EU

E-Tech

Franklin Electric

# VERTICAL MULTISTAGE PUMPS

## EV 3 - 5 - 9 - 15 - 20 - 30 - 45 - 65 - 95

## 50Hz

# INDEX

# EV Series 3 - 5 - 9 - 15 - 20 - 30 - 45 - 65 - 95
# Vertical Multistage Centrifugal Pumps

## APPLICATIONS

- Boiler feed
- Circulation of hot and cold water for heating, cooling and conditioning systems
- Handling of water, free of suspended solids, in the civil, industrial and agricultural sector
- Irrigation systems
- Pressure boosting and water supply systems
- Wash down unit
- Water treatment plants

## FEATURES

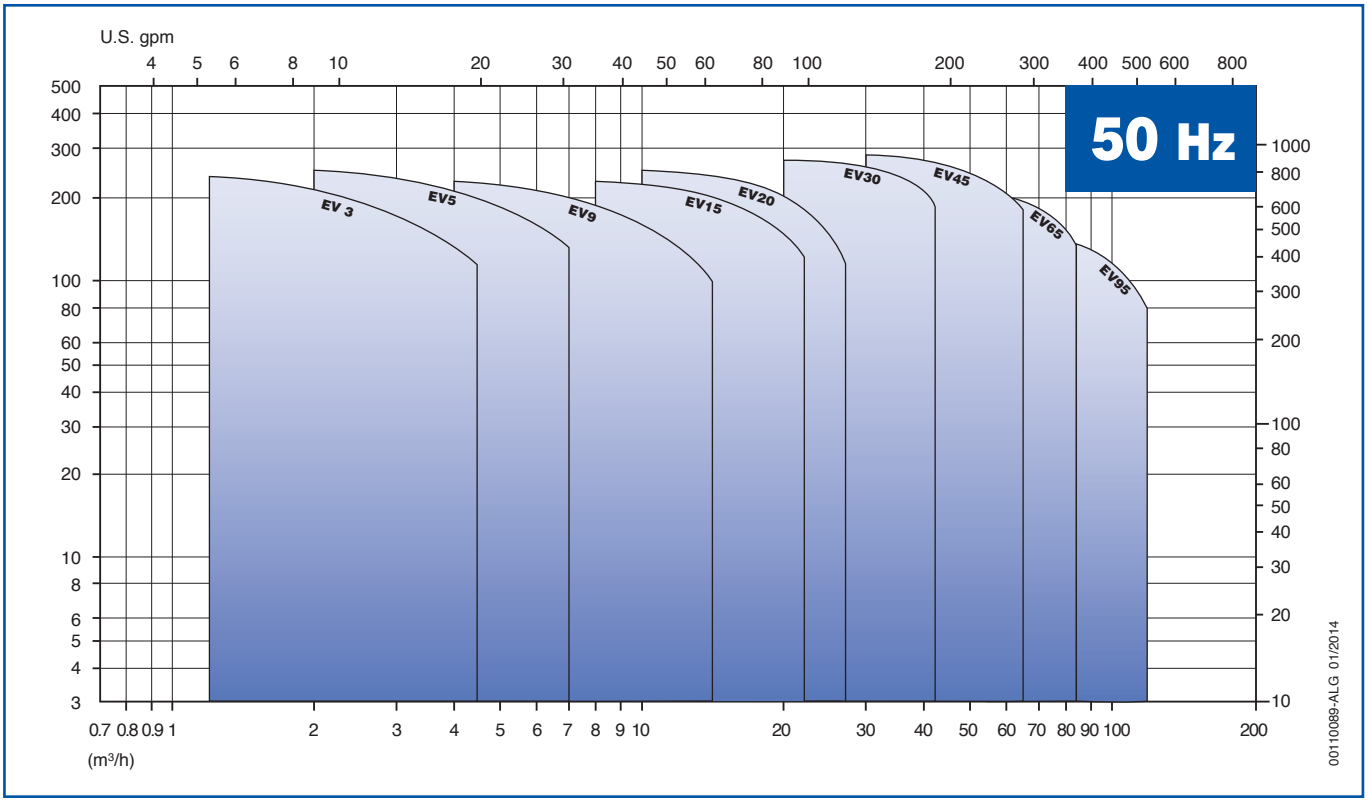
- Full stainless steel in contact with water (inox version), compact and solid structure
- Diffuser bushing made of carbon for durability against dry running (EV 30-45-65-95)
- Easy disassembly without any tool
- Easy installation IN LINE ports
- Fabricated stainless steel impeller and diffuser for corrosion resistance and superior efficiency
- Liquid end made of stainless steel in order to achieve durability, superior efficiency and the highest performances
- New hydraulic design for the highest efficiency
- Oversize ball bearing (bearing bracket) ensure motor bearing long life and eliminates axial and other adjustments of moving parts
- PTFE WRAS certified replacement floating neck ring for cost effective maintenance and long-lasting performance
- Removal of the mechanical seal without dismounting the motor (EV 15-20-30-45-65-95 50Hz models higher than 4 KW, motor weight higher than 30 Kg)
- Replaceable stainless steel wear ring in the neck of the impeller (EV 30-45-65-95)
- Shaft bearing and journal sleeve made of tungsten carbide (EV 15-20-30-45-65-95)
- Shaft bearing made of tungsten carbide and journal sleeve made of ceramic (EV 3-5-9)
- Standard balanced mechanical seal (EN 12756 ex DIN 24960) WRAS certified
- Standard motor without oversize bearing, size B14 up to 4kW / size B5 from 5.5kW and above, IE2
- Tungsten carbide intermediate bearing to control and eliminate vibration and stabilize the rotor with a large number of stages
- WRAS certified components

## SPECIFICATIONS

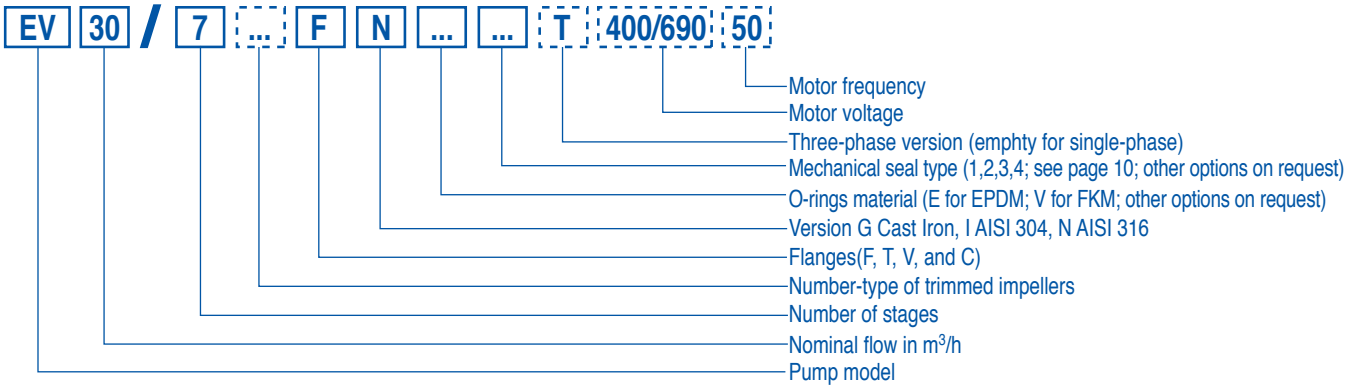
- Capacities up to 120 $m^3/h$ at 50Hz
- Head up to 30 Bar at 50Hz
- Direction of rotation : clockwise looking at the pump from the top down
- Discharge and Suction port: Oval, Round flanges, Victaulic and Clamp connections
- Hydraulic characteristics are guaranteed, according to ISO standard 9906 grade 3
- Liquid temperature range: from -15°C to +120°C
- Materials: suitable for handling potable water (materials WRAS certified)
- Maximum working pressure: Oval flange 16 Bar; Round Flange, Victaulic and Clamp connections 25 Bar
- Motor powers from 2.2 to 45 kW at 50Hz

## AVAILABLE ON REQUEST

- AISI 304 version (EVI) for models 30-45-65-95
- Special materials for the mechanical seal, gaskets and elastomers
- Oval counter flanges (EV 3-5-9-15-20)
- Round counter flanges




## PUMP IDENTIFICATION CODE




| Models | Maximun working pressure | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | EV 3 | EV 5 | EV 9 | EV 15 | EV 20 | EV 30 | EV 45 | EV 65 | EV 95 |
| | bar | bar | bar | bar | bar | bar | bar | bar | bar |
| T version | 16 | 16 | 16 | 16 | 16 | | | | |
| F,V and C version | 26 | 26 | 26 | 26 | 26 | | | | |
| F version (PN16) | | | | | | 16 | 16 | 16 | 16 |
| F version (PN25/40) | | | | | | 32 | 32 | 25 | 25 |

The Inlet pressure of the pump plus the pressure of the water inside the pump cannot exceed the maximun working pressure

# EV 3-5-9
# TABLE OF HYDRAULIC PERFORMANCES AT 50Hz

| PUMP TYPE | RATED POWER | | Q = DELIVERY | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | l/min 0 | 25 | 33 | 42 | 50 | 58 | 67 | 75 | 83 | 90 | 100 | 117 | 133 | 150 | 167 | 183 | 233 | 300 | 333 | 367 | 417 | 433,5 | 466,5 |
| | | | m³/h 0 | 1.5 | 2 | 2.5 | 3 | 3.5 | 4 | 4.5 | 5 | 5.4 | 6 | 7 | 8 | 9 | 10 | 11 | 14 | 18 | 20 | 22 | 25 | 26 | 28 |
| | kW | HP | H = TOTAL HEAD METERS COLUMN OF WATER | | | | | | | | | | | | | | | | | | | | | | |
| EV 3/2 | 0.3 | 0.4 | 22 | 19.5 | 18.5 | 17 | 15 | 13.5 | 11.5 | 9.5 | | | | | | | | | | | | | | | |
| EV 3/3 | 0.55 | 0.75 | 33.5 | 29 | 27.5 | 25 | 22.5 | 20 | 17 | 13.5 | | | | | | | | | | | | | | | |
| EV 3/4 | 0.75 | 1 | 45.5 | 41 | 38.5 | 35.5 | 32.5 | 29 | 25 | 21 | | | | | | | | | | | | | | | |
| EV 3/5 | 0.75 | 1 | 56.5 | 50 | 47 | 43.5 | 39.5 | 35 | 30.5 | 25 | | | | | | | | | | | | | | | |
| EV 3/6 | 1.1 | 1.5 | 68 | 60.5 | 57 | 53 | 48 | 42.5 | 37 | 30.5 | | | | | | | | | | | | | | | |
| EV 3/7 | 1.1 | 1.5 | 78.5 | 70 | 65.5 | 60.5 | 55 | 48.5 | 42 | 34.5 | | | | | | | | | | | | | | | |
| EV 3/8 | 1.5 | 2 | 91 | 81.5 | 77 | 71.5 | 65 | 58 | 50 | 41.5 | | | | | | | | | | | | | | | |
| EV 3/10 | 1.5 | 2 | 112.5 | 100.5 | 94.5 | 87 | 79 | 70 | 60.5 | 49.5 | | | | | | | | | | | | | | | |
| EV 3/12 | 2.2 | 3 | 137 | 123.5 | 117 | 108.5 | 98.5 | 88.5 | 76.5 | 63.5 | | | | | | | | | | | | | | | |
| EV 3/14 | 2.2 | 3 | 159.5 | 143 | 134.5 | 124.5 | 113.5 | 101 | 87.5 | 72.5 | | | | | | | | | | | | | | | |
| EV 3/17 | 3 | 4 | 194.5 | 174.5 | 165 | 152.5 | 139 | 124.5 | 107.5 | 89.5 | | | | | | | | | | | | | | | |
| EV 3/20 | 4 | 5.5 | 231.5 | 210.5 | 199.5 | 185.5 | 170 | 152.5 | 133 | 111.5 | | | | | | | | | | | | | | | |
| EV 3/22 | 4 | 5.5 | 254 | 230.5 | 218.5 | 203 | 185.5 | 166.5 | 145.5 | 121.5 | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| EV 5/2 | 0.55 | 0.75 | 22 | | 21 | 20 | 19.5 | 18.5 | 18 | 17 | 16 | 15.5 | 14 | 11 | | | | | | | | | | | |
| EV 5/3 | 0.75 | 1 | 34 | | 32 | 31 | 30 | 29.5 | 28 | 27 | 26 | 24.5 | 22.5 | 18 | | | | | | | | | | | |
| EV 5/4 | 1.1 | 1.5 | 45.5 | | 42.5 | 41.5 | 40 | 39 | 37.5 | 36 | 34 | 32.5 | 30 | 24 | | | | | | | | | | | |
| EV 5/5 | 1.1 | 1.5 | 56.5 | | 52 | 50.5 | 49 | 47.5 | 46 | 44 | 41.5 | 39.5 | 36 | 29 | | | | | | | | | | | |
| EV 5/6 | 1.5 | 2 | 68.5 | | 63.5 | 62 | 60.5 | 58.5 | 56.5 | 54 | 51.5 | 49 | 45 | 36.5 | | | | | | | | | | | |
| EV 5/7 | 1.5 | 2 | 79.5 | | 73.5 | 71.5 | 69.5 | 67.5 | 64.5 | 62 | 59 | 56 | 51 | 41 | | | | | | | | | | | |
| EV 5/8 | 2.2 | 3 | 92 | | 86 | 84 | 82 | 79.5 | 77 | 74 | 70.5 | 67 | 62 | 50.5 | | | | | | | | | | | |
| EV 5/10 | 2.2 | 3 | 114 | | 106.5 | 103.5 | 101 | 98 | 94 | 90.5 | 86 | 82 | 75 | 61 | | | | | | | | | | | |
| EV 5/12 | 3 | 4 | 137.5 | | 128.5 | 125.5 | 122 | 118.5 | 114.5 | 109.5 | 104.5 | 99.5 | 91.5 | 74.5 | | | | | | | | | | | |
| EV 5/14 | 3 | 4 | 159.5 | | 148.5 | 144.5 | 140.5 | 136.5 | 131.5 | 126 | 120 | 114 | 104.5 | 84.5 | | | | | | | | | | | |
| EV 5/17 | 4 | 5.5 | 196.5 | | 184.5 | 180.5 | 176 | 171 | 165 | 159 | 151.5 | 145 | 133.5 | 109.5 | | | | | | | | | | | |
| EV 5/19 | 5.5 | 7.5 | 220 | | 206.5 | 202 | 197 | 192 | 185.5 | 178.5 | 170 | 162.5 | 150 | 123.5 | | | | | | | | | | | |
| EV 5/22 | 5.5 | 7.5 | 254 | | 237.5 | 232.5 | 226.5 | 220 | 212.5 | 204.5 | 195 | 186 | 171.5 | 140.5 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| EV 9/2 | 0.75 | 1 | 23.5 | | | | | | 22 | 21.5 | 21.5 | 21 | 20.5 | 20 | 19 | 18.5 | 17 | 15.5 | 9 | | | | | | |
| EV 9/3 | 1.1 | 1.5 | 35.5 | | | | | | 32.5 | 32 | 31.5 | 31 | 30.5 | 29.5 | 28.5 | 27 | 25.5 | 23 | 13 | | | | | | |
| EV 9/4 | 1.5 | 2 | 47.5 | | | | | | 43.5 | 43 | 42.5 | 42 | 41.5 | 40 | 38.5 | 36.5 | 34.5 | 31.5 | 18.5 | | | | | | |
| EV 9/5 | 2.2 | 3 | 60 | | | | | | 55.5 | 55 | 54.5 | 54 | 53 | 51 | 49.5 | 47.5 | 44.5 | 41 | 25 | | | | | | |
| EV 9/6 | 2.2 | 3 | 71.5 | | | | | | 66 | 65.5 | 64.5 | 64 | 62.5 | 60.5 | 58.5 | 56 | 52.5 | 48 | 28.5 | | | | | | |
| EV 9/7 | 3 | 4 | 84 | | | | | | 77.5 | 77 | 76 | 75.5 | 74 | 71.5 | 69 | 66 | 62.5 | 57 | 34.5 | | | | | | |
| EV 9/8 | 3 | 4 | 95.5 | | | | | | 88 | 87.5 | 86.5 | 85.5 | 83.5 | 80.5 | 77.5 | 74.5 | 70 | 64 | 38 | | | | | | |
| EV 9/10 | 4 | 5.5 | 120.5 | | | | | | 112.5 | 111.5 | 110.5 | 109.5 | 107.5 | 104 | 100.5 | 96.5 | 91 | 84 | 51.5 | | | | | | |
| EV 9/11 | 4 | 5.5 | 132 | | | | | | 123 | 122 | 121 | 119.5 | 117.5 | 113.5 | 109.5 | 105.5 | 99.5 | 91.5 | 56 | | | | | | |
| EV 9/12 | 5.5 | 7.5 | 144.5 | | | | | | 135 | 134 | 132.5 | 131 | 129 | 124.5 | 120.5 | 116 | 109.5 | 100.5 | 62 | | | | | | |
| EV 9/14 | 5.5 | 7.5 | 168 | | | | | | 156 | 155 | 153.5 | 151.5 | 149 | 144 | 139 | 133.5 | 126 | 115.5 | 70 | | | | | | |
| EV 9/17 | 7.5 | 10 | 205 | | | | | | 191 | 190 | 188 | 186 | 182.5 | 177 | 170.5 | 164.5 | 155.5 | 143 | 88 | | | | | | |
| EV 9/19 | 7.5 | 10 | 228.5 | | | | | | 212.5 | 211 | 209 | 206.5 | 203 | 196.5 | 189.5 | 182 | 172 | 158 | 96.5 | | | | | | |
| EV 9/20 | 7.5 | 10 | 240.5 | | | | | | 223.5 | 221.5 | 219 | 217 | 213 | 206 | 198.5 | 191 | 180 | 165.5 | 100.5 | | | | | | |

| MATERIAL IN CONTACT WITH THE LIQUID | | | | | | |
|---|---|---|---|---|---|---|
| **Pos.** | **PARTS DESCRIPTIONS** | | **MATERIAL** | | | |
| | | | **Standard version** | | **N version** | |
| | | **Type** | **ASTM/AISI** | **DIN / EN** | **ASTM/AISI** | **DIN / EN** |
| 10.00 | Pump casing | Stainless Steel | CF 8 / AISI 304 | 1.4308 | CF 8M / AISI 316 | 1.4408 |
| 10.02 | Draining and priming cap | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 10.06 | Upper Flange | Stainless Steel | CF 8 / AISI 304 | 1.4308 | CF 8M / AISI 316 | 1.4408 |
| 20.00 | Outer Case | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 20.01 | Mechanical seal housing | Stainless Steel | AISI 304 | 1.4301 | CF 8M / AISI 316 | 1.4408 / 1.4401 |
| 20.05 | Filling plugs | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 30.00 | Pump shaft | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 30.01 | Kit Mechanical seal | Silicon Carbide SiC, Carbon graphite, EPDM, Stainless steel | - | - | - | - |
| 30.02 | Kit Mechanical seal fastening kit | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 30.03 | Kit O-ring | EPDM | - | - | - | - |
| 40.00 | Stage housing and diffuser | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 40.01 | Stage centering outlet | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 40.02 | Floating neck ring | PTFE/PPS | - | - | - | - |
| 40.03 | Initial stage housing | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 40.04 | Last stage with diffuser | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 40.05 | Stage centering inlet | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 40.06 | Stage housing and diffuser with bearing | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 50.00 | Impeller | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 50.01 | Impeller spacer | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 50.02 | Intermediary sleeve | Tungsten Carbide SiW | - | - | - | - |
| 50.03 | Intermediary sleeve spacer | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |

# EV 15-20
# TABLE OF HYDRAULIC PERFORMANCES AT 50Hz

| PUMP TYPE | RATED POWER | | Q = DELIVERY | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | l/min 0 | 25 | 33 | 42 | 50 | 58 | 67 | 75 | 83 | 90 | 100 | 117 | 133 | 167 | 200 | 233 | 266 | 300 | 333 | 367 | 400 | 433,5 | 466,5 |
| | | | m³/h 0 | 1.5 | 2 | 2.5 | 3 | 3.5 | 4 | 4.5 | 5 | 5.4 | 6 | 7 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 |
| | kW | HP | H = TOTAL HEAD METERS COLUMN OF WATER | | | | | | | | | | | | | | | | | | | | | | | |
| EV15-1 | 1,1 | 1,5 | 14,5 | | | | | | | | | | | | 13 | 12,5 | 12 | 11,5 | 10,5 | 9,5 | 8,5 | 7 | 5,5 | | |
| EV15-2 | 2,2 | 3 | 29 | | | | | | | | | | | | 26 | 25 | 24 | 23 | 21,5 | 19,5 | 17 | 14 | 11 | | |
| EV15-3 | 3 | 4 | 43,5 | | | | | | | | | | | | 39 | 38 | 36,5 | 34,5 | 32,5 | 29,5 | 26 | 21,5 | 17 | | |
| EV15-4 | 4 | 5,5 | 58 | | | | | | | | | | | | 52,5 | 51 | 49 | 46,5 | 44 | 40,5 | 35,5 | 29,5 | 23,5 | | |
| EV15-5 | 4 | 5,5 | 72,5 | | | | | | | | | | | | 65,5 | 63,5 | 60,5 | 57,5 | 54,5 | 49,5 | 43 | 36 | 28,5 | | |
| EV15-6 | 5,5 | 7,5 | 87,5 | | | | | | | | | | | | 79,5 | 77 | 74 | 71 | 67 | 61,5 | 54 | 46 | 36,5 | | |
| EV15-7 | 5,5 | 7,5 | 102 | | | | | | | | | | | | 92 | 89 | 86 | 82 | 77,5 | 70,5 | 62 | 52,5 | 41,5 | | |
| EV15-8 | 7,5 | 10 | 117 | | | | | | | | | | | | 106,5 | 103 | 99,5 | 95 | 90 | 82,5 | 72,5 | 62 | 49 | | |
| EV15-9 | 7,5 | 10 | 131,5 | | | | | | | | | | | | 119 | 115,5 | 111 | 106 | 100,5 | 92 | 81 | 69 | 54,5 | | |
| EV15-10 | 11 | 15 | 147,5 | | | | | | | | | | | | 134,5 | 131 | 126,5 | 121 | 115 | 106 | 94 | 80,5 | 65 | | |
| EV15-11 | 11 | 15 | 162 | | | | | | | | | | | | 148 | 143,5 | 139 | 133 | 126,5 | 116,5 | 103 | 88,5 | 71 | | |
| EV15-12 | 11 | 15 | 176,5 | | | | | | | | | | | | 161 | 156,5 | 151 | 144,5 | 137,5 | 126,5 | 112 | 96 | 77 | | |
| EV15-13 | 11 | 15 | 191 | | | | | | | | | | | | 174,5 | 169 | 163,5 | 156,5 | 148,5 | 136,5 | 120,5 | 103 | 82,5 | | |
| EV15-14 | 11 | 15 | 205,5 | | | | | | | | | | | | 187,5 | 182 | 175,5 | 168 | 159 | 146 | 129 | 110,5 | 88 | | |
| EV15-15 | 15 | 20 | 221 | | | | | | | | | | | | 201 | 195,5 | 188,5 | 180,5 | 171,5 | 157,5 | 139,5 | 119,5 | 95,5 | | |
| EV15-16 | 15 | 20 | 235,5 | | | | | | | | | | | | 214 | 208 | 200,5 | 192 | 182,5 | 167,5 | 148 | 126,5 | 101,5 | | |
| EV15-17 | 15 | 20 | 249,5 | | | | | | | | | | | | 227,5 | 220,5 | 213 | 203,5 | 193 | 177,5 | 156,5 | 134 | 107 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| EV20-1 | 1,1 | 1,5 | 15,5 | | | | | | | | | | | | | 13,5 | 13 | 13 | 12,5 | 12 | 11 | 10 | 8,5 | 7,5 | 6 |
| EV20-2 | 2,2 | 3 | 31 | | | | | | | | | | | | | 27,5 | 27 | 26 | 25 | 24 | 22,5 | 20,5 | 18 | 15 | 12 |
| EV20-3 | 4 | 5,5 | 46,5 | | | | | | | | | | | | | 41,5 | 40,5 | 39,5 | 38 | 36,5 | 34,5 | 31 | 27,5 | 23 | 18,5 |
| EV20-4 | 5,5 | 7,5 | 62,5 | | | | | | | | | | | | | 56 | 55 | 53,5 | 51,5 | 49,5 | 46,5 | 42,5 | 37 | 31,5 | 25,5 |
| EV20-5 | 5,5 | 7,5 | 78 | | | | | | | | | | | | | 70 | 68,5 | 66,5 | 64,5 | 62 | 58 | 53 | 47 | 40 | 32,5 |
| EV20-6 | 7,5 | 10 | 94,5 | | | | | | | | | | | | | 86,5 | 84,5 | 82,5 | 80 | 77,5 | 73,5 | 67,5 | 60 | 52 | 42,5 |
| EV20-7 | 7,5 | 10 | 110 | | | | | | | | | | | | | 100,5 | 98 | 95,5 | 93 | 90 | 85 | 77,5 | 69 | 59,5 | 48,5 |
| EV20-8 | 11 | 15 | 126,5 | | | | | | | | | | | | | 117 | 114 | 112 | 109 | 106 | 100,5 | 92,5 | 82,5 | 72 | 59,5 |
| EV20-9 | 11 | 15 | 142,5 | | | | | | | | | | | | | 131 | 128 | 125,5 | 122 | 118,5 | 112,5 | 103,5 | 92,5 | 80,5 | 66,5 |
| EV20-10 | 11 | 15 | 158 | | | | | | | | | | | | | 145,5 | 142 | 139 | 135 | 131,5 | 124,5 | 114 | 102 | 88,5 | 73 |
| EV20-11 | 15 | 20 | 174 | | | | | | | | | | | | | 160 | 156,5 | 153 | 149 | 144,5 | 137 | 126 | 113 | 98 | 81 |
| EV20-12 | 15 | 20 | 189,5 | | | | | | | | | | | | | 174,5 | 170,5 | 167 | 162 | 157,5 | 149 | 137 | 122,5 | 106,5 | 87,5 |
| EV20-13 | 15 | 20 | 205 | | | | | | | | | | | | | 188,5 | 184 | 180 | 175 | 170 | 161 | 147,5 | 132 | 114,5 | 94 |
| EV20-14 | 15 | 20 | 220,5 | | | | | | | | | | | | | 202,5 | 198 | 193,5 | 188 | 182,5 | 172,5 | 158 | 141 | 122 | 100,5 |
| EV20-15 | 18,5 | 25 | 237 | | | | | | | | | | | | | 217,5 | 212,5 | 208 | 202 | 196 | 185,5 | 170,5 | 152 | 132 | 108,5 |
| EV20-16 | 18,5 | 25 | 252,5 | | | | | | | | | | | | | 231,5 | 226 | 221 | 215 | 208,5 | 197 | 181 | 161,5 | 140 | 115 |
| EV20-17 | 18,5 | 25 | 268 | | | | | | | | | | | | | 245,5 | 240 | 234,5 | 227,5 | 221 | 209 | 191,5 | 171 | 148 | 121,5 |

| MATERIAL IN CONTACT WITH THE LIQUID | | | | | | |
|---|---|---|---|---|---|---|
| **Pos.** | **PARTS DESCRIPTIONS** | | **MATERIAL** | | | |
| | | | **Standard version** | | **N version** | |
| | | **Type** | **ASTM/AISI** | **DIN / EN** | **ASTM/AISI** | **DIN / EN** |
| 10.00 | Pump casing | Stainless Steel | - | - | CF 8M / AISI 316 | 1.4408 |
| 10.02 | Draining and priming cap | Stainless Steel | - | - | AISI 316 | 1.4401 |
| 10.06 | Upper Flange | Stainless Steel | - | - | CF 8M / AISI 316 | 1.4408 |
| 20.00 | Outer Case | Stainless Steel | - | - | AISI 316 | 1.4401 |
| 20.01 | Mechanical seal housing | Stainless Steel | - | - | CF 8M / AISI 316 | 1.4408 / 1.4401 |
| 20.05 | Filling plugs | Stainless Steel | - | - | AISI 316 | 1.4401 |
| 30.00 | Pump shaft | Stainless Steel | - | - | AISI 316 | 1.4401 |
| 30.01 | Kit Mechanical seal | Silicon Carbide SiC, Carbon graphite, EPDM, Stainless steel | - | - | - | - |
| 30.02 | Kit Mechanical seal fastening kit | Stainless Steel | - | - | AISI 316 | 1.4401 |
| 30.03 | Kit O-ring | EPDM | - | - | - | - |
| 40.00 | Stage housing and diffuser | Stainless Steel | - | - | AISI 316 | 1.4401 |
| 40.01 | Stage centering outlet | Stainless Steel | - | - | AISI 316 | 1.4401 |
| 40.02 | Floating neck ring | PTFE/PPS | - | - | - | - |
| 40.03 | Initial stage housing | Stainless Steel | - | - | AISI 316 | 1.4401 |
| 40.04 | Last stage with diffuser | Stainless Steel | - | - | AISI 316 | 1.4401 |
| 40.05 | Stage centering inlet | Stainless Steel | - | - | AISI 316 | 1.4401 |
| 40.06 | Stage housing and diffuser with bearing | Stainless Steel | - | - | AISI 316 | 1.4401 |
| 50.00 | Impeller | Stainless Steel | - | - | AISI 316 | 1.4401 |
| 50.01 | Impeller spacer | Stainless Steel | - | - | AISI 316 | 1.4401 |
| 50.02 | Intermediary sleeve | Tungsten Carbide SiW | - | - | - | - |
| 50.03 | Intermediary sleeve spacer | Stainless Steel | - | - | AISI 316 | 1.4401 |

# EV30-45
# TABLE OF HYDRAULIC PERFORMANCES AT 50Hz

| PUMP TYPE | RATED POWER | | Q = DELIVERY | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | l/min 0 | 250 | 300 | 367 | 417 | 500 | 583 | 667 | 750 | 900 | 1000 | 1083 |
| | | | m³/h 0 | 15 | 18 | 22 | 25 | 30 | 35 | 40 | 45 | 54 | 60 | 65 |
| | kW | HP | H = TOTAL HEAD METERS COLUMN OF WATER | | | | | | | | | | | |
| EV 30/1 | 2,2 | 3 | 24 | | 20,5 | 19,5 | 19 | 17,5 | 16 | 13,5 | 11 | | | |
| EV 30/2-2a | 4 | 5,5 | 36 | | 32,5 | 30,5 | 29,5 | 26,5 | 22,5 | 18 | 12,5 | | | |
| EV 30/2-1a | 4 | 5,5 | 42 | | 37 | 35,5 | 34 | 31,5 | 27,5 | 23 | 18 | | | |
| EV 30/2 | 5,5 | 7,5 | 48,5 | | 42,5 | 41 | 39,5 | 36,5 | 33,5 | 29 | 23,5 | | | |
| EV 30/3-2a | 5,5 | 7,5 | 60 | | 53 | 50,5 | 48 | 44 | 38 | 31,5 | 23,5 | | | |
| EV 30/3-1a | 7,5 | 10 | 66,5 | | 58,5 | 56 | 54 | 50 | 45 | 38 | 30 | | | |
| EV 30/3 | 7,5 | 10 | 73 | | 63,5 | 61 | 59 | 55 | 50 | 43,5 | 35,5 | | | |
| EV 30/4-2a | 7,5 | 10 | 84,5 | | 74 | 70,5 | 68 | 62 | 55 | 46 | 35 | | | |
| EV 30/4-1a | 11 | 15 | 91,5 | | 81 | 78 | 75,5 | 70 | 63 | 54,5 | 43,5 | | | |
| EV 30/4 | 11 | 15 | 98 | | 86 | 83 | 80,5 | 75 | 69 | 60 | 49,5 | | | |
| EV 30/5-2a | 11 | 15 | 109,5 | | 97 | 93 | 89,5 | 83 | 74 | 63 | 49,5 | | | |
| EV 30/5-1a | 11 | 15 | 115,5 | | 102 | 98 | 94,5 | 88 | 79,5 | 68,5 | 55 | | | |
| EV 30/5 | 15 | 20 | 122,5 | | 107 | 103,5 | 100 | 93,5 | 85,5 | 75 | 61,5 | | | |
| EV 30/6-2a | 15 | 20 | 134 | | 118,5 | 113,5 | 109,5 | 101,5 | 91 | 78 | 61,5 | | | |
| EV 30/6-1a | 15 | 20 | 140 | | 123 | 118,5 | 114,5 | 106,5 | 96,5 | 83,5 | 67 | | | |
| EV 30/6 | 15 | 20 | 146,5 | | 128 | 123,5 | 119,5 | 111,5 | 102 | 89 | 73 | | | |
| EV 30/7-2a | 15 | 20 | 158 | | 139 | 133,5 | 128,5 | 119 | 107 | 91,5 | 72,5 | | | |
| EV 30/7-1a | 15 | 20 | 164 | | 144 | 138,5 | 133,5 | 124 | 112,5 | 97 | 78 | | | |
| EV 30/7 | 18,5 | 25 | 171 | | 149 | 144 | 139,5 | 130 | 119 | 103,5 | 85 | | | |
| EV 30/8-2a | 18,5 | 25 | 182,5 | | 160 | 154 | 148,5 | 137,5 | 124 | 106 | 84,5 | | | |
| EV 30/8-1a | 18,5 | 25 | 188,5 | | 165 | 159 | 153,5 | 142,5 | 129,5 | 111,5 | 90 | | | |
| EV 30/8 | 18,5 | 25 | 194,5 | | 169,5 | 164 | 158,5 | 147,5 | 134,5 | 117 | 95,5 | | | |
| EV 30/9-2a | 22 | 30 | 208,5 | | 184 | 177 | 171 | 159 | 144 | 124,5 | 100,5 | | | |
| EV 30/9-1a | 22 | 30 | 214,5 | | 189 | 182,5 | 176,5 | 164,5 | 150 | 130 | 106 | | | |
| EV 30/9 | 22 | 30 | 221 | | 194 | 187,5 | 181,5 | 169,5 | 155,5 | 136 | 112 | | | |
| EV 30/10-2a | 22 | 30 | 233 | | 205 | 197,5 | 191 | 177,5 | 161 | 139 | 112 | | | |
| EV 30/10-1a | 22 | 30 | 239 | | 210 | 202,5 | 196 | 182,5 | 166,5 | 144,5 | 117,5 | | | |
| EV 30/10 | 30 | 40 | 246,5 | | 217 | 210 | 203,5 | 190,5 | 175 | 153,5 | 126,5 | | | |
| EV 30/11-2a | 30 | 40 | 258 | | 228,5 | 220,5 | 213 | 198,5 | 180,5 | 156,5 | 127 | | | |
| EV 30/11-1a | 30 | 40 | 264,5 | | 233,5 | 225,5 | 218 | 204 | 186 | 162 | 133 | | | |
| EV 30/11 | 30 | 40 | 271 | | 238 | 230,5 | 223,5 | 209 | 192 | 168 | 138,5 | | | |
| EV 30/12-2a | 30 | 40 | 282,5 | | 249,5 | 241 | 233 | 217 | 197,5 | 171 | 139 | | | |
| EV 30/12-1a | 30 | 40 | 289 | | 254,5 | 246 | 238 | 222,5 | 203 | 177 | 145 | | | |
| EV 30/12 | 30 | 40 | 295 | | 259,5 | 251 | 243 | 227,5 | 208,5 | 182,5 | 150,5 | | | |
| EV 30/13-2a | 30 | 40 | 307 | | 271 | 261,5 | 252,5 | 235,5 | 214 | 185,5 | 151 | | | |
| EV 30/13-1a | 30 | 40 | 313 | | 276 | 266,5 | 258 | 240,5 | 220 | 191,5 | 156,5 | | | |
| EV 30/13 | 30 | 40 | 319,5 | | 280,5 | 271,5 | 263 | 246 | 225,5 | 197 | 162,5 | | | |
| | | | | | | | | | | | | | | |
| EV 45/1-1a | 3 | 4 | 19 | | | | | | 16,5 | 15,5 | 14,5 | 11,5 | 9,5 | 7,5 |
| EV 45/1 | 4 | 5,5 | 24,5 | | | | | | 21,5 | 21 | 19,5 | 17 | 15,5 | 13,5 |
| EV 45/2-2a | 5,5 | 7,5 | 38,5 | | | | | | 33 | 31 | 28,5 | 23 | 18,5 | 14,5 |
| EV 45/2 | 7,5 | 10 | 48,5 | | | | | | 43 | 41,5 | 39 | 34 | 30,5 | 26,5 |
| EV 45/3-2a | 11 | 15 | 63 | | | | | | 56 | 53,5 | 50 | 42 | 36 | 30 |
| EV 45/3 | 11 | 15 | 73,5 | | | | | | 65,5 | 63 | 60 | 52,5 | 47 | 41 |
| EV 45/4-2a | 15 | 20 | 87,5 | | | | | | 77,5 | 74 | 69,5 | 59,5 | 51 | 43 |
| EV 45/4 | 15 | 20 | 97,5 | | | | | | 86,5 | 84 | 79,5 | 69,5 | 62 | 54,5 |
| EV 45/5-2a | 18,5 | 25 | 112 | | | | | | 99 | 94,5 | 89 | 76,5 | 66 | 56 |
| EV 45/5 | 18,5 | 25 | 122 | | | | | | 108 | 104,5 | 99 | 86,5 | 77 | 67,5 |
| EV 45/6-2a | 22 | 30 | 137,5 | | | | | | 122 | 117,5 | 110,5 | 95,5 | 83,5 | 72 |
| EV 45/6 | 22 | 30 | 147,5 | | | | | | 131,5 | 127 | 121 | 106 | 95 | 83,5 |
| EV 45/7-2a | 30 | 40 | 162,5 | | | | | | 145 | 139,5 | 132 | 115 | 101 | 87,5 |
| EV 45/7 | 30 | 40 | 172,5 | | | | | | 154,5 | 149,5 | 142,5 | 125,5 | 112 | 99 |
| EV 45/8-2a | 30 | 40 | 187 | | | | | | 167 | 160,5 | 152 | 132 | 116,5 | 101 |
| EV 45/8 | 30 | 40 | 197 | | | | | | 176,5 | 170,5 | 162,5 | 142,5 | 127,5 | 112,5 |
| EV 45/9-2a | 37 | 50 | 211,5 | | | | | | 188,5 | 181,5 | 172 | 149,5 | 132 | 114,5 |
| EV 45/9 | 37 | 50 | 221,5 | | | | | | 198 | 191,5 | 182 | 160 | 143 | 126 |
| EV 45/10-2a | 37 | 50 | 235,5 | | | | | | 210 | 202 | 191,5 | 166,5 | 147 | 127,5 |
| EV 45/10 | 37 | 50 | 246 | | | | | | 219 | 212 | 201,5 | 177 | 158 | 139 |
| EV 45/11-2a | 45 | 60 | 261 | | | | | | 233 | 224,5 | 213 | 186 | 164,5 | 143,5 |
| EV 45/11 | 45 | 60 | 271 | | | | | | 242,5 | 234,5 | 223,5 | 196,5 | 175,5 | 155 |
| EV 45/12-2a | 45 | 60 | 285,5 | | | | | | 254,5 | 245,5 | 232,5 | 203 | 179,5 | 156,5 |
| EV 45/12 | 45 | 60 | 295,5 | | | | | | 264 | 255,5 | 243 | 213,5 | 191 | 168,5 |
| EV 45/13-2a | 45 | 60 | 309,5 | | | | | | 276 | 266 | 252,5 | 220,5 | 195 | 170 |

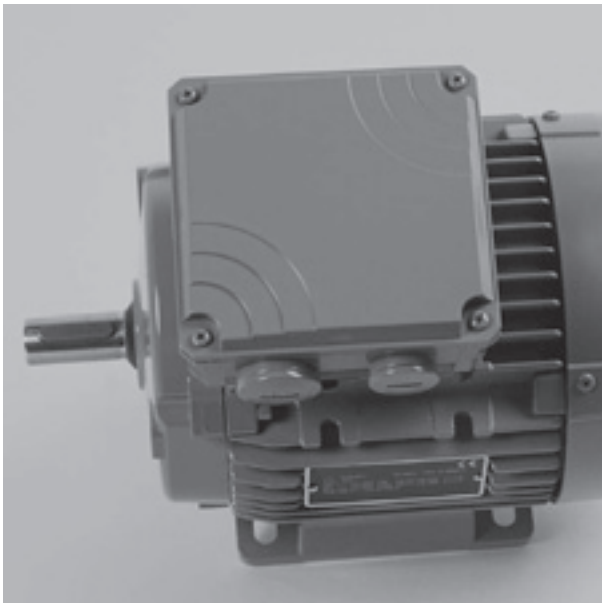
| MATERIAL IN CONTACT WITH THE LIQUID | | | | | | |
|---|---|---|---|---|---|---|
| **Pos.** | **PARTS DESCRIPTIONS** | | **MATERIAL** | | | |
| | | | **Standard version** | | **N version** | |
| | | **Type** | **ASTM/AISI** | **DIN / EN** | **ASTM/AISI** | **DIN / EN** |
| 10.00 | Pump casing | Cast Iron / Stainless Steel | A48 Class 35 | GJL-250 | CF 8M / AISI 316 | 1.4408 |
| 10.02 | Draining and priming cap | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 10.06 | Upper Flange | Cast Iron / Stainless Steel | A48 Class 35 | GJL-250 | CF 8M / AISI 316 | 1.4408 |
| 20.00 | Outer Case | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 20.01 | Mechanical seal housing | Stainless Steel | CF 8 / AISI 304 | 1.4308 | CF 8M / AISI 316 | 1.4408 |
| 20.05 | Filling plugs | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 30.00 | Pump shaft | Stainless Steel | AISI 431 | 1.4057 | AISI 329 | 1.4460 |
| 30.01 | Kit Mechanical seal | Silicon Carbide SiC, Carbon graphite, EPDM, Stainless steel | - | - | - | - |
| 30.02 | Kit Mechanical seal fastening kit | Stainless Steel | AISI 316 | 1.4401 | AISI 316 | 1.4401 |
| 30.03 | Kit O-ring | EPDM | - | - | - | - |
| 40.00 | Stage housing and diffuser | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 40.01 | Stage centering outlet | Stainless Steel | CF 8 / AISI 304 | 1.4308 | CF 8M / AISI 316 | 1.4408 |
| 40.02 | Floating neck ring | PTFE | - | - | - | - |
| 40.05 | Stage centering inlet | Stainless Steel | AISI 316 | 1.4401 | AISI 316 | 1.4401 |
| 40.06 | Stage housing and diffuser with bearing | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 40.07 | Flange clamping neck ring | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 40.08 | Spring ring | Stainless Steel | AISI 316 | 1.4401 | AISI 316 | 1.4401 |
| 50.00 | Impeller | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 51.01 | Split cone | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 51.02 | Intermediary sleeve nut | Stainless Steel, Tungsten Carbide SiW | AISI 316 | 1.4401 | AISI 316 | 1.4401 |
| 51.03 | Journal sleeve | Stainless Steel, Tungsten Carbide SiW | AISI 316 | 1.4401 | AISI 316 | 1.4401 |
| 51.04 | Split cone nut | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 51.05 | Intermediate impeller with screw | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |

# EV 65-95
# TABLE OF HYDRAULIC PERFORMANCES AT 50Hz

| PUMP TYPE | RATED POWER | | Q = DELIVERY | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | l/min 0 | 500 | 600 | 700 | 750 | 900 | 1000 | 1200 | 1300 | 1417 | 1600 | 1800 | 1967 |
| | | | m³/h 0 | 30 | 36 | 42 | 45 | 54 | 60 | 72 | 78 | 85 | 96 | 108 | 118 |
| | kW | HP | H = TOTAL HEAD METERS COLUMN OF WATER | | | | | | | | | | | | |
| EV 65/1-1a | 4 | 5,5 | 19,5 | 19 | 18,5 | 18 | 17,5 | 16,5 | 15,5 | 12,5 | 11 | 9 | | | |
| EV 65/1 | 5,5 | 7,5 | 28 | 25 | 24,5 | 24 | 23,5 | 22,5 | 22 | 20 | 18,5 | 16,5 | | | |
| EV 65/2-2a | 7,5 | 10 | 39 | 37,5 | 36,5 | 35,5 | 35 | 33 | 31 | 25 | 22 | 17,5 | | | |
| EV 65/2-1a | 11 | 15 | 48 | 44,5 | 43,5 | 42,5 | 42 | 40 | 38,5 | 34 | 31 | 26,5 | | | |
| EV 65/2 | 11 | 15 | 56,5 | 51 | 49,5 | 48,5 | 48 | 46 | 45 | 41 | 38,5 | 34,5 | | | |
| EV 65/3-2a | 15 | 20 | 67,5 | 63,5 | 62 | 60,5 | 59,5 | 56,5 | 54 | 46,5 | 42 | 35,5 | | | |
| EV 65/3-1a | 15 | 20 | 76 | 69,5 | 68 | 66,5 | 65,5 | 62,5 | 60,5 | 53,5 | 49,5 | 43 | | | |
| EV 65/3 | 18,5 | 25 | 84,5 | 76 | 74 | 72,5 | 71,5 | 69 | 67 | 61,5 | 57,5 | 51,5 | | | |
| EV 65/4-2a | 18,5 | 25 | 95,5 | 88,5 | 86 | 84 | 83 | 79 | 75,5 | 66 | 60,5 | 52 | | | |
| EV 65/4-1a | 22 | 30 | 105 | 96 | 93,5 | 91,5 | 90,5 | 87 | 84 | 75,5 | 70 | 62 | | | |
| EV 65/4 | 22 | 30 | 113,5 | 102,5 | 100 | 97,5 | 96,5 | 92,5 | 90,5 | 83 | 78 | 70 | | | |
| EV 65/5-2a | 30 | 40 | 125 | 116 | 113 | 110,5 | 109 | 104,5 | 101 | 90 | 83 | 72,5 | | | |
| EV 65/5-1a | 30 | 40 | 133,5 | 122,5 | 119 | 116,5 | 115 | 110,5 | 107,5 | 97,5 | 90,5 | 80,5 | | | |
| EV 65/5 | 30 | 40 | 142 | 129 | 125,5 | 122,5 | 121 | 116,5 | 114 | 105 | 98,5 | 88,5 | | | |
| EV 65/6-2a | 30 | 40 | 153 | 141,5 | 137,5 | 134,5 | 133 | 127,5 | 123 | 110 | 102 | 89,5 | | | |
| EV 65/6-1a | 37 | 50 | 162 | 148 | 144 | 141 | 139 | 133,5 | 129,5 | 117,5 | 109,5 | 97,5 | | | |
| EV 65/6 | 37 | 50 | 170 | 154 | 150 | 147 | 145 | 139,5 | 136 | 125 | 117,5 | 105,5 | | | |
| EV 65/7-2a | 37 | 50 | 181,5 | 166,5 | 162,5 | 158,5 | 156,5 | 150 | 145 | 130,5 | 120,5 | 106,5 | | | |
| EV 65/7-1a | 37 | 50 | 189,5 | 173 | 168,5 | 164,5 | 162,5 | 156 | 151,5 | 138 | 128,5 | 114,5 | | | |
| EV 65/7 | 45 | 60 | 199 | 180,5 | 175,5 | 172 | 169,5 | 163,5 | 159,5 | 147 | 138 | 124 | | | |
| EV 65/8-2a | 45 | 60 | 210 | 193 | 188 | 184 | 181,5 | 174 | 168,5 | 152 | 141,5 | 125 | | | |
| EV 65/8-1a | 45 | 60 | 218,5 | 199,5 | 194 | 190 | 187,5 | 180 | 175 | 159,5 | 149 | 133 | | | |
| EV 65/8 | 45 | 60 | 227 | 206 | 200 | 196 | 193,5 | 186 | 181,5 | 167 | 157 | 141 | | | |
| | | | | | | | | | | | | | | | |
| EV 95/1-1a | 5,5 | 7,5 | 22 | | | | 21 | 20,5 | 20 | 19 | 17,5 | 16,5 | 13,5 | 10 | 6,5 |
| EV 95/1 | 7,5 | 10 | 30,5 | | | | 27,5 | 26 | 25,5 | 24 | 23,5 | 22 | 20 | 17 | 13,5 |
| EV 95/2-2a | 11 | 15 | 44,5 | | | | 43 | 42 | 41 | 38,5 | 36,5 | 34 | 28,5 | 21,5 | 15 |
| EV 95/2 | 15 | 20 | 62 | | | | 55,5 | 53 | 51,5 | 49 | 47,5 | 45 | 41 | 35 | 28,5 |
| EV 95/3-2a | 18,5 | 25 | 75,5 | | | | 70,5 | 68 | 66,5 | 62,5 | 59,5 | 56 | 48,5 | 38,5 | 28,5 |
| EV 95/3 | 22 | 30 | 93,5 | | | | 84 | 80,5 | 78 | 74 | 72 | 69 | 62,5 | 53,5 | 44 |
| EV 95/4-2a | 30 | 40 | 108 | | | | 100 | 97 | 94,5 | 89 | 85,5 | 81 | 71,5 | 59 | 46 |
| EV 95/4 | 30 | 40 | 125,5 | | | | 112,5 | 108 | 105 | 99,5 | 96,5 | 92,5 | 84 | 72 | 60 |
| EV 95/5-2a | 37 | 50 | 139 | | | | 127,5 | 123,5 | 120 | 113,5 | 109 | 103,5 | 92 | 76 | 60 |
| EV 95/5 | 37 | 50 | 156 | | | | 140 | 134,5 | 130,5 | 123,5 | 120 | 114,5 | 104,5 | 89 | 74 |
| EV 95/6-2a | 45 | 60 | 170,5 | | | | 156 | 150,5 | 146,5 | 138,5 | 134 | 127 | 113,5 | 94,5 | 75,5 |
| EV 95/6 | 45 | 60 | 188 | | | | 169 | 161,5 | 157 | 149 | 144,5 | 138,5 | 126 | 108 | 89,5 |

| MATERIAL IN CONTACT WITH THE LIQUID | | | | | | |
|---|---|---|---|---|---|---|
| **Pos.** | **PARTS DESCRIPTIONS** | | **MATERIAL** | | | |
| | | | **Standard version** | | **N version** | |
| | | **Type** | **ASTM/AISI** | **DIN / EN** | **ASTM/AISI** | **DIN / EN** |
| 10.00 | Pump casing | Cast Iron / Stainless Steel | A48 Class 35 | GJL-250 | CF 8M / AISI 316 | 1.4408 |
| 10.02 | Draining and priming cap | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 10.06 | Upper Flange | Cast Iron / Stainless Steel | A48 Class 35 | GJL-250 | CF 8M / AISI 316 | 1.4408 |
| 20.00 | Outer Case | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 20.01 | Mechanical seal housing | Stainless Steel | CF 8 / AISI 304 | 1.4308 | CF 8M / AISI 316 | 1.4408 |
| 20.05 | Filling plugs | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 30.00 | Pump shaft | Stainless Steel | AISI 431 | 1.4057 | AISI 329 | 1.4460 |
| 30.01 | Kit Mechanical seal | Silicon Carbide SiC, Carbon graphite, EPDM, Stainless steel | - | - | - | - |
| 30.02 | Kit Mechanical seal fastening kit | Stainless Steel | AISI 316 | 1.4401 | AISI 316 | 1.4401 |
| 30.03 | Kit O-ring | EPDM | - | - | - | - |
| 40.00 | Stage housing and diffuser | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 40.01 | Stage centering outlet | Stainless Steel | CF 8 / AISI 304 | 1.4308 | CF 8M / AISI 316 | 1.4408 |
| 40.02 | Floating neck ring | PTFE | - | - | - | - |
| 40.05 | Stage centering inlet | Stainless Steel | AISI 316 | 1.4401 | AISI 316 | 1.4401 |
| 40.06 | Stage housing and diffuser with bearing | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 40.07 | Flange clamping neck ring | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 40.08 | Spring ring | Stainless Steel | AISI 316 | 1.4401 | AISI 316 | 1.4401 |
| 50.00 | Impeller | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 51.01 | Split cone | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 51.02 | Intermediary sleeve nut | Stainless Steel, Tungsten Carbide SiW | AISI 316 | 1.4401 | AISI 316 | 1.4401 |
| 51.03 | Journal sleeve | Stainless Steel, Tungsten Carbide SiW | AISI 316 | 1.4401 | AISI 316 | 1.4401 |
| 51.04 | Split cone nut | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |
| 51.05 | Intermediate impeller with screw | Stainless Steel | AISI 304 | 1.4301 | AISI 316 | 1.4401 |

# Motors – AEG



## FEATURES

- Protection degree: IP55
- Max ambient temperature: 40°C
- Insulation class: F
- Size B14 up to 4kW, size B5 from 5.5kW and above

## SINGLE-PHASE MOTORS

- The range available is especially designed for superior performance and low vibration and noise. The AMM range is ideal for low-inertia applications and the application industry.
- Standard Voltage 230V
- Capacitor inside terminal box

## THREE-PHASE MOTORS – ENERGY EFFICIENT

High Efficiency Three-phase Motors IE2 code
The standard design includes the following basic features to give a high level of flexibility:

- Multi Mount Construction for an easy change of terminal box position
- Terminal box rotates by 90° to allow cable entry from any direction
- Easy-to-change flanges with over-sized and smaller-sized dimensions
- Provision for oil seal at Drive End
- Motors conforming to the higher efficiency standards for Europe, North America and Australia
- Standard Voltage up to 3kW 230/400V, 400/690V from 4kW and above

## Single-phase motors designed for range of rated voltage 230V 50Hz

| Power kW | Power HP | IEC Size | Construction Design | $I_N$ [A] 230V | | $M_N$ Nm | η % | cos φ | $I_A/I_N$ | $M_A/M_N$ | Weight Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | $min^{-1}$ | | | | | | |
| 0.37 | 0.5 | 71 | B14 | 3.1 | 2780 | 1.3 | 57.6 | 0.89 | 3.1 | 0.8 | 7.1 |
| 0.55 | 0.75 | 71 | B14 | 3.9 | 2740 | 1.9 | 69.0 | 0.89 | 3.5 | 0.7 | 8.5 |
| 0.75 | 1 | 80 | B14 | 5.3 | 2800 | 2.6 | 65.0 | 0.95 | 4.1 | 0.6 | 11.4 |
| 1.1 | 1.5 | 80 | B14 | 6.5 | 2730 | 3.8 | 74.0 | 0.97 | 3.6 | 0.5 | 11.8 |
| 1.5 | 2 | 90 | B14 | 9.3 | 2835 | 5.1 | 73.0 | 0.90 | 3.9 | 0.5 | 17.3 |
| 2.2 | 3 | 90 | B14 | 14.6 | 2770 | 7.6 | 73.0 | 0.90 | 4.3 | 0.2 | 19.3 |

## Three-phase motors designed for range of rated voltage 400V 50Hz

| Power kW | Power HP | IEC Size | Construction Design | $I_N$ [A] Δ 230V | $I_N$ [A] Y 400V | $I_N$ [A] Δ 400V | $I_N$ [A] Y 690V | | $M_N$ Nm | η % | cos φ | $I_A/I_N$ | $M_A/M_N$ | Weight Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | $min^{-1}$ | | | | | | |
| 0,37 | 0,5 | 71 | B14 | 1,7 | 1,0 | - | - | 2820 | 1,3 | 70,0 | 0,78 | 4,7 | 3,6 | 5,8 |
| 0,55 | 0,75 | 71 | B14 | 2,6 | 1,5 | - | - | 2830 | 1,9 | 71,0 | 0,77 | 4,8 | 3,2 | 6,2 |
| 0,75 | 1 | 80 | B14 | 3,3 | 1,9 | - | - | 2825 | 2,5 | 77,4 | 0,74 | 7,5 | 4,3 | 8,4 |
| 1,1 | 1,5 | 80 | B14 | 4,3 | 2,5 | - | - | 2820 | 3,7 | 79,6 | 0,78 | 7,6 | 4,3 | 12,0 |
| 1,5 | 2 | 90 | B14 | 5,9 | 3,4 | - | - | 2850 | 5,0 | 81,3 | 0,80 | 6,8 | 3 | 12,7 |
| 2,2 | 3 | 90 | B14 | 8,1 | 4,7 | - | - | 2870 | 7,3 | 83,6 | 0,81 | 6,8 | 3 | 16,0 |
| 3 | 4 | 100 | B14 | 11,4 | 6,6 | - | - | 2870 | 10,0 | 84,6 | 0,79 | 6,8 | 3,4 | 18,7 |
| 4 | 5,5 | 112 | B14 | - | - | 8,0 | 4,6 | 2910 | 13,2 | 86,6 | 0,83 | 9,8 | 4,3 | 22,8 |
| 5,5 | 7,5 | 132 | B5 | - | - | 10,4 | 6,0 | 2920 | 18,0 | 87,3 | 0,88 | 8,7 | 3,1 | 34,0 |
| 7,5 | 10 | 132 | B5 | - | - | 13,2 | 7,6 | 2900 | 24,7 | 88,3 | 0,92 | 9,6 | 3,4 | 36,0 |
| 11 | 15 | 132 | B5 | - | - | 19,8 | 11,5 | 2920 | 36,0 | 89,7 | 0,90 | 9,6 | 3 | 58,0 |
| 11 | 15 | 160 | B5 | - | - | 19,8 | 11,5 | 2920 | 36,0 | 89,7 | 0,90 | 9,6 | 3 | 58,0 |
| 15 | 20 | 160 | B5 | - | - | 27,0 | 15,6 | 2920 | 49,1 | 90,3 | 0,89 | 9,6 | 3,8 | 64,0 |
| 18,5 | 25 | 160 | B5 | - | - | 36,3 | 21,0 | 2930 | 60,3 | 90,9 | 0,81 | 8,7 | 3,3 | 88,9 |
| 22 | 30 | 180 | B5 | - | - | 38,6 | 22,3 | 2935 | 71,6 | 91,5 | 0,90 | 9,0 | 4,4 | 108,7 |
| 30 | 40 | 200 | B5 | - | - | 53,3 | 30,8 | 2930 | 97,8 | 92,4 | 0,88 | 6,7 | 2,4 | 228 |
| 37 | 50 | 200 | B5 | - | - | 64,0 | 37,0 | 2930 | 120,6 | 92,8 | 0,90 | 6,3 | 2,3 | 242 |
| 45 | 60 | 225 | B5 | - | - | 78,3 | 45,2 | 2940 | 146,2 | 93,2 | 0,89 | 6,9 | 2,3 | 308 |

# New International Efficiency classes of motors – IE code

The new IEC 60034-30:2008 defines worldwide the efficiency classes of motors.
IE1 = Standard Efficiency (comparable to EFF2)
IE2 = High Efficiency (comparable to EFF1)
IE3 = Premium Efficiency
The efficiency levels according to IEC 60034-30 are measured based on the test methods defined in IEC 60034-2-1:2007. The IEC 60034-30 only defines requirements of efficiency classes and aims to create provisions for International consistency. It does not define which motors must be supplied with which efficiency level. This is left to respective regional legislation.

| Output | IE1 code Standard Efficiency | | | IE2 code Standard Efficiency | | | IE3 code Standard Efficiency | | |
|---|---|---|---|---|---|---|---|---|---|
| kW | 2 poles | 4 poles | 6 poles | 2 poles | 4 poles | 6 poles | 2 poles | 4 poles | 6 poles |
| 0.75 | 72.1 | 72.1 | 70.0 | 77.4 | 79.6 | 75.9 | 80.7 | 82.5 | 78..9 |
| 1.1 | 75.0 | 75.0 | 72.9 | 79.6 | 81.4 | 78.1 | 82.7 | 84.1 | 81.0 |
| 1.5 | 77.2 | 77.2 | 75.2 | 81.3 | 82.8 | 79.8 | 84.2 | 85.3 | 82.5 |
| 2.2 | 79.7 | 79.7 | 77.7 | 83.2 | 84.3 | 81.8 | 85.9 | 86.7 | 84.3 |
| 3 | 81.5 | 81.5 | 79.7 | 84.6 | 85.5 | 83.3 | 87.1 | 87.7 | 85.6 |
| 4 | 83.1 | 83.1 | 81.4 | 85.8 | 86.6 | 84.6 | 88.1 | 88.6 | 86.8 |
| 5.5 | 84.7 | 84.7 | 83.1 | 87.0 | 87.7 | 86.0 | 89.2 | 89.6 | 88.0 |
| 7.5 | 86.0 | 86.0 | 84.7 | 88.1 | 88.7 | 87.2 | 90.1 | 90.4 | 89.1 |
| 11 | 87.6 | 87.6 | 86.4 | 89.4 | 89.8 | 88.7 | 91.2 | 91.4 | 90.3 |
| 15 | 88.7 | 88.7 | 87.7 | 90.3 | 90.6 | 89.7 | 91.9 | 92.1 | 91.2 |
| 18.5 | 89.3 | 89.3 | 88.6 | 90.9 | 91.2 | 90.4 | 92.4 | 92.6 | 91.7 |
| 22 | 89.9 | 89.9 | 89.2 | 91.3 | 91.6 | 90.9 | 92.7 | 93.0 | 92.2 |
| 30 | 90.7 | 90.7 | 90.2 | 92.0 | 92.3 | 91.7 | 93.3 | 93.6 | 92.9 |
| 37 | 91.2 | 91.2 | 90.8 | 92.5 | 92.7 | 92.2 | 93.7 | 93.9 | 93.3 |
| 45 | 91.7 | 91.7 | 91.4 | 92.9 | 93.1 | 92.7 | 94.0 | 94.2 | 93.7 |

Efficiency values according to IEC 60034-30;2008.
Efficiency standard calculation: IEC 60034-2-1;2007

# Noise

The noise level of an electrical machine is determined by measuring the sound pressure level in accordance with curve A of the sound level meter to EN 60651 and is indicated in dB (A). The permitted noise levels of electrical machines are fixed in EN 60034-9 (IEC 34-9). The noise level of our motors is well below these limit values. Air-borne sound measurements are carried out in an anechoic testing chamber to EN 21680-ISO 1680. Speed corresponding to a mains frequency of 50Hz and the number of poles.

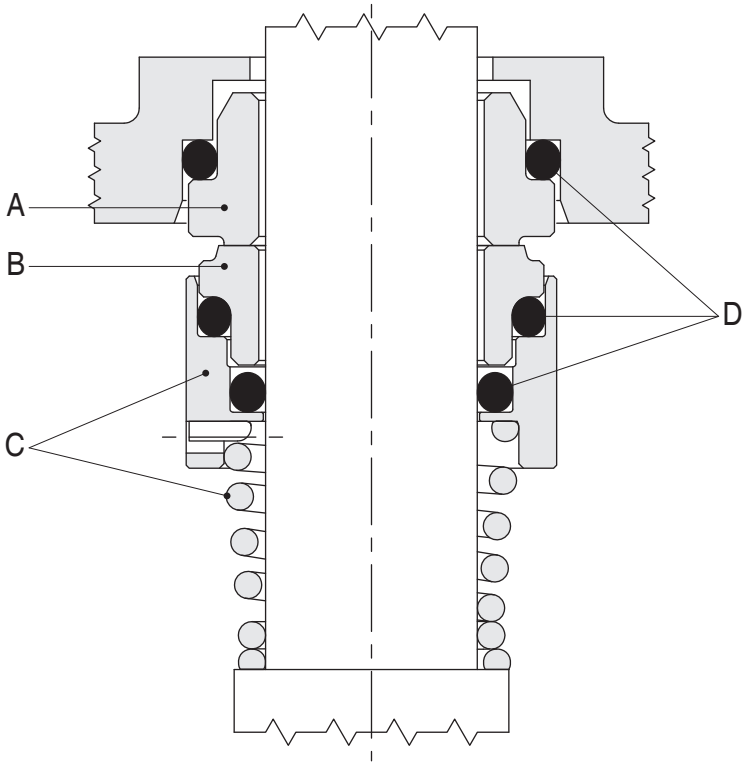
Noise levels

The noise values listed below refer to 50Hz at rated voltage with a tolerance of up to + 3 dB(A). Values for pole-changing motors on request. For 60Hz supply values are 3-5 dB(A) higher. Sound pressure level LpA and sound power level LWA for three-phase single-speed motors with dimensions and output ratings to IEC 60072

| Frame | 2 pole | | 4 pole | |
|---|---|---|---|---|
| size | $L_{WA}$ | $L_{pA}$ | $L_{WA}$ | $L_{pA}$ |
| 56 | 57 | 48 | 47 | 38 |
| 63 | 58 | 49 | 47 | 38 |
| 71 | 61 | 52 | 51 | 42 |
| 80 | 72 | 60 | 60 | 48 |
| 90 | 74 | 62 | 61 | 49 |
| 100 | 78 | 66 | 62 | 50 |
| 112 | 80 | 68 | 65 | 53 |
| 132 | 81 | 72 | 71 | 59 |
| 160 | 87 | 74 | 75 | 62 |
| 180 | 90 | 77 | 78 | 66 |
| 200 | 91 | 78 | 80 | 68 |
| 225 | 92 | 80 | 88 | 76 |

# Mechanical seal specifications

*(in accordance with EN 12756)*




## Standard version

| Model | Type | | | | Position A Stationary part | Position B Rotating part | Position C Other components | Position D Elastomers | Temperature |
|---|---|---|---|---|---|---|---|---|---|
| 1 | B | Q1 | G | E | Carbon | Silicon Carbide | AISI 316 | EPDM | -30°C +120°C |

## Available on request

| Model | Type | | | | Position A Stationary part | Position B Rotating part | Position C Other components | Position D Elastomers | Temperature (°C) |
|---|---|---|---|---|---|---|---|---|---|
| 2 | Q1 | Q1 | G | E | Silicon Carbide | Silicon Carbide | AISI 316 | EPDM | -10°C +120°C |
| 3 | Q1 | Q1 | G | V | Silicon Carbide | Silicon Carbide | AISI 316 | FKM | -10°C +120°C |
| 4 | B | Q1 | G | V | Carbon | Silicon Carbide | AISI 316 | FKM | -10°C +120°C |

| Type | Material |
|---|---|
| B | Carbon |
| E | EPDM |
| G | AISI 316 |
| Q1 | Silicon Carbide |
| V | FKM |

## Compatibility fluid / seal materials

| Liquid | Concentration (%) | Temperature Min/Max (°C) | EV models 3-5-9-16 STD | 3-5-9-16 N | 30-45 G | 30-45 N |
|---|---|---|---|---|---|---|
| Acetic acid | 80 | -10 +70 | 1 | 1 | | 1 |
| Alkaline degreaser | - | - | 3 | 3 | 3 | 3 |
| Aluminium sulfate | 30 | -5 +50 | | 2 | | 2 |
| Ammonia in water | 25 | -20 +50 | 1 | 1 | | 1 |
| Ammonium sulfate | 10 | -10 +60 | | 2 | | 2 |
| Benzoic acid | 70 | 0 +70 | 4 | 4 | | 4 |
| Caustic soda | 25 | 0 +70 | 2 | 2 | | 2 |
| Chloroform | 100 | -10 +30 | 4 | 4 | | 4 |
| Citric acid | 5 | -10 +70 | 1 | 1 | | 1 |
| Cleaning products | 10 | -5 +100 | 3 | 3 | | 3 |
| Copper sulfate | 20 | 0 +30 | | 3 | | 3 |
| Cutting fluid | 100 | -5 +110 | 4 | 4 | | 4 |
| Deionised, demineralised water | 100 | -25 +110 | 1 | 1 | | 1 |
| Diathermic oil | 100 | -5 +110 | 4 | 4 | 4 | 4 |
| Emulsion oil and water | any | -5 +90 | 4 | 4 | 4 | 4 |
| Ethylene glycol | 30 | -30 +120 | 1 | 1 | | 1 |
| Formic acid | 5 | -15 +25 | 1 | 1 | | 1 |
| Glycerine | 100 | +20 +90 | 1 | 1 | 1 | 1 |
| Hydrochloric acid | 2 | -5 +25 | | 3 | | 3 |
| Hydroxide sodium | 25 | 0 +70 | 2 | 2 | | 2 |
| Iron sulfate | 10 | -5 +30 | | 1 | | 1 |
| Mineral oil | 100 | -5 +110 | 4 | 4 | 4 | 4 |
| Nitric acid | 50 | -5 +30 | 3 | 3 | | 3 |
| Perchloroethylene | 100 | -10 +30 | 4 | 4 | 4 | 4 |
| Phosphates-polyphosphates | 10 | -5 +90 | | 3 | | 3 |
| Phosphoric acid | 10 | -5 +30 | | 1 | | 1 |
| Propylene glycol | 30 | -30 +120 | 1 | 1 | 1 | 1 |
| Sodium bicarbonate (Baking soda) | 10 | +60 | | 1 | | 1 |
| Sodium hypochlorite | 1 | -10 +25 | | 3 | | 3 |
| Sodium nitrate | 10 | +60 | 1 | 1 | 1 | 1 |
| Sodium sulfate | 15 | -10 +40 | 2 | 2 | 2 | 2 |
| Sulphuric acid | 2 | -10 +25 | | 4 | | 4 |
| Tannic acid | 20 | 0 +50 | | 1 | | 1 |
| Tartaric acid | 50 | -10 +25 | 3 | 3 | | 3 |
| Trichloroethylene | 100 | -10 +40 | 4 | 4 | 4 | 4 |
| Uric acid | 80 | -10 +80 | 1 | 1 | | 1 |
| Vegetable oil | 100 | -5 +110 | 1 | 1 | 1 | 1 |
| Water | 100 | -5 +120 | 1 | 1 | 1 | 1 |
| Water condensate | 100 | -5 +100 | 1 | 1 | | 1 |
| Water detergents, mineral oils mixture | 10 | -5 +80 | 3 | 3 | 3 | 3 |

The table is to be considered as a general guide. It is important to consider the specific working conditions; in particular to consider the concentration of the pumped liquid, the specific weight of the liquid and/or the viscosity, the liquid temperature and pressure. All these conditions are relevant for the motor and pump performance. When pumping dangerous liquids, it is recommended to take safety precautions. For further details, please contact us.

# EV Series
# Performance Curves and Technical Data

## EV 3 - 5 - 9 - 15 - 20 - 30 - 45 - 65 - 95 50Hz

**According to COMMISSION REGULATION (EU) No 547/2012**

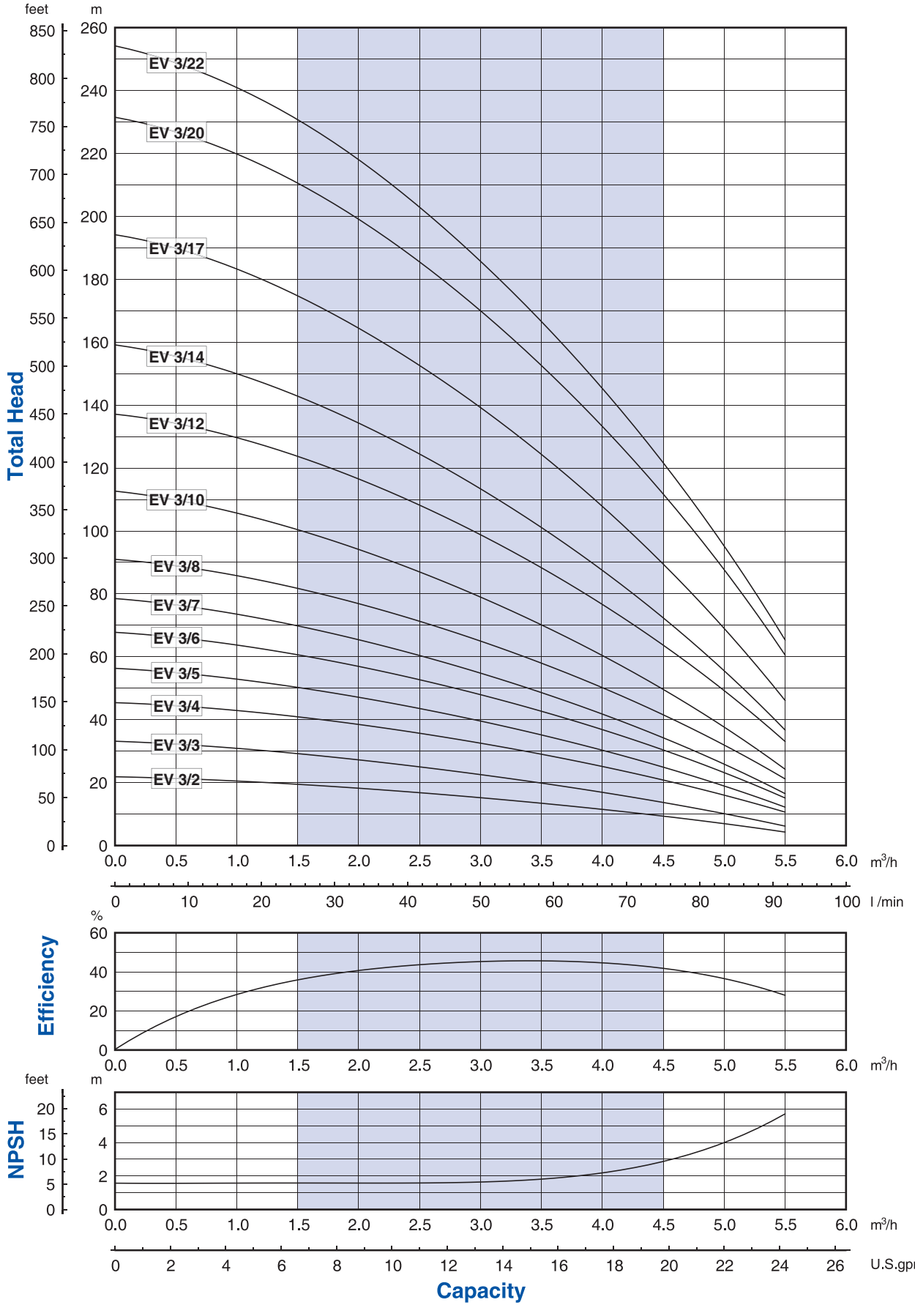
**MEI - Minimum Efficiency Index**

In order to achieve a comparable efficiency threshold-value across all legally covered water pumps, an index of pump size, specific speed and rotational speed has been created:
the MEI (Minimum Efficiency Index).
MEI covers best point (BEP), part load (PL) and overload (OL) efficiencies as water pumps may be chosen with safety margins and hence do not run at best efficiency point.
This ensures high and flat efficiency curves and consequently an efficient operation in real life.
MEI means the dimensionless scale unit for hydraulic pump efficiency at BEP, PL and OL.
MEI is a measure for the quality of a pump size in respect to the efficiency.
The higher the value of the MEI is, the better is the pump size in respect to efficiency and the lower is the yearly energy consumption if pumps of this size are installed.
The upper limit of values of the MEI is principally open and depends only on physical and technological constraints. MEI is based on the full impeller diameter.
The operation of this water pump with variable duty points may be more efficient and economic when controlled, for example, by the use of a variable speed drive that matches the pump duty to the system.
The efficiency of a pump with a trimmed impeller is usually lower than that of a pump with the full impeller diameter. The trimming of the impeller will adapt the pump to a fixed duty point, leading to reduced energy consumption. The minimum efficiency index (MEI) is based on the full impeller diameter.
For benchmark efficiency graphs, go to www.europump.org/efficiencycharts.
Information on benchmark efficiency is available at **www.etechpumps.com.**
Benchmark MEI ≥ 0,70.

# EV 3

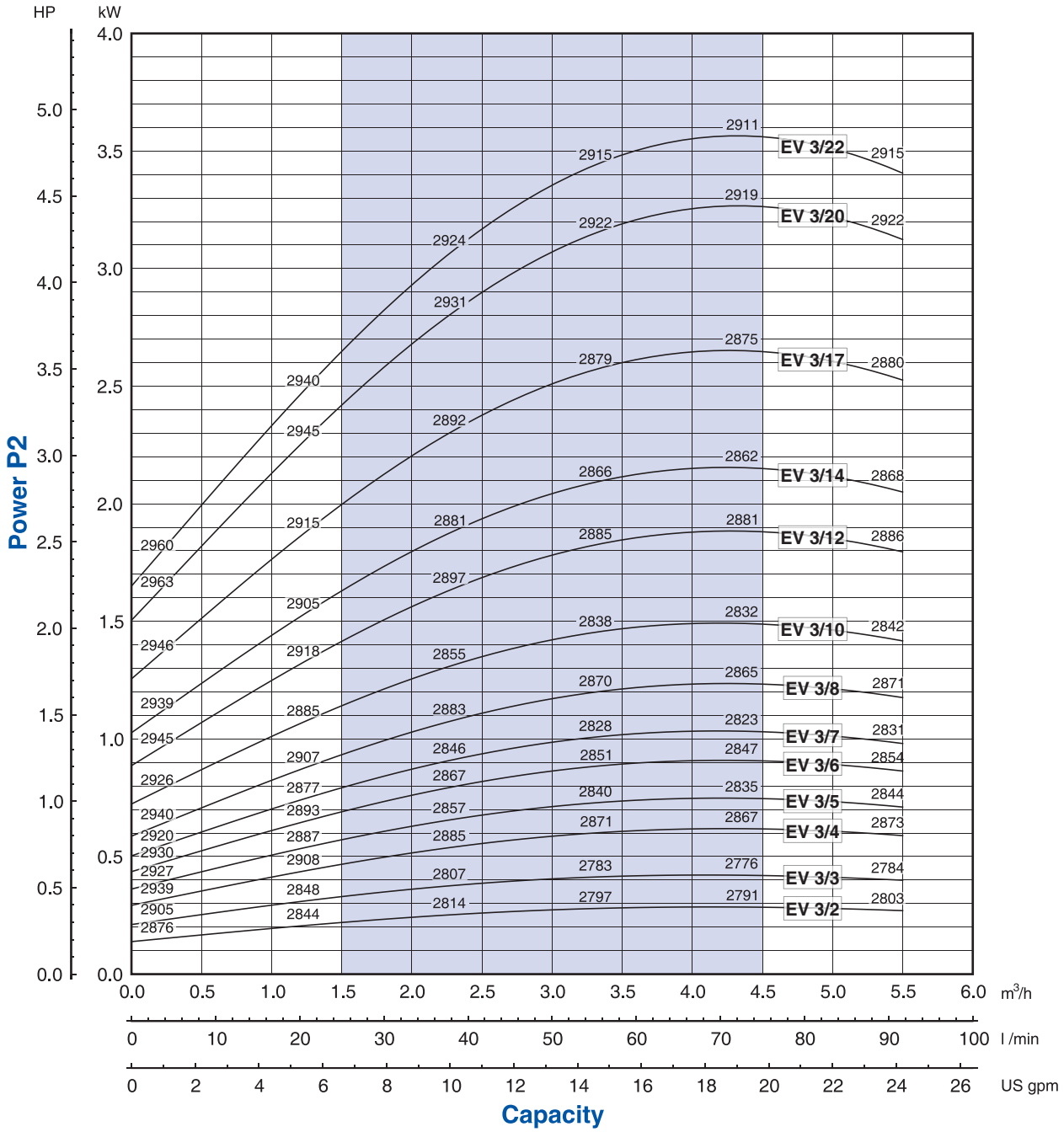
# Performance curves 50Hz

**MEI ≥ 0,60**




00110039 11/2013

*The hydraulic characteristics are guaranteed, according to ISO standard 9906, grade 3.*




*Performance curves of Q, H and P depend on the rpm number according to the following formulae:*

$$Q_2 = Q_1 \cdot \left(\frac{n_2}{n_1}\right) \quad , \quad H_2 = H_1 \cdot \left(\frac{n_2}{n_1}\right)^2 \quad , \quad P_2 = P_1 \cdot \left(\frac{n_2}{n_1}\right)^3 \quad , \quad \eta \text{ remains approximately the same.}$$

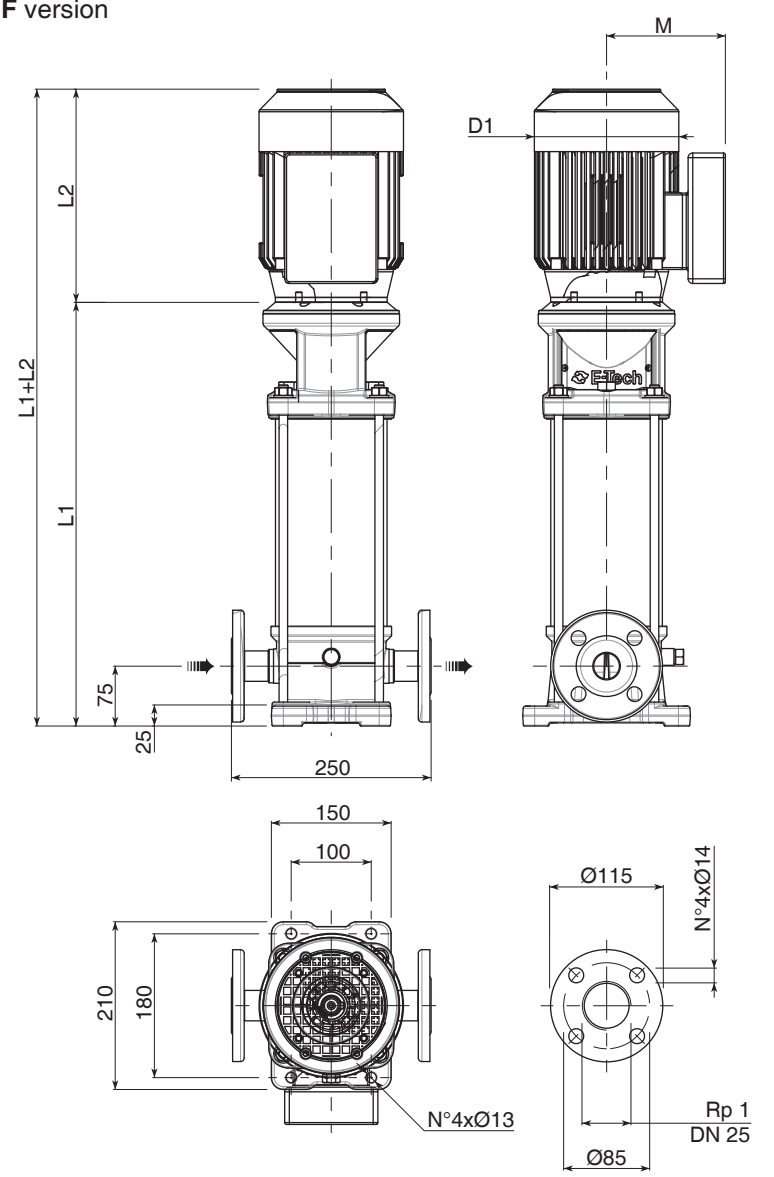
*The rpm number related to the performance curves (Q-H-P) is indicated in the power chart.*
*Performance curves (Q-H-P) will change in case a motor with rpm number different from indicated values is used.*
*Q=Capacity, H=Head, P=Power, η=Efficiency*

00110039 11/2013

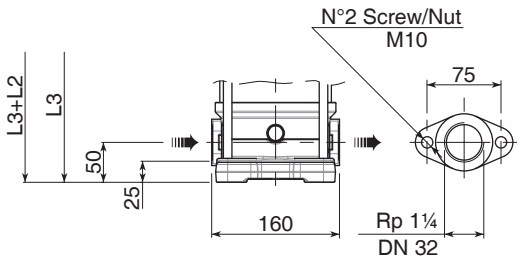
# EV 3

## Technical data 50Hz

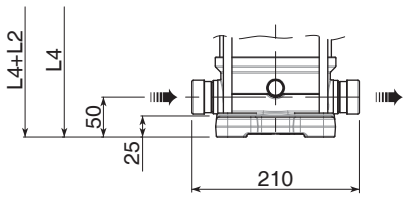
**F** version



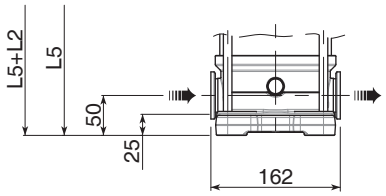

**T** version




**V** version




**C** version




00114014 01/2012

F version Round flanges on body type PN25: the pump is supplied without counterflanges (Optional accessories, including bolts and joints).

T version Oval flanges on body type PN16: the pump is supplied without threaded oval counter flanges (Optional accessories, including bolts and joints).

V version Connections with rapid fittings type "Victaulic": the pump is supplied without the collars (Optional accessories).

C version Connections with round fittings type Clamp-FlexiClamp: the pump is supplied without collars (Optional accessories).

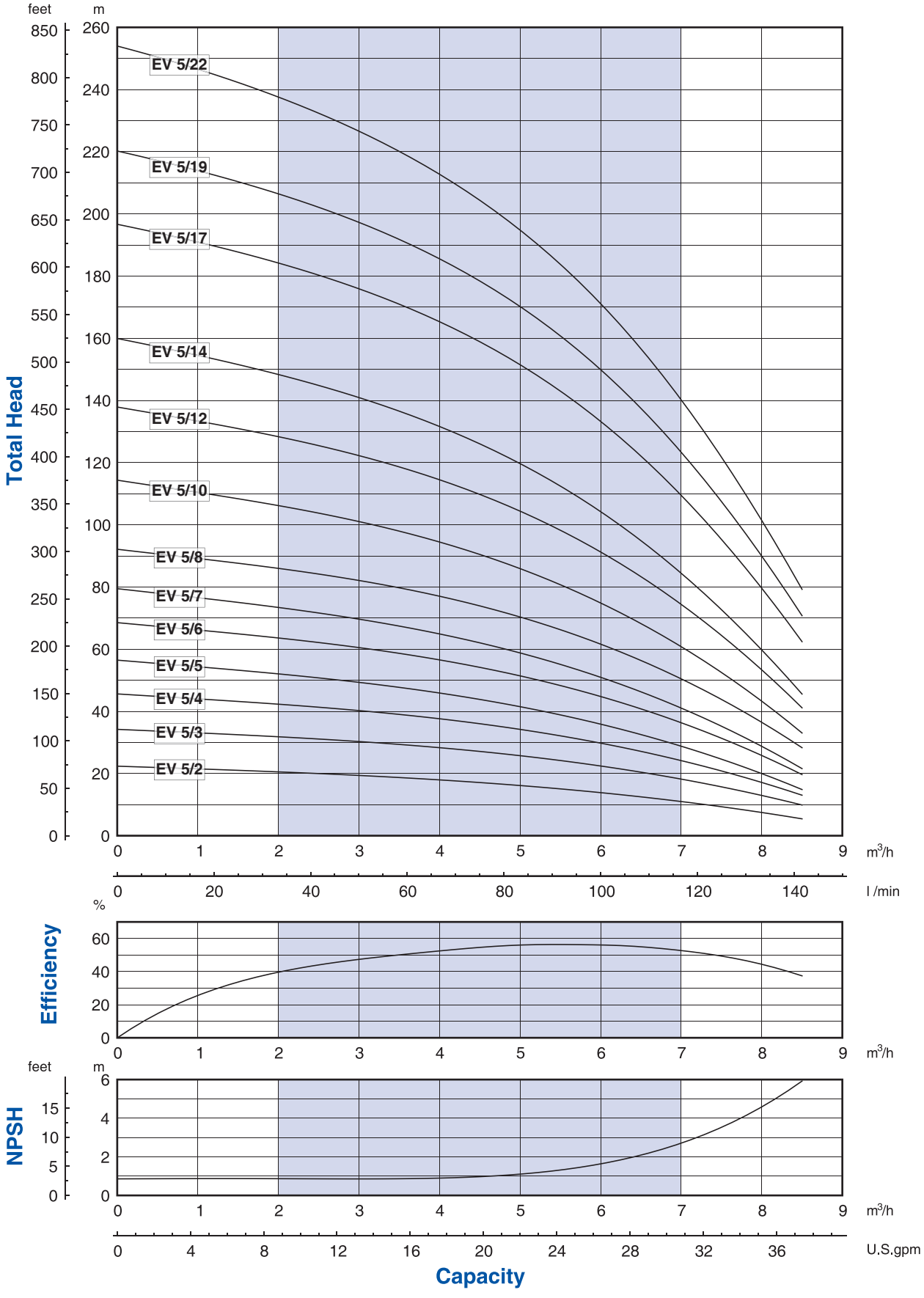
| Pump Model | Motor | | Dimensions (mm) | | | | | | | | | | | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | L1 | L2 | | L3 | L4 | L5 | M | | D1 | | | Pump | Electric Pump |
| | kW | Size | F | 1-PHASE | 3-PHASE | T | V | C | 1-PHASE | 3-PHASE | 1-PHASE | 3-PHASE | | | |
| • **EV 3/2** | 0.37 | 71 | 328.5 | 215 | 215 | 303.5 | 303.5 | 303.5 | 129 | 112 | 142 | 142 | | 15 | 21 |
| • **EV 3/3** | 0.55 | 71 | 352.5 | 215 | 215 | 327.5 | 327.5 | 327.5 | 129 | 112 | 142 | 142 | | 15.5 | 21.5 |
| **EV 3/4** | 0.75 | 80 | 376.5 | 232 | 232 | 351.5 | 351.5 | 351.5 | 150 | 129 | 160 | 160 | | 16 | 25.5 |
| **EV 3/5** | 0.75 | 80 | 400.5 | 232 | 232 | 375.5 | 375.5 | 375.5 | 150 | 129 | 160 | 160 | | 17 | 26.5 |
| **EV 3/6** | 1.1 | 80 | 425 | 232 | 232 | 400 | 400 | 400 | 150 | 129 | 160 | 160 | | 17.5 | 29 |
| **EV 3/7** | 1.1 | 80 | 449 | 232 | 232 | 424 | 424 | 424 | 150 | 129 | 160 | 160 | | 18 | 29.5 |
| **EV 3/8** | 1.5 | 90 | 483 | 267 | 267 | 458 | 458 | 458 | 160 | 138 | 180 | 180 | | 19 | 33 |
| **EV 3/10** | 1.5 | 90 | 531 | 267 | 267 | 506 | 506 | 506 | 160 | 138 | 180 | 180 | | 20.5 | 34.5 |
| **EV 3/12** | 2.2 | 90 | 579 | 267 | 267 | 554 | 554 | 554 | 160 | 138 | 180 | 180 | | 21.5 | 37.5 |
| **EV 3/14** | 2.2 | 90 | 627 | 267 | 267 | 602 | 602 | 602 | 160 | 138 | 180 | 180 | | 23 | 39 |
| **EV 3/17** | 3 | 100 | 709 | - | 267 | - | 684 | 684 | - | 138 | - | 180 | | 25 | 44 |
| **EV 3/20** | 4 | 112 | 781 | - | 306 | - | 756 | 756 | - | 145 | - | 196 | | 27 | 50 |
| **EV 3/22** | 4 | 112 | 829 | - | 306 | - | 804 | 804 | - | 145 | - | 196 | | 28.5 | 51,5 |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

*• Standard efficiency motors IE1*

# EV 5

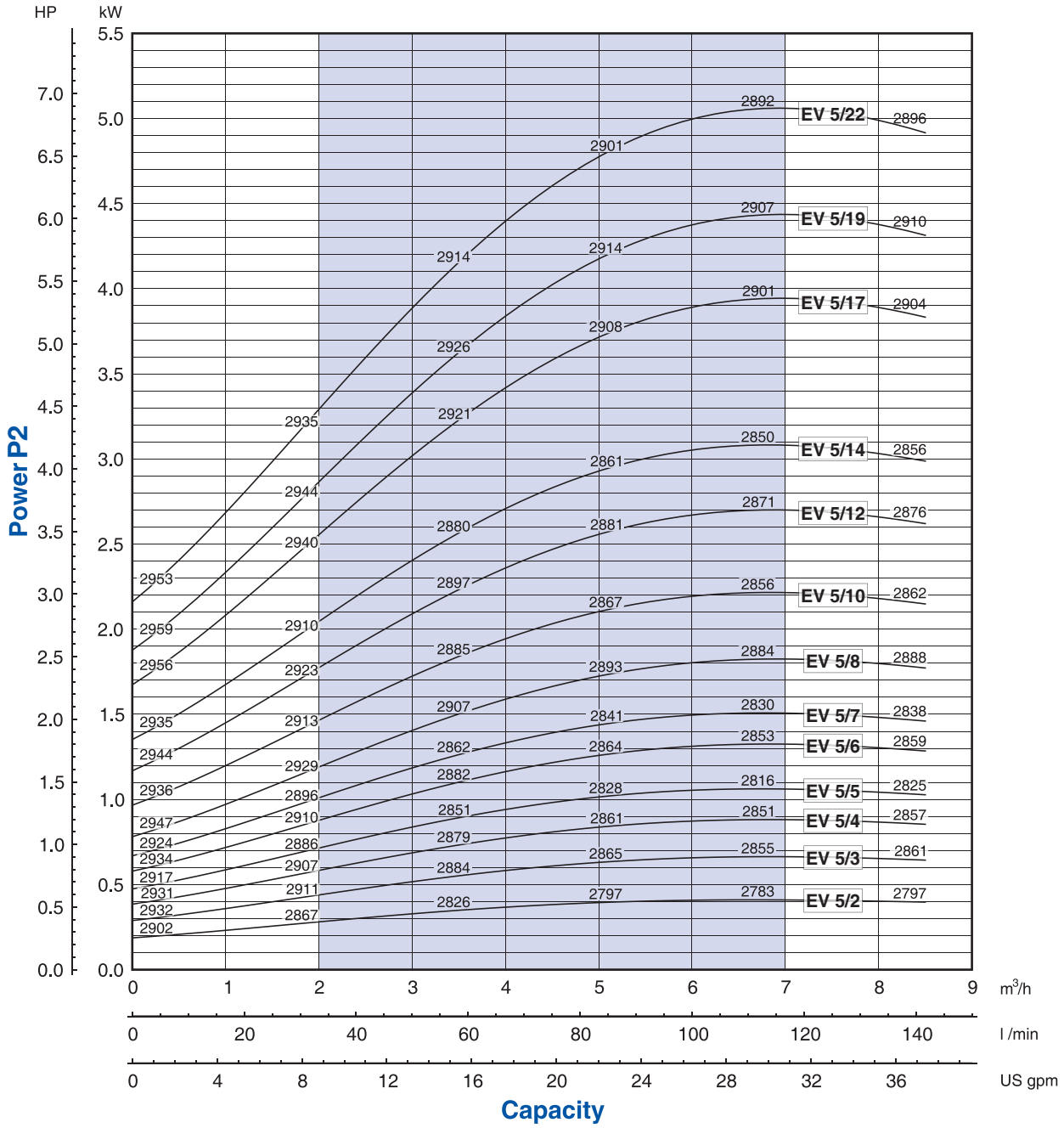
# Performance curves 50Hz

**MEI ≥ 0,70**




00110040 11/2013

*The hydraulic characteristics are guaranteed, according to ISO standard 9906, grade 3.*




*Performance curves of Q, H and P depend on the rpm number according to the following formulae:*

$$Q_2 = Q_1 \cdot \left(\frac{n_2}{n_1}\right) \quad , \quad H_2 = H_1 \cdot \left(\frac{n_2}{n_1}\right)^2 \quad , \quad P_2 = P_1 \cdot \left(\frac{n_2}{n_1}\right)^3$$

*, $\eta$ remains approximately the same.*

*The rpm number related to the performance curves (Q-H-P) is indicated in the power chart.*
*Performance curves (Q-H-P) will change in case a motor with rpm number different from indicated values is used.*

*Q=Capacity, H=Head, P=Power, η=Efficiency*

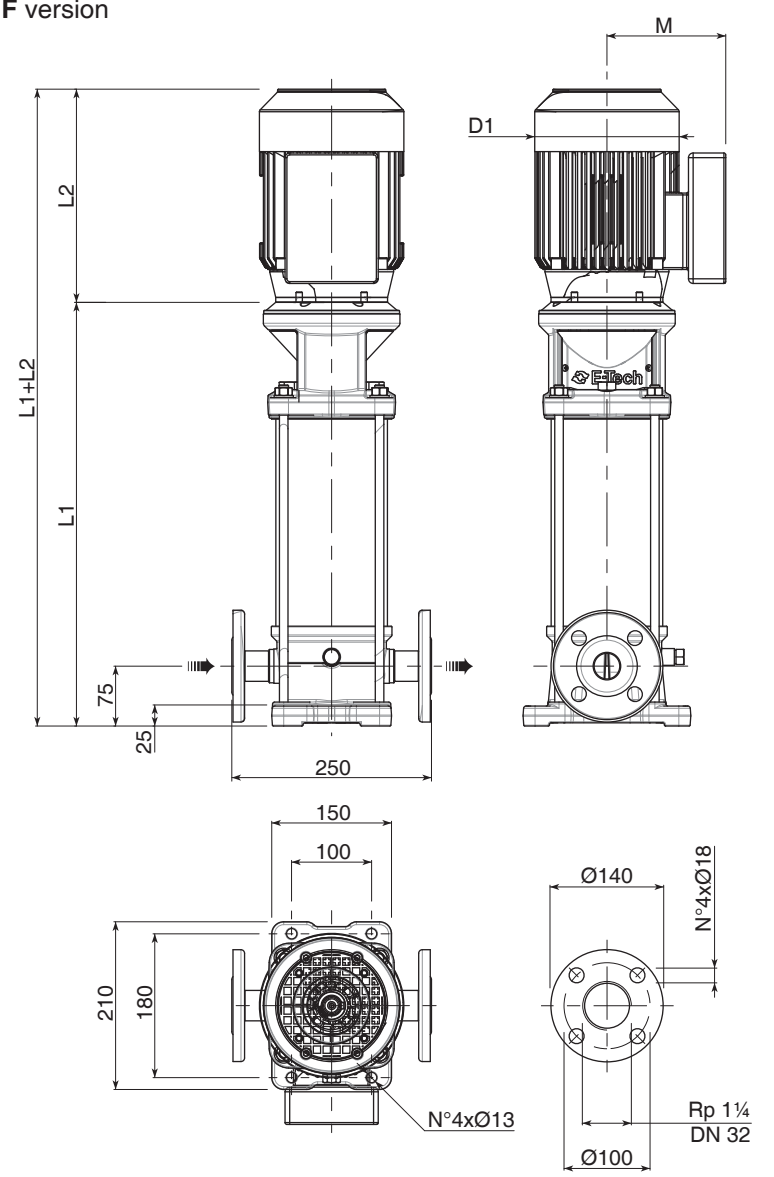
00110040 11/2013

*The hydraulic characteristics are guaranteed, according to ISO standard 9906, grade 3.*

# EV 5

## Technical data 50Hz

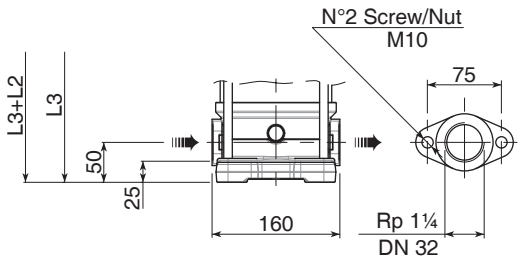
**F** version



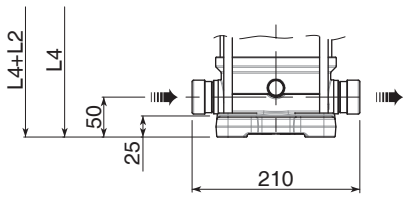




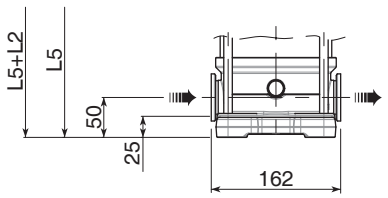
**T** version




**V** version




**C** version




00114014 01/2012

F version Round flanges on body type PN25: the pump is supplied with joints and bolts without counterflanges (Optional accessories).

T version Oval flanges on body type PN16: the pump is supplied without oval counter flanges for pipe to be screwed, joints and bolts (Optional accessories).

V version Connections with rapid fittings type "Victaulic": the pump is supplied without the collars (Optional accessories).

C version Connections with round fittings type Clamp-FlexiClamp: the pump is supplied without collars (Optional accessories).

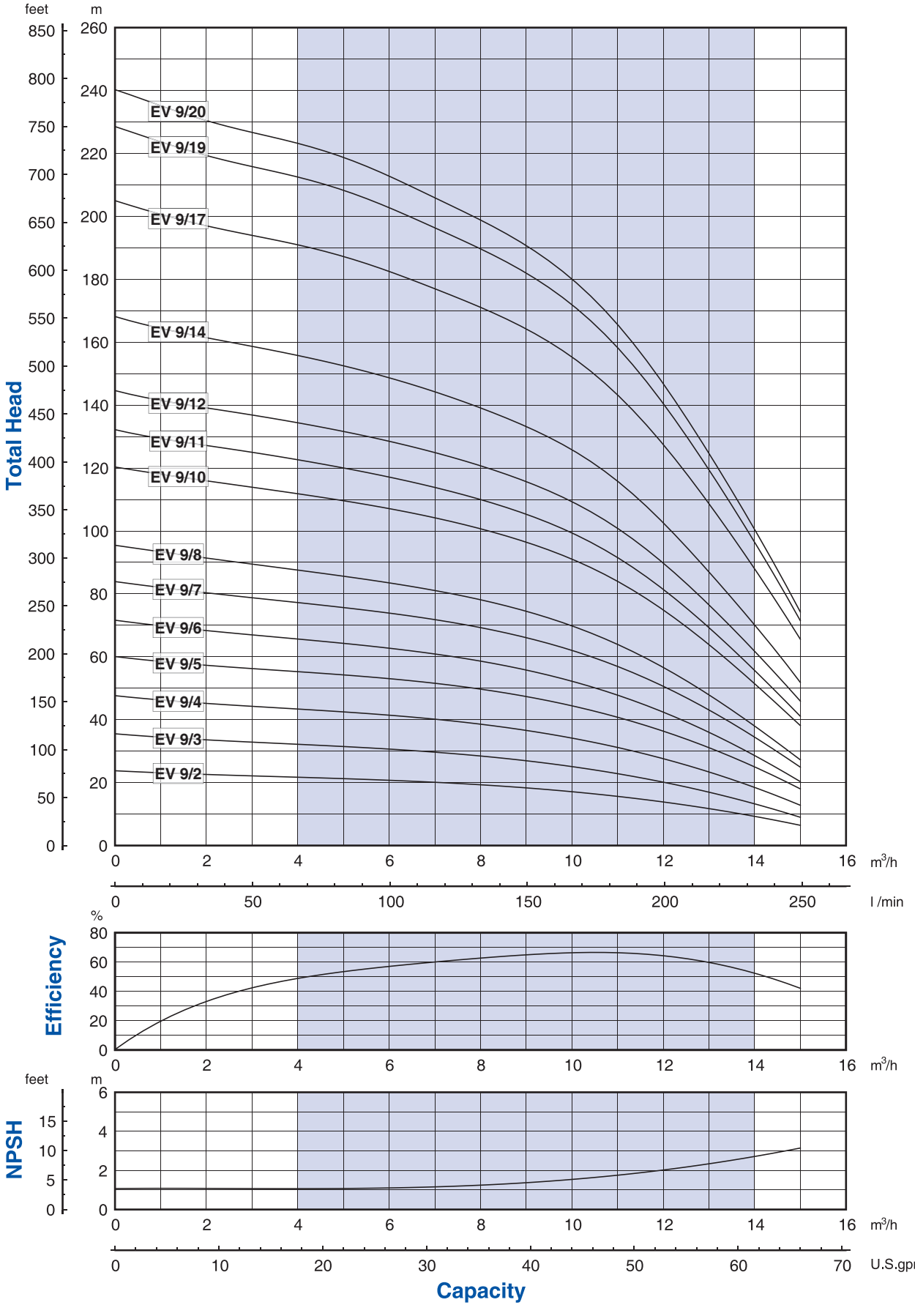
| Pump Model | Motor | | Dimensions (mm) | | | | | | | | | | | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | L1 | L2 | | L3 | L4 | L5 | M | | D1 | | | Pump | Electric Pump |
| | kW | Size | F | 1-PHASE | 3-PHASE | T | V | C | 1-PHASE | 3-PHASE | 1-PHASE | 3-PHASE | | | |
| • **EV 5/2** | 0.55 | 71 | 328.5 | 215 | 215 | 303.5 | 303.5 | 303.5 | 129 | 112 | 142 | 142 | | 15.5 | 21.5 |
| **EV 5/3** | 0.75 | 80 | 352.5 | 232 | 232 | 327.5 | 327.5 | 327.5 | 150 | 129 | 160 | 160 | | 16 | 25.5 |
| **EV 5/4** | 1.1 | 80 | 376.5 | 232 | 232 | 351.5 | 351.5 | 351.5 | 150 | 129 | 160 | 160 | | 16.5 | 28 |
| **EV 5/5** | 1.1 | 80 | 400.5 | 232 | 232 | 375.5 | 375.5 | 375.5 | 150 | 129 | 160 | 160 | | 17 | 28.5 |
| **EV 5/6** | 1.5 | 90 | 435 | 267 | 267 | 410 | 410 | 410 | 160 | 138 | 180 | 180 | | 18 | 32 |
| **EV 5/7** | 1.5 | 90 | 459 | 267 | 267 | 434 | 434 | 434 | 160 | 138 | 180 | 180 | | 19 | 33 |
| **EV 5/8** | 2.2 | 90 | 483 | 267 | 267 | 458 | 458 | 458 | 160 | 138 | 180 | 180 | | 19.5 | 35.5 |
| **EV 5/10** | 2.2 | 90 | 531 | 267 | 267 | 506 | 506 | 506 | 160 | 138 | 180 | 180 | | 20.5 | 36.5 |
| **EV 5/12** | 3 | 100 | 589 | - | 267 | 564 | 564 | 564 | - | 138 | - | 180 | | 22.5 | 41 |
| **EV 5/14** | 3 | 100 | 637 | - | 267 | 612 | 612 | 612 | - | 138 | - | 180 | | 24 | 43 |
| **EV 5/17** | 4 | 112 | 709 | - | 306 | - | 684 | 684 | - | 145 | - | 196 | | 25.5 | 48.5 |
| **EV 5/19** | 5.5 | 132 | 779.5 | - | 328 | - | 754.5 | 754.5 | - | 161 | - | 225 | | 32 | 66 |
| **EV 5/22** | 5.5 | 132 | 851.5 | - | 328 | - | 826.5 | 826.5 | - | 161 | - | 225 | | 33.5 | 67.5 |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

*• Standard efficiency motors IE1*

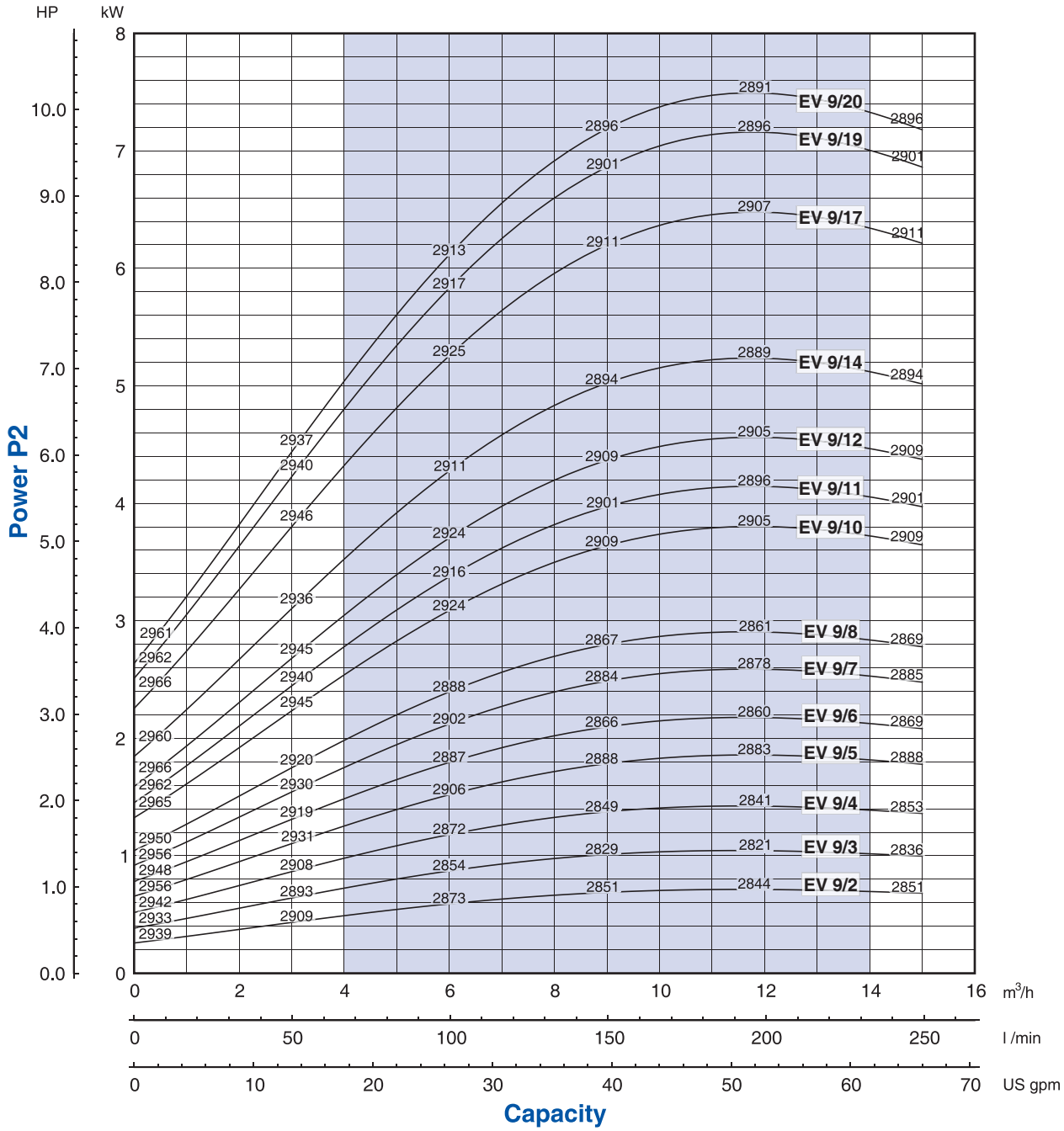
# EV 9

# Performance curves 50Hz

**MEI ≥ 0,70**




*The hydraulic characteristics are guaranteed, according to ISO standard 9906, grade 3.*




*Performance curves of Q, H and P depend on the rpm number according to the following formulae:*

$$Q_2 = Q_1 \cdot \left(\frac{n_2}{n_1}\right) \quad , \quad H_2 = H_1 \cdot \left(\frac{n_2}{n_1}\right)^2 \quad , \quad P_2 = P_1 \cdot \left(\frac{n_2}{n_1}\right)^3$$

*, $\eta$ remains approximately the same.*

*The rpm number related to the performance curves (Q-H-P) is indicated in the power chart.*
*Performance curves (Q-H-P) will change in case a motor with rpm number different from indicated values is used.*

*Q=Capacity, H=Head, P=Power, η=Efficiency*

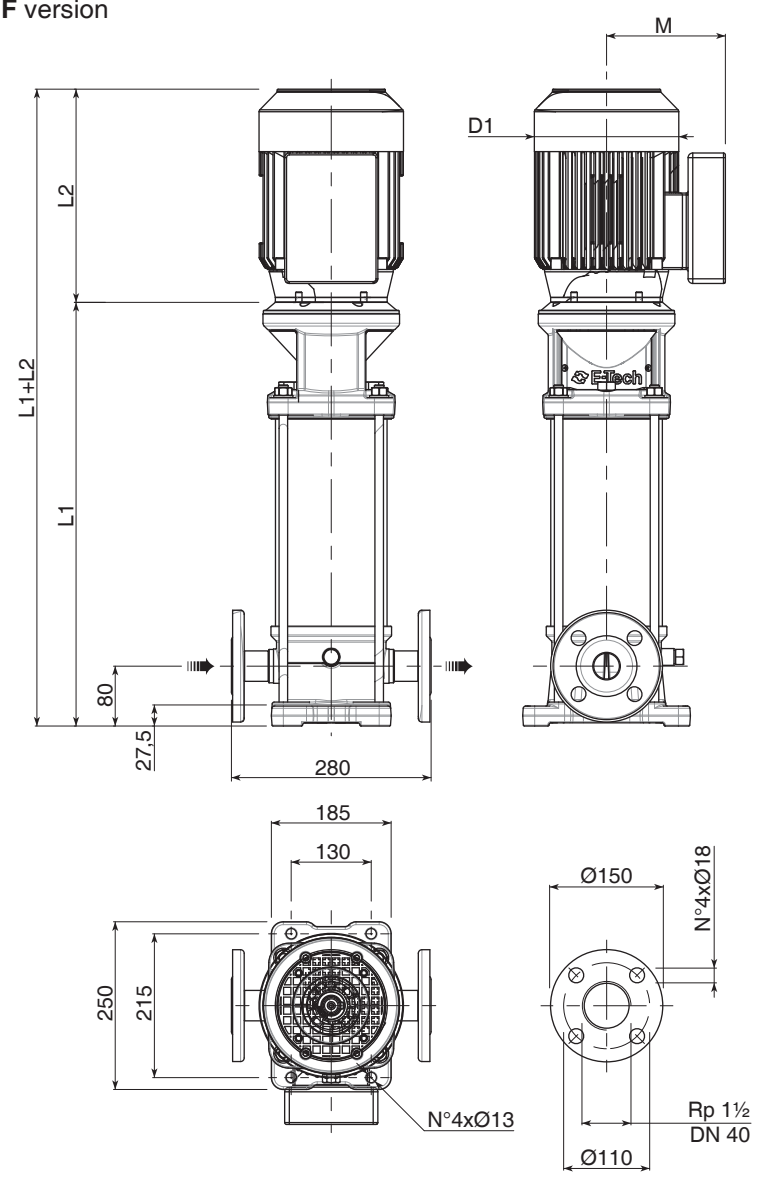
00110041 11/2013

*The hydraulic characteristics are guaranteed, according to ISO standard 9906, grade 3.*

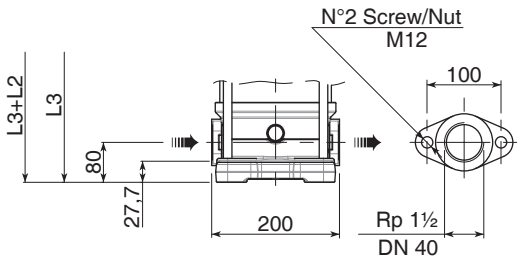
# EV 9

## Technical data 50Hz

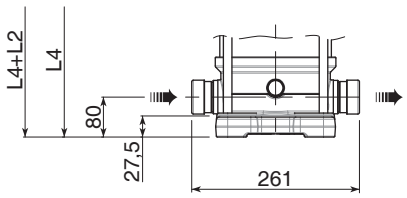
**F** version



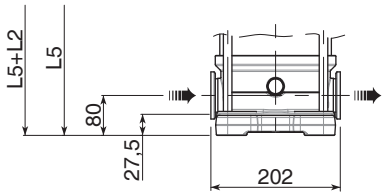

**T** version




**V** version




**C** version




00114014 01/2012

F version Round flanges on body type PN25: the pump is supplied without counterflanges (Optional accessories, including bolts and joints).

T version Oval flanges on body type PN16: the pump is supplied without threaded oval counter flanges (Optional accessories, including bolts and joints).

V version Connections with rapid fittings type "Victaulic": the pump is supplied without the collars (Optional accessories).

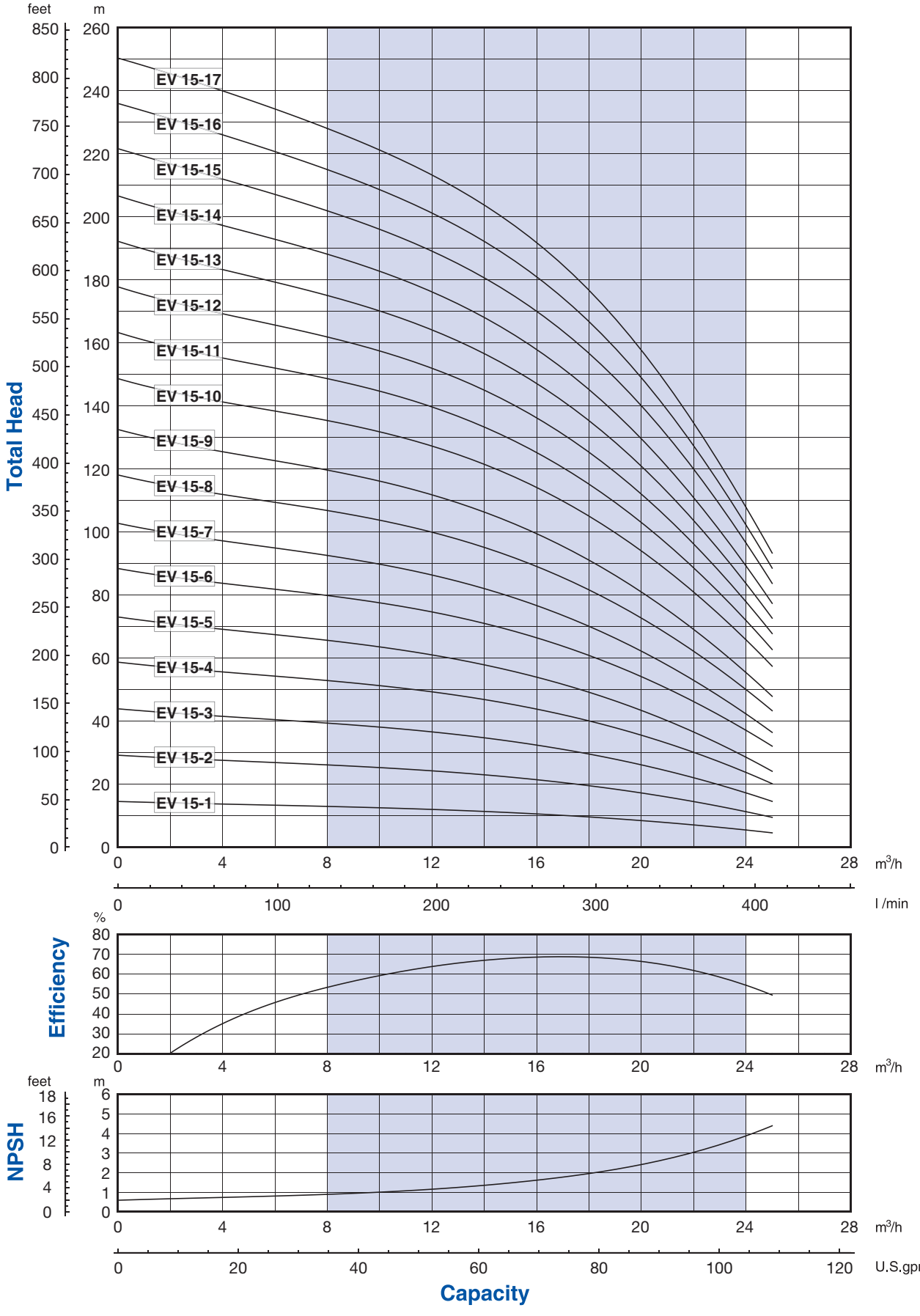
C version Connections with round fittings type Clamp-FlexiClamp: the pump is supplied without collars (Optional accessories).

| Pump Model | Motor | | Dimensions (mm) | | | | | | | | | | | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | L1 | L2 | | L3 | L4 | L5 | M | | D1 | | | Pump | Electric Pump |
| | kW | Size | F | 1-PHASE | 3-PHASE | T | V | C | 1-PHASE | 3-PHASE | 1-PHASE | 3-PHASE | | | |
| **EV 9/2** | 0.75 | 80 | 347.5 | 232 | 232 | 347.5 | 347.5 | 347.5 | 150 | 129 | 160 | 160 | | 17.5 | 27 |
| **EV 9/3** | 1.1 | 80 | 377.5 | 232 | 232 | 377.5 | 377.5 | 377.5 | 150 | 129 | 160 | 160 | | 18 | 29.5 |
| **EV 9/4** | 1.5 | 90 | 417.5 | 267 | 267 | 417.5 | 417.5 | 417.5 | 160 | 138 | 180 | 180 | | 19 | 33 |
| **EV 9/5** | 2.2 | 90 | 448 | 267 | 267 | 448 | 448 | 448 | 160 | 138 | 180 | 180 | | 20 | 36 |
| **EV 9/6** | 2.2 | 90 | 478 | 267 | 267 | 478 | 478 | 478 | 160 | 138 | 180 | 180 | | 21 | 37 |
| **EV 9/7** | 3 | 100 | 518 | - | 267 | 518 | 518 | 518 | - | 138 | - | 180 | | 22 | 41 |
| **EV 9/8** | 3 | 100 | 548 | - | 267 | 548 | 548 | 548 | - | 138 | - | 180 | | 23 | 42 |
| **EV 9/10** | 4 | 112 | 608 | - | 306 | 608 | 608 | 608 | - | 145 | - | 196 | | 24.5 | 47.5 |
| **EV 9/11** | 4 | 112 | 638 | - | 306 | 638 | 638 | 638 | - | 145 | - | 196 | | 25 | 48 |
| **EV 9/12** | 5.5 | 132 | 690.5 | - | 328 | 690.5 | 690.5 | 690.5 | - | 161 | - | 225 | | 30.5 | 64.5 |
| **EV 9/14** | 5.5 | 132 | 750.5 | - | 328 | - | 750.5 | 750.5 | - | 161 | - | 225 | | 32 | 66 |
| **EV 9/17** | 7.5 | 132 | 840.5 | - | 350 | - | 840.5 | 840.5 | - | 161 | - | 225 | | 34.5 | 70.5 |
| **EV 9/19** | 7.5 | 132 | 900.5 | - | 350 | - | 900.5 | 900.5 | - | 161 | - | 225 | | 36 | 72 |
| **EV 9/20** | 7.5 | 132 | 930.5 | - | 350 | - | 930.5 | 930.5 | - | 161 | - | 225 | | 36.5 | 72.5 |
| | | | | | | | | | | | | | | | |

# EV 15

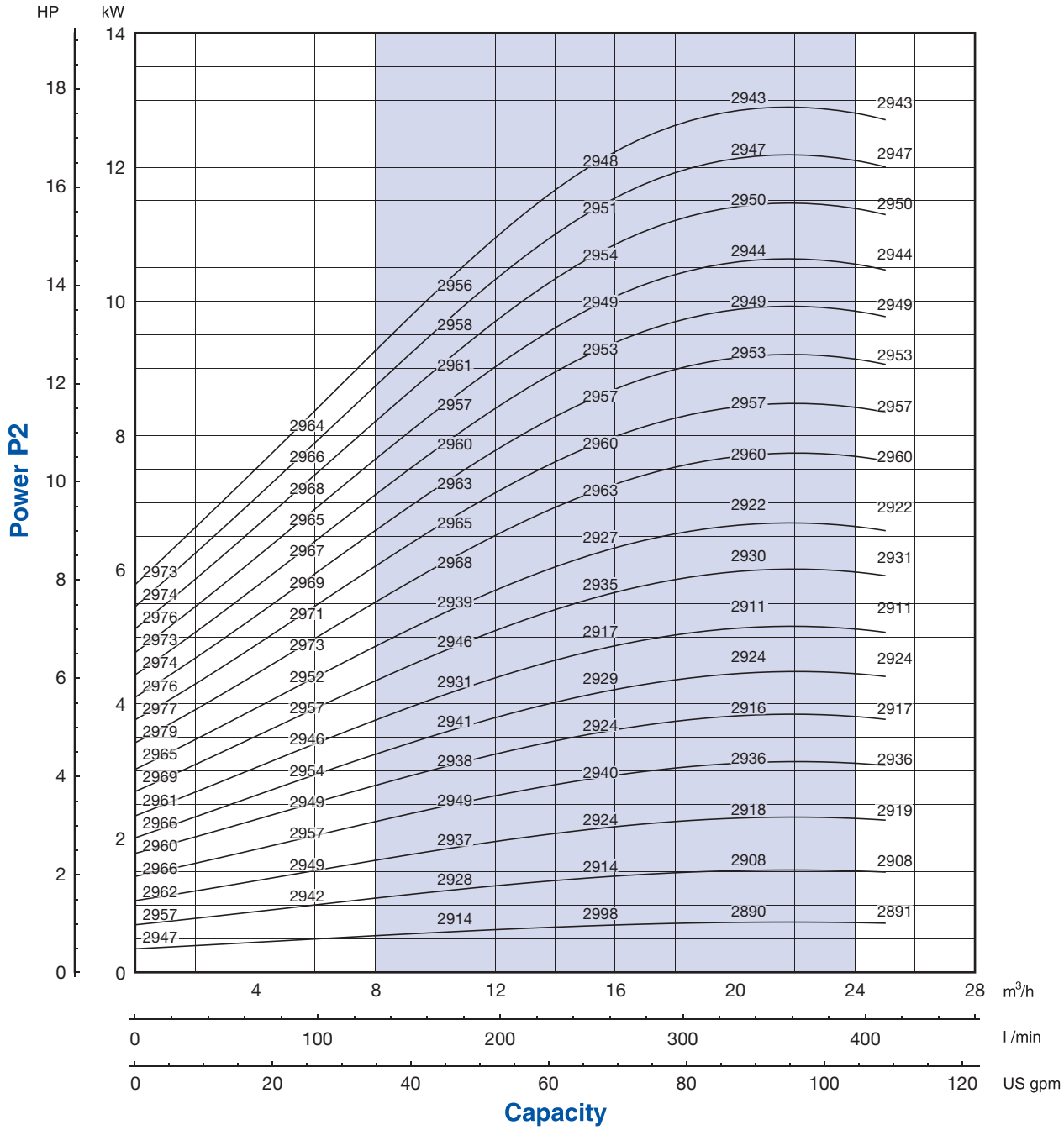
# Performance curves 50Hz

**MEI ≥ 0,70**




00110090 11/2013

*The hydraulic characteristics are guaranteed, according to ISO standard 9906, grade 3.*




*Performance curves of Q, H and P depend on the rpm number according to the following formulae:*

$$Q_2 = Q_1 \cdot \left(\frac{n_2}{n_1}\right) \quad , \quad H_2 = H_1 \cdot \left(\frac{n_2}{n_1}\right)^2 \quad , \quad P_2 = P_1 \cdot \left(\frac{n_2}{n_1}\right)^3 \quad , \quad \eta \text{ remains approximately the same.}$$

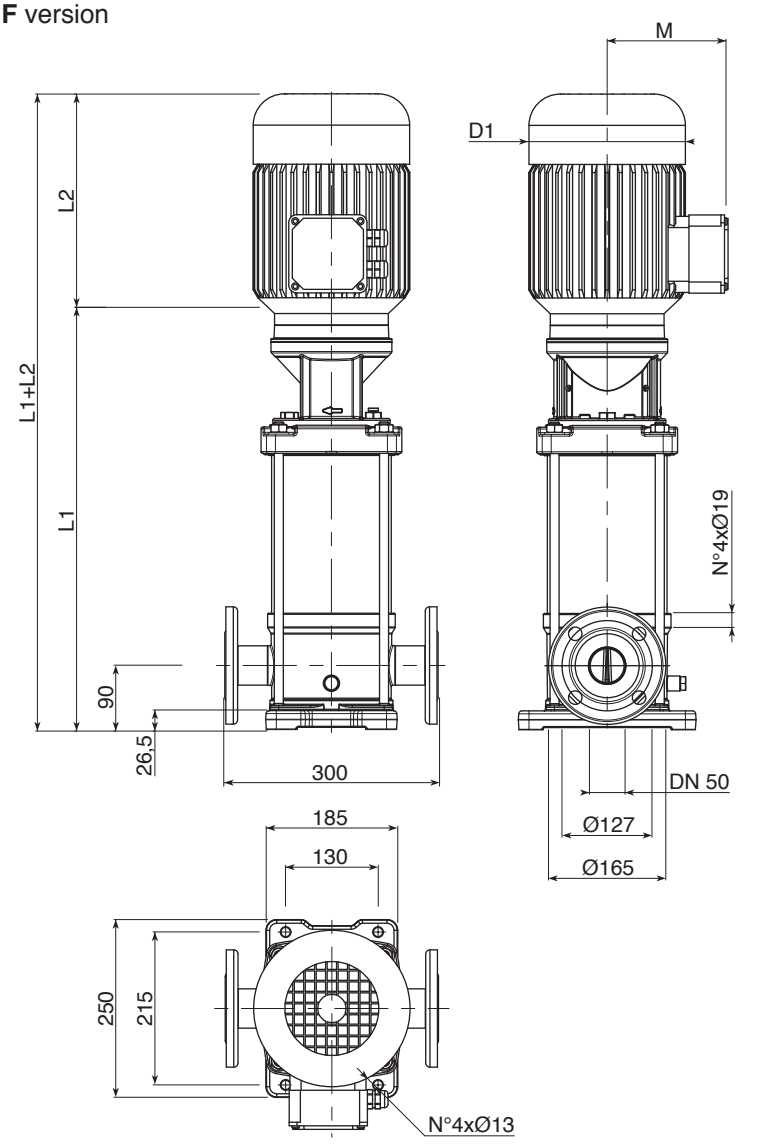
*The rpm number related to the performance curves (Q-H-P) is indicated in the power chart.*
*Performance curves (Q-H-P) will change in case a motor with rpm number different from indicated values is used.*
*Q=Capacity, H=Head, P=Power, η=Efficiency*

00110090 11/2013

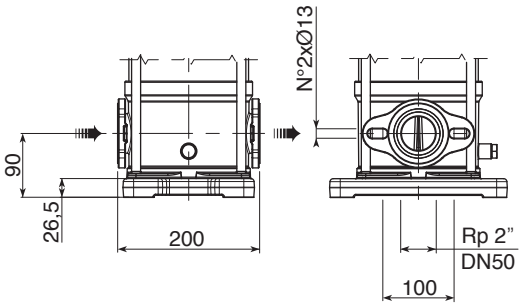
# EV 15

## Technical data 50Hz

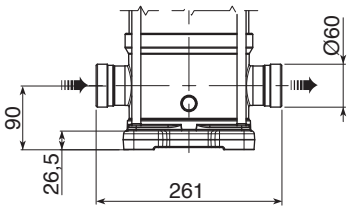
**F** version



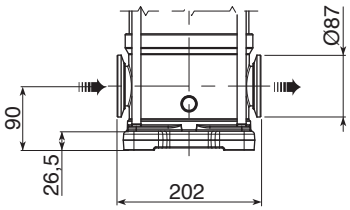

**T** version




**V** version




**C** version




00114095 10/2013

F version Round flanges on body type PN25: the pump is supplied without counterflanges (Optional accessories, including bolts and joints).

T version Oval flanges on body type PN16: the pump is supplied without threaded oval counter flanges (Optional accessories, including bolts and joints).

V version Connections with rapid fittings type "Victaulic": the pump is supplied without the collars (Optional accessories).

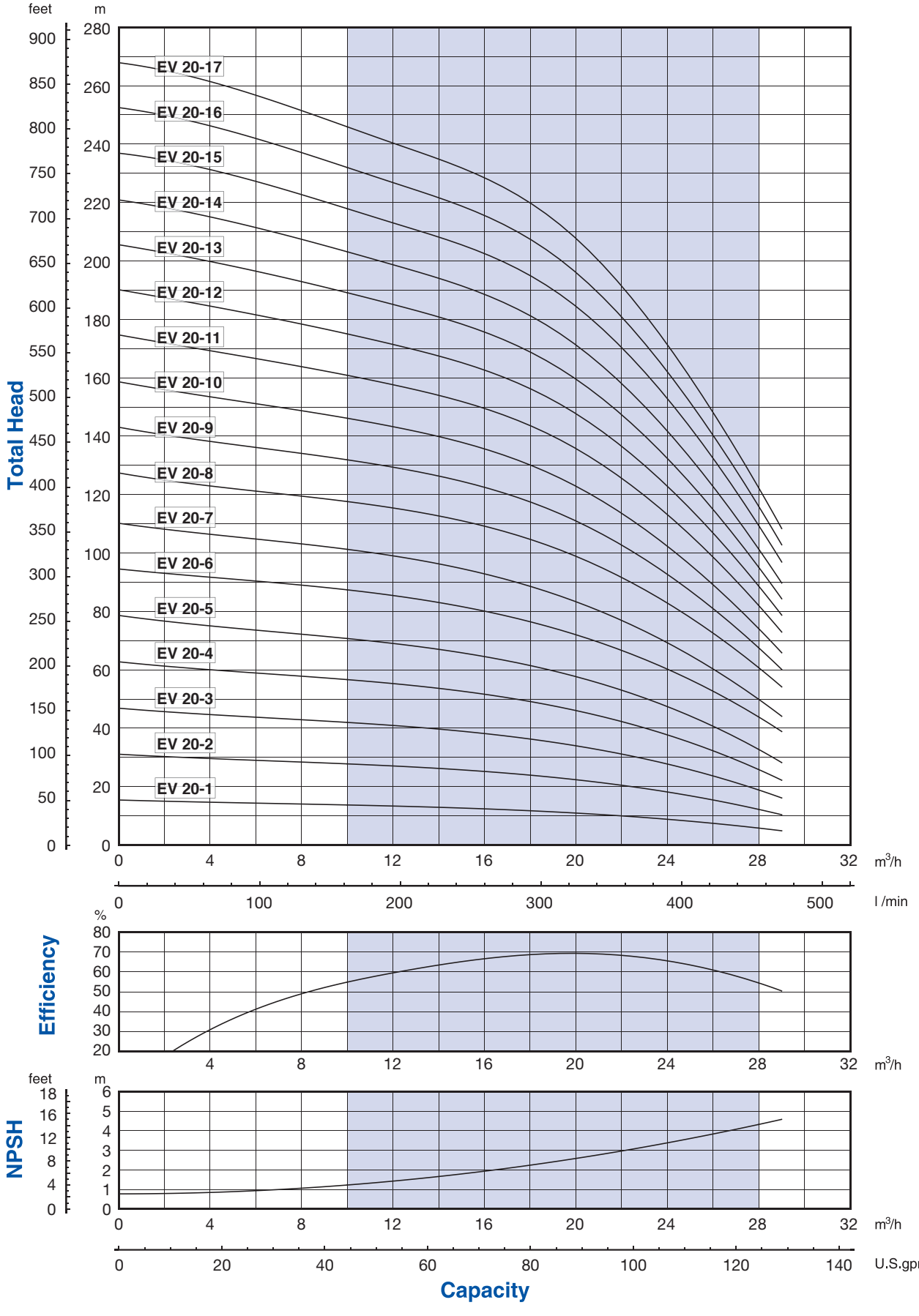
C version Connections with round fittings type Clamp-FlexiClamp: the pump is supplied without collars (Optional accessories).

| Pump Model | Motor | | Dimensions (mm) | | | | | | | | | Weight | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | L1 | L2 | | M | | D1 | | D2 | L1+L2 | Pump | Motor | Electric Pump |
| | kW | Size | | 1-PHASE | 3-PHASE | 1-PHASE | 3-PHASE | 1-PHASE | 3-PHASE | | | | | |
| **EV 15/1** | 1,1 | 80 | 405 | 232 | 232 | 150 | 129 | 160 | 160 | 170 | 637 | 23,5 | 12 | 35,5 |
| **EV 15/2** | 2,2 | 90 | 415 | 267 | 267 | 160 | 138 | 180 | 180 | 170 | 682 | 25 | 16 | 41 |
| **EV 15/3** | 3 | 100 | 473 | - | 267 | - | 138 | - | 180 | 170 | 740 | 27 | 18,7 | 45,7 |
| **EV 15/4** | 4 | 112 | 521 | - | 306 | - | 145 | - | 196 | 170 | 827 | 28,5 | 22,8 | 51,3 |
| **EV 15/5** | 4 | 112 | 569 | - | 306 | - | 145 | - | 196 | 170 | 875 | 30 | 22,8 | 52,8 |
| **EV 15/6** | 5,5 | 132 | 804 | - | 328 | - | 161 | - | 225 | 300 | 1132 | 52 | 34 | 86 |
| **EV 15/7** | 5,5 | 132 | 852 | - | 328 | - | 161 | - | 225 | 300 | 1180 | 53 | 34 | 87 |
| **EV 15/8** | 7,5 | 132 | 900 | - | 350 | - | 161 | - | 225 | 300 | 1250 | 54,5 | 36 | 90,5 |
| **EV 15/9** | 7,5 | 132 | 948 | - | 350 | - | 161 | - | 225 | 300 | 1298 | 56 | 36 | 92 |
| **EV 15/10** | 11 | 160 | 1016 | - | 425 | - | 198 | - | 248 | 350 | 1441 | 60 | 58 | 118 |
| **EV 15/11** | 11 | 160 | 1064 | - | 425 | - | 198 | - | 248 | 350 | 1489 | 61,5 | 58 | 119,5 |
| **EV 15/12** | 11 | 160 | 1112 | - | 425 | - | 198 | - | 248 | 350 | 1537 | 63 | 58 | 121 |
| **EV 15/13** | 11 | 160 | 1160 | - | 425 | - | 198 | - | 248 | 350 | 1585 | 64,5 | 58 | 122,5 |
| **EV 15/14** | 11 | 160 | 1208 | - | 425 | - | 198 | - | 248 | 350 | 1633 | 66 | 58 | 124 |
| **EV 15/15** | 15 | 160 | 1256 | - | 476 | - | 198 | - | 248 | 350 | 1732 | 67 | 64 | 131 |
| **EV 15/16** | 15 | 160 | 1304 | - | 476 | - | 198 | - | 248 | 350 | 1780 | 68,5 | 64 | 132,5 |
| **EV 15/17** | 15 | 160 | 1352 | - | 476 | - | 198 | - | 248 | 350 | 1828 | 70 | 64 | 134 |

# EV 20

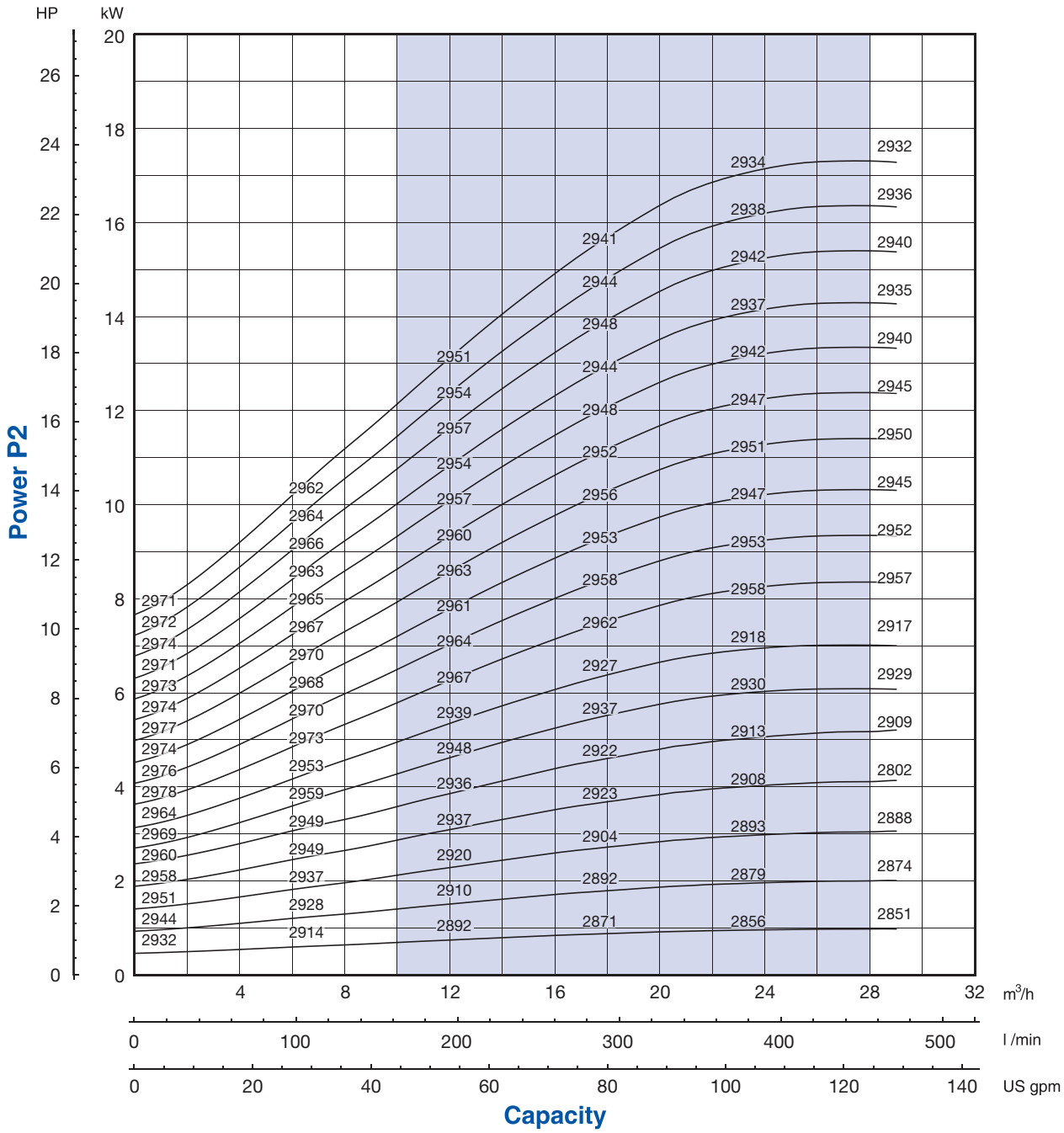
# Performance curves 50Hz

**MEI ≥ 0,70**




00110091 11/2013

*The hydraulic characteristics are guaranteed, according to ISO standard 9906, grade 3.*




*Performance curves of Q, H and P depend on the rpm number according to the following formulae:*

$$Q_2 = Q_1 \cdot \left(\frac{n_2}{n_1}\right) \quad , \quad H_2 = H_1 \cdot \left(\frac{n_2}{n_1}\right)^2 \quad , \quad P_2 = P_1 \cdot \left(\frac{n_2}{n_1}\right)^3 \quad , \quad \eta \text{ remains approximately the same.}$$

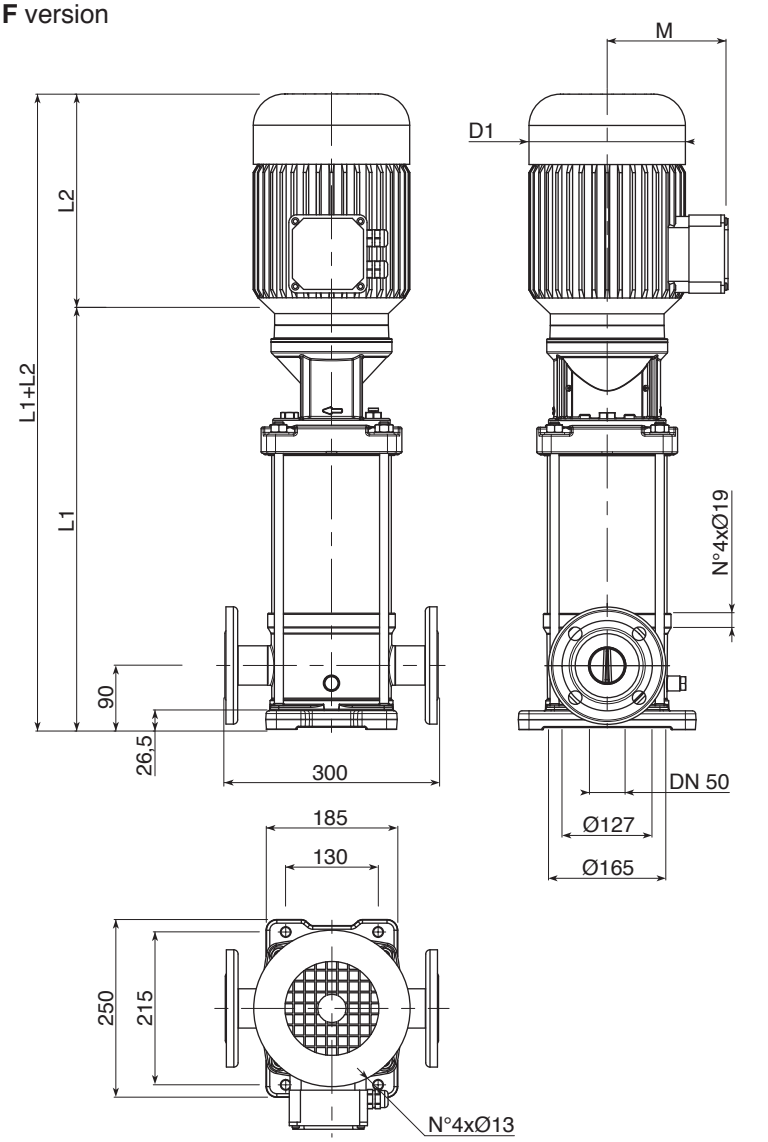
*The rpm number related to the performance curves (Q-H-P) is indicated in the power chart.*
*Performance curves (Q-H-P) will change in case a motor with rpm number different from indicated values is used.*
*Q=Capacity, H=Head, P=Power, η=Efficiency*

00110091 11/2013

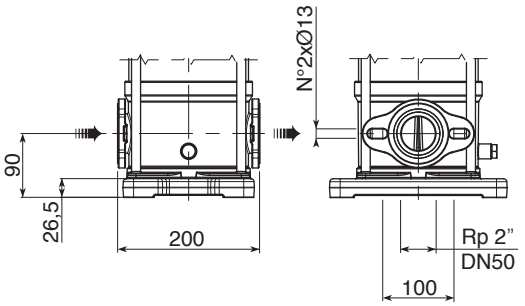
# EV 20

## Technical data 50Hz

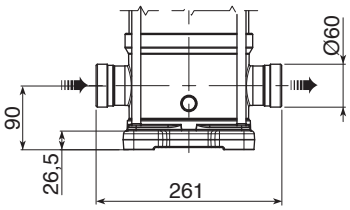
**F** version



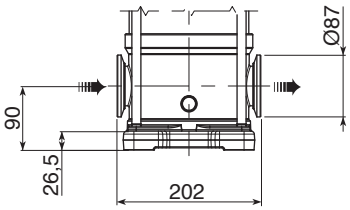

**T** version




**V** version




**C** version




00114095 10/2013

F version Round flanges on body type PN25: the pump is supplied without counterflanges (Optional accessories, including bolts and joints).

T version Oval flanges on body type PN16: the pump is supplied without threaded oval counter flanges (Optional accessories, including bolts and joints).

V version Connections with rapid fittings type "Victaulic": the pump is supplied without the collars (Optional accessories).

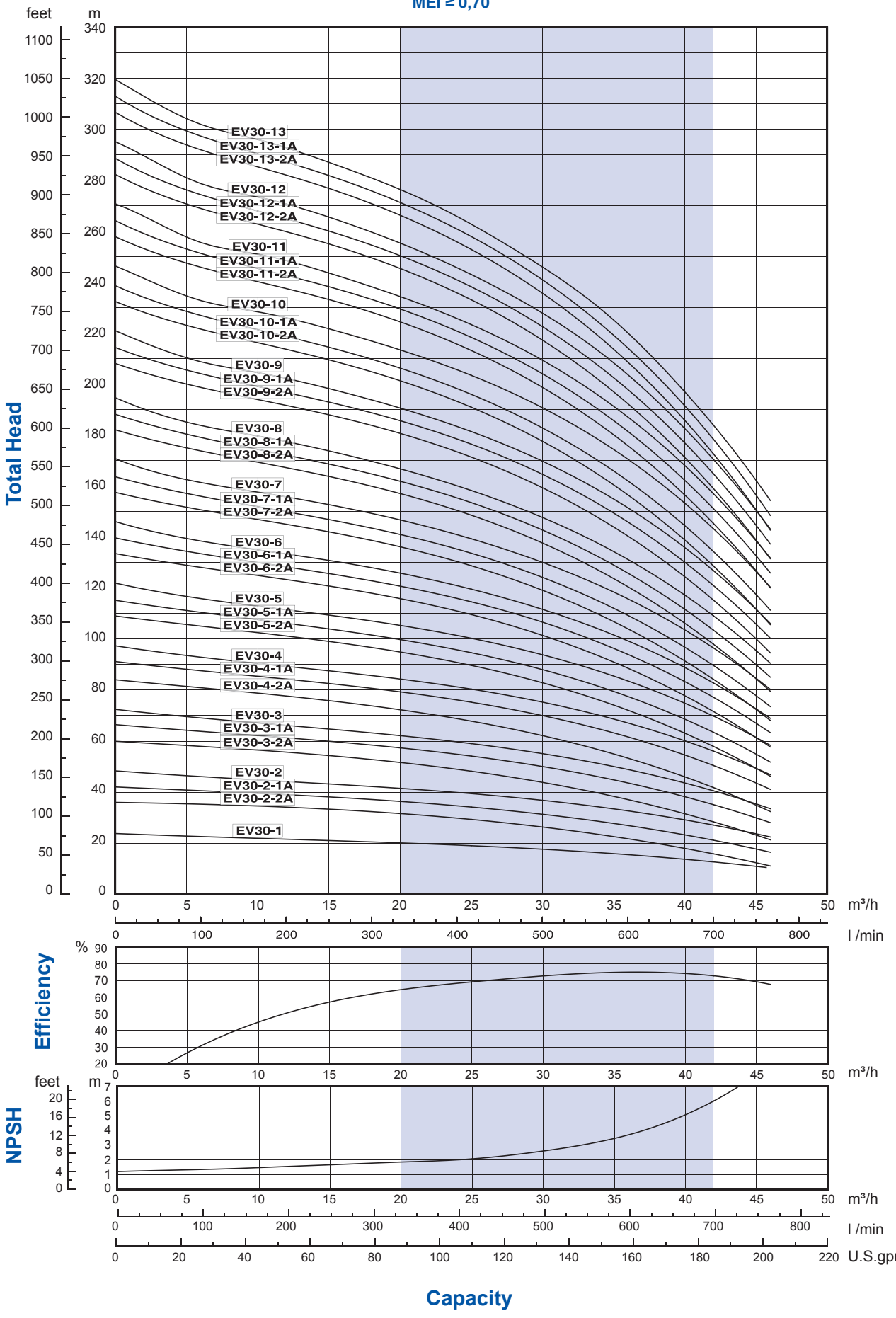
C version Connections with round fittings type Clamp-FlexiClamp: the pump is supplied without collars (Optional accessories).

| Pump Model | Motor | | Dimensions (mm) | | | | | | | | | Weight | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | L1 | L2 | | M | | D1 | | D2 | L1+L2 | Pump | Motor | Electric Pump |
| | kW | Size | | 1-PHASE | 3-PHASE | 1-PHASE | 3-PHASE | 1-PHASE | 3-PHASE | | | | | |
| **EV 20/1** | 1,1 | 80 | 405 | 232 | 232 | 150 | 129 | 160 | 160 | 170 | 637 | 23,5 | 12 | 35,5 |
| **EV 20/2** | 2,2 | 90 | 415 | 267 | 267 | 160 | 138 | 180 | 180 | 170 | 682 | 25,5 | 16 | 41,5 |
| **EV 20/3** | 4 | 112 | 473 | - | 306 | - | 145 | - | 196 | 170 | 779 | 27 | 22,8 | 49,8 |
| **EV 20/4** | 5,5 | 132 | 708 | - | 328 | - | 161 | - | 225 | 300 | 1036 | 49 | 34 | 83 |
| **EV 20/5** | 5,5 | 132 | 756 | - | 328 | - | 161 | - | 225 | 300 | 1084 | 50,5 | 34 | 84,5 |
| **EV 20/6** | 7,5 | 132 | 804 | - | 350 | - | 161 | - | 225 | 300 | 1154 | 52 | 36 | 88 |
| **EV 20/7** | 7,5 | 132 | 852 | - | 350 | - | 161 | - | 225 | 300 | 1202 | 53 | 36 | 89 |
| **EV 20/8** | 11 | 160 | 920 | - | 425 | - | 198 | - | 248 | 350 | 1345 | 57,5 | 58 | 115,5 |
| **EV 20/9** | 11 | 160 | 968 | - | 425 | - | 198 | - | 248 | 350 | 1393 | 59 | 58 | 117 |
| **EV 20/10** | 11 | 160 | 1016 | - | 425 | - | 198 | - | 248 | 350 | 1441 | 60,5 | 58 | 118,5 |
| **EV 20/11** | 15 | 160 | 1064 | - | 476 | - | 198 | - | 248 | 350 | 1540 | 61,5 | 64 | 125,5 |
| **EV 20/12** | 15 | 160 | 1112 | - | 476 | - | 198 | - | 248 | 350 | 1588 | 63 | 64 | 127 |
| **EV 20/13** | 15 | 160 | 1160 | - | 476 | - | 198 | - | 248 | 350 | 1636 | 64,5 | 64 | 128,5 |
| **EV 20/14** | 15 | 160 | 1208 | - | 476 | - | 198 | - | 248 | 350 | 1684 | 66 | 64 | 130 |
| **EV 20/15** | 18,5 | 160 | 1256 | - | 542 | - | 235 | - | 317 | 350 | 1798 | 67,5 | 88,9 | 156,4 |
| **EV 20/16** | 18,5 | 160 | 1304 | - | 542 | - | 235 | - | 317 | 350 | 1846 | 68,5 | 88,9 | 157,4 |
| **EV 20/17** | 18,5 | 160 | 1352 | - | 542 | - | 235 | - | 317 | 350 | 1894 | 70 | 88,9 | 158,9 |

# EV 30

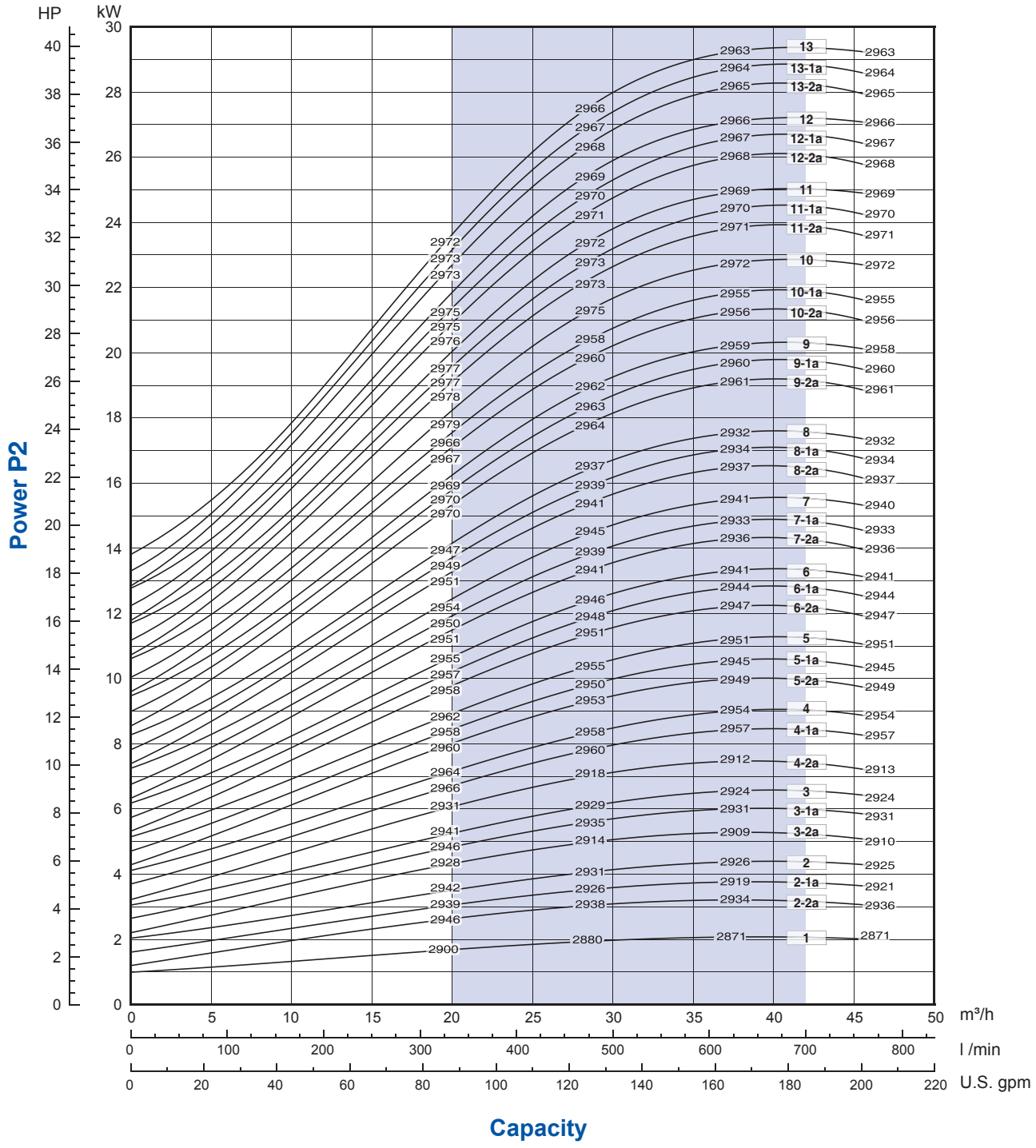
# Performance curves 50Hz

MEI ≥ 0,70




00110080 11/2013

*The hydraulic characteristics are guaranteed, according to ISO standard 9906, grade 3.*




*Performance curves of Q, H and P depend on the rpm number according to the following formulae:*

$$Q_2 = Q_1 \cdot \left(\frac{n_2}{n_1}\right) \quad , \quad H_2 = H_1 \cdot \left(\frac{n_2}{n_1}\right)^2 \quad , \quad P_2 = P_1 \cdot \left(\frac{n_2}{n_1}\right)^3 \quad , \quad \eta \text{ remains approximately the same.}$$

*The rpm number related to the performance curves (Q-H-P) is indicated in the power chart.*
*Performance curves (Q-H-P) will change in case a motor with rpm number different from indicated values is used.*
*Q=Capacity, H=Head, P=Power, η=Efficiency*

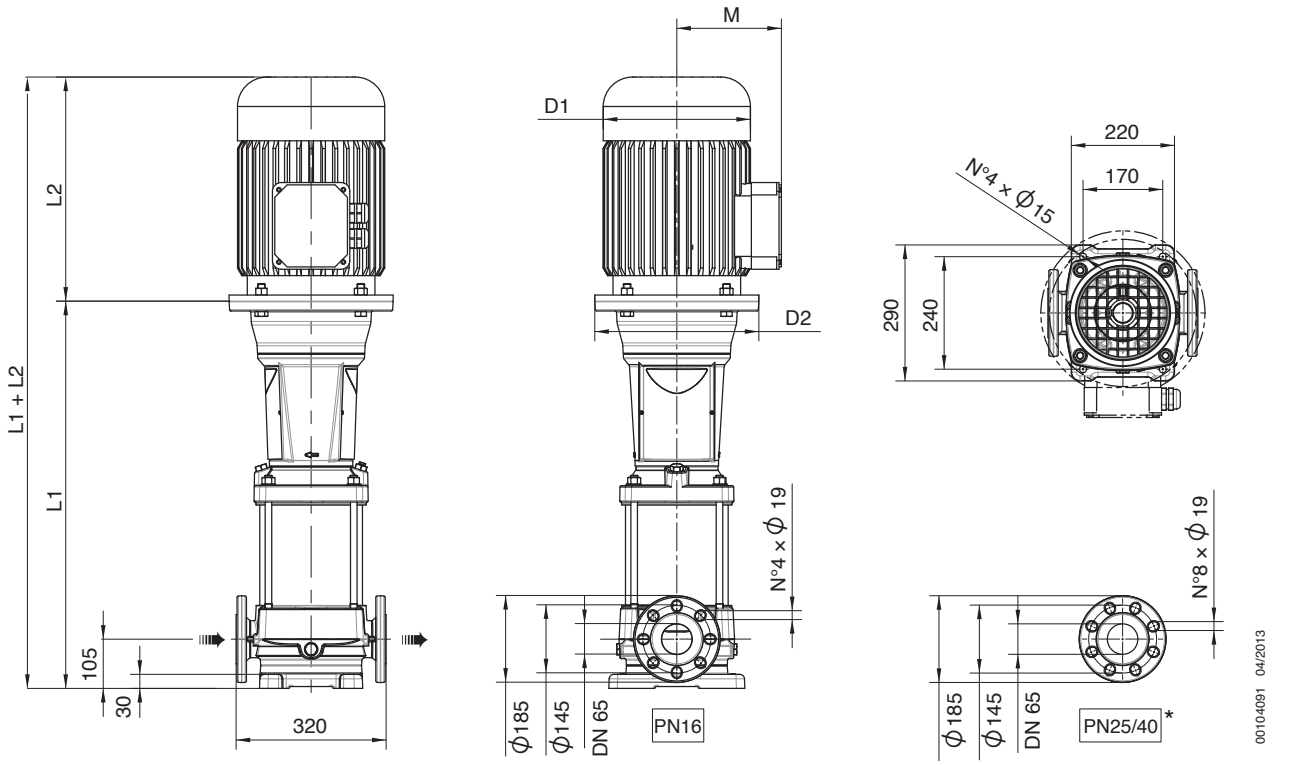
00110080 11/2013

*The hydraulic characteristics are guaranteed, according to ISO standard 9906, grade 3.*

# EV 30

EU

## Technical data 50Hz




F version The pump is supplied without counterflanges (Optional accessories, including bolts and joints).

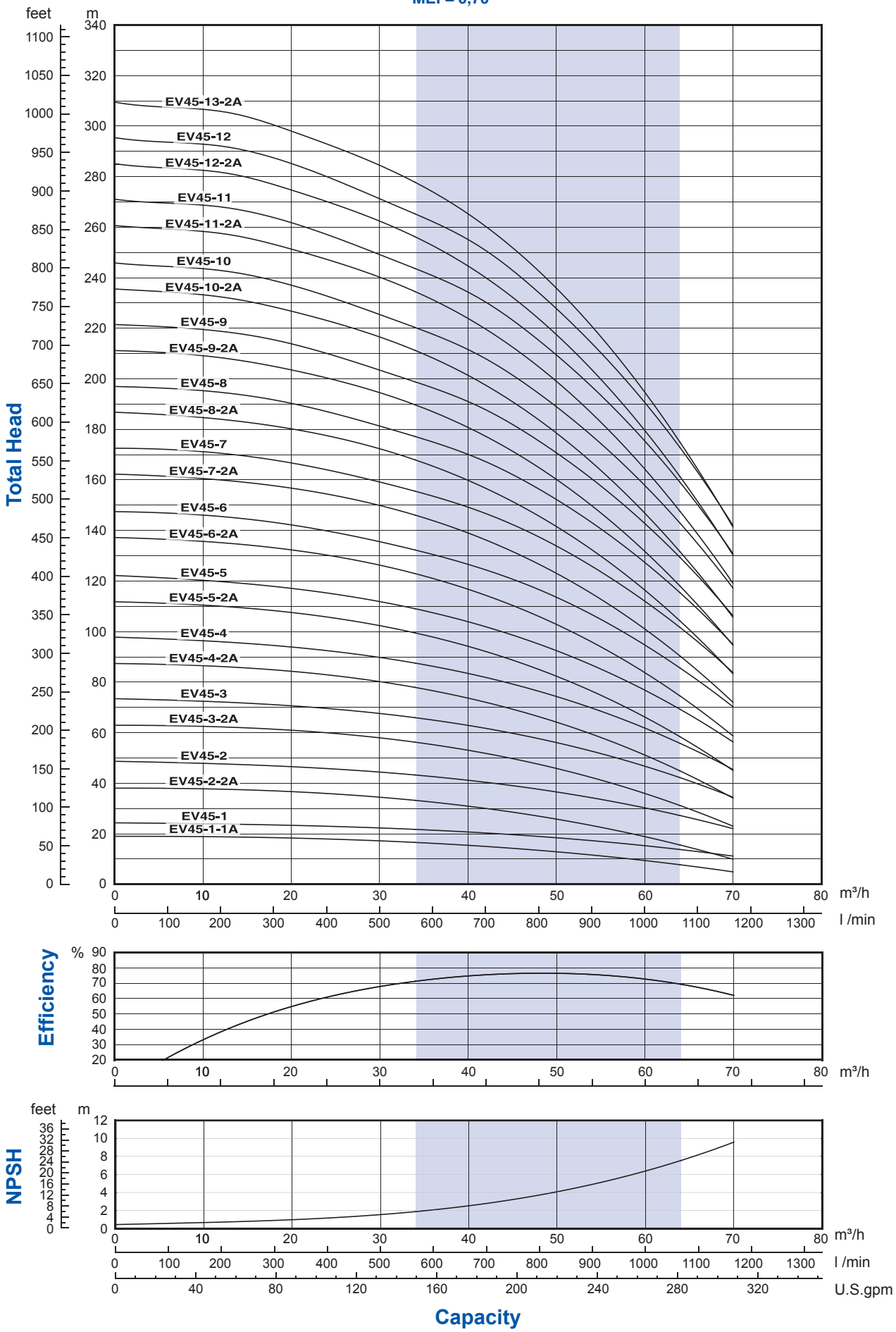
* Please note: The holes are rotated compared to PN 16.

| Pump Model | Motor | | Dimensions (mm) | | | | | | Weight | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | Size | L1 | L2 | M | D1 | D2 | L1 + L2 | PUMP | MOTOR | ELECTRIC |
| **EV 30/1** | 2,2 | 90 | 445 | 267 | 138 | 180 | 170 | 712 | 53 | 16 | 69 |
| **EV 30/2-2a** | 4 | 112 | 537 | 306 | 145 | 196 | 170 | 843 | 57 | 22,8 | 80 |
| **EV 30/2-1a** | 4 | 112 | 724 | 306 | 145 | 196 | 170 | 1030 | 74,5 | 22,8 | 97,5 |
| **EV 30/2** | 5,5 | 132 | 724 | 328 | 161 | 225 | 300 | 1052 | 74,5 | 34 | 108.5 |
| **EV 30/3-2a** | 5,5 | 132 | 806 | 328 | 161 | 225 | 300 | 1134 | 78,5 | 34 | 112,5 |
| **EV 30/3-1a** | 7,5 | 132 | 806 | 350 | 161 | 225 | 300 | 1156 | 78,5 | 36 | 114,5 |
| **EV 30/3** | 7,5 | 132 | 806 | 350 | 161 | 225 | 300 | 1238 | 78,5 | 36 | 114,5 |
| **EV 30/4-2a** | 7,5 | 132 | 888 | 350 | 161 | 225 | 300 | 1333 | 85,5 | 36 | 121,5 |
| **EV 30/4-1a** | 11 | 160 | 908 | 425 | 198 | 248 | 350 | 1333 | 85,5 | 58 | 143,5 |
| **EV 30/4** | 11 | 160 | 908 | 425 | 198 | 248 | 350 | 1415 | 85,5 | 58 | 143,5 |
| **EV 30/5-2a** | 11 | 160 | 990 | 425 | 198 | 248 | 350 | 1415 | 89,5 | 58 | 147,5 |
| **EV 30/5-1a** | 11 | 160 | 990 | 425 | 198 | 248 | 350 | 1415 | 89,5 | 58 | 147,5 |
| **EV 30/5** | 15 | 160 | 990 | 476 | 198 | 248 | 350 | 1548 | 89,5 | 64 | 153,5 |
| **EV 30/6-2a** | 15 | 160 | 1072 | 476 | 198 | 248 | 350 | 1548 | 93,5 | 64 | 157,5 |
| **EV 30/6-1a** | 15 | 160 | 1072 | 476 | 198 | 248 | 350 | 1548 | 93,5 | 64 | 157,5 |
| **EV 30/6** | 15 | 160 | 1072 | 476 | 198 | 248 | 350 | 1630 | 93,5 | 64 | 157,5 |
| **EV 30/7-2a** | 15 | 160 | 1154 | 476 | 198 | 248 | 350 | 1652 | 97,5 | 64 | 161,5 |
| **EV 30/7-1a** | 15 | 160 | 1154 | 476 | 198 | 248 | 350 | 1630 | 97,5 | 64 | 161,5 |
| **EV 30/7** | 18,5 | 160 | 1154 | 542 | 238 | 317 | 350 | 1696 | 97,5 | 89 | 186,5 |
| **EV 30/8-2a** | 18,5 | 160 | 1236 | 542 | 238 | 317 | 350 | 1778 | 101,5 | 89 | 190,5 |
| **EV 30/8-1a** | 18,5 | 160 | 1236 | 542 | 238 | 317 | 350 | 1778 | 101,5 | 89 | 190,5 |
| **EV 30/8** | 18,5 | 160 | 1236 | 542 | 238 | 317 | 350 | 1778 | 101,5 | 89 | 190,5 |
| **EV 30/9-2a** | 22 | 180 | 1318 | 542 | 238 | 360 | 350 | 1860 | 105,5 | 108.7 | 214 |
| **EV 30/9-1a** | 22 | 180 | 1318 | 542 | 238 | 360 | 350 | 1860 | 105,5 | 108.7 | 214 |
| **EV 30/9** | 22 | 180 | 1318 | 542 | 238 | 360 | 350 | 1860 | 105,5 | 108.7 | 214 |
| **EV 30/10-2a** | 22 | 180 | 1400 | 542 | 238 | 360 | 350 | 1942 | 112,5 | 108.7 | 221 |
| **EV 30/10-1a** | 22 | 180 | 1400 | 542 | 238 | 360 | 350 | 1942 | 112,5 | 108.7 | 221 |
| **EV 30/10** | 30 | 200 | 1405 | 658 | 297 | 399 | 400 | 2063 | 112,5 | 228 | 340,5 |
| **EV 30/11-2a** | 30 | 200 | 1487 | 658 | 297 | 399 | 400 | 2145 | 116,5 | 228 | 344,5 |
| **EV 30/11-1a** | 30 | 200 | 1487 | 658 | 297 | 399 | 400 | 2145 | 116,5 | 228 | 344,5 |
| **EV 30/11** | 30 | 200 | 1487 | 658 | 297 | 399 | 400 | 2145 | 116,5 | 228 | 344,5 |
| **EV 30/12-2a** | 30 | 200 | 1569 | 658 | 297 | 399 | 400 | 2227 | 120,5 | 228 | 348,5 |
| **EV 30/12-1a** | 30 | 200 | 1569 | 658 | 297 | 399 | 400 | 2227 | 120,5 | 228 | 348,5 |
| **EV 30/12** | 30 | 200 | 1569 | 658 | 297 | 399 | 400 | 2227 | 120,5 | 228 | 348,5 |
| **EV 30/13-2a** | 30 | 200 | 1651 | 658 | 297 | 399 | 400 | 2309 | 124,5 | 228 | 352,5 |
| **EV 30/13-1a** | 30 | 200 | 1651 | 658 | 297 | 399 | 400 | 2309 | 124,5 | 228 | 352,5 |
| **EV 30/13** | 30 | 200 | 1651 | 658 | 297 | 399 | 400 | 2309 | 124,5 | 228 | 352,5 |

# EV 45

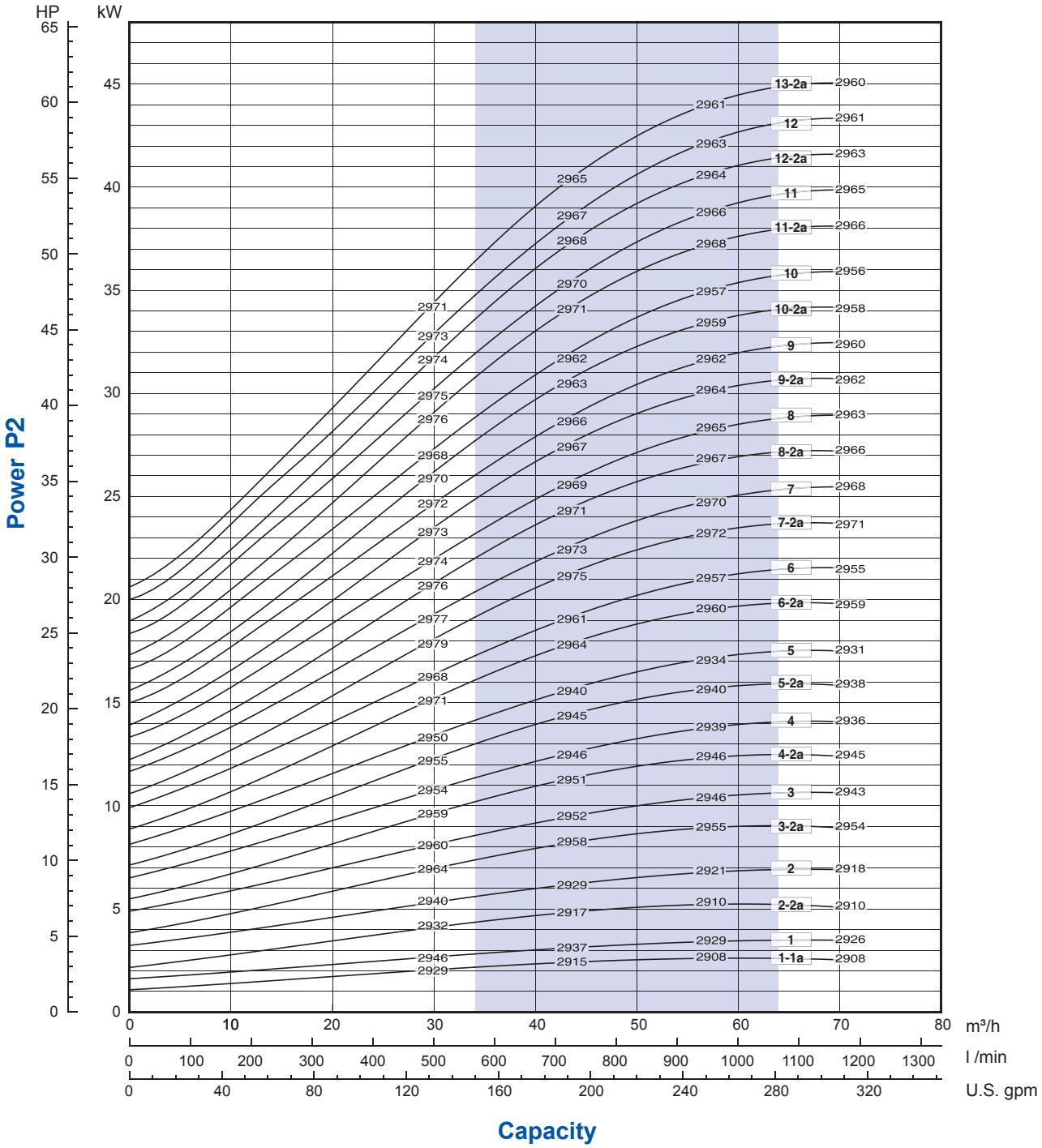
# Performance curves 50Hz

MEI ≥ 0,70




00110081 11/2013

*The hydraulic characteristics are guaranteed, according to ISO standard 9906, grade 3.*




*Performance curves of Q, H and P depend on the rpm number according to the following formulae:*

$$Q_2 = Q_1 \cdot \left(\frac{n_2}{n_1}\right) \quad , \quad H_2 = H_1 \cdot \left(\frac{n_2}{n_1}\right)^2 \quad , \quad P_2 = P_1 \cdot \left(\frac{n_2}{n_1}\right)^3$$

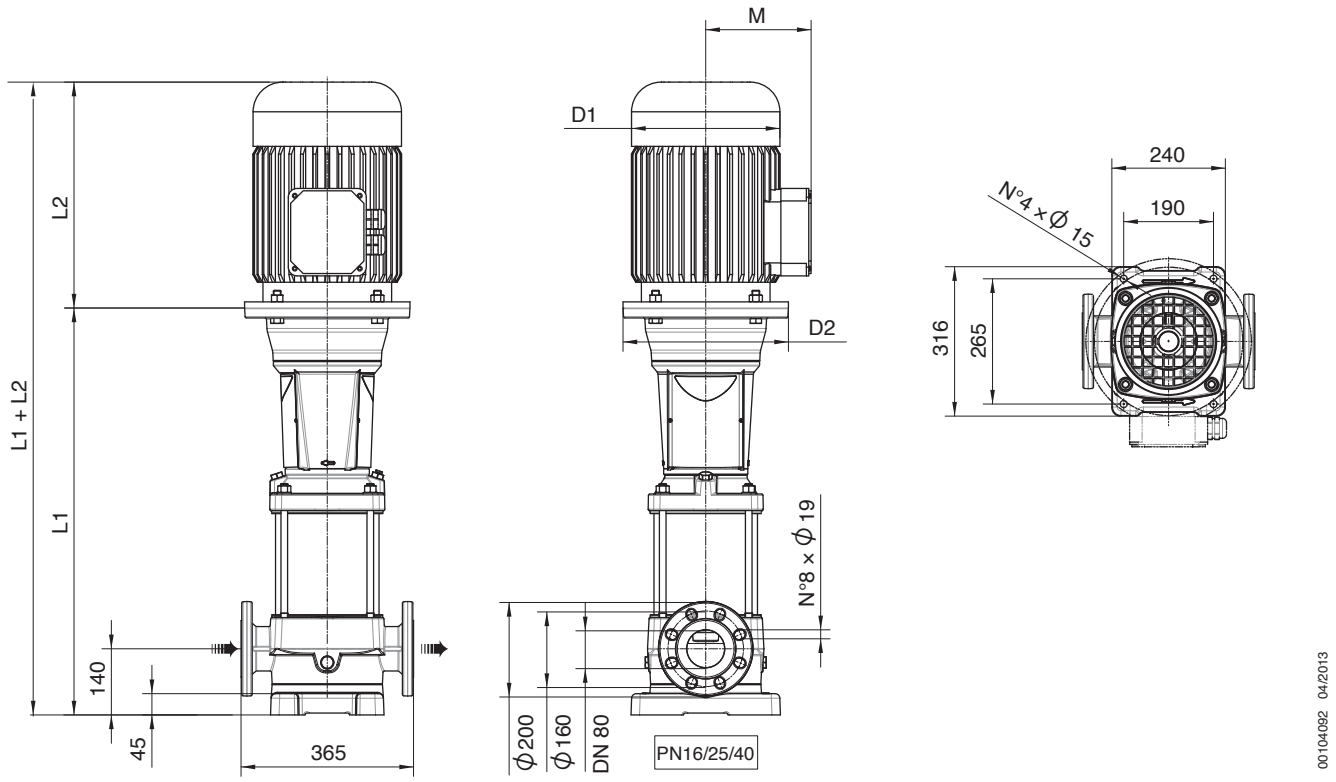
, $\eta$ *remains approximately the same.*

*The rpm number related to the performance curves (Q-H-P) is indicated in the power chart.*
*Performance curves (Q-H-P) will change in case a motor with rpm number different from indicated values is used.*
*Q=Capacity, H=Head, P=Power, η=Efficiency*

00110081 11/2013

*The hydraulic characteristics are guaranteed, according to ISO standard 9906, grade 3.*

# Technical data 50Hz



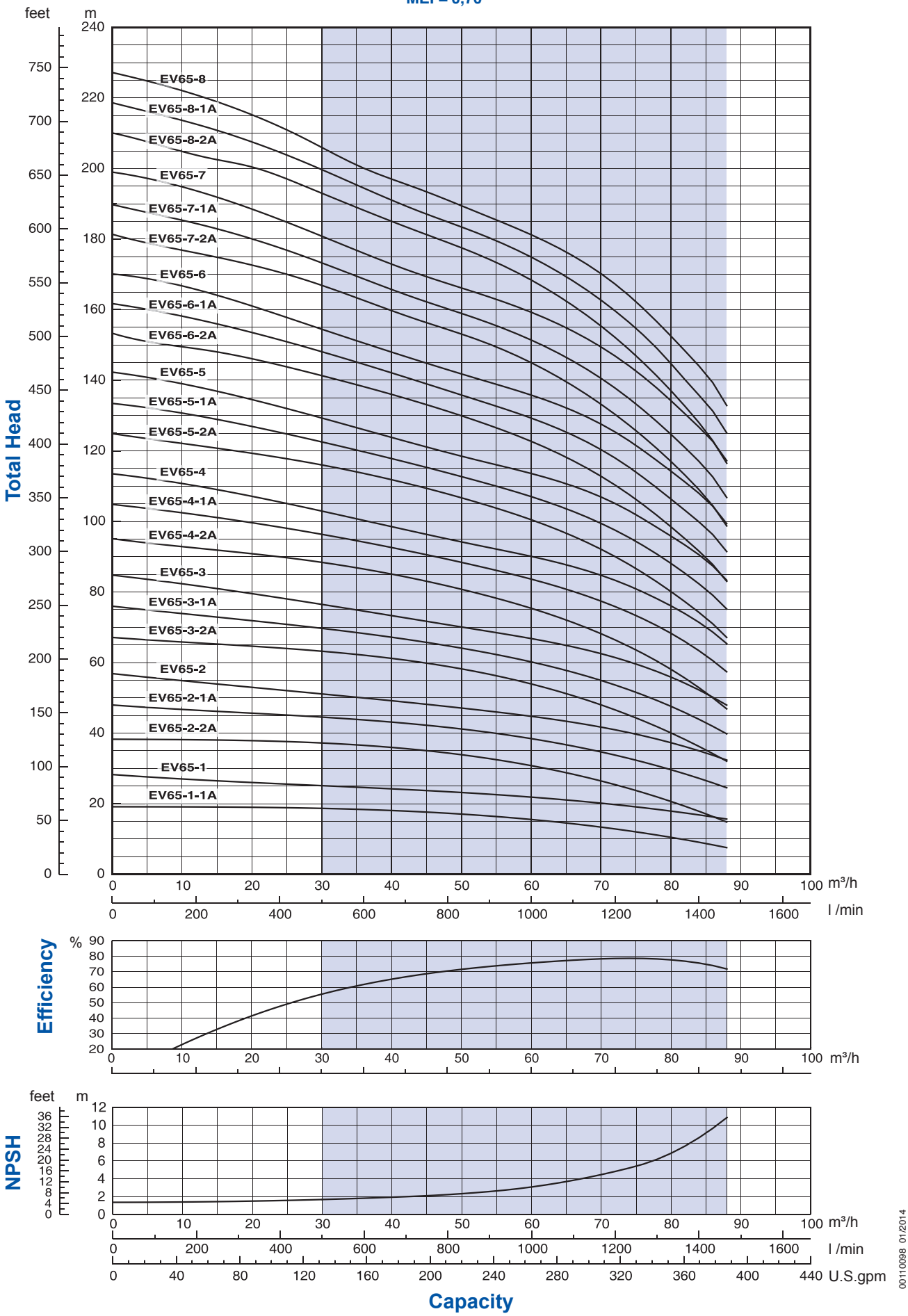

F version The pump is supplied without counterflanges (Optional accessories, including bolts and joints).

| Pump Model | Motor | | Dimensions (mm) | | | | | | Weight (kg) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | Size | L1 | L2 | M | D1 | D2 | L1 + L2 | PUMP | MOTOR | ELECTRIC |
| **EV 45/1-1a** | 3 | 100 | 490 | 267 | 138 | 180 | 170 | 757 | 59 | 18,7 | 78 |
| **EV 45/1** | 4 | 112 | 490 | 306 | 145 | 196 | 170 | 796 | 59 | 22,8 | 82 |
| **EV 45/2-2a** | 5,5 | 132 | 759 | 328 | 161 | 225 | 300 | 1087 | 80,5 | 34 | 114,5 |
| **EV 45/2** | 7,5 | 132 | 759 | 350 | 161 | 225 | 300 | 1109 | 80,5 | 36 | 116,5 |
| **EV 45/3-2a** | 11 | 160 | 861 | 425 | 198 | 248 | 350 | 1286 | 87,5 | 58 | 145,5 |
| **EV 45/3** | 11 | 160 | 861 | 425 | 198 | 248 | 350 | 1286 | 87,5 | 58 | 145,5 |
| **EV 45/4-2a** | 15 | 160 | 943 | 476 | 198 | 248 | 350 | 1419 | 91,5 | 64 | 155,5 |
| **EV 45/4** | 15 | 160 | 943 | 476 | 198 | 248 | 350 | 1419 | 91,5 | 64 | 155,5 |
| **EV 45/5-2a** | 18,5 | 160 | 1025 | 542 | 238 | 317 | 350 | 1567 | 95,5 | 89 | 184,5 |
| **EV 45/5** | 18,5 | 160 | 1025 | 542 | 238 | 317 | 350 | 1567 | 95,5 | 89 | 184,5 |
| **EV 45/6-2a** | 22 | 180 | 1107 | 542 | 238 | 317 | 350 | 1649 | 99 | 108,5 | 208 |
| **EV 45/6** | 22 | 180 | 1107 | 542 | 238 | 317 | 350 | 1649 | 99 | 108,5 | 208 |
| **EV 45/7-2a** | 30 | 200 | 1194 | 658 | 297 | 399 | 400 | 1852 | 106 | 228 | 334 |
| **EV 45/7** | 30 | 200 | 1194 | 658 | 297 | 399 | 400 | 1852 | 106 | 228 | 334 |
| **EV 45/8-2a** | 30 | 200 | 1276 | 658 | 297 | 399 | 400 | 1934 | 110 | 228 | 338 |
| **EV 45/8** | 30 | 200 | 1276 | 658 | 297 | 399 | 400 | 1934 | 110 | 228 | 338 |
| **EV 45/9-2a** | 37 | 200 | 1358 | 658 | 297 | 399 | 400 | 2016 | 114 | 242 | 356 |
| **EV 45/9** | 37 | 200 | 1358 | 658 | 297 | 399 | 400 | 2016 | 114 | 242 | 356 |
| **EV 45/10-2a** | 37 | 200 | 1440 | 658 | 297 | 399 | 400 | 2098 | 118 | 242 | 360 |
| **EV 45/10** | 37 | 200 | 1440 | 658 | 297 | 399 | 400 | 2098 | 118 | 242 | 360 |
| **EV 45/11-2a** | 45 | 225 | 1522 | 699 | 333 | 465 | 450 | 2221 | 125 | 308 | 433 |
| **EV 45/11** | 45 | 225 | 1522 | 699 | 333 | 465 | 450 | 2221 | 125 | 308 | 433 |
| **EV 45/12-2a** | 45 | 225 | 1604 | 699 | 333 | 465 | 450 | 2303 | 129 | 308 | 437 |
| **EV 45/12** | 45 | 225 | 1604 | 699 | 333 | 465 | 450 | 2303 | 129 | 308 | 437 |
| **EV 45/13-2a** | 45 | 225 | 1686 | 699 | 333 | 465 | 450 | 2385 | 133 | 308 | 441 |

# EV 65

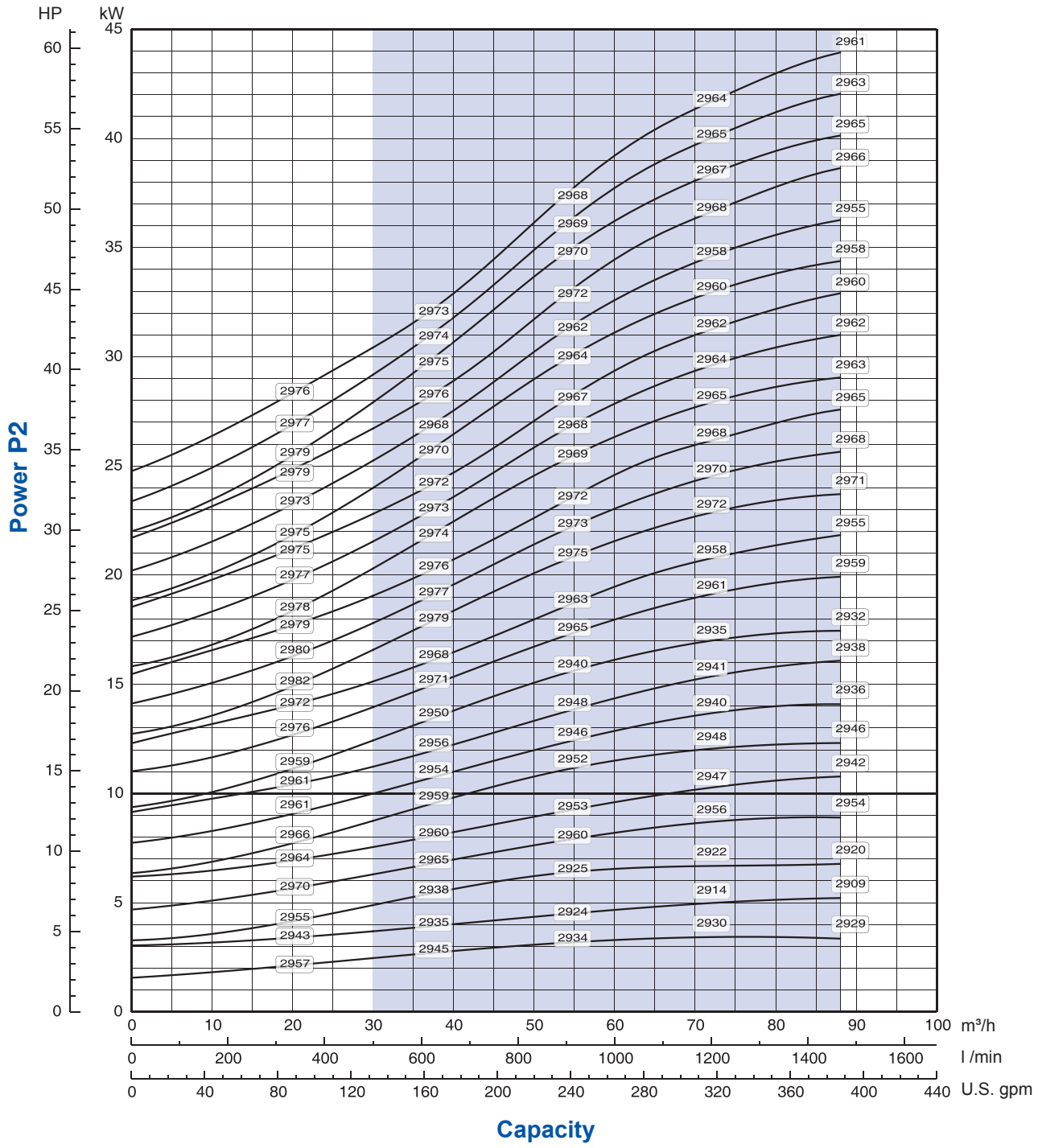
# Performance curves 50Hz

MEI ≥ 0,70




00110098 01/2014

*The hydraulic characteristics are guaranteed, according to ISO standard 9906, grade 3.*




*Performance curves of Q, H and P depend on the rpm number according to the following formulae:*

$$Q_2 = Q_1 \cdot \left(\frac{n_2}{n_1}\right) \quad , \quad H_2 = H_1 \cdot \left(\frac{n_2}{n_1}\right)^2 \quad , \quad P_2 = P_1 \cdot \left(\frac{n_2}{n_1}\right)^3 \quad , \quad \eta \text{ remains approximately the same.}$$

*The rpm number related to the performance curves (Q-H-P) is indicated in the power chart.*
*Performance curves (Q-H-P) will change in case a motor with rpm number different from indicated values is used.*
*Q=Capacity, H=Head, P=Power, η=Efficiency*

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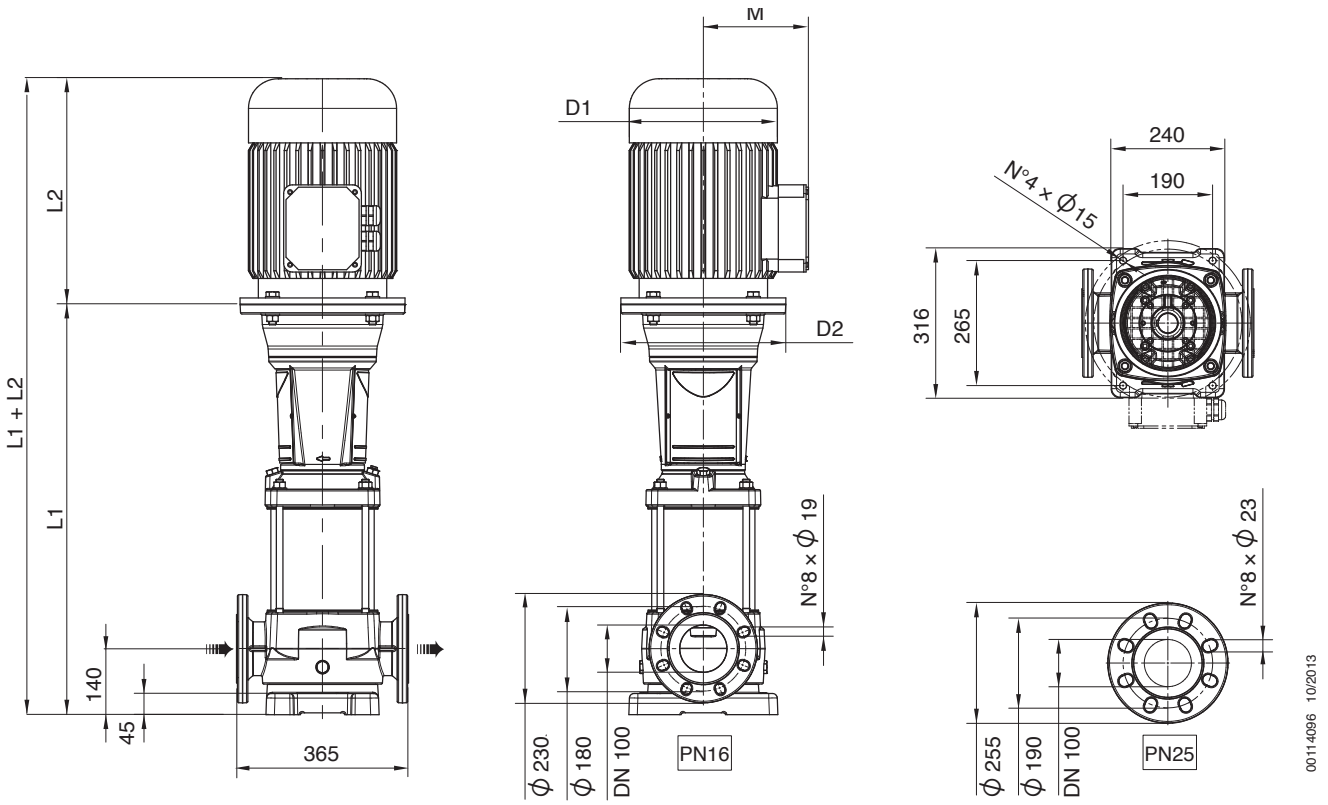
*The hydraulic characteristics are guaranteed, according to ISO standard 9906, grade 3.*

# EV 65

## Technical data 50Hz



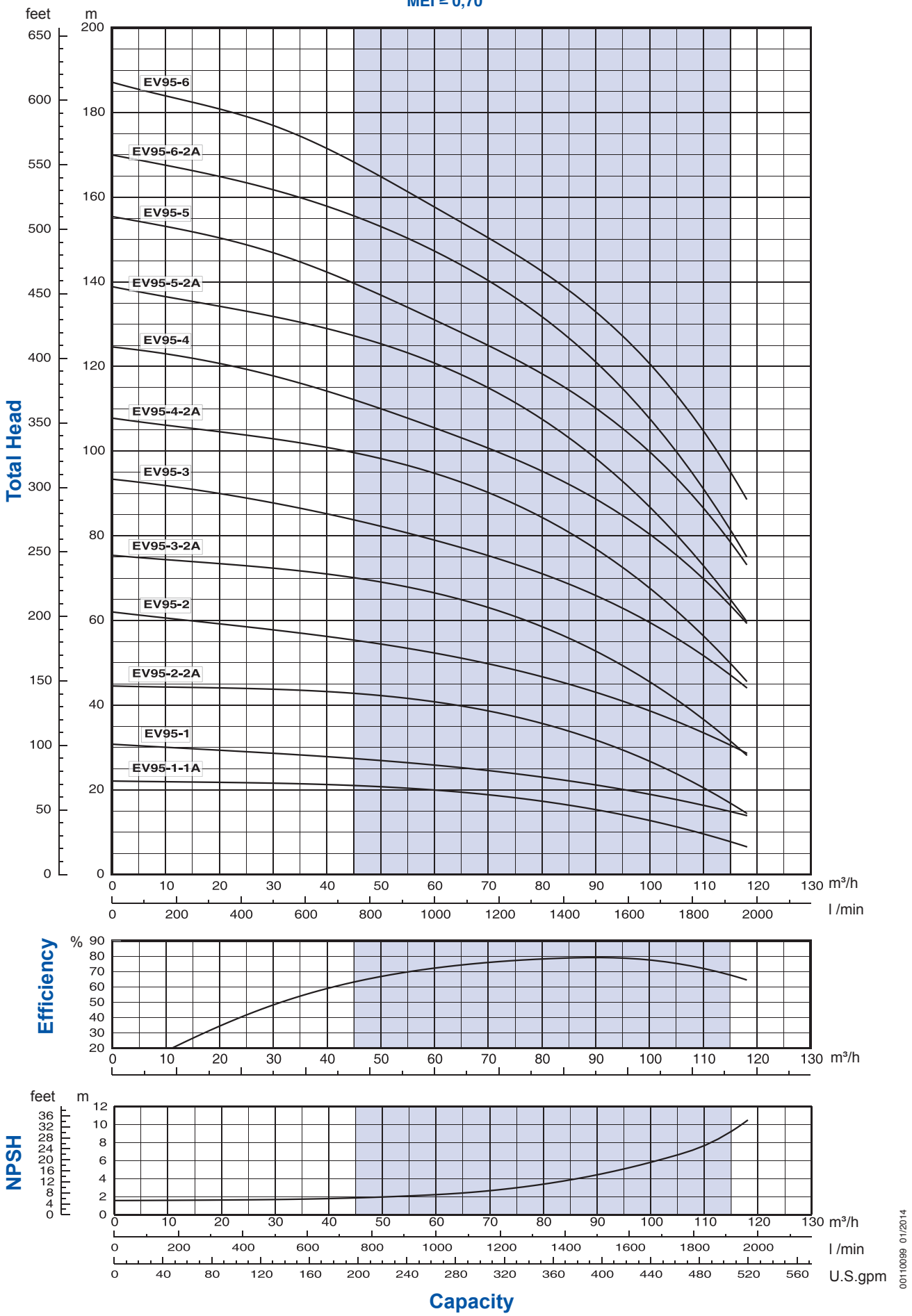

F version The pump is supplied without counterflanges (Optional accessories, including bolts and joints).

| Pump Model | | Motor | | Dimensions (mm) | | | | | | Weight (kg) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PN | kW | Size | L1 | L2 | M | D1 | D2 | L1 + L2 | PUMP | MOTOR | ELECTRIC |
| **EV 65/1-1a** | 16 | 4 | 112 | 550,1 | 306 | 145 | 196 | 170 | 856,1 | 61 | 22,8 | 83,8 |
| **EV 65/1** | 16 | 5,5 | 132 | 737,1 | 328 | 161 | 225 | 300 | 1065,1 | 81 | 34 | 115 |
| **EV 65/2-2a** | 16 | 7,5 | 132 | 829,2 | 350 | 161 | 225 | 300 | 1179,2 | 85,5 | 36 | 121,5 |
| **EV 65/2-1a** | 16 | 11 | 160 | 849,2 | 425 | 198 | 248 | 350 | 1274,2 | 88,5 | 58 | 146,5 |
| **EV 65/2** | 16 | 11 | 160 | 849,2 | 425 | 198 | 248 | 350 | 1274,2 | 88,5 | 58 | 146,5 |
| **EV 65/3-2a** | 16 | 15 | 160 | 941,3 | 476 | 198 | 248 | 350 | 1417,3 | 93 | 64 | 157 |
| **EV 65/3-1a** | 16 | 15 | 160 | 941,3 | 476 | 198 | 248 | 350 | 1417,3 | 93 | 64 | 157 |
| **EV 65/3** | 16 | 18,5 | 160 | 941,3 | 542 | 235 | 317 | 350 | 1483,3 | 93 | 88,9 | 181,9 |
| **EV 65/4-2a** | 16 | 18,5 | 160 | 1033,4 | 542 | 235 | 317 | 350 | 1575,4 | 97,5 | 88,9 | 186,4 |
| **EV 65/4-1a** | 16 | 22 | 180 | 1033,4 | 542 | 238 | 317 | 350 | 1575,4 | 98 | 108,7 | 206,7 |
| **EV 65/4** | 16 | 22 | 180 | 1033,4 | 542 | 238 | 317 | 350 | 1575,4 | 98 | 108,7 | 206,7 |
| **EV 65/5-2a** | 16 | 30 | 200 | 1130,5 | 658 | 300 | 399 | 400 | 1788,5 | 105,5 | 228 | 333,5 |
| **EV 65/5-1a** | 16 | 30 | 200 | 1130,5 | 658 | 300 | 399 | 400 | 1788,5 | 105,5 | 228 | 333,5 |
| **EV 65/5** | 16 | 30 | 200 | 1130,5 | 658 | 300 | 399 | 400 | 1788,5 | 105,5 | 228 | 333,5 |
| **EV 65/6-2a** | 16 | 30 | 200 | 1222,6 | 658 | 300 | 399 | 400 | 1880,6 | 110 | 228 | 338 |
| **EV 65/6-1a** | 16 | 37 | 200 | 1222,6 | 658 | 300 | 399 | 400 | 1880,6 | 110 | 242 | 352 |
| **EV 65/6** | 25 | 37 | 200 | 1222,6 | 658 | 300 | 399 | 400 | 1880,6 | 110 | 242 | 352 |
| **EV 65/7-2a** | 25 | 37 | 200 | 1314,7 | 658 | 300 | 399 | 400 | 1972,7 | 114,5 | 242 | 356,5 |
| **EV 65/7-1a** | 25 | 37 | 200 | 1314,7 | 658 | 300 | 399 | 400 | 1972,7 | 114,5 | 242 | 356,5 |
| **EV 65/7** | 25 | 45 | 225 | 1314,7 | 699 | 335 | 465 | 450 | 2013,7 | 117,5 | 308 | 425,5 |
| **EV 65/8-2a** | 25 | 45 | 225 | 1406,8 | 699 | 335 | 465 | 450 | 2105,8 | 122 | 308 | 430 |
| **EV 65/8-1a** | 25 | 45 | 225 | 1406,8 | 699 | 335 | 465 | 450 | 2105,8 | 122 | 308 | 430 |
| **EV 65/8** | 25 | 45 | 225 | 1406,8 | 699 | 335 | 465 | 450 | 2105,8 | 122 | 308 | 430 |

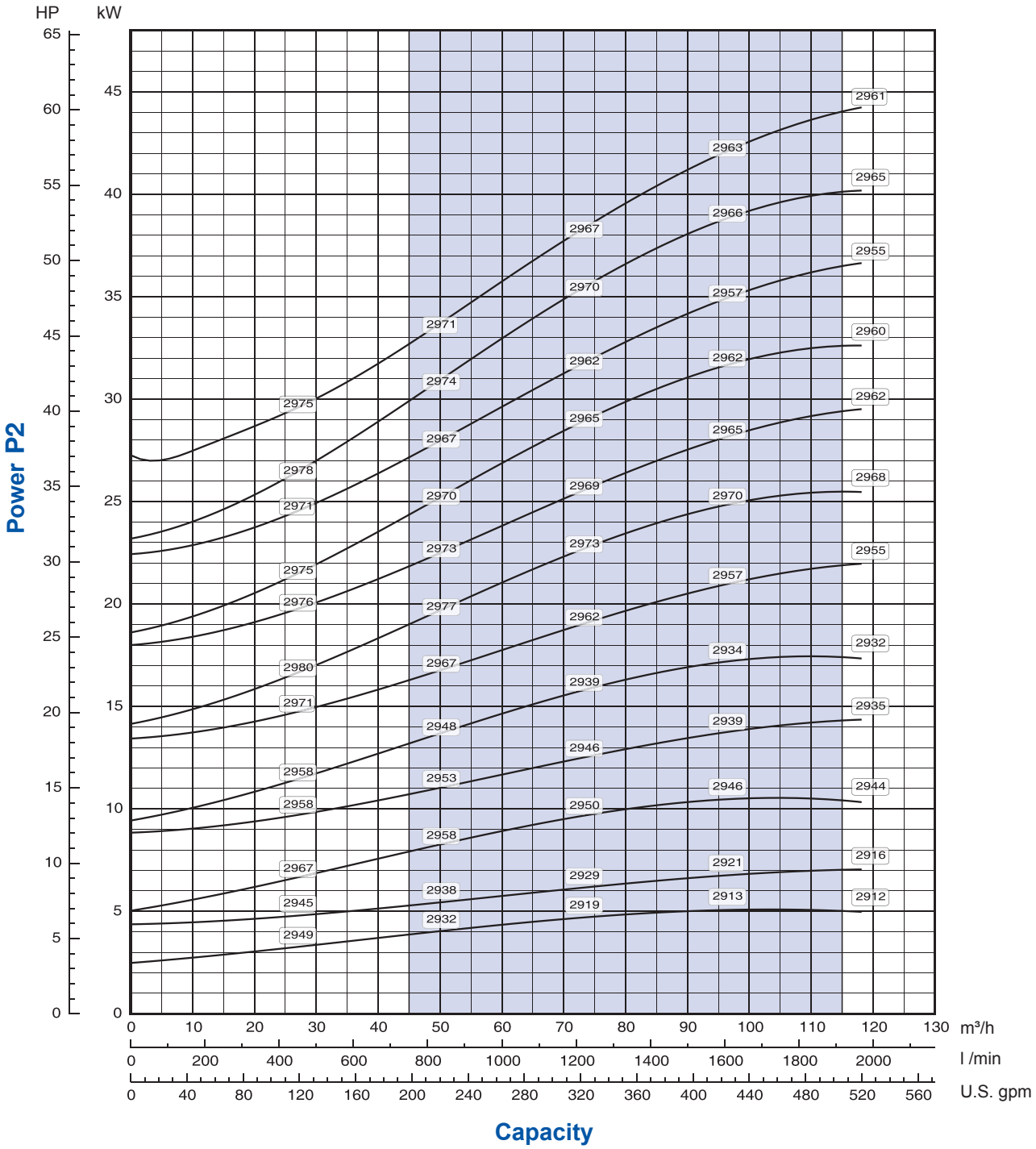
# EV 95

# Performance curves 50Hz

MEI ≥ 0,70




*The hydraulic characteristics are guaranteed, according to ISO standard 9906, grade 3.*



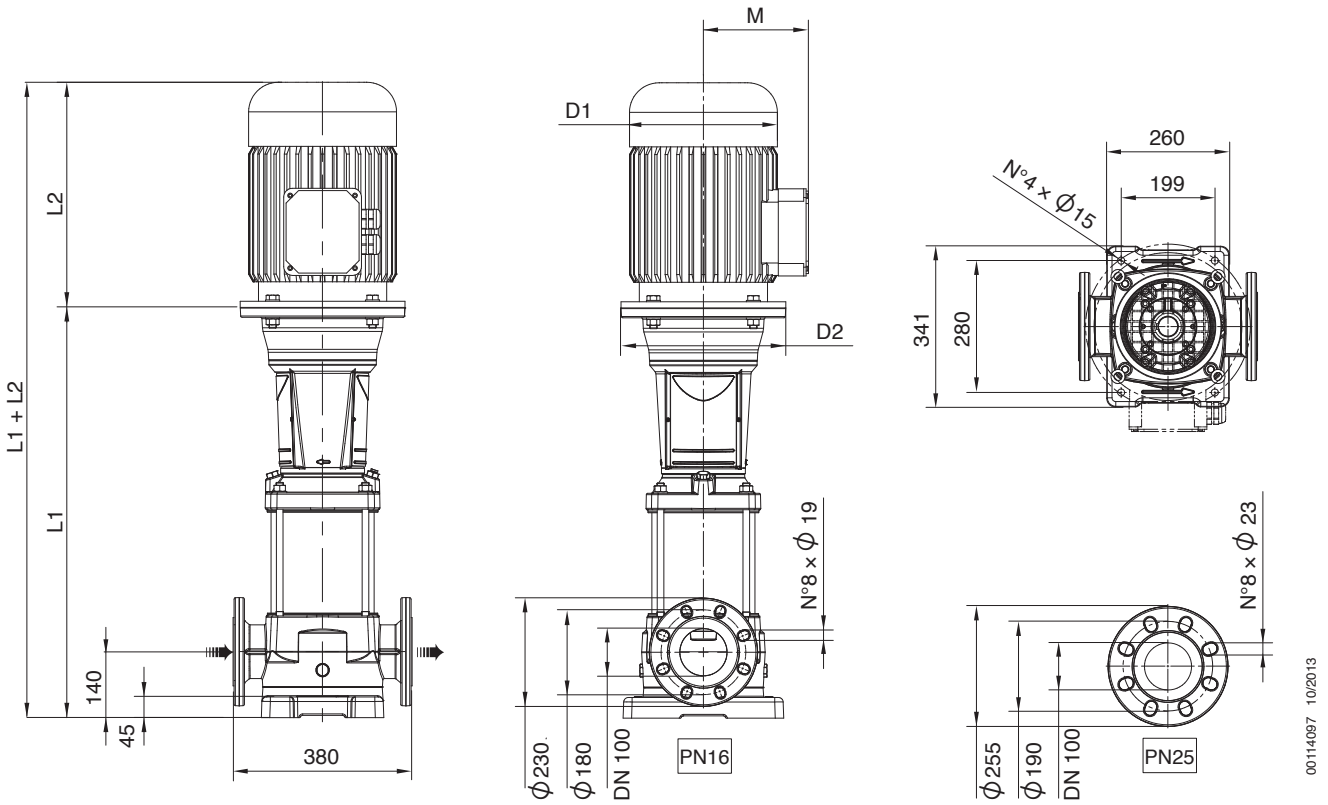

*Performance curves of Q, H and P depend on the rpm number according to the following formulae:*

$$Q_2 = Q_1 \cdot \left(\frac{n_2}{n_1}\right) \quad , \quad H_2 = H_1 \cdot \left(\frac{n_2}{n_1}\right)^2 \quad , \quad P_2 = P_1 \cdot \left(\frac{n_2}{n_1}\right)^3 \quad , \quad \eta \text{ remains approximately the same.}$$

*The rpm number related to the performance curves (Q-H-P) is indicated in the power chart.*
*Performance curves (Q-H-P) will change in case a motor with rpm number different from indicated values is used.*
*Q=Capacity, H=Head, P=Power, η=Efficiency*

00110099 01/2014

# Technical data 50Hz




F version The pump is supplied without counterflanges (Optional accessories, including bolts and joints).

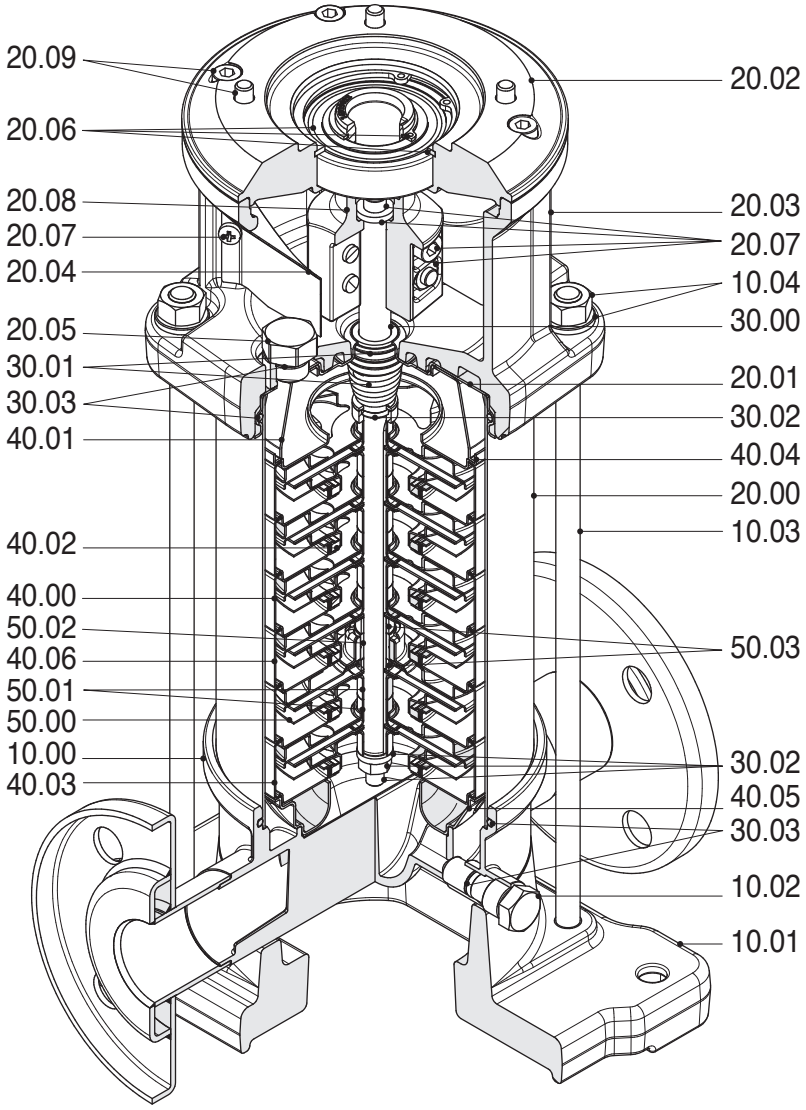
| Pump Model | PN | Motor | | Dimensions (mm) | | | | | | Weight (kg) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | Size | L1 | L2 | M | D1 | D2 | L1 + L2 | PUMP | MOTOR | ELECTRIC |
| **EV 95/1-1a** | 16 | 5,5 | 132 | 737,1 | 328 | 161 | 225 | 300 | 1065,1 | 82,5 | 34 | 116,5 |
| **EV 95/1** | 16 | 7,5 | 132 | 737,1 | 350 | 161 | 225 | 300 | 1087,1 | 82,5 | 36 | 118,5 |
| **EV 95/2-2a** | 16 | 11 | 160 | 849,2 | 425 | 198 | 248 | 350 | 1274,2 | 89 | 58 | 147 |
| **EV 95/2** | 16 | 15 | 160 | 849,2 | 476 | 198 | 248 | 350 | 1325,2 | 89 | 64 | 153 |
| **EV 95/3-2a** | 16 | 18,5 | 160 | 941,3 | 542 | 235 | 317 | 350 | 1483,3 | 93 | 88,9 | 181,9 |
| **EV 95/3** | 16 | 22 | 180 | 941,3 | 542 | 238 | 317 | 350 | 1483,3 | 93 | 108,7 | 201,7 |
| **EV 95/4-2a** | 16 | 30 | 200 | 1038,4 | 658 | 300 | 399 | 400 | 1696,4 | 100 | 228 | 328 |
| **EV 95/4** | 16 | 30 | 200 | 1038,4 | 658 | 300 | 399 | 400 | 1696,4 | 100 | 228 | 328 |
| **EV 95/5-2a** | 16 | 37 | 200 | 1130,5 | 658 | 300 | 399 | 400 | 1788,5 | 104 | 242 | 346 |
| **EV 95/5** | 16 | 37 | 200 | 1130,5 | 658 | 300 | 399 | 400 | 1788,5 | 104 | 242 | 346 |
| **EV 95/6-2a** | 25 | 45 | 225 | 1222,6 | 699 | 335 | 465 | 450 | 1921,6 | 110,5 | 308 | 418,5 |
| **EV 95/6** | 25 | 45 | 225 | 1222,6 | 699 | 335 | 465 | 450 | 1921,6 | 110,5 | 308 | 418,5 |

# EV Series
# Pump Section and
# List of Main Components

## EV 3

## EV 5

## EV 9




00114098 10/2013

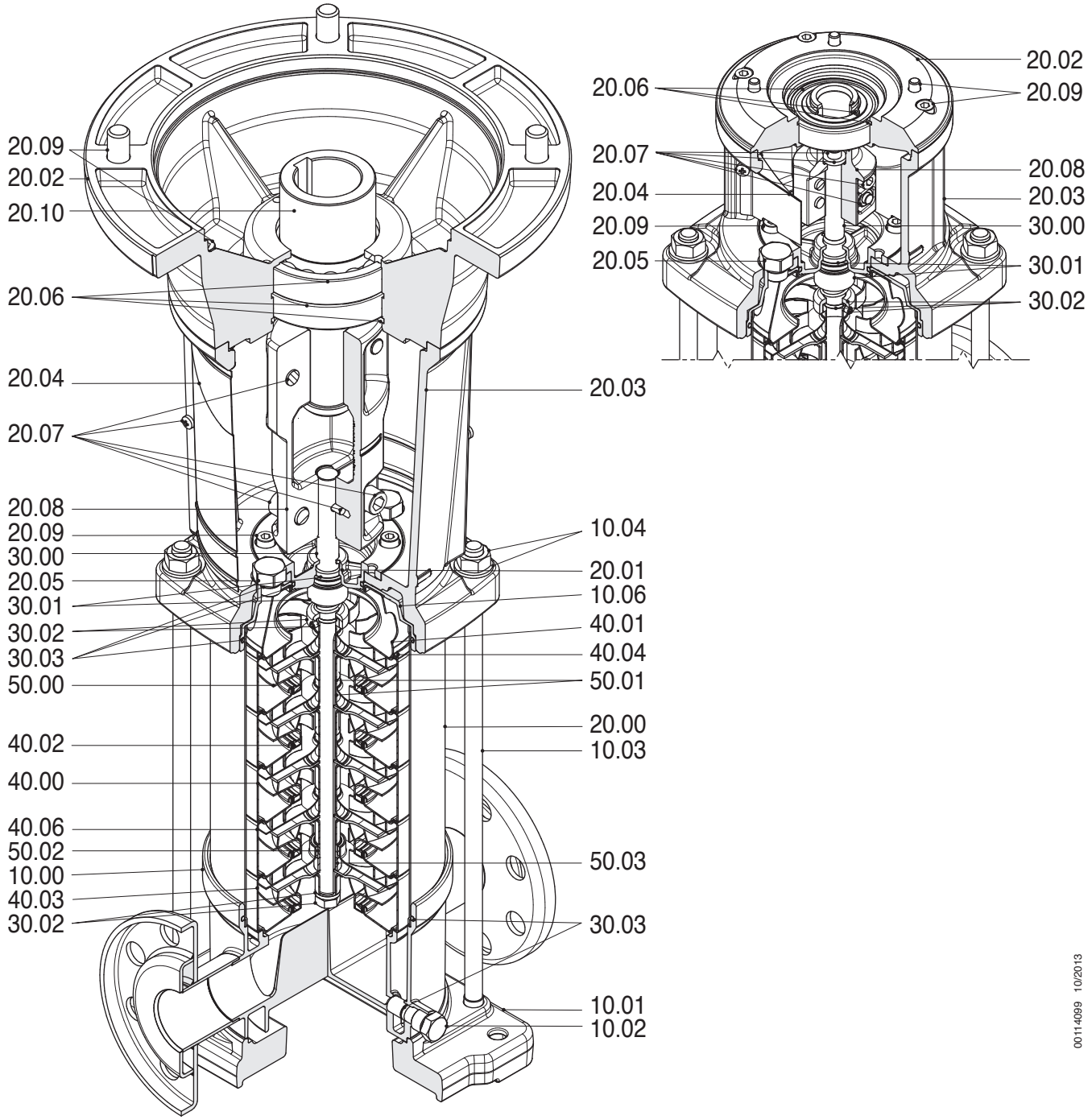
| Ref. N. | Description |
|---|---|
| 10.00 | Pump casing |
| 10.01 | Pump fixing plate |
| 10.02 | Draining and priming cap |
| 10.03 | Tie bolt |
| 10.04 | Kit nuts and washers |
| 20.00 | Outer Case |
| 20.01 | Mechanical seal housing |
| 20.02 | Motor flange |
| 20.03 | Motor bracket |
| 20.04 | Coupling guard |
| 20.05 | Filling plugs |
| 20.06 | Circlips and bearings |
| 20.07 | Coupling fasteners |
| 20.08 | Coupling |
| 20.09 | Kit motor screws |

| Ref. N. | Description |
|---|---|
| 30.00 | Pump shaft |
| 30.01 | Kit Mechanical seal |
| 30.02 | Mechanical seal fastening kit |
| 30.03 | Kit O-rings |
| 40.00 | Stage housing and diffuser |
| 40.01 | Stage Centering outlet |
| 40.02 | Floating neck ring |
| 40.03 | Initial stage housing |
| 40.04 | Last Stage with diffuser |
| 40.05 | Stage Centering inlet |
| 40.06 | Stage housing and diffuser with bearing |
| 50.00 | Impeller |
| 50.01 | Impeller spacer |
| 50.02 | Intermediary sleeve |
| 50.03 | Intermediary sleeve spacer |

# EV Series
# Pump Section and
# List of Main Components

## EV 15

## EV 20




00114099 10/2013

| Ref. N. | Description |
|---|---|
| 10.00 | Pump casing |
| 10.01 | Pump fixing plate |
| 10.02 | Draining and priming cap |
| 10.03 | Tie bolt |
| 10.04 | Kit nuts and washers |
| 10.06 | Upper Flange |
| 20.00 | Outer Case |
| 20.01 | Mechanical seal housing |
| 20.02 | Motor flange |
| 20.03 | Motor bracket |
| 20.04 | Coupling guard |
| 20.05 | Filling plugs |
| 20.06 | Circlips and bearings |
| 20.07 | Coupling fasteners |
| 20.08 | Coupling |
| 20.09 | Kit motor screws |

| Ref. N. | Description |
|---|---|
| 20.10 | Motor shaft adapter |
| 30.00 | Pump shaft |
| 30.01 | Kit Mechanical seal |
| 30.02 | Mechanical seal fastening kit |
| 30.03 | Kit O-rings |
| 40.00 | Stage housing and diffuser |
| 40.01 | Stage Centering outlet |
| 40.02 | Floating neck ring |
| 40.03 | Initial stage housing |
| 40.04 | Last Stage with diffuser |
| 40.06 | Stage housing and diffuser with bearing |
| 50.00 | Impeller |
| 50.01 | Impeller spacer |
| 50.02 | Intermediary sleeve |
| 50.03 | Intermediary sleeve spacer |
| | |

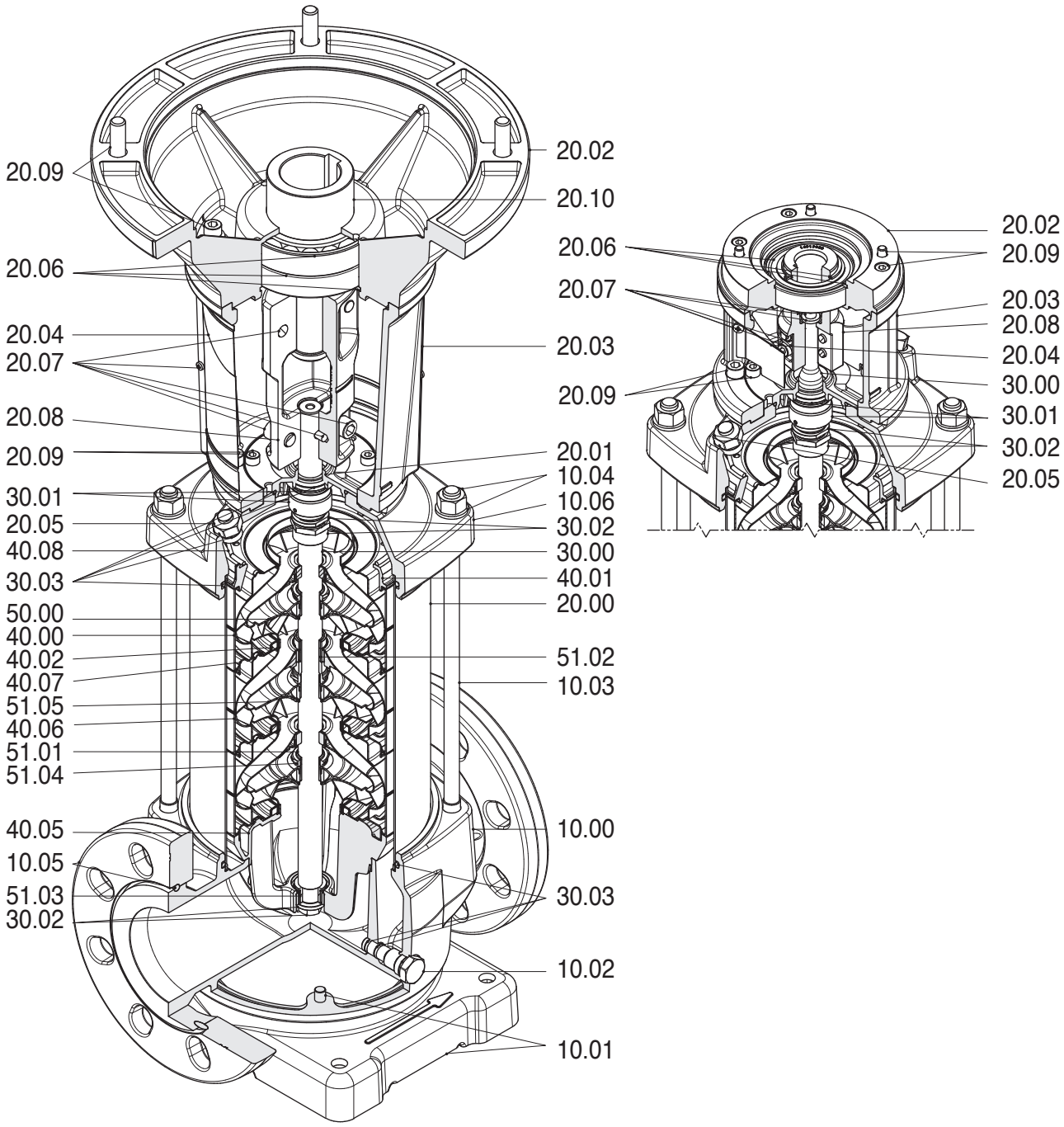
# EV Series
# Pump Section and
# List of Main Components

## EV 30

## EV 45

## EV 65

## EV 95



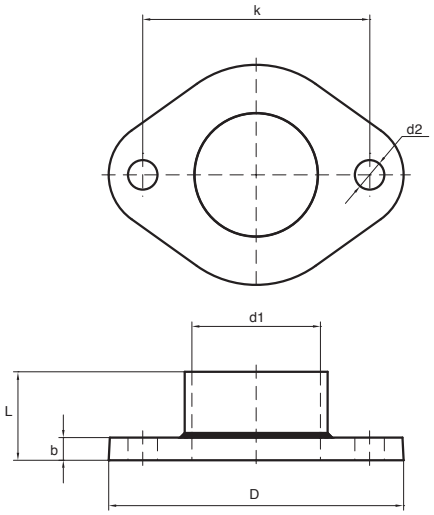

00114100 10/2013

| Ref. N. | Description |
|---|---|
| 10.00 | Pump casing |
| 10.01 | Pump fixing plate |
| 10.02 | Draining and priming cap |
| 10.03 | Tie bolt |
| 10.04 | Kit nuts and washers |
| 10.05 | Kit flanges ring |
| 10.06 | Upper Flange |
| 20.00 | Outer Case |
| 20.01 | Mechanical seal housing |
| 20.02 | Motor flange |
| 20.03 | Motor bracket |
| 20.04 | Coupling guard |
| 20.05 | Filling plugs |
| 20.06 | Circlips and bearings |
| 20.07 | Coupling fasteners |
| 20.08 | Coupling |
| 20.09 | Kit motor screws |
| 20.10 | Motor shaft adapter |

| Ref. N. | Description |
|---|---|
| 30.00 | Pump shaft |
| 30.01 | Kit Mechanical seal |
| 30.02 | Mechanical seal fastening kit |
| 30.03 | Kit O-rings |
| 40.00 | Stage housing and diffuser |
| 40.01 | Stage Centering outlet (ONLY 65/95 vers.) |
| 40.02 | Floating neck ring |
| 40.05 | Stage Centering inlet |
| 40.06 | Stage housing and diffuser with bearing |
| 40.07 | Flange clamping neck ring |
| 40.08 | Spring ring |
| 50.00 | Impeller |
| 51.01 | Split cone |
| 51.02 | Intermediary sleeve nut |
| 51.03 | Journal sleeve |
| 51.04 | Split cone nut |
| 51.05 | Intermediate impeller with screw |
| | |

# EV Series
# Dimensions of counterflanges

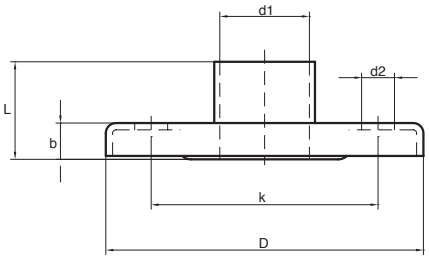
# Dimensions of oval counterflanges




00114101 11/2013

| OVAL COUNTERFLANGES | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DN | DIMENSIONS [mm] | | | | | HOLES | | PN |
| | D | d1 | k | L | b | d2 | N° | |
| 32 | 99 | Rp 1" ¼ | 75 | 33 | 8 | 11 | 2 | 16 |
| | | NPT 1" ¼ | | | | | | |
| 40 | 130 | Rp 1" ½ | 100 | 35 | 10 | 13 | | |
| | | NPT 1" ½ | | | | | | |
| 50 | | Rp 2" | | 39 | | | | |
| | | NPT 2" | | | | | | |

# Dimensions of round threaded counterflanges according to EN 1092-1

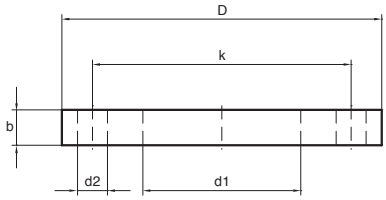



00114101 11/2013

| ROUND THREADED COUNTERFLANGES | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DN | DIMENSIONS [mm] | | | | | HOLES | | PN |
| | D | d1 | k | L | b | d2 | N° | |
| 25 | 115 | Rp 1" | 85 | 43 | 16 | 14 | 4 | 25 |
| | | NPT 1" | | | | | | |
| 32 | 140 | Rp 1" ¼ | 100 | | | 18 | | |
| | | NPT 1" ¼ | | | | | | |
| 40 | 150 | Rp 1" ½ | 110 | | | | | |
| | | NPT 1" ½ | | | | | | |
| 50 | 165 | Rp 2" | 127 | | 18 | 19 | 8 | |
| | | NPT 2" | | | | | | |

**Round counterflanges Kit available on request:**
Kit containing 2 counterflanges with bolts and gaskets.
- threaded, galvanized steel ( F, R, G versions).
- threaded, AISI 316L stainless steel (N versions).

# Dimensions of welding round counterflanges according to EN 1092-1




00114101 11/2013

| WELDING ROUND COUNTERFLANGES | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DN | DIMENSIONS [mm] | | | | | HOLES | | PN |
| | D | d1 | k | L | b | d2 | N° | |
| 65 | 185 | 77,5 | 145 | - | 22 | 18 | 8 | 25 |
| 100 | 200 | 90,5 | 160 | | 24 | | | |
| 50 | 235 | 116 | 190 | | 26 | 22 | | |

**Round counterflanges Kit available on request:**
Kit containing 2 counterflanges with bolts and gaskets.
- weld-on counterflanges, galvanized steel ( G versions).
- weld-on counterflanges, AISI 316L stainless steel (N versions).

# Notes

# Notes

# Notes

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**www.etechpumps.com**

*Single member - Company subject to the control and coordination of Franklin Electric Co., Inc.*

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