CD Motor operating mechanisms
The versatility of the CD mechanism allows multiple options for operation, and adaptation to specific requirements.

We know how

Our range of motor operating mechanisms is designed to ensure the best performances and reliability, which are the result of our 70-year old experience. Over 100,000 disconnectors and switchers installed in more than 100 countries worldwide and operated by our mechanisms are the guarantee of best-buys.

Optional and safety

The electrical operation of the disconnector through the CD mechanism can be done remotely, or from local push buttons. A local/remote selector prevents any interference between the two control modes. The applicable voltage range extends from 85% to 110% of the rated voltage.

The manual operation of the disconnector is possible by the means of a manual handle. The insertion of the handle is allowed only if the electrical interlocks are permissive and the pushbutton is energized and operated. This action also switches off automatically the motor supply, to prevent any accidental electrical operation.

This handle allows also the padlocking of the mechanism, preventing any operation (see picture).

Depending on the model (see table) the actuation of the integrated earthing switch can be done manually by a lever or a handle, or electrically as well.

A mechanical interlock ensures that the motions of the shafts are possible only in safe condition.

Reliability and maintenance

- The design is mechanically non-reversible, to prevent any unwanted motion of the disconnector, under the effect of wind, electrodynamic or other external efforts.
- The housing is made of aluminium alloy, to prevent any corrosion, and guarantees a high protection degree (IP 44, or higher upon request).
- An anti-condensation heater prevents harmful moisture condensation inside the cabinet.
- The external components are either aluminium alloy or hot dip galvanized or stainless steel.

To ensure the best dependability on site, the CD has undergone the most severe test conditions:
- extra low temperatures down to -50 °C
- heavy wetting
- extended mechanical endurance (exceeding IEC standard requirements)

Due to its lifetime greased gearbox, no maintenance is required on the CD mechanism.
Design and construction

Depending on the model (see table), the CD mechanism includes 1 or 2 motors (3-phase AC or DC) and single or twin 2-stage gearboxes providing a high torque, exceeding that required by the disconnector. This ensures a high safety factor to guarantee proper operation, whatever the site conditions are.

It can operate the three poles of a disconnector through driving shafts and rods (Fig 1) or with one drive per pole: one master and two slave units (Fig 2).

The power operated switches position signalling is given through auxiliary switches, actuated by adjustable cams, and which can be of the normally open (NO), normally closed (NC), early make (EM) or late break (LB) type. These switches allow also electrical interlocking with other devices of the substation.

The motor limit switches are also adjustable in the same way.

These adjustment possibilities ensure that, in any conditions, the position signalling reflects exactly the position of the main contacts.

To improve the easiness of adjustment operation, this series of CD features a door-lock in open position and a coupling with the vertical tube.
### Technical data

<table>
<thead>
<tr>
<th></th>
<th>CD101</th>
<th>CD201</th>
<th>CD211</th>
<th>CD212</th>
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<tr>
<td>Rated torque</td>
<td>800 Nm</td>
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<tr>
<td>Disconnecting switch</td>
<td>Motor</td>
<td>Motor</td>
<td>Motor</td>
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<td>Earthing switch</td>
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<td>Operating angle</td>
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<tr>
<td>Operating time (motor)</td>
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<td>230/240 Vac 3 ~</td>
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<td>- frequency</td>
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<tr>
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<tr>
<td></td>
<td>ES</td>
<td>4 NO + 4 NC</td>
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### Electrical diagram legend
- M Motor
- IAM Magnetothermic circuit breaker
- CA Opening contactor
- CC Closing contactor
- Fa Opening limit switch
- Fc Closing limit switch
- PA Opening pushbutton
- PC Closing pushbutton
- MLD Local / remote selector switch
- BM Interlocking motor manual
- RA Anti-condensation resistance
- ESS Electromagnetic interlocking device
- PSS Release pushbutton of ESS
- A-B Auxiliary switches (disconnecter)
- C-D Auxiliary switches (earthing switch – if applicable)

### Optional features

Upon request, the mechanism can be equipped with various accessories:
- electrical interlock of the earthing switch
- signalling lamps
- heater with thermostatic control
- protection of heaters by mini CB
- additional auxiliary switches
- provision for key interlocks
- key-lock of the housing door
- …