

Increased safety motors with aluminium frame in brief, basic design

| Motor size | | 63 | 71 | 80 | 90 | 100 |
|---|--|---|----------------------------|--------------------------|--------------------------|--------------------------|
| Stator | Material Surface treatment | Diecast aluminium alloy. Feet integrated with stator. One-component modified polyester paint. Munsell blue 8B 4.5/3.25 / NCS 4822-B05G. $\geq 30 \mu\text{m}$. | | | | |
| Feet | Material | Aluminium alloy. Integrated with the stator. | | | | |
| Bearing end shields | Material Surface treatment | Diecast aluminium alloy. One-component modified polyester paint. Munsell blue 8B 4.5/3.25 / NCS 4822-B05G. $\geq 30 \mu\text{m}$. | | | | |
| Bearings Single-speed motors | D-end N-end | 6202-2Z/C3 6202-2Z/C3 | 6203-2Z/C3 6202-2Z/C3 | 6204-2Z/C3 6203-2Z/C3 | 6305-2Z/C3 6204-2Z/C3 | 6306-2Z/C3 6205-2Z/C3 |
| Axially-locked bearings | Inner bearing cover | ¹⁾ | ¹⁾ | ¹⁾ | D-end | D-end |
| | | ¹⁾ Foot-mounted motor. A spring washer at N-end presses the rotor against D-end. | | | | |
| Bearing seal | D-end N-end | V-ring. Labyrinth seal. | | | | |
| Lubrication | | Permanently lubricated bearings. Grease for bearing temperatures -25 to +150°C. | | | | |
| Terminal box | Material Surface treatment Screws | Diecast aluminium alloy. Similar to stator. Steel 5G. Galvanised and yellow chromated. | | | | |
| Connections | Knock-out openings | 4 x Pr 18.6 / 4 x Pg 11 | 4 x Pr 22.5 / 4 x Pg 16 | | | |
| | Terminal box Max Cu-area, mm ² | Screw terminal. 6 terminals. 2.5 | | | | |
| Fan | Material | Polypropylene. Reinforced with 20% glass fibre. | | | | |
| Fan cover | Material | Polypropylene. | | | | |
| Stator winding | Material Impregnation Insulation class Winding protection | Copper Polyester varnish. Tropicalised. Insulation class F. Temperature rise class B, unless otherwise stated. On request, see variant codes. | | | | |
| Rotor winding | Material | Die-cast aluminium. | | | | |
| Balancing method | | Half key balancing as standard. | | | | |
| Key ways | | Closed key way | | | | |
| Enclosure | | IP 55 | | | | |
| Cooling method | | IC 411 | | | | |
| Drain holes | | As standard without drawing holes, available on request, see variant codes. | | | | |

Increased safety motors with aluminium frame in brief, basic design

| Motor size | | 112 | 132 | 160 | 180 | 200 | 225 | 250 | |
|---|--|---|--------------------------|--|--|--|---|---------------------|--|
| Stator | Material Surface treatment | Diecast aluminium alloy. Polyester powder paint. Munsell blue 8B 4.5/3.25 / NCS 4822-B05G. $\geq 50 \mu\text{m}$. | | | | Extruded aluminium alloy. | | | |
| Feet | Material | Aluminium alloy. Integrated with the stator. | | | | Aluminium alloy, bolted to the stator. | | 250-2, cast iron | |
| Bearing end shields | Material Surface treatment | Diecast aluminium alloy. Two-component oxiranester paint, Munsell blue 8B 4.5/3.25 / NCS 4822-B05G. $\geq 50 \mu\text{m}$. | | | | Flanged bearing end shields of cast iron, other diecast aluminium alloy | | | |
| Bearings Single-speed motors | D-end N-end | 6206-2Z/C3 6205-2Z/C3 | 6208-2Z/C3 6206-2Z/C3 | 6309-2Z/C3 6209-2Z/C3 | 6310-2Z/C3 6209-2Z/C3 | 6312/C3 6210/C3 | 6313/C3 6212/C3 | 6315/C3 6213/C3 | |
| Axially-locked bearings | Inner bearing cover | D-end ¹⁾ | D-end ¹⁾ | D-end | D-end | D-end | D-end | D-end | |
| | | ¹⁾ Foot-mounted motor. A spring washer at N-end presses the rotor against D-end. Flange-mounted motors: Inner bearing cover and spring-washer at the N-end. | | | | | | | |
| Bearing seal | D-end N-end | V-ring. Two-speed 112, 132 M, V-ring. Other labyrinth seal. | | | | Outer and inner V-rings. Outer and inner V-rings. | | | |
| Lubrication | | Permanently lubricated bearings. Grease for bearing temperatures -25 to +125°C. | | | | Valve lubrication. Grease for bearing temper. -25 to +125°C. | | | |
| Terminal box | Material Surface treatment Screws | Diecast aluminium alloy. Base integrated with stator. Similar to stator. Steel 5G. Galvanised and chromated. | | | | Deep-drawn steel sheet, bolted to stator. Phosphated. Polyester paint. | | | |
| Connections | Knock-out openings | 2 x (Pr 28.3 + Pr 22.5) 2 x (Pg 21 + Pg 16) | | 4 x Pr 37 + 2 x Pr 18.6 4 x Pg 29 + Pg 11 | | | | | |
| | Flange-openings | | | | | 2 x FL 13.2 x Pr 37 2 x Pg 29 | | | |
| | Flange-openings for voltage code S | | | | | 2 x FL 21.2 x Pr 54 2 x Pg 42 | | | |
| | Terminal box | Cable lugs. 6 terminals. | | | | | | | |
| | Max Cu-area, mm ² | M5 10 | M5 10 | M6 35 | M6 35 | M10 70 | M10 70 | M10 70 | |
| Fan | Material | Polypropylene. Reinforced with 20% glass fibre. | | | | | | | |
| Fan cover | Material Surface treatment | Polypropylene. See also note | | | Steel sheet. ¹⁾ ¹⁾ Phosphated. Polyester paint. ¹⁾ | | ¹⁾ Also two-speed sizes 112, 132 M. | | |
| Stator winding | Material Impregnation Insulation class Winding protection | Copper Polyester vanish. Tropicalised. Insulation class F. Temperature rise class B, unless otherwise stated. On request, see variant codes | | | | PTC-thermistors, 150°C, as standard | | | |
| Rotor winding | Material | Die-cast aluminium. | | | | | | | |
| Balancing method | | Half key balancing as standard. | | | | | | | |
| Key way | | Closed key way | | | | | | | |
| Enclosure | | IP 55 | | | | | | | |
| Cooling method | | IC 411 | | | | | | | |
| Drain holes | | Drain holes with closable plastic plugs. Open on delivery. | | | | | | | |

Increased safety motors with cast iron frame in brief, basic design

| Motor size | | 80 | 90 | 100 | 112 | 132 | 160 | 180 |
|--------------------------------|-----------------------|---|------------|------------|------------|------------|---|-----------|
| Stator | Material | Cast iron EN-GJL200 | | | | | | |
| | Paint colour shade | Blue, Munsell 8B 4.5/3.25 / NCS 4822 B05G, RAL 5014 | | | | | | |
| | Paint thickness | Two-pack PUR-paint, thickness $\geq 60 \mu\text{m}$ | | | | | Alkyd paint, thickness $\geq 70 \mu\text{m}$ | |
| Bearing end shields | Material | Cast iron EN-GJL-150 | | | | | | |
| | Paint colour shade | Blue, Munsell 8B 4.5/3.25 / NCS 4822 B05G, RAL 5014 | | | | | | |
| | Paint thickness | Two-pack PUR-paint, thickness $\geq 60 \mu\text{m}$ | | | | | Alkyd paint thickness $\geq 70 \mu\text{m}$ | |
| Bearings | D-end = N-end | 6204-2Z/C3 | 6205-2Z/C3 | 6206-2Z/C3 | 6206-2Z/C3 | 6208-2Z/C3 | 6309-Z/C3 | 6310-Z/C3 |
| | | | | | | | | |
| Axially-locked bearings | Inner bearing cover | On request | | | | | As standard, locked at D-end | |
| Bearing seal | | 2RS-integral seals | | | | | Axial seal as standard, radial seal on request | |
| Lubrication | | Permanent grease lubrication. Regreasing nipples optional in sizes 160 to 180 (variant code 041) | | | | | | |
| SPM-nipples | | – | | | | | Optional | |
| Rating plate | Material | Stainless steel 0.80 Cr 18 Ni9 | | | | | Stainless steel, SS-EN 10088, 0.5mm | |
| Terminal box | Frame material | Cast iron EN-GJL-150 | | | | | | |
| | Cover material | Cast iron EN-GJL-150 | | | | | | |
| | Cover screws material | Steel 5G, coated with zinc and yellow cromated | | | | | | |
| Connections | Cable entries | 2xPg16 | 2xPg16 | 2xPg21 | 2xPg21 | 2xPg21 | 2xPg29 | 2xPg29 |
| | Terminals | 6 terminals for connection with cable lugs (not included) | | | | | | |
| Fan | Material | Reinforced glass fiber | | | | | | |
| Fan cover | Material | Steel | | | | | | |
| | Paint colour shade | Blue, Munsell 8B 4.5/3.25 / NCS 4822 B05G, RAL 5014 | | | | | | |
| | Paint thickness | Two-pack PUR-paint, thickness $\geq 60 \mu\text{m}$ | | | | | Polyester powder paint, thickness $\geq 80 \mu\text{m}$ | |
| Stator winding | Material | Copper | | | | | | |
| | Insulation | Insulation class F | | | | | | |
| | Winding protection | On request | | | | | | |
| Rotor winding | Material | Pressure die-cast aluminium | | | | | | |
| Balancing method | | Half key balancing as standard | | | | | | |
| Key ways | | Open key way | | | | | Closed key-way | |
| Heating elements | On request | 25 W | 25 W | 25 W | 25 W | 25 W | 30W | 30 W |
| Drain holes | | Optional, see variant codes | | | | | | |
| External earthing | | External earthing bolt as standard | | | | | | |
| Enclosure | | IP 55, higher protection on request | | | | | | |
| Cooling method | | IC 411 | | | | | | |

Increased safety motors with cast iron frame in brief, basic design

| Motor size | | 200 | 225 | 250 | 280 | 315 | 355 | 400 |
|--------------------------------|------------------------------------|--|-----------|-----------|---|--------------------|---------------------|---------------------|
| Stator | Material | Cast iron EN-GJL-150 | | | Cast iron EN-GJL-200 | | | |
| | Paint colour shade | Blue, Munsell 8B 4.5/3.25 / NCS 4822 B05G, RAL 5014 | | | | | | |
| | Paint thickness | Two-pack epoxy paint, thickness $\geq 70 \mu\text{m}$ | | | | | | |
| Bearing end shields | Material | Cast iron EN-GJL-150 | | | Cast iron EN-GJL-200, except flange-mounted sizes 355-400 Spheroidal graphit EN-GJS-400 | | | |
| | Paint colour shade | Blue, Munsell 8B 4.5/3.25 / NCS 4822 B05G, RAL 5014 | | | | | | |
| | Paint thickness | Two-pack epoxy paint, thickness $\geq 70 \mu\text{m}$ | | | | | | |
| Bearings | D-end 2-pole 4-12 -pole | 6312-Z/C3 | 6313-Z/C3 | 6315-Z/C3 | 6316/C4 6316/C3 | 6316/C4 6319/C3 | 6319M/C4 6322/C3 | 6319M/C4 6322/C3 |
| | N-end 2-pole 4-12 -pole | 6312-Z/C3 | 6313-Z/C3 | 6315-Z/C3 | 6316/C4 6316/C3 | 6316/C4 6316/C3 | 6319M/C4 6319/C3 | 6319M/C4 6319/C3 |
| Axially-locked bearings | Inner bearing cover | As standard, locked at D-end | | | | | | |
| Bearing seals | | Axial seal as standard, radial seal on request | | | V-ring as standard, radial seal on request | | | |
| Lubrication | | Permanent grease lubrication, regreasing nipples optional (variant code 041) | | | Regreasable bearings, regreasing nipples, M10x1 | | | |
| SPM-nipples | | Optional | | | | | As standard | |
| Rating plate | Material | Stainless steel, SS-EN 10088, thickness 0.5 mm | | | Acid proof stainless steel AISI 316 thickness 0.6 mm | | | |
| Terminal box | Frame material | Cast iron EN-GJL-150 | | | | | | |
| | Cover material | Cast iron EN-GJL-150 | | | | | | |
| | Cover screws material | Steel 5G, coated with zinc and yellow cromated | | | | | | |
| Connections | Cable-entries 2-, 4-pole 6-pole | 2xPg36 | 2xPg36 | 2xPg36 | 2xPg42 2xPg36 | 2xPg48 2xPg42 | 2xØ60/80 2xØ60 | 2xØ80 2xØ60/80 |
| | Terminals | 6 terminals for connection with cable lugs (not included) | | | | | | |
| Fan | Material | Reinforced glass fiber | | | Reinforced glass fiber, aluminium or polypropylene with metal hub | | | |
| Fan cover | Material | Steel | | | | | | |
| | Paint colour shade | Blue, Munsell 8B 4.5/3.25 / NCS 4822 B05G, RAL 5014 | | | | | | |
| | Paint thickness | Two-pack epoxy polyester paint, thickness $\geq 80 \mu\text{m}$ | | | | | | |
| Stator winding | Material | Copper | | | | | | |
| | Insulation | Insulation class F | | | | | | |
| | Winding protection | 3 pcs thermistors as standard | | | | | | |
| Rotor winding | Material | Pressure die-cast aluminium | | | Pressure die-cast aluminium or copper | | | |
| Balancing method | | Half key balancing as standard | | | | | | |
| Key way | | Closed key way | | | Open key way | | | |
| Heating elements | On request | 30 W | 50 W | 50 W | 50 W | 2x50 W | 2x65 W | 2x65 W |
| Drain holes | | Optional, see variant codes | | | As standard, open on delivery | | | |
| External earthing | | External earthing bolt as standard | | | | | | |
| Enclosure | | IP 55, higher protection on request | | | | | | |
| Cooling method | | IC 411 | | | | | | |