# ADDITIONAL INSTRUCTIONS FOR HIGH-TORQUE D.C. BRAKE - AMBY SERIES

## GENERAL SAFETY INSTRUCTIONS

Danger: electric rotating machine have dangerous rotating and conductive parts, as well as possibly hot surfaces.
The commissioning of electric motor is forbidden until the machine on which it has been incorporated has been declared conform to 2006/42/EC directive (Machine Directive).

All transportation, storage, installation, commissioning, inspection, maintenance and repair works have to be carried out exclusively by qualified personnel (definition according to IEC 364) according to EN 60204-1.
Improper use may cause major damage to persons and objects.

Operating conditions have to be according to EN 60034-1.

## BRAKE MOTORS INSTALLATION

The responsibility of the correct brake functionality is completely of the installer, who has to:

- comply with the connection scheme placed inside the terminal box
- supply the rectifier / brake according to the data on the nameplate / connection scheme
- check the correct brake functionality
- check that the brake torque satisfies the application needs
- supply in a correct way auxiliary equipments, if any (see specific documentation)

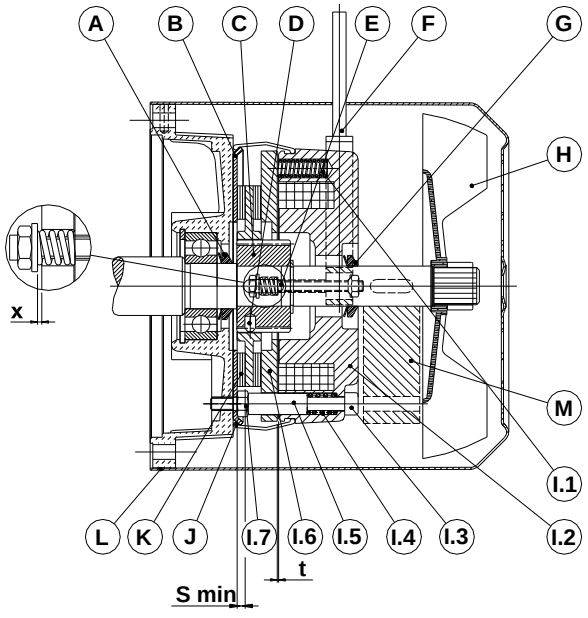
Earthing has always to be carried out (according to local regulations) before the connection to the mains.
The supply of motor, rectifier/brake, auxiliary equipments (if any) has to be made using cables of suitable section in order to avoid overheating and/or too high voltage drop.

Pay attention not to alter the protection degree (use only original gaskets).

In case of brake motor inverter supply follow correctly the wiring instructions of the inverter manufacturer and separately supply (directly from the main) the rectifier/brake.

For any special design see specific documentation.

The good brake running in time depends on a correct periodical maintenance.




**MAIN COMPONENTS LIST**
A) V-ring (for IP55 only for size 80 ... 112, 160)
B) Braking flange[1)]
C) Dragging hub
D) Anti-vibration spring/O-ring
E) Key
F) Hand release (on request)
G) V-ring (for IP55 only)
H) Fan
I.1) Braking spring
I.2) Magnet casing (with brake coil inside)
I.3) Fastening screw[2)] I.4) Contrast spring
I.5) Guiding pipe I.6) Mobile anchor
I.7) Fastening nut
J) Protection gasket (for IP55 only)
K) Brake disk
L) Fan cover (with slot in case of hand release)
M)Flywheel (on request)

**SPARE PARTS LIST**
B) Braking flange[1)]
C+D) Dragging hub with anti-vibration spring/O-ring
F) Hand release
H) Fan
I) Preassembled part
J) Protection gasket
K) Brake disk
L) Fan cover (with slot in case of hand release)
M)Flywheel

1) for sizes 63 and 71 only
2) fastening stud bolt for sizes 63 and 71 only

## PERIODICAL MAINTENANCE OF BRAKE MOTORS

Every maintenance work on brake motors should only be carried out by qualified personnel, always with the machine out of operation, disconnected and previously secured against starting.

Brake motors with high-torque D.C. brake (with electromagnetic brake braking in case of failure supply) have got braking torque already preset at rated plate value, according to catalogue (braking torque adjustment upon braking springs number up to 250Nm[3)]) that means that the periodical maintenance consists on checking that the air-gap "t", the minimum friction surface thickness "$S_{min}$" and hand release backlash "x" (if any) are according the following table:

| Brake size[4)] | Motor size | t[5)] [mm] | $S_{min}$[6)] [mm] | x |
|---|---|---|---|---|
| 12MV | 63, 71 | 0,25 ...0,5 | 1 | 0,6 |
| 53MV, 13MV | 71, 80 | 0,25 ...0,5 | 1 | 0,8 |
| 04MV, 14MV | 80, 90 | 0,3 ...0,55 | 1 | 1 |
| 05MV, 15MV | 90, 100, 112 | 0,3 ...0,55 | 1 | 1 |
| 56SMV, 16SMV | 100, 112,132 | 0,35 ...0,6 | 1 | 1,2 |
| 07MV, 17MV | 132,160 | 0,4 ...0,8 | 1 | 1,2 |
| 08MV | 160[7)] | 0,5 ...0,9 | 1 | 1,2 |

3) For higher braking torque consult us
4) Always present on the preassembled part label
5) Refer to minimum value
6) Minimum thickness of friction surface on each side of the brake disk (for lower values it is necessary to replace the brake disk)
7) For bigger sizes consult us

Too high air-gap values could produce a noisy operation and even cause the brake not to be released; excessive air-gap values can reduce the braking torque to zero due to the clearance taking up of the release lever tie rods.

## AIR-GAP ADJUSTMENT

To adjust the air gap value release the fixing nuts I.7 and screw the fastening screws I.3 to reach the minimum value of air gap t according to above table (measure the air gap in 3 positions at 120° next to the guiding pipe); tighten the fixing nuts I.7 keeping in position the fastening screws I.3.

Occasionally we recommend to use an air jet to eliminate dust or other particles that may have settled on the braking surface.
After several air-gap adjustments verify that the thickness of the friction surface on each side of the brake disk is no lower the minimum value stated in the above table; if needed replace the brake disk.

Any repair work within the guarantee period is subject to the motor manufacturer approval.
For any brake motors repair use only original spare parts.