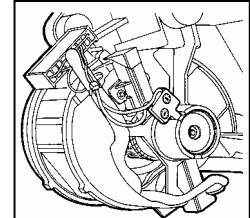


SERVICE BULLETIN

Summing up of the tachometric generators and brushes for commutator motors fitted to washing machines and washer-dryers

Commutator motors used on models with spin speed from 650 to 1600 rpm are produced by:

- **SOLE**
- **FHP**
- **CESET**



Each of these motors can be alternatively fitted in production to the same model. For this reason, there might be a possibility that motors made by different suppliers can be supplied as spare parts in place of the original one. The different motors are perfectly interchangeable with the previous one.

For any type of motor, tachometric generators and brushes are available as well.

As it is not possible to determine through the spare part no. which motor has been fitted to the appliance, we suggest you to check the brand on the component itself:

In this way it is possible to get the correct part no. of the brushes and generators. Should there be any doubt, it is possible to get the production code on the rating plate of the motor (124xxxxxx or 132xxxxxx).

The following table displays the correct part nos. and the resistive values of the motor windings as well.

| Supplier | Tachometric generator part no. | | Brush part no. | |
|--------------|---------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------|--|
| SOLE | Version with 504 Ω coil: 5020 48 73-00/9 | | Up to July 1992 (serial no. 230...) white support: 5068 17 42-00/8 | |
| | Version with 184 Ω coil: 5022 90 52-00/1 | | From august 1992 (serial no. 231...), black support: 5022 65 88-00/7 | |
| FHP | Produced up to 1997 : 5021 25 04-00/0 | | Up to august 1990 (serial no. 036...) 5068 04 90-00/5 | |
| | In production from 1997/98 : 5024 01 54-00/0 | | From September 1990 (serial no. 037...) 400 60 20-34/3 (replaces part no. 5022 17 78-00/9) | |
| CESET | 5023 20 55-00/9 | | 5021 63 97-00/5 | |

Commutator motors - Summing up

| Motor supplier code | Brand | Type | V/Hz | Spin speed | Pulley Ø mm | Winding resistance (Ω) | | | | Part nos. (*) | |
|---------------------|-------|-------------------|---------------|---------------|-------------|------------------------|---------------|-------------|-------------|-----------------------|-------------|
| | | | | | | ½ field (1-5) | Stator (5-10) | Rotor (8-9) | Tacho (3-4) | Tachometric generator | Brush |
| 12403680.. | SOLE | 20584014 | 220-240/50 | 650-850 | 21.5 | no | 1.48÷1.71 | 1.67÷1.92 | 504±7% | 50204873009 | 50226588007 |
| 12403690.. | SOLE | 20584027 | 220-240/50 | 1000-1500 | 25.26 | 0.59±7% | 1,18±7% | 2,2±7% | 184±7% | 50229052001 | 50226588007 |
| 12405280.. | FHP | UO 112 G40 | 220-240/50 | 850-1000 | 21.26 | no | 1,7±8% | 1,95±8% | 135±8% | 50240154000 | 4006020343 |
| 12405282.. | FHP | UO 112 G40 | 220-240/50 | 850-1000 | 21.26 | no | 1,7±8% | 1,95±8% | 135±8% | 50240154000 | 4006020343 |
| 12405290.. | FHP | UOZ 112 G63 | 220-240/50 | 1000-1500 | 25.26 | 0.55±8% | 1.1±8% | 2.15±8% | 135±8% | 50240154000 | 4006020343 |
| 12405390.. | FHP | UOZ 112 G63 | 220-240/50 | 1000-1200 G13 | 21.26 | 0.52±8% | 1.2±8% | 1.75±8% | 135±8% | 50240154000 | 4006020343 |
| 12405480.. | CESET | MCA38/64.148/ZN1 | 220-240/50 | 850-100 | 21.5 | no | 1.07±7% | 2.28±7% | 68.7±7% | 50232055009 | 50216397005 |
| 12405481.. | CESET | MCA38/64.148/ZN5 | 230-240/50 | 850-100 | 21.5 | no | 1.86±7% | 2.46±7% | 68.7±7% | 50232055009 | 50216397005 |
| 12406500.. | FHP | U 112 G63 | 220-240/50 | 1000 | 25.26 | no | 0.98÷1.34 | 1.97÷2.27 | 135±8% | 50240154000 | 4006020343 |
| 12406510.. | SOLE | 20584028 | 220-240/50 | 1000 | 25.26 | no | 1.09÷1.26 | 2.04÷2.34 | 184±7% | 50229052001 | 50226588007 |
| 12408470.. | CESET | MCA30/64.148/ZN4 | 220-240/50 | 600-850R | 16.4 | no | 1.95±7% | 2.57±7% | 68.7±7% | 50232055009 | 50216397005 |
| 12421230.. | SOLE | 20584513 | 230-240/50 | 1150 | 21.5 | no | 1,07±7% | 1,6±7% | 184±7% | 50229052001 | 50226588007 |
| 12421390.. | SOLE | 20584514 | 230-240/50 | 1150 | 21.5 | 0.89±7% | 1.77±7% | 2,14±7% | 184±7% | 50229052001 | 50226588007 |
| 12421391.. | SOLE | 20584514 | 230-240/50 | 1150 | 21.5 | 0.89±7% | 1.77±7% | 2,14±7% | 184±7% | 50229052001 | 50226588007 |
| 12423100.. | SOLE | 20584020 | 220-240/50 | 1000 | 21.5 | no | 1.03÷1.17 | 1.62÷1.87 | 184±7% | 50229052001 | 50226588007 |
| 12427070.. | SOLE | 20584024 | 220-240/50 | 1000-1200 | 21.5 | 0.55±7% | 1,1±7% | 1,75±7% | 184±7% | 50229052001 | 50226588007 |
| 12427071.. | SOLE | 20584024 | 220-240/50 | 1000-1200 | 21.5 | 0.55±7% | 1,1±7% | 1,75±7% | 184±7% | 50229052001 | 50226588007 |
| 12427073.. | SOLE | 20584024 | 220-240/50 | 1000-1200 | 21.5 | 0.55±7% | 1,1±7% | 1,75±7% | 184±7% | 50229052001 | 50226588007 |
| 12427170.. | SOLE | 20580052 | 230-240/50 | 1000 1:14 | 19 | no | 1.65±7% | 1.8±7% | 504±7% | 50204873009 | 50226588007 |
| 12427270.. | CESET | MCA38/64.148/ZN3 | 220-240/50 | 1000 | 19 | no | 1.07±7% | 2.28±7% | 68.7±7% | 50232055009 | 50216397005 |
| 12427780.. | SOLE | 205880052 | 230-240/50 | 850-1000 | 21.5 | no | 1.65±7% | 1.8±7% | 504±7% | 50204873009 | 50226588007 |
| 12430180.. | CESET | MCA61/64.148/ZN10 | 230-240/50 | 1000-1600 | 25.26 | 0.37±7% | 1,5±7% | 1,8±7% | 68.7±8% | 50232055009 | 50216397005 |
| 12430470.. | FHP | UOZ 112 G63 | 220-240/50 | 1600 | 25.26 | 1,1±8% | 2.92±8% | 1.63±8% | 135±8% | 50240154000 | 4006020343 |
| 12430471.. | FHP | UOZ 112 G63 | 220-240/50 | 1600 | 25.26 | 1,1±8% | 2.92±8% | 1.63±8% | 135±8% | 50240154000 | 4006020343 |
| 12430472.. | FHP | UOZ 112 G63 | 220-240/50 | 1600 | 25.26 | 1,1±8% | 2.92±8% | 1.63±8% | 135±8% | 50240154000 | 4006020343 |
| 12430600.. | SOLE | 20584303 | 230-240/50 | 600-850R | 16.4 | no | 1.65±7% | 1,8±7% | 184±7% | 50229052001 | 50226588007 |
| 12430610.. | FHP | UO 112 G40 | 230-240/50 | 650-850 | 16.4 | no | 1,7±8% | 1,95±8% | 135±8% | 50240154000 | 4006020343 |
| 12430620.. | CESET | MCA38/64.148/ZN9 | 230-240/50 | 600-850R | 16.4 | no | 1.75±7% | 2,3±7% | 68.7±7% | 50232055009 | 50216397005 |
| 12430980.. | SOLE | 20584087 | 230/50 | 1600 | 25.26 | 0.47±7% | 1.3±7% | 1.72±7% | 184±7% | 50229052001 | 50226588007 |
| 12430990.. | FHP | UZ 112 G63 | 230-240/50 | 1150 | 21.26 | no | 1.12±8% | 1.75±8% | 135±8% | 50240154000 | 4006020343 |
| 12439100.. | FHP | UZ 112 G63 | 230-240/50-60 | 1150 | 21.26 | no | 1.09±8% | 1.5±8% | 135±8% | 50240154000 | 4006020343 |
| 12439101.. | FHP | UZ 112 G63 | 230-240/50 | 1150 | 21.26 | no | 1.09±8% | 1.5±8% | 135±8% | 50240154000 | 4006020343 |
| 12458150.. | CESET | MCC61/64.148/ZN9 | 230-240/DC | 1000-1600 | 25.26 | 0.37±7% | 1.8±7% | 1.64±7% | 68.7±8% | 50232055009 | 50216397005 |
| 12461790.. | SOLE | 20584603 | 240/50 | 1600 | 25.26 | 0.56±7% | 1.43±7% | 1.72±7% | 184±7% | 50229052001 | 50226588007 |
| 12461791.. | SOLE | 20584603 | 240/50 | 1600 | 25.26 | 0.56±7% | 1.43±7% | 1.72±7% | 184±7% | 50229052001 | 50226588007 |
| 12466020.. | FHP | UOZ112 G55 | 220-240/50 | 1000-1200 | 21.26 | 0.62±8% | 1.23±8% | 1.6±8% | 135±8% | 50240154000 | 4006020343 |
| 12466021.. | FHP | U112 G55 | 220-240/50 | 1000 | 21.26 | no | 1.23±8% | 1.6±8% | 135±8% | 50240154000 | 4006020343 |

| Motor supplier code | Brand | Type | V/Hz | Spin speed | Pulley Ø mm | Winding resistance (Ω) | | | | Part nos. (*) | |
|---------------------|-------|------------------|------------|------------|-------------|------------------------|---------------|-------------|-------------|-----------------------|-------------|
| | | | | | | ½ field (1-5) | Stator (5-10) | Rotor (8-9) | Tacho (3-4) | Tachometric generator | Brush |
| 12467840.. | FHP | UOZ112 G63 | 240/50 | 1400 | 25.26 | 0.63±8% | 1.35±8% | 2.6±8% | 135±8% | 50240154000 | 4006020343 |
| 12470100.. | SOLE | 20580056 | 230-240/50 | 600-850R | 16.4 | no | 2.00±7% | 1.8±7% | 504±7% | 50204873009 | 50226588007 |
| 12470102.. | SOLE | 20580056 | 230-240/50 | 600-850R | 16.4 | no | 2.00±7% | 1.8±7% | 504±7% | 50204873009 | 50226588007 |
| 12471900.. | FHP | UOZ112 G63 | 200/60 | 1000-1200 | 21.26 | 0.5±8% | 1.01±8% | 1.82±8% | 135±8% | 50240154000 | 4006020343 |
| 12474470.. | FHP | UOZ112 G63 | 230/50 | 850-1400 | 25.26 | 0.59±8% | 1.35±8% | 2.2±8% | 135±8% | 50240154000 | 4006020343 |
| 12483510.. | CESET | MCA61/64.148/ZN4 | 230-240/50 | 1400 | 25.26 | 0.6±7% | 1.88±7% | 1.78±7% | 68.7±7% | 50232055009 | 50216397005 |
| 12483520.. | CESET | MCA61/64.148/ZN3 | 230-240/50 | 1200 | 21.5 | 0.6±7% | 1.88±7% | 1.78±7% | 68.7±7% | 50232055009 | 50216397005 |
| 12492030.. | SOLE | 20584027 | 220-240/50 | 1050-1200 | 21.5 | 0.59±7% | 1.18±7% | 2.2±7% | 184±7% | 50229052001 | 50226588007 |
| 12494610.. | CESET | MCA52/64.148/ZN4 | 230-240/50 | 1000 | 21.5 | no | 1.3±7% | 1.9±7% | 68.7±7% | 50232055009 | 50216397005 |
| 13207990.. | FHP | UOZ 112 G70 | 230/50 | 1600-AC | 25.26 | 0.41±8% | 1.26±8% | 1.75±8% | 135±8% | 50240154000 | 4006020343 |
| 13211010.. | FHP | UOZ 112 G63 | 210-230/60 | 1150 | 21.26 | 0.53±8% | 1.00±8% | 1.75±8% | 135±8% | 50240154000 | 4006020343 |

THREE-PHASE MOTORS

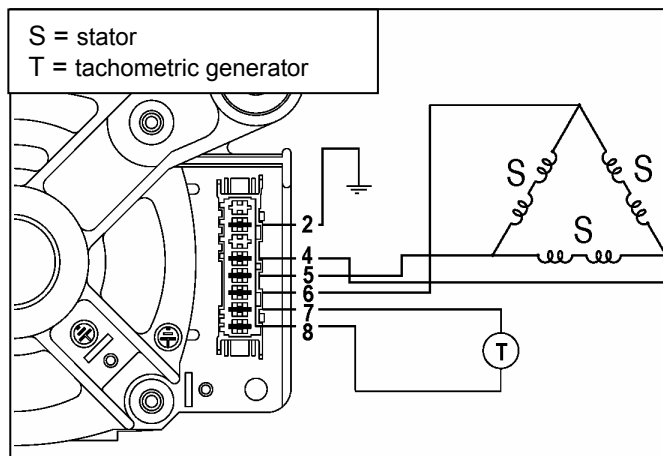
| Motor supplier code | Brand | Type | V/Hz | Spin speed | Pulley Ø mm | Winding resistance (Ω) | | | | Part nos. (*) |
|---------------------|-------|----------------|---------|------------|-------------|------------------------|--------------|--------------|-------------|-----------------------|
| | | | | | | Stator (4-5) | Stator (4-6) | Stator (5-6) | Tacho (7-8) | Tachometric generator |
| 13219300.. | CESET | CIM 2/55-132ZH | 195/300 | 1600 | 25.26 | 5,4±7% | 5,4±7% | 5,4±7% | 121±7% | 50280023008 |

(*) part nos. presently in production

Remarks on the windings

- ↺ Check the connectors (wiring) and the presence of outcoming / bent terminals.
- ↺ Check the presence of traces / deposits of water or detergent and their cause
- ↺ Check the earthed windings / components (or with poor insulation to earth) by means of a tester with a minimum capacity of 40 MΩ between single terminal and the housing (read ∞).
- ↺ Check the individual windings according to the table.

THREE-PHASE MOTORS



UNIVERSAL MOTORS

