

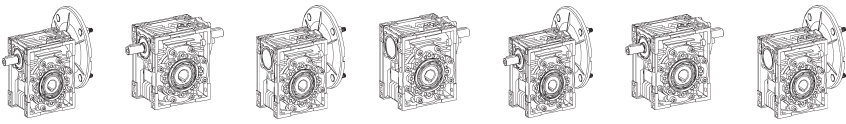


BONVARIO
EURODRIVES

ALUMINIUM CASING GEARBOXES

BVF SERIES





BONVARIO Group born in 1981 is presently one of the leading industrial automation products suppliers in Italy. Our Automation solutions are widely accepted worldwide majorly in countries like Germany, UK, Russia, Belgium, Denmark, Spain, Romania, Turkey, USA, Canada, Australia, South Africa, India and Japan. Our products are sold globally through various Branch offices, Automation solution centres and channel partners who are dedicated to serve our customers not only with reliable products but also with reliable pre n post sales assistance.

The name Bonvario came from joining two words - Bon & Vario, Bon is a French word which means good and Vario is an Italian word which means varied or various. These two words were coupled together to project good various speed gearboxes or geared motors which has always been the true identity of our group.

BONVARIO is innovation, quality, and service all in one. We prove this to our customers every day and have done so for the last 3 decades. We do not just move countless conveyer belts, bottling plants, assembly lines, processes in the chemical industry, your luggage at the airport, or even you on escalators. We also are moving ourselves. In our company everyday new researches are initiated and improvements are done based on results to shape a better automated future. Collectively more than 1100 employees & our various automation solution centres, around the world are moving to develop solutions that help you optimize your process. This is how Bonvario has evolved to become a major supplier of gearboxes & motors in the world market today with a turnover of euro 61 million.

PRODUCT RANGE

ALUMINIUM CASING GEARBOXES



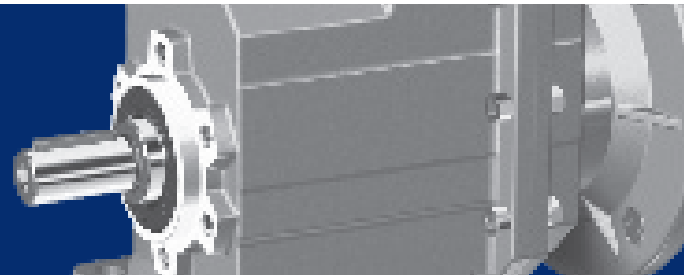
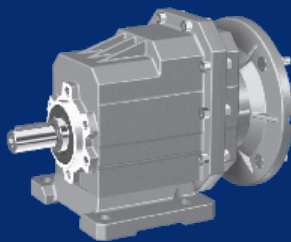
BL SERIES



BVF SERIES

HELICAL GEARBOXES

BON SERIES



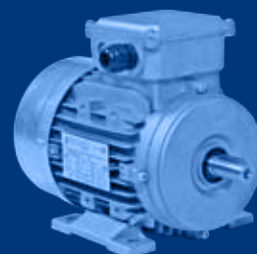
HELICAL GEARBOXES



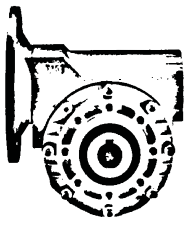
BH SERIES



ELECTRIC MOTORS



BM SERIES



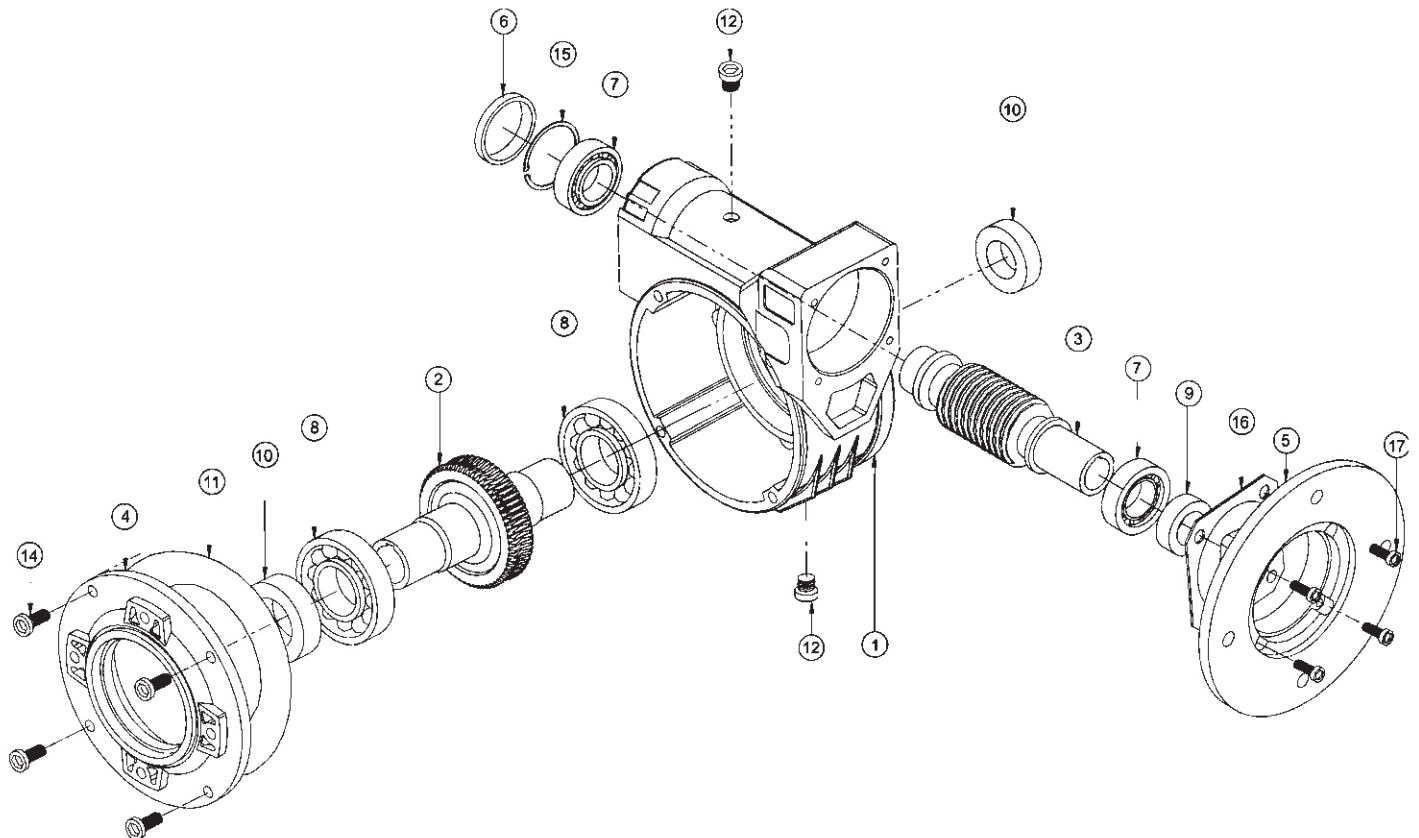
BVF SERIES INTERNAL STRUCTURE

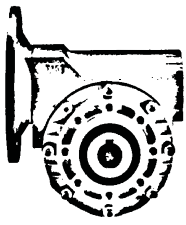
Main specifications

| Center distance (mm) | | | | | | |
|----------------------|----|----|----|-----|----|-----|
| 30 | 45 | 50 | 63 | 63A | 85 | 110 |

| No. | Parts |
|-----|----------------|
| 1 | Frame |
| 2 | Worm Wheel |
| 3 | Worm Shaft |
| 5 | Flange |
| 6 | Seal Cover |
| 7 | Bearing |
| 8 | Bearing |
| 9 | Oil Seal |
| 10 | Oil Seal |
| 11 | O-ring |
| 12 | Oil Plug |
| 14 | Intl.hex screw |
| 15 | Snap Ring |
| 16 | O-ring |
| 17 | Intl.hex screw |

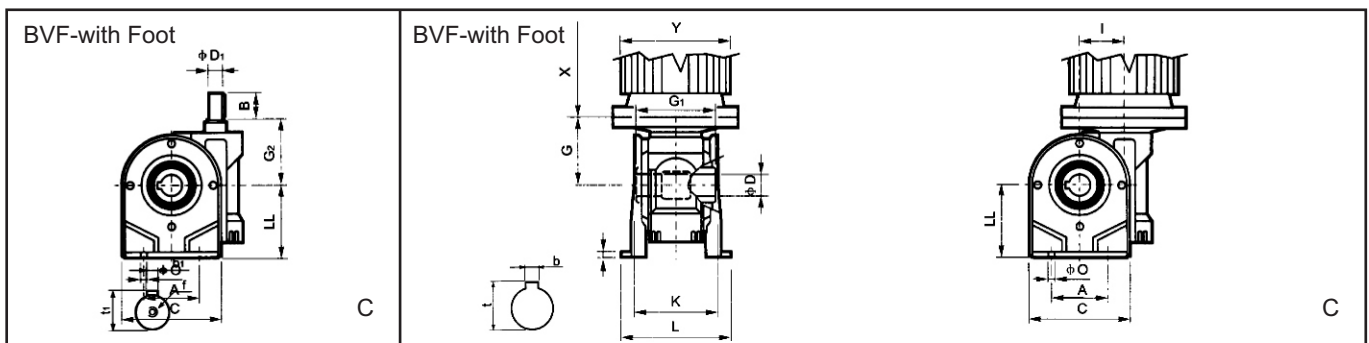
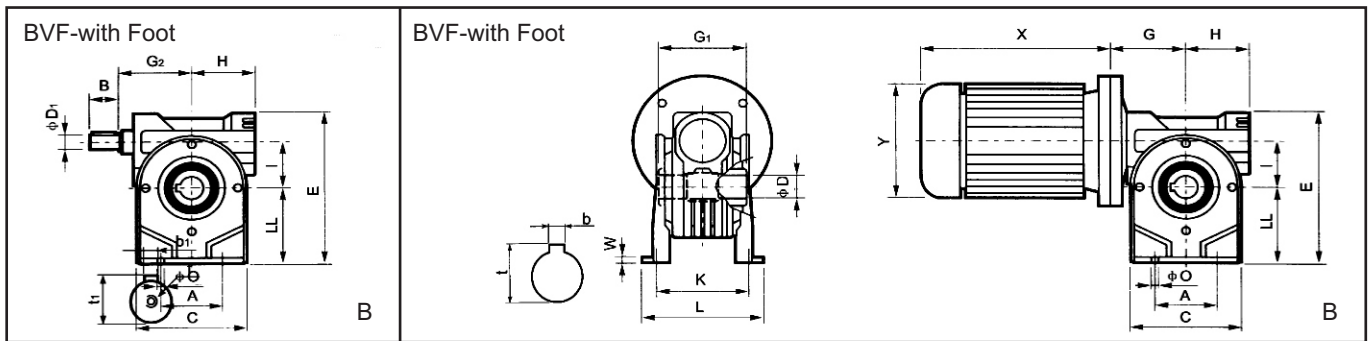
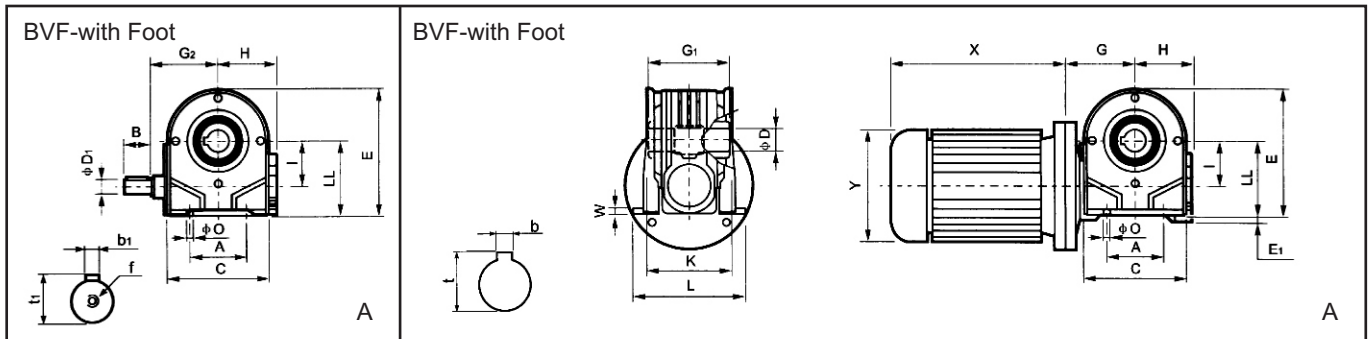
BVF



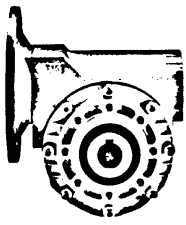


BVF SERIES INSTALLATION DIMENSIONS

BVF Series - with foot



| Size | A | | B | C | | | E ₁ | E ₂ | | G | G ₁ | G ₂ | H | I | K | | | | | L | LL | O | W | | | | Input Shaft | | | | Output Hole | | | | Kg Weight | | | |
|------|-------|----|----|-----|-----|-----|----------------|----------------|-------|-------|----------------|----------------|------|-----|-----|---------|-----|-----|-----|------|------|------|----|-----|----|------|-------------|------|----|----|-------------|------|------|------|-----------|------|------|---|
| | S | T | | S | T | T | | S | T | | | | | | S | T | S | T | S | | | | T | S | T | S | T | S | T | S | T | S | T | S | | T | S | T |
| 30 | 50 | 52 | 20 | 78 | 90 | 106 | 103 | 1 | 94 | 91 | 62.5 | 55 | 58 | 46 | 30 | 65-66 | 66 | 87 | 55 | 52 | 6.5 | 3 | 9 | 3 | 11 | 4 | 3 | 10.2 | | | | 14 | 5 | 16.3 | 1 | | | |
| 45 | 50-52 | 70 | 30 | 98 | 90 | 144 | 143 | | 121 | | 74 | 65 | 68 | 55 | 45 | 80-81 | 84 | 100 | 72 | 71 | 10.5 | 8 | 3 | 8 | 11 | 4 | 12.5 | | | | 18 | 19 | 6 | 20.8 | 21.8 | 2.4 | | |
| 50 | 63-65 | 85 | 30 | 113 | 110 | 163 | 166 | | 138.5 | 139.5 | 81.5 | 81 | 74.5 | 65 | 50 | 98-100 | 96 | 123 | 114 | 82 | 85 | 10.5 | 10 | 3.5 | 10 | 16 | 14 | 5 | 18 | 16 | M6 | M5 | 25 | 24 | 8 | 28.3 | 27.3 | 3 |
| 63 | 95 | 45 | 45 | 133 | | 200 | | | 170 | | 99.5 | 120 | 93 | 79 | 63 | 110-111 | | 144 | 100 | 100 | 10.5 | | 4 | 18 | 19 | 6 | 20.5 | 21.5 | M6 | M8 | 25 | 8 | 28.3 | | 6 | | | |
| 63A | 120 | 45 | 45 | 156 | | 215 | | | 170 | 185 | 99.5 | 120 | 93 | 79 | 63 | | 115 | 142 | 115 | 11 | | 12 | 18 | 19 | 6 | 20.5 | 21.5 | M6 | M8 | 28 | 8 | 31.3 | | 6 | | | | |
| 85 | 140 | 50 | 45 | 180 | | 280 | | | 236.5 | | 124 | 135 | 112 | 98 | 85 | | 145 | 182 | 142 | 10.5 | | 5 | 25 | 24 | 8 | 28 | 27 | M8 | | 35 | 10 | 38.3 | | 11 | | | | |
| 110 | 200 | 56 | 45 | 240 | 340 | 342 | | | 266 | 268 | 148 | 155 | 138 | 125 | 110 | | 180 | 160 | 224 | 190 | 170 | 172 | 13 | 14 | 22 | 18 | 25 | 28 | 8 | 28 | 31 | M8 | | 42 | 12 | 45.3 | 35 | |



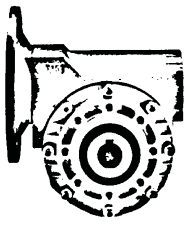
ACCESSORIES DIMENSIONS

Motor mounting facility dimensions

| Chart | Power (KW) | IEF Frame | B5, B14 | B5 | | | B14 | | |
|-------|------------|-----------|---------|-----|-----|-----|-----|-----|-----|
| | | | D | N | M | P | N | N | P |
| | 0.06 | 56 | 9 | 80 | 100 | 120 | 50 | 65 | 80 |
| | 0.09 | | | | | | | | |
| | 0.12 | 63 | 11 | 90 | 115 | 140 | 60 | 75 | 90 |
| | 0.18 | | | | | | | | |
| | 0.25 | 71 | 14 | 110 | 130 | 160 | 70 | 85 | 105 |
| | 0.37 | | | | | | | | |
| | 0.55 | 80 | 19 | 130 | 165 | 200 | 80 | 100 | 120 |
| | 0.75 | | | | | | | | |
| | 1.1 | 90 | 24 | 130 | 165 | 200 | 95 | 115 | 140 |
| | 1.5 | | | | | | | | |
| | 1.8 | | | | | | | | |
| | 2.2 | 100 | 28 | 180 | 215 | 250 | 110 | 130 | 160 |
| | 3.0 | | | | | | | | |
| | 4.0 | | | | | | | | |
| 5.5 | 132 | 38 | 230 | 265 | 300 | | | | |
| 7.5 | | | | | | | | | |

Torque arm

| Chart | Size | A | d | d ₀ | D ₁ | D ₂ | D ₃ | G | R | δ |
|-------|------|-----|-----|----------------|----------------|----------------|----------------|----|----|---|
| | BVF | | | | | | | | | |
| | 30 | 100 | 80 | 7 | 50 | 8 | 65 | 14 | 18 | 4 |
| | 45 | 100 | 90 | 7 | 50 | 8 | 65 | 14 | 18 | 4 |
| | 50 | 100 | 110 | 7 | 68 | 8 | 94 | 14 | 18 | 4 |
| | 63 | 150 | 110 | 9 | 75 | 10 | 90 | 20 | 30 | 6 |
| | 63A | 150 | 110 | 9 | 75 | 20 | 90 | 20 | 30 | 6 |
| | 85 | 200 | 160 | 11 | 110 | 20 | 130 | 25 | 40 | 6 |
| | 110 | 250 | 200 | 13 | 130 | 20 | 165 | 25 | 41 | 6 |

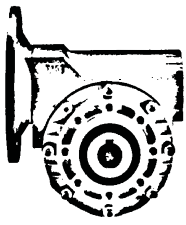


Sizes of Single (DZ) & Double (SZ) Output shaft

| Chart | Size | d (h6) | B | B ₁ | G ₁ | L | L ₁ | b ₁ | t ₁ |
|-------|------|--------|------|----------------|----------------|---------|----------------|----------------|----------------|
| | BVF | | | | | | | | |
| | 30 | 14 | 25 | 35.5 | 55 | 95 | 126 | 5 | 16 |
| | 45 | 18 | 32 | 43 | 65 | 113 | 151 | 6 | 20.5 |
| | | (19) | (40) | (58.5) | | (128.5) | (182) | | (21.5) |
| | 50 | 25 | 52 | 60 | 81 | 146 | 200 | 8 | 28 |
| | | (24) | (50) | (68.5) | | (155) | (218) | | (27) |
| | 63 | 25 | 60 | 63 | 120 | 190 | 246.4 | 8 | 28 |
| | 63A | 28 | 60 | 63 | 120 | 191 | 247 | 8 | 31 |
| | 85 | 35 | 60 | 73.5 | 135 | 214 | 282 | 10 | 38 |
| | 110 | 42 | 75 | 96.5 | 155 | 260 | 348 | 12 | 45 |

Double Worm shaft

| Chart | Size | d (h6) | B | G ₂ |
|-------|------|--------|-----|----------------|
| | BVF | | | |
| | 30 | 9 | 20 | 47 |
| | 45 | 11 | 30 | 56 |
| | | 9 | 20 | 47 |
| | 50 | 16 | 30 | 67 |
| | | 9 | 20 | 47 |
| | 63 | 18 | 45 | 81 |
| | | 9 | 20 | 47 |
| | 63A | 18 | 45 | 81 |
| | | 11 | 30 | 56 |
| | 85 | 25 | 50 | 100 |
| 11 | | 30 | 56 | |
| 110 | 25 | 60 | 127 | |
| | 16 | 30 | 67 | |

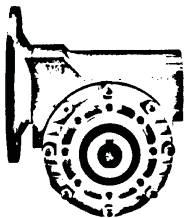


SELECTION & PERFORMANCE TABLE

BVF Series

| Size | Ratio | Input Power | Output | |
|------|-------|-------------|---------------|---------------|
| | | | n_2 (r/min) | M_2 (N · m) |
| 30 | 7 | 0.42 | 200 | 16 |
| | 10.6 | 0.28 | 132 | 16 |
| | 15 | 0.24 | 93 | 18 |
| | 19 | 0.2 | 74 | 18 |
| | 30 | 0.16 | 47 | 20 |
| | 39 | 0.13 | 36 | 19 |
| | 61 | 0.09 | 23 | 19 |
| | 80 | 0.06 | 17.5 | 15 |
| 45 | 7 | 0.76 | 200 | 29 |
| | 10 | 0.54 | 140 | 29 |
| | 14 | 0.39 | 100 | 29 |
| | 21 | 0.41 | 67 | 39 |
| | 28 | 0.31 | 50 | 39 |
| | 37 | 0.25 | 38 | 39 |
| | 46 | 0.21 | 30 | 39 |
| | 60 | 0.17 | 23 | 39 |
| | 70 | 0.11 | 20 | 29 |
| | 102 | 0.08 | 13.7 | 28 |
| 50 | 7 | 1.4 | 200 | 54 |
| | 10 | 1.1 | 140 | 59 |
| | 14 | 0.86 | 100 | 65 |
| | 18 | 0.64 | 78 | 59 |
| | 26 | 0.52 | 54 | 63 |
| | 36 | 0.41 | 39 | 69 |
| | 43 | 0.34 | 33 | 65 |
| | 60 | 0.25 | 23 | 59 |
| | 68 | 0.21 | 21 | 55 |
| | 80 | 0.18 | 17.5 | 54 |
| 63 | 100 | 0.14 | 14 | 49 |
| | 7 | 3 | 200 | 119 |
| | 10 | 2.3 | 140 | 128 |
| | 15 | 1.6 | 93 | 131 |
| | 19 | 1.3 | 74 | 131 |
| | 24 | 1.1 | 58 | 135 |
| | 30 | 0.92 | 47 | 139 |
| | 36 | 0.84 | 39 | 140 |
| | 45 | 0.63 | 31 | 129 |
| 67 | 0.43 | 21 | 118 | |

| Size | Ratio | Input Power | Output | |
|------|-------|-------------|---------------|---------------|
| | | | n_2 (r/min) | M_2 (N · m) |
| 63 | 80 | 0.36 | 17.5 | 113 |
| | 94 | 0.31 | 14 | 103 |
| 63A | 7 | 3.9 | 200 | 155 |
| | 10 | 3 | 140 | 165 |
| | 15 | 2.1 | 93 | 169 |
| | 19 | 1.7 | 74 | 169 |
| | 24 | 1.4 | 58 | 176 |
| | 30 | 1.2 | 47 | 180 |
| | 36 | 1.1 | 39 | 181 |
| | 45 | 0.82 | 31 | 167 |
| | 67 | 0.55 | 21 | 151 |
| | 80 | 0.47 | 17.5 | 146 |
| 85 | 94 | 0.37 | 14.9 | 124 |
| | 7 | 5.8 | 200 | 245 |
| | 10 | 4.9 | 140 | 270 |
| | 14 | 3.9 | 100 | 290 |
| | 20 | 2.6 | 70 | 280 |
| | 22 | 2.4 | 64 | 280 |
| | 28 | 2.3 | 50 | 330 |
| | 38 | 1.7 | 37 | 320 |
| | 46 | 1.4 | 30 | 310 |
| | 52 | 1.2 | 27 | 275 |
| 110 | 67 | 0.93 | 21 | 275 |
| | 74 | 0.87 | 18.9 | 255 |
| | 96 | 0.66 | 14.6 | 230 |
| | 7 | 10.9 | 200 | 460 |
| | 10 | 8.5 | 140 | 500 |
| | 16 | 5.7 | 88 | 510 |
| | 20 | 4.6 | 70 | 520 |
| | 23 | 3.9 | 61 | 490 |
| | 30 | 4 | 47 | 620 |
| | 38 | 3.2 | 37 | 610 |
| 63 | 45 | 2.5 | 31 | 570 |
| | 53 | 2.3 | 26 | 590 |
| | 64 | 1.7 | 22 | 510 |
| | 84 | 1.3 | 16.7 | 470 |
| | 99 | 1.1 | 14.1 | 460 |



LUBRICANTS

| Reducer type | BV Series Variator | BL gear box | | | | BVF gear box | |
|---------------------|--------------------|------------------|---------------|-------------------------|------------------|--------------------|---------------------|
| | | 25 ~ 90 | 110 ~ 130 | | 30 ~ 63A | 85 ~ 110 | |
| Type of Lubricant | Synthetic Oil | Synthetic Oil | Synthetic Oil | Mineral Lubrication Oil | | Grease | Synthetic Oil |
| Ambient Temperature | -25°C ~ +40°C | -25°C ~ +50°C | -25°C ~ +50°C | -5°C ~ +40°C | -15°C ~ +40°C | -5°C ~ +40°C | -15°C ~ +25°C |
| ISO VG | VG 320 | VG 320 | VG 320 | VG 460 | VG 220 | | VG 220 |
| | A.T.F. Dexron | Tivela Oil WB | Tivela Oil WB | Omala Oil 460 | Omala Oil 220 | Tivela Compound A | Tivela Oil WB |
| Mobil | A.T.F. 220 | Glygoyle 30 | | Mobil gear 634 | Mobil gear 630 | Glygoyle Grease 00 | Glygoyle 30 SHC 630 |
| | A.T.F. Dexron | S220 | S220 | Spartan EP 460 | Spartan EP 220 | Grease S420 | |
| BP | Autran DX | Energol SGXP 320 | | Energol GRXP 460 | Energol GRXP 220 | | Energol GRXP 220 |

Oil Capacities

| | BL | | | | | | | | |
|------|------|------|------|------|-----|------|----|-----|-----|
| Size | 25 | 30 | 40 | 50 | 63 | 75 | 90 | 110 | 130 |
| (1) | 0.02 | 0.04 | 0.08 | 0.15 | 0.3 | 0.55 | 1 | 3 | 4.5 |

| | BVF | | | | | | |
|------|-------|------|------|------|------|-----|---------|
| Size | 30 | 45 | 50 | 63 | 63A | 85 | 110 |
| (Kg) | 0.065 | 0.09 | 0.16 | 0.38 | 0.38 | | |
| (1) | | | | | | 1.2 | 2.8/1.8 |

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BONVARIO

ITALY

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MOTORI ELETTRICI A.C.

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