377 | 255 | 138 | 115 | ..... | 46 |
| OCR 10 | 2 | 4 | 423 | 300 | 156 | 124 | ..... | 56 |
| OCR 10 | 3 | 5 | 453 | 335 | 156 | 124 | ..... | 60 |
| OCR 10 | 3 | 6 | 483 | 335 | 156 | 124 | ..... | 63 |
| OCR 10 | 4 | 7 | 518 | 315 | 194 | 143 | ..... | 66 |
| OCR 10 | 4 | 8 | 548 | 315 | 194 | 143 | ..... | 68 |
| OCR 10 | 4 | 9 | 578 | 315 | 194 | 143 | ..... | 70 |
| OCR 10 | 5 | 10 | 608 | 315 | 194 | 143 | ..... | 75 |
| OCR 10 | 6 | 12 | 668 | | | | ..... | 81 |
| OCR 10 | 7.5 | 14 | 760 | 415 | 260 | 166 | 300 | 100 |
| OCR 10 | 7.5 | 16 | 820 | 415 | 260 | 166 | 300 | 105 |
| OCR 10 | 10 | 18 | 880 | 440 | 260 | 166 | 300 | 112 |
| OCR 10 | 10 | 20 | 940 | 440 | 260 | 166 | 300 | 114 |
| OCR 10 | 10 | 22 | 1000 | 440 | 260 | 166 | 300 | 116 |

# Performance Curves



# Power Curves



# Performance Table

**OCR - 15**

| MODEL | K.W. | H.P. | Stage | Amp. | Discharge | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | $M^3/H$ | 0 | 10 | 12 | 14 | 16 | 18 | 20 | 22 |
| | | | | | LPM | 0 | 167 | 200 | 234 | 267 | 300 | 334 | 367 |
| OCR 15 | 1.1 | 1.5 | 1 | 2.7 | (HEAD (METERS) | 14 | 13 | 13 | 12 | 12 | 11 | 10 | 9 |
| OCR 15 | 2.2 | 3 | 2 | 4.8 | | 28 | 27 | 26 | 25 | 23 | 22 | 20 | 18 |
| OCR 15 | 3 | 4 | 3 | 6.4 | | 42 | 40 | 39 | 37 | 35 | 33 | 30 | 27 |
| OCR 15 | 3.7 | 5 | 4 | 8 | | 56 | 54 | 52 | 50 | 47 | 44 | 40 | 36 |
| OCR 15 | 3.7 | 5 | 5 | 8 | | 70 | 67 | 65 | 62 | 59 | 55 | 50 | 45 |
| OCR 15 | 5.5 | 7.5 | 6 | 11 | | 84 | 80 | 78 | 74 | 70 | 65 | 60 | 53 |
| OCR 15 | 5.5 | 7.5 | 7 | 11 | | 98 | 94 | 91 | 87 | 82 | 76 | 70 | 62 |
| OCR 15 | 7.5 | 10 | 8 | 15.2 | | 112 | 107 | 104 | 99 | 94 | 87 | 80 | 71 |
| OCR 15 | 7.5 | 10 | 9 | 15.2 | | 126 | 121 | 117 | 112 | 105 | 98 | 90 | 80 |
| OCR 15 | 11 | 15 | 10 | 21.5 | | 140 | 134 | 130 | 124 | 117 | 109 | 100 | 89 |
| OCR 15 | 11 | 15 | 12 | 21.5 | | 168 | 161 | 156 | 149 | 140 | 131 | 120 | 107 |
| OCR 15 | 11 | 15 | 14 | 21.5 | | 196 | 188 | 182 | 174 | 164 | 153 | 140 | 125 |
| OCR 15 | 15 | 20 | 17 | 28.7 | | 238 | 228 | 221 | 211 | 199 | 185 | 170 | 151 |

# Introduction

The OCR pump is a non-self-priming, vertical multistage centrifugal pump.
The in-line design enables the pump to be installed in a horizontal one-pipe system where the suction and discharge ports are in the same horizontal plane and have the same pipe dimensions. This design provides a more compact pump design and pipe work.
**OSWAL** pumps come with various pump sizes and various numbers of stages to provide the flow and pressure required.
OCR pumps are suitable for a veriety of applications from pumping of potable water to pumping of chemicals.
The pumps are therefore used in a wide diversity of pumping systems where the performance and material of the pump meet specific demands.
The pump unit consists of optimized hydraulics, various types of connections, an outer sleeve, a top and various other parts.
OCR pumps are available in various material versions according to the pumped liquid.

## Applications :

### Water Supply :

Filtration and transfer at waterworks, Distribution from waterworks, Pressure boosting in mains, Pressure boosting in high rise buildings & hotels.

### Industry :

Pressure boosting system, Process water system, washing and cleaning systems, Vehicle washing tunnels, Fire fighting systems.

### Liquid Transfer :

Cooling and air-conditioning systems, Boiler feed and condensate systems, machine tools(cooling lubricants), aquafarming.

### Water Treatment :

Ultra-filtration system, Reverse osmosis system, Softening, Ionising, Demineralizing systems, Distillation systems, Seperators, Swimming baths.

### Irrigation :

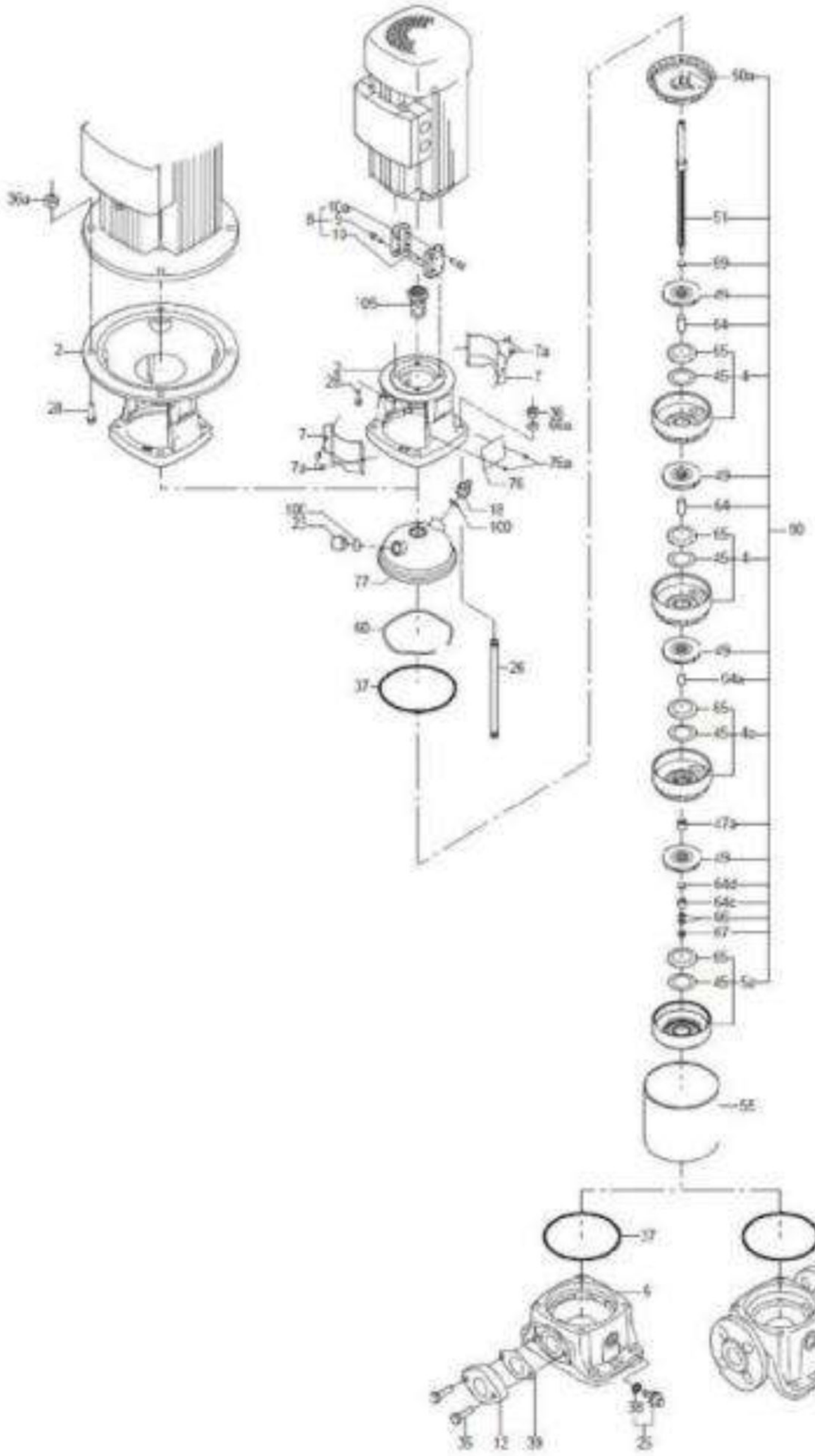
Field irrigation (flooding), Sprinkler irrigation, Drip-feed irrigation.

# Dimension and Weight

**OCR - 15**

| MODEL | H.P. | Stage | Size in mm | | | | | Weight |
|---|---|---|---|---|---|---|---|---|
| | | | B1 | B2 | D1 | D2 | D3 | Kg |
| OCR 15 | 1.5 | 1 | 400 | 255 | 138 | 115 | ..... | 49 |
| OCR 15 | 3 | 2 | 415 | 335 | 156 | 124 | ..... | 64 |
| OCR 15 | 4 | 3 | 465 | 315 | 194 | 143 | ..... | 69 |
| OCR 15 | 5 | 4 | 510 | 315 | 194 | 143 | ..... | 80 |
| OCR 15 | 5 | 5 | 555 | 315 | 194 | 143 | ..... | 83 |
| OCR 15 | 7.5 | 6 | 632 | 415 | 260 | 166 | 300 | 100 |
| OCR 15 | 7.5 | 7 | 677 | 415 | 260 | 166 | 300 | 104 |
| OCR 15 | 10 | 8 | 722 | 440 | 260 | 166 | 300 | 110 |
| OCR 15 | 10 | 9 | 767 | 440 | 260 | 166 | 300 | 115 |
| OCR 15 | 15 | 10 | 889 | 870 | 290 | 215 | 350 | 190 |
| OCR 15 | 15 | 12 | 979 | 870 | 290 | 215 | 350 | 195 |
| OCR 15 | 15 | 14 | 1069 | 870 | 290 | 215 | 350 | 208 |
| OCR 15 | 20 | 17 | 1204 | 870 | 290 | 215 | 350 | 228 |

# Exploded View



# PART LIST

| POS. NO | DESCRIPTION | PART.NO. | TOOL NO. | TOOL DESCRIPTION | TORQUE[Nm] | QTY. |
|---|---|---|---|---|---|---|
| 109 | O-ring 0 22x2.75 | | | | - | 3 |
| 105 | Shaft seal M28 | | | | 35 | 1 |
| 100 | O-ring 0 16.3x2.4 | | | | - | 3 |
| 77 | Pump head cover | | | | - | 1 |
| 76a | Screw cupl. guard | | | | - | 4 |
| 76 | Nameplate set | | | | - | 1 |
| 69 | Spacing pipe | | | | - | - |
| 67 | Lock nut M8 | | K | Ring spanner M8 -13MM | 18 | 1 |
| 66a | WasherLock | | | | - | 4 |
| 66 | Washer | | | | - | 2 |
| 65 | Neckring retainer | | C | Puller | - | 4 |
| 64d | Spacing pipe | | | | - | 1 |
| 64c | Clamp, splined (L=IO> | | | | - | 1 |
| 64a | Spacing pipe | | | | - | 1 |
| 64 | Spacing pipe | | | | - | 1 |
| 60 | Corrugated Spring | | F | Tools for corugated spring | - | 1 |
| 56 | Base plate | | | | - | 1 |
| 55 | Outer sleeve | | E | Tools for outer sleeve | - | 1 |
| 51 | Pump shaft 012.0 | | A | Shaft holder for assmbly | - | 1 |
| 50a | Pump head cover diff. assly. | | | | - | 1 |
| 49 | Impeller | | | | - | - |
| 47 | Bearing | | | | - | 1 |
| 45 | Neckring | | | | - | 1 |
| 38 | O-ring 0 16.3x2.4 | | | | - | - |
| 37 | O-ring 0 137.5X3.5 | | G | Tools for O - rings | - | 4 |
| 36 | Nut M12 | | K | Ring spanner M12 -19 MM | 50 | 4 |
| 35 | Screw M10 | | K | Ring spanner M10 -17 MM | 23 | 4 |
| 28 | Screw M6 | | K | Ring spanner M6 -10 MM | 10 | 4 |
| 26 | StayboltM12 | | | | - | 4 |
| 25 | Drain plug 1/2" (M10) | | K | Ring spanner M16 -24 MM | 35(5) | 1 |
| 23 | Plug | | K | Ring spanner M 16 -24 MM | 35 | 1 |
| 18 | Air vent complete (M8) | | K | Ring spanner M 16 -24 MM | 35(3) | 1 |
| 10a | Coupling | | | | - | 2 |
| 10 | Shaft pin | | | | - | 1 |
| 9 | Screw M6 | | | | – 13 | 4 |
| 8 | Coupling complete | | H&I&J | Bits kit M 10 - 8 MM 1/4" | - | 1 |
| 7a | Screw M4 | | | | 2 | 4 |
| 7 | Coupling guard | | | | - | 2 |
| 6 | Base | | H&I | Bits kit M8 - 6 MM 1/4" | - | 1 |
| 5a | Chamber complete | | | | - | 1 |
| 4a | Chamber with bearing ring | | | | - | 1 |
| 4 | Chamber complete | | B | Tubular box spanner | - | |
| 2 | Pump head | | | | | |

# Conversion

## Conversion Table :

### Volume

| | |
|---|---|
| 1 Imperial Gallon (UK) | - 4.546 Liters |
| 1 U.S. Gallon | - 3.785 Liters |

### Discharge Rate

| | |
|---|---|
| 1 Imperial Gallon / Minute | - 4.546 Liters - 10 lbs of water |
| 1 U.S. Gallon / Minute | - 3.785 Liters |
| 1m3/hr | - 1000 LPH |
| 1cu feet | - 28.32 Litres - 62.4 lbs of water |
| 1m3/hr | - 16.67 LPM |
| 1Litre/Second | - 60 LPM |

### Pressure

| | |
|---|---|
| 1 Atmospheric Pressure | - 1.033 kg/cm2 |
| | - 14.7 lb/in2(PSI) |
| | - 1.03 kg/cm2 |
| | - 33.9feet of wc |
| 1kg/cm2 | - 10 mwc |
| | - 14.22PSI |
| | - 1 bar |

### Power

| | |
|---|---|
| 1 HP (SI) | - 0.746 kW |
| | - 746 W |
| 1 HP (Metric) | - 0.736 kW |
| | - 736 W |
| 1kW | - 1000 W |
| 1 Unit | - 1kW or 1000 W |
| | - 1 bar |

### Length

| | |
|---|---|
| 1 inch | - 25.4 mm |
| | - 2.54 cm |
| 1 metre | - 39.36 inch |
| | - 3.281 feet |
| | - 1000 mm |
| 1 feet | - 304.8mm |
| | - 12 inch |
| 1 Acre | - 0.404 Hectare |
| 1 Hectare | - 2.47 Acre |

### Conversion of Centigrade to Fehrenheit Degree

F = (9C/5)+32

### Conversion of Fehrenheit to Centigrade Degree

C = F-32(5/9)

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Products


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E-mail : contact@oswalpumps.com

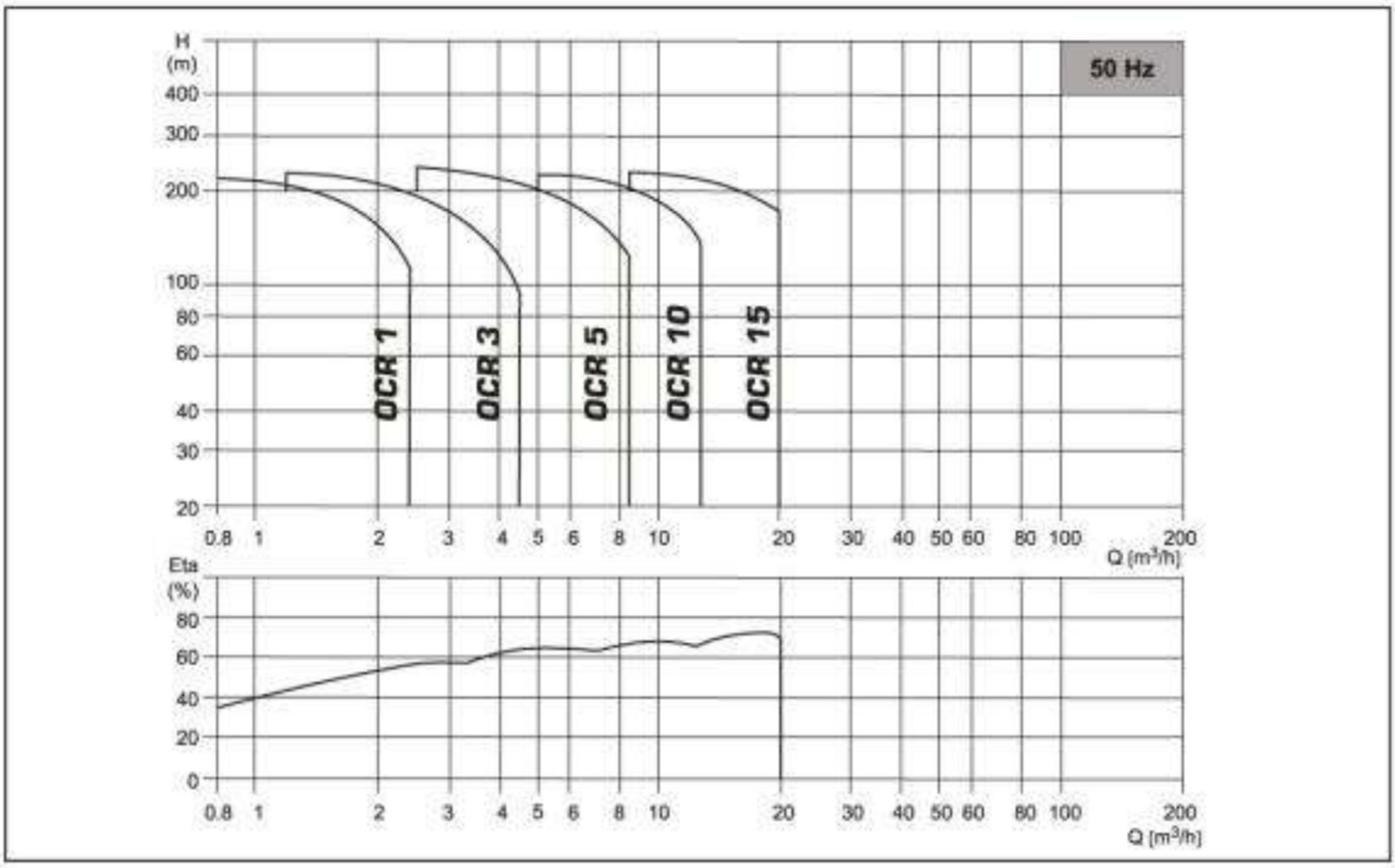
URL : www.oswalpumps.com, http:\\oswalpumps.co.in

# Product Detail

## Product Range:

| Range | OCR 1 | OCR 2 | OCR 3 | OCR 4 | OCR 5 | OCR 10 | OCR 15 |
|---|---|---|---|---|---|---|---|
| Nominal flow rate ($m^3/h$) | 1 | 2 | 3 | 4 | 5 | 10 | 15 |
| Temperature range (°C) | -30 to +120 | -30 to +120 | -30 to +120 | -30 to +120 | -30 to +120 | -30 to +120 | -30 to +120 |
| Max. Pump efficiency(%) | 48 | 48 | 58 | 58 | 66 | 70 | 72 |
| Flow rate ($m^3/h$) | 0.8-2.4 | 1.0-4.0 | 1.2-4.4 | 2.0-8.0 | 2.0-8.5 | 6-13 | 10-24 |
| Motor Power (kW) | 0.37-2.2 | 0.37-3.0 | 0.37-3.0 | 0.37-4.5 | 0.37-5.5 | 0.37-7.5 | 1.1-15.0 |
| Max. Pressure (bar) | 22 | 25 | 24 | 22 | 24 | 22 | 23 |
| Flange | DN 25/32 | DN 25/32 | DN 25/32 | DN 25/32 | DN 25/32 | DN 40 | DN 50 |

## Family Curve - OCR :




## Features and Benifits :

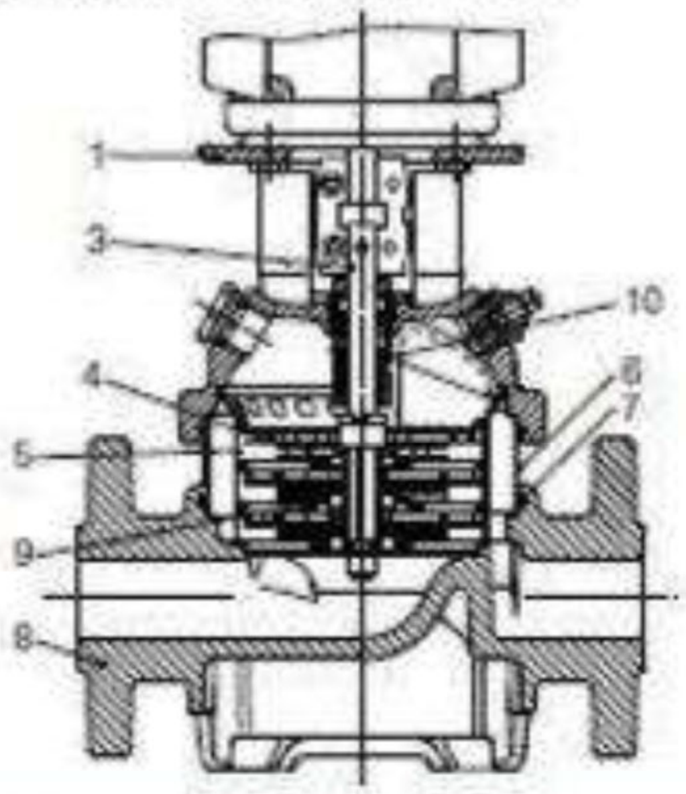
1. High efficiency
2. Reliability
3. Super friendly
4. Space saving
5. Suitable for slightly aggressive liquids

## Technical Data :

| | |
|---|---|
| Flow | Max. $20m^3/h$ |
| Head 'H' | Max. 220m |
| Liquid Temperature | -30°c to + 120°c |

# Material of Construction & Type Key

## Sectional Drawing - OCR




| Material : OCR | | | |
|---|---|---|---|
| **Pos.** | **Description** | **Material** | **Grade** |
| 1 | Pump Head | Cast Iron | FG-260 |
| 3 | shaft | Stainless Steel | SS-431 |
| 4 | Impeller | Stainless Steel | SS-304 |
| 5 | chamber | Stainless Steel | SS-304 |
| 6 | Outer Sleeve | Stainless Steel | SS-304 |
| 7 | O-ring for outer sleeve | EPDM | |
| 8 | Base | Cast Iron | FG-260 |
| 9 | Necking | PTFE | |
| 10 | Shaft Seal | Cartridge Type | |
| 11 | Bearing Rings | Silicon Carbide | |
| 12 | FJG Flange | Cast Iron | FG-260 |

## Type Keys - OCR

**OCR - 5 - 3**

- **No. of Impellers**
- **Flow Rate $M^3/hr$**
- **Type**

# Operating and Inlet Pressure

## Maximum Inlet Pressure :

The following table shows the maximum permissible inlet pressure. However, the current inlet pressure against a closed value must always be lower than the maximum permissible operating pressure.

If the max. Permissible operating pressure is exceeded, the conical bearing in the motor may be damaged and the life of the shaft seal reduced.

| | | |
|---|---|---|
| **OCR 1** | 2 to 36 | 10(Kg) |
| **OCR 2** | 2 to 26 | 10(Kg) |
| **OCR 3** | 2 to 29 | 10(Kg) |
| | 31 to 36 | 15(Kg) |
| **OCR 4** | 1 to 22 | 10(Kg) |
| **OCR 5** | 2 to16 | 10(Kg) |
| | 18 to 36 | 15(Kg) |
| **OCR 10** | 1 to 6 | 8(Kg) |
| | 7 to 22 | 10(Kg) |
| **OCR 15** | 1 to 3 | 8(Kg) |
| | 4 to 17 | 10(Kg) |

## Electric - Motor

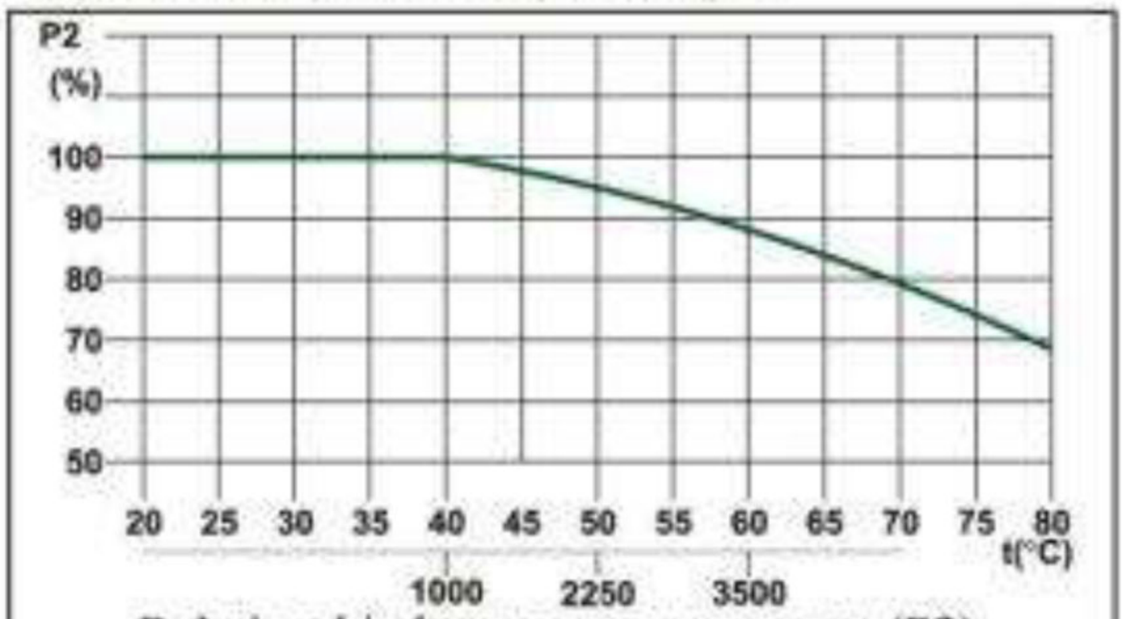
Full-enclosed air blast two pole standard motor

| | |
|---|---|
| Mounting | Upto 4kW(Phase mounting) |
| Designation | From 5.5kW(Flange mounting) |
| Insulation | F |
| Enclosure Class | IP 55 |
| Standard Voltages 50Hz | 1 x 220 - 230/240V<br>3 x 380 - 415V |

## Ambient Temperature

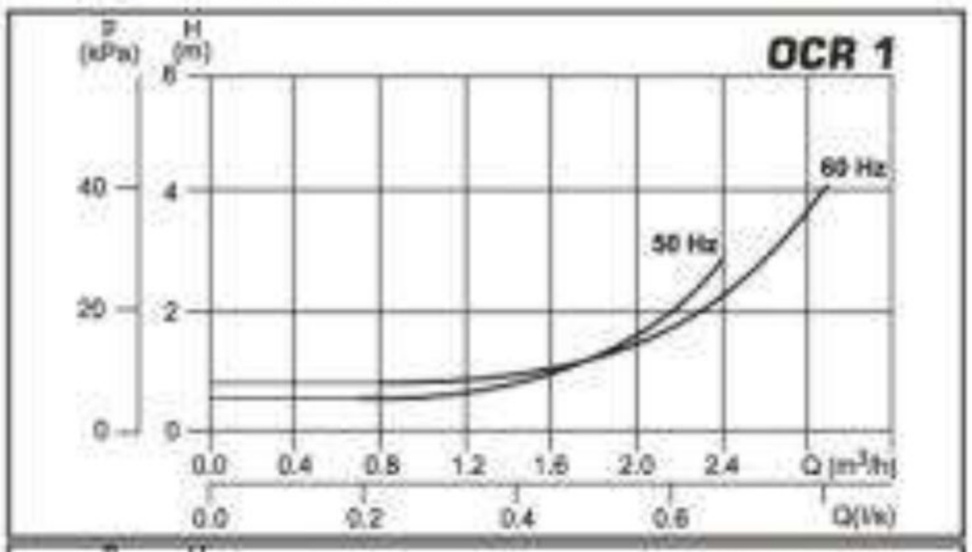
Ambient Temperature : Maximum +40°C

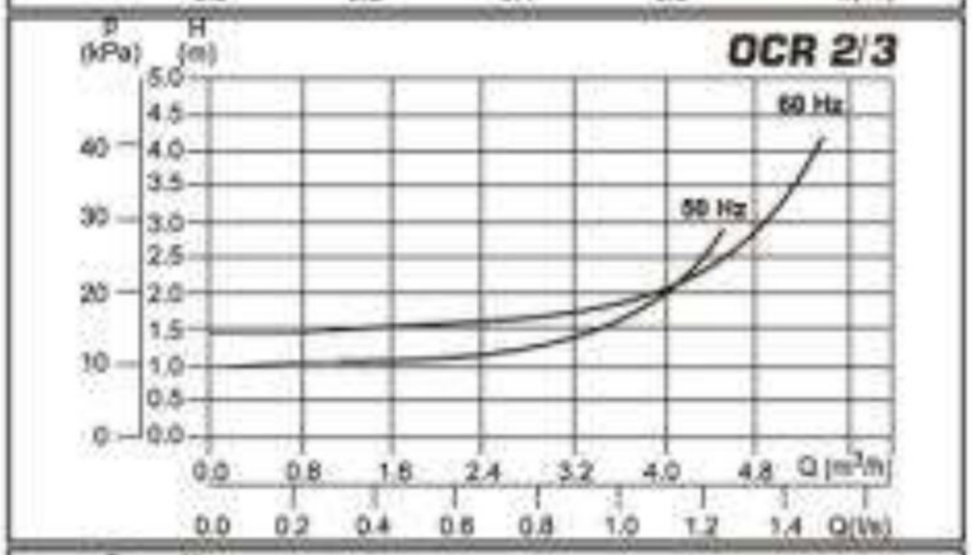
If the ambient Temperature exceed +40°C or if the motor is located 1000metres above sea level, the motor output (P2) must be reduced due low cooling effect of the air. In such cases, it may be necessary to use a motor with a higher output.

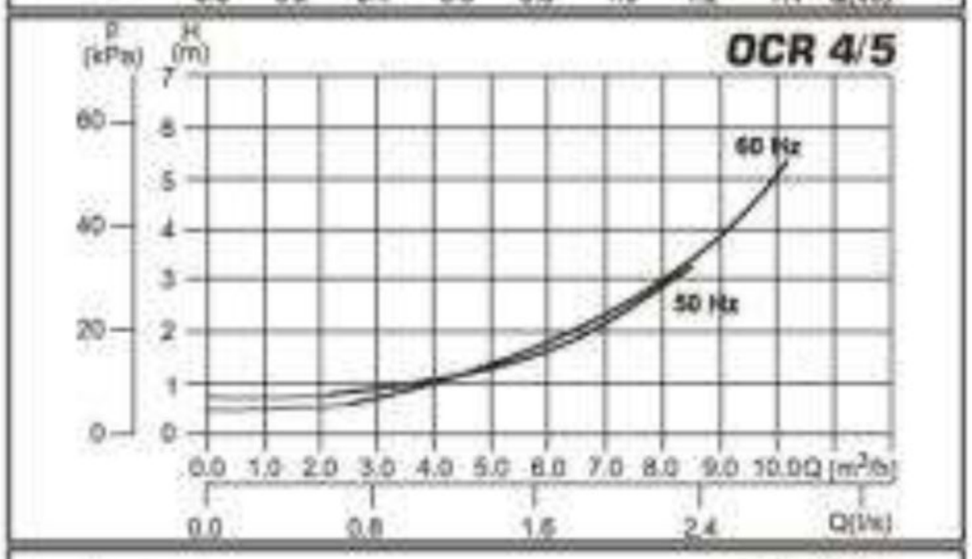


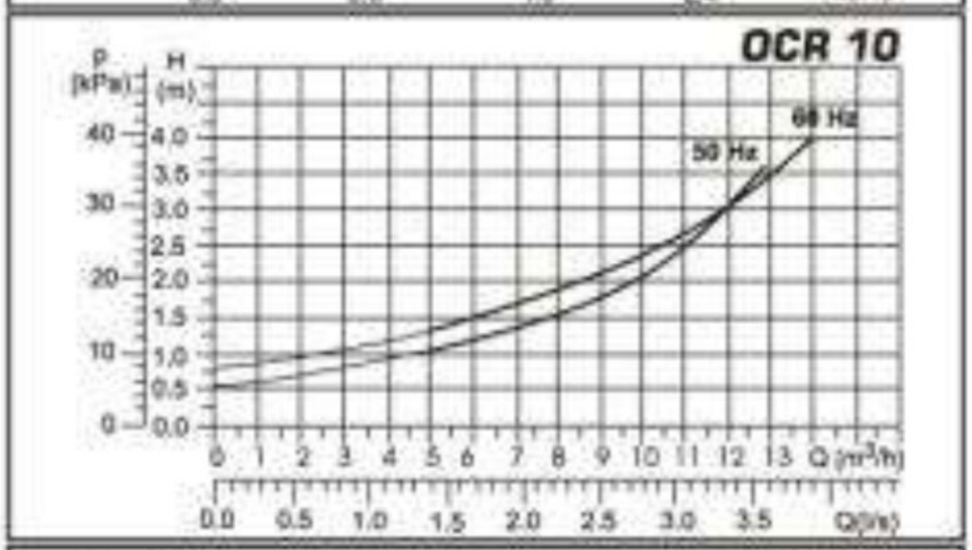

Relationship between motor output (P2) and ambient temperature

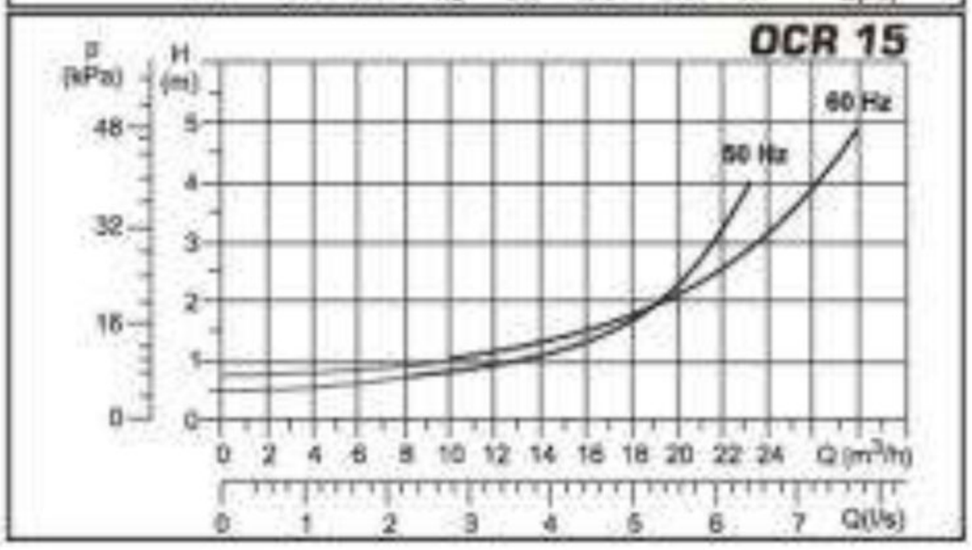
## NPSHR Curve :



# Selection and Sizing

## Minimum Inlet Pressure

Calculation of the inlet pressure "H" is recommended when....

- The liquid temperature is high,
- The flow is significantly higher than the rated flow,
- Water is drawn from depth,
- Water is drawn through long pipes,
- Inlet conditions are poor,

To avoid cavitation, make sure that there is a minimum pressure on the suction side of the pump. The maximum suction lift 'H' in meters head can be calculated as follows :

H = pb x 10.2 - NPSH - Hf - Hv - Hs

Pb = Barometric pressure in bar.
(Barometric pressure can be set to 1 bar).
In closed systems, pb indicates the system pressure in bar.

NPSH = Net Positive Suction Head in meters head.
(To be read from the NPSH curve at the highest flow the pump will be delivering).

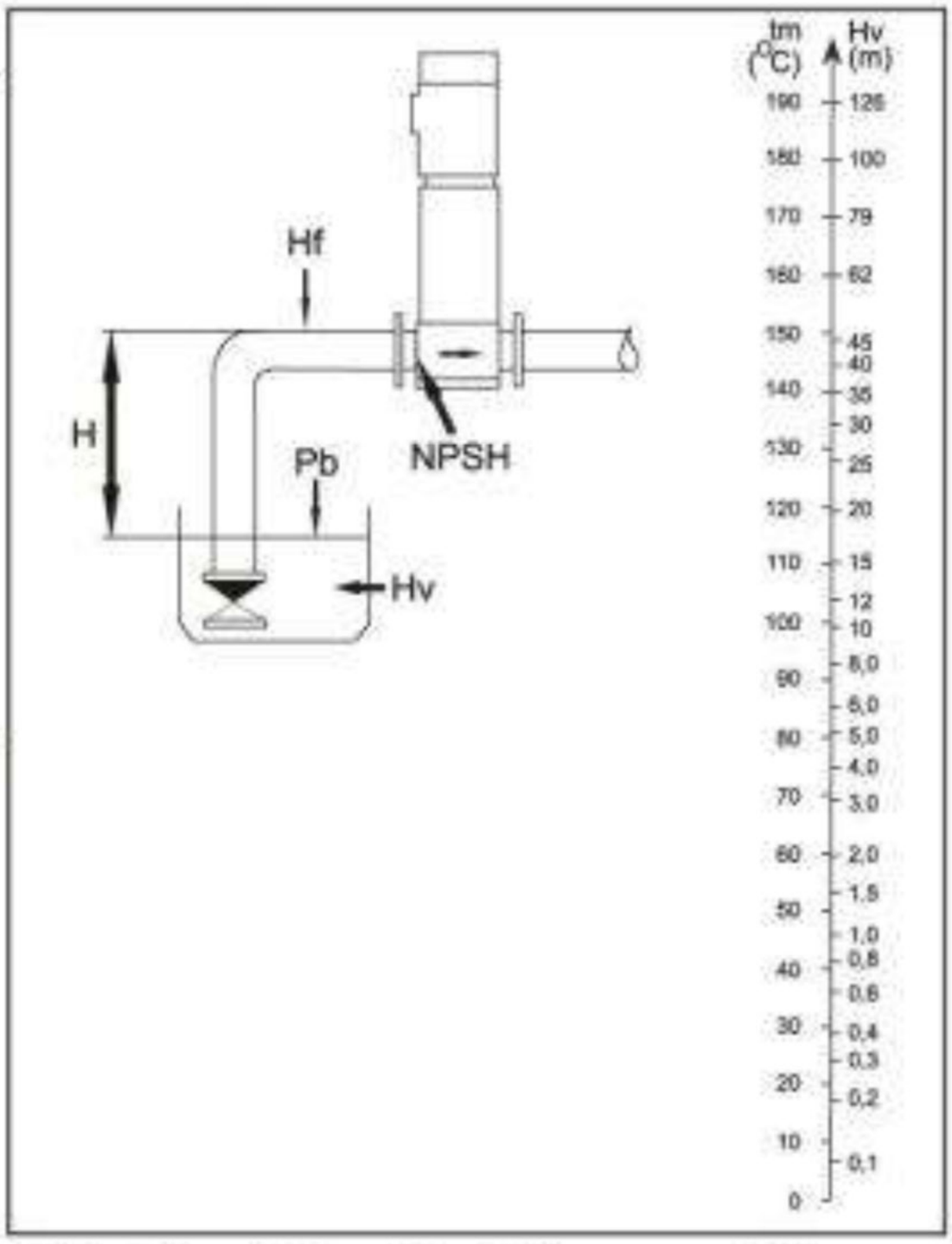
H = Friction loss in suction pipe in meters head.
(At the highest flow the pump will be delivering.)

Hv = Vapour pressure in meters head.
(To be read from the vapour pressure scale.
"Hv" depends on the liquid temperature "Tm"

Hs = Safty margin = minimum 0.5 meters head.

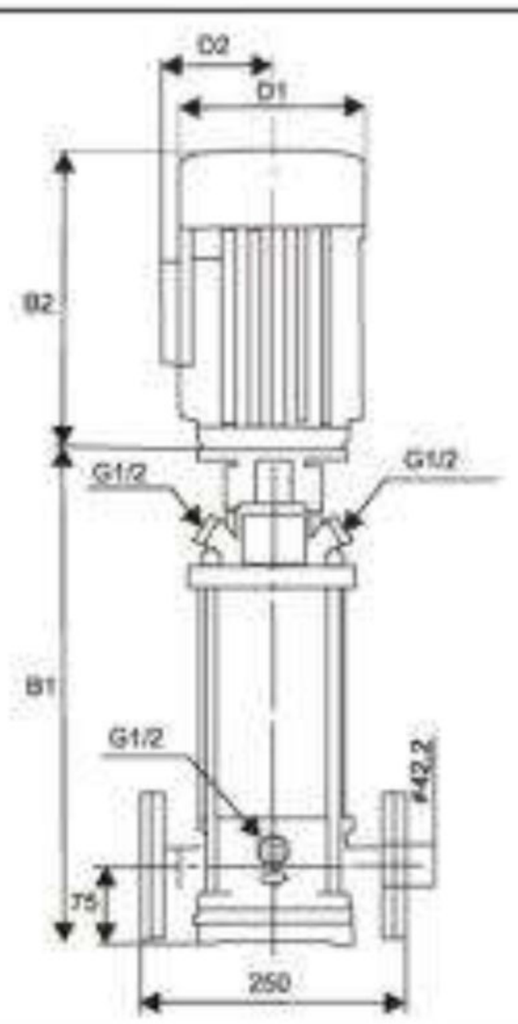
If the "H" calculated is positive, the pump can operate at a suction lift of maximum "H" meters head.

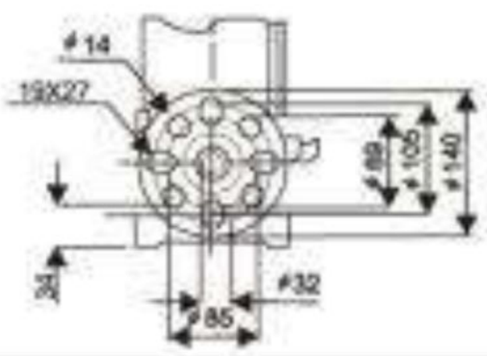
If the "H" calculated is negative, an inlet pressure of minimum "H" meters head is required.




**Note :** In order to avoid cavitation never, select a pump whose duty point lies too far to the right on the NPSH curve. Always check the NPSH value of the pump at the highest possible flow.

## Dimensional Sketch :



# Performance Curves