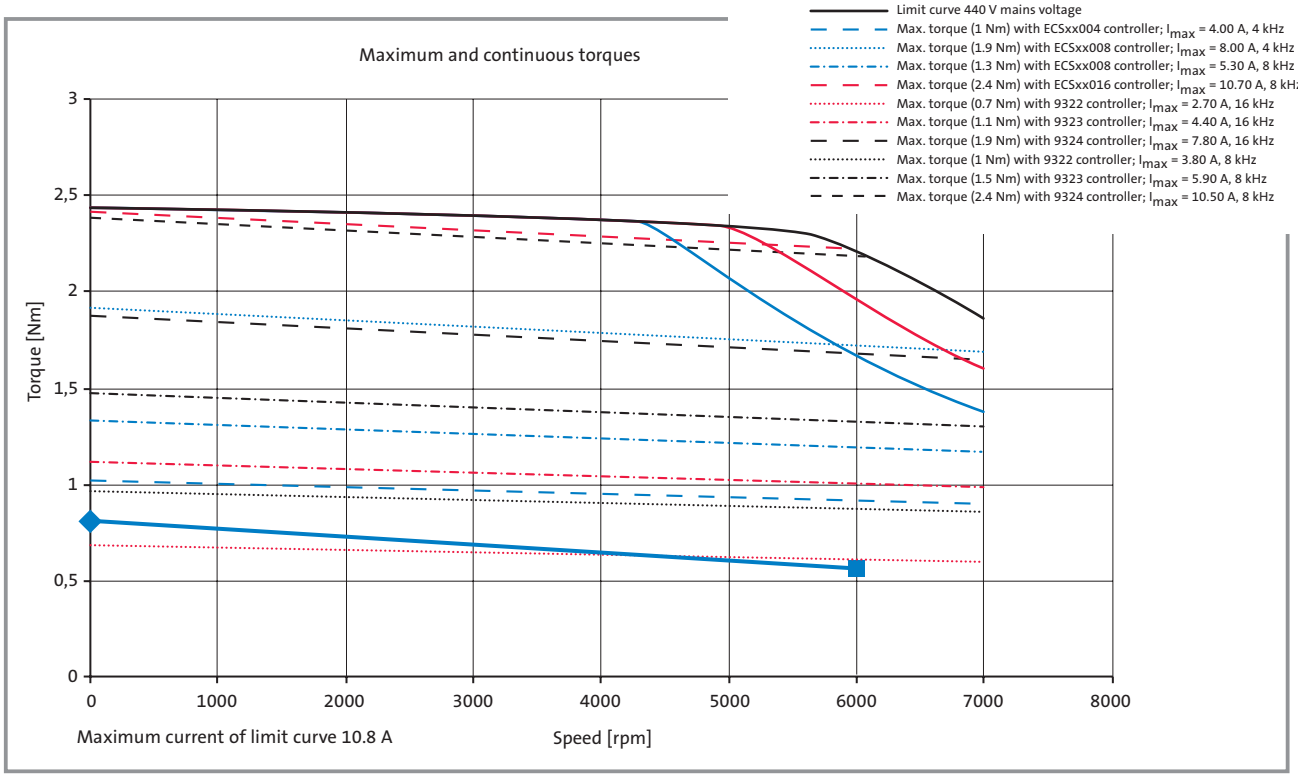
# Servomotori sincroni MCS

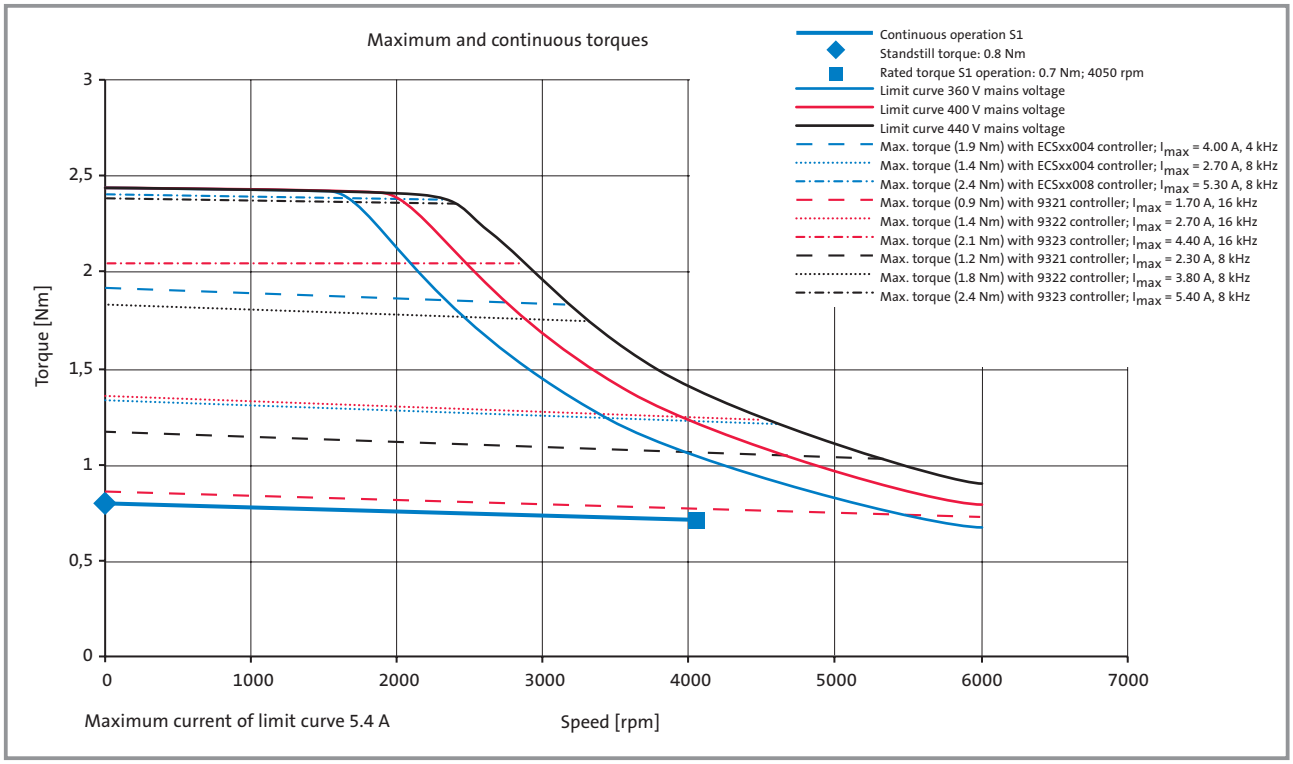
Curve di coppia

## Torque characteristics

### MCS 06C60

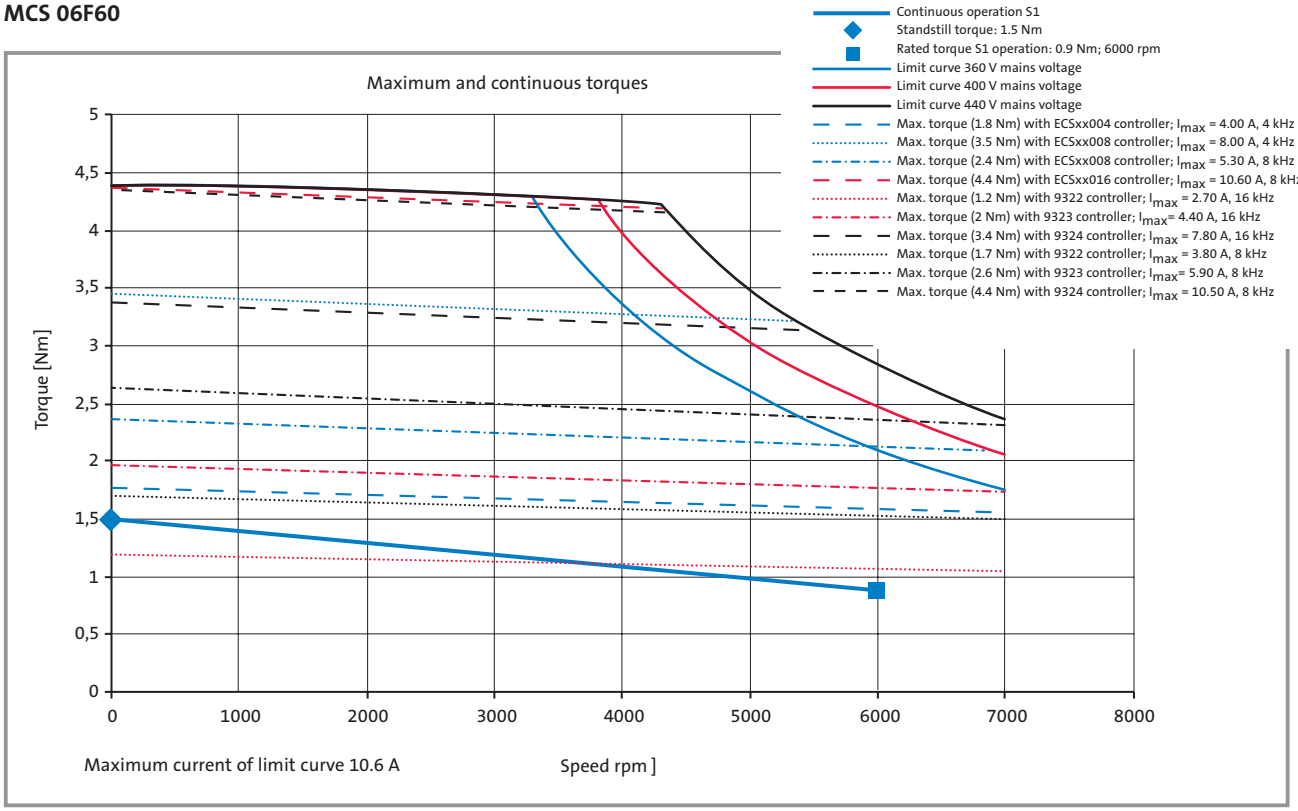



### MCS 06C41

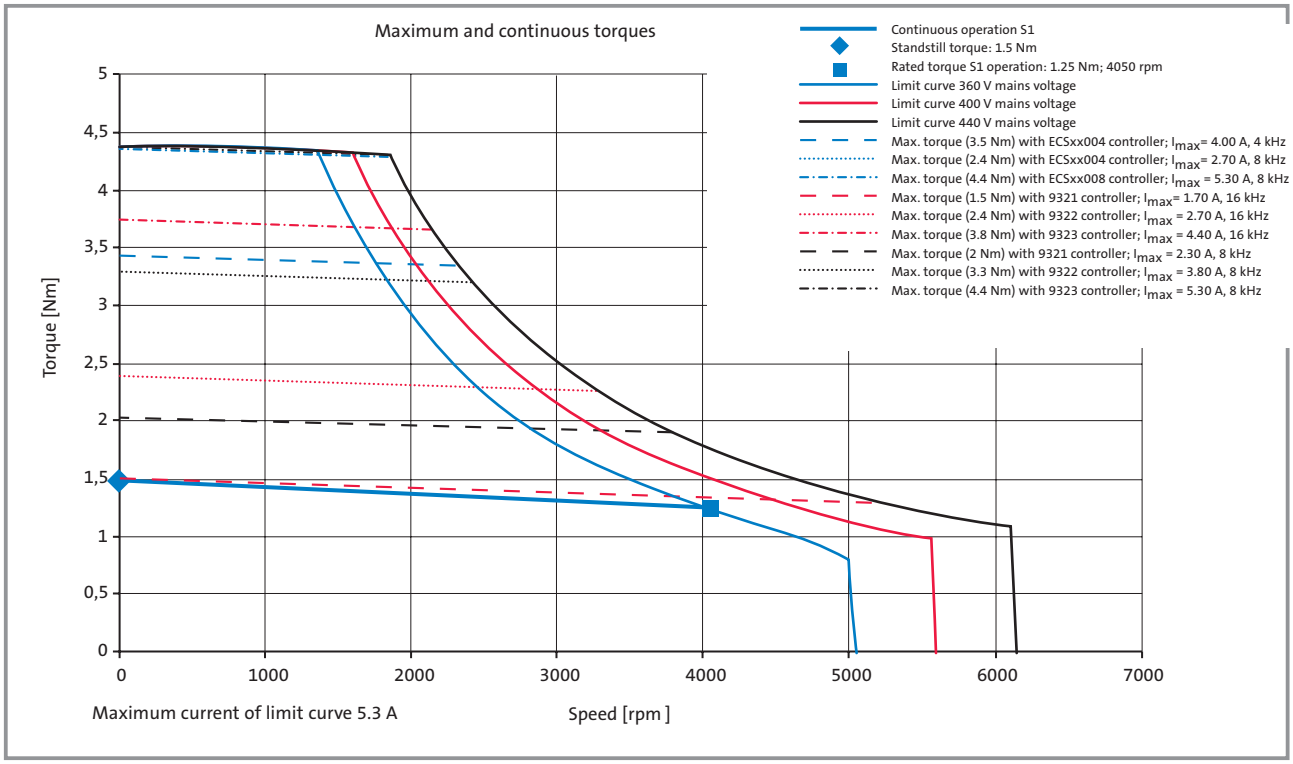



At speeds < 75 rpm servo controller derating may need to be taken into account. See "Servo controller assignment" tables.

## MCS 06F60



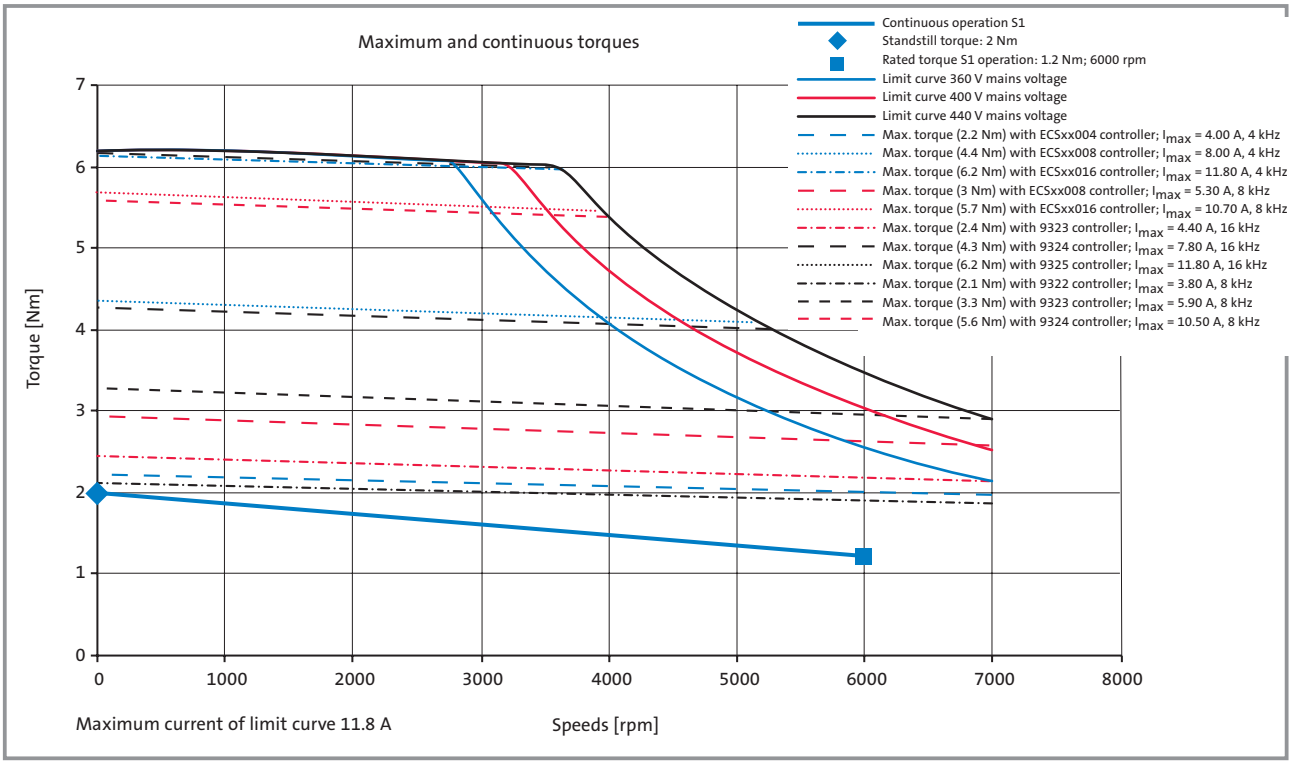

## MCS 06F41



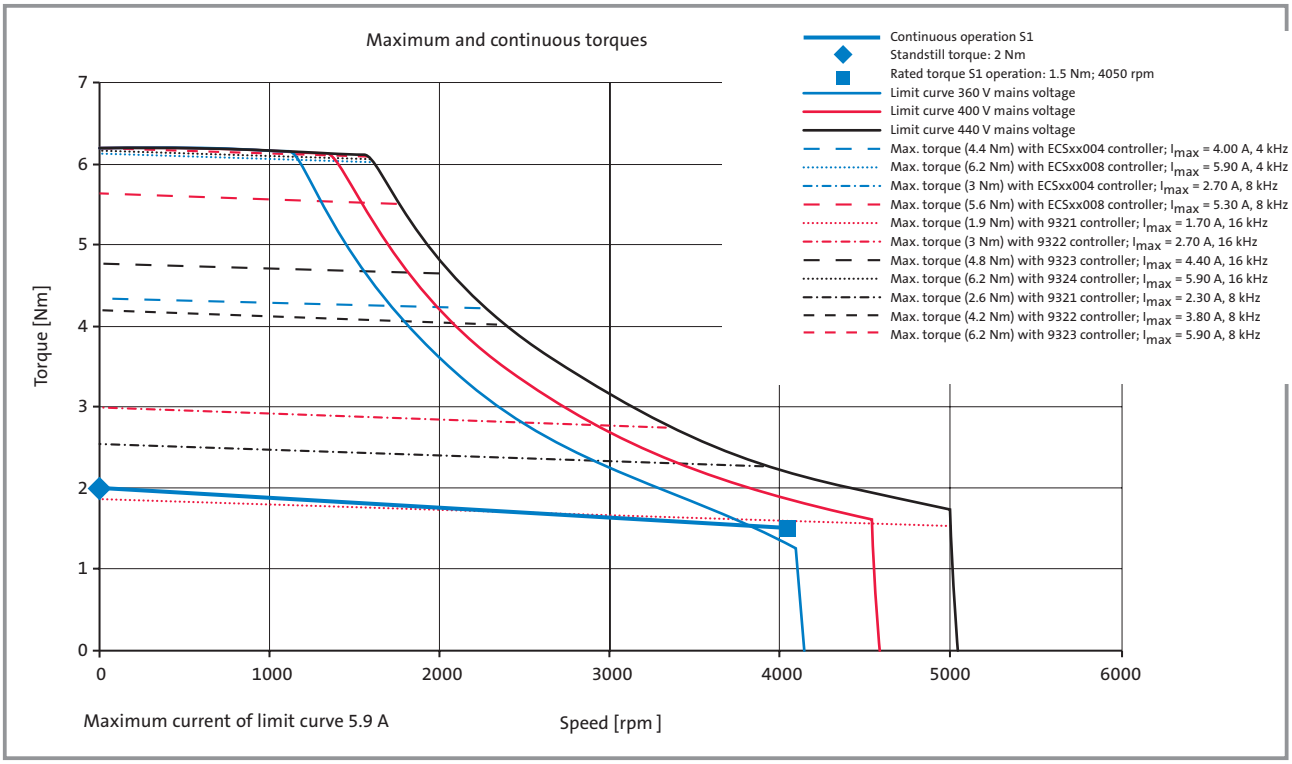

At speeds < 75 rpm servo controller derating may need to be taken into account. See "Servo controller assignment" tables.

## Torque characteristics

### MCS 06I60



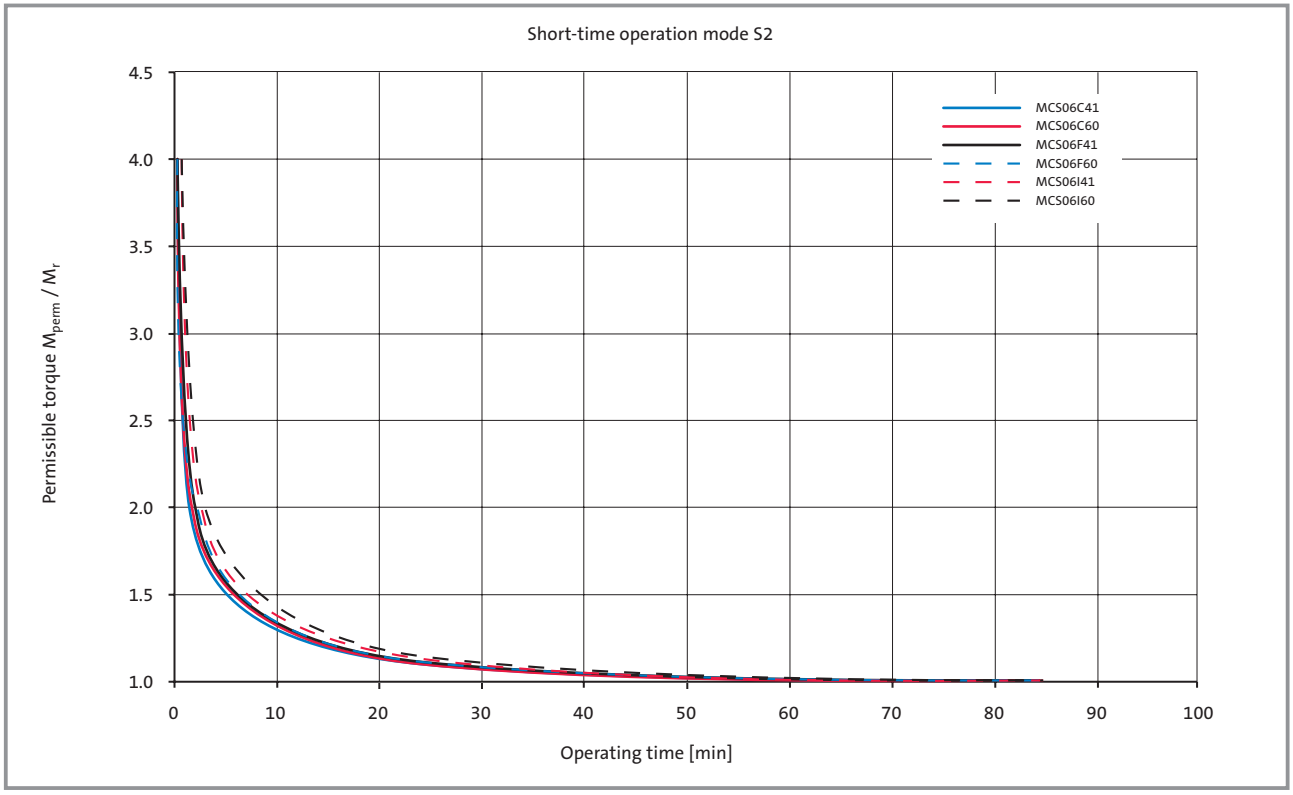

### MCS 06I41

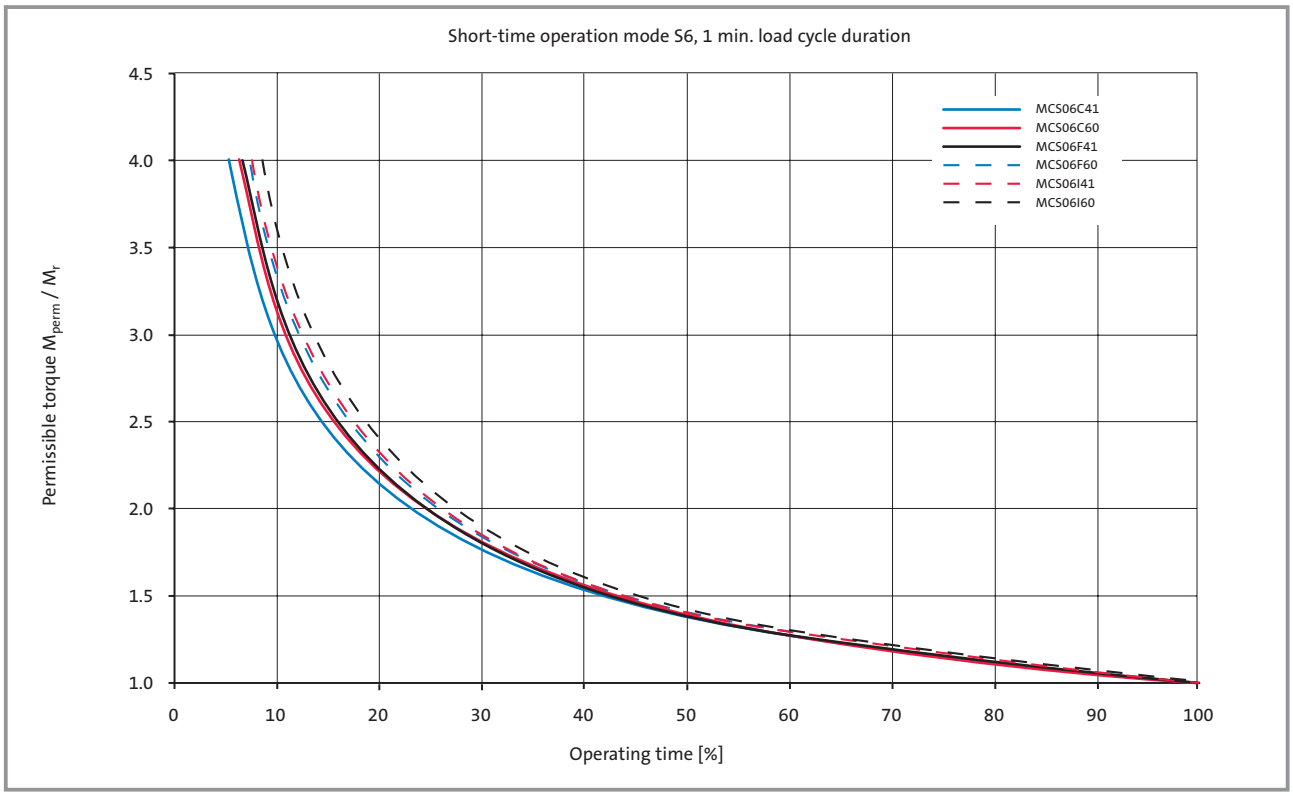


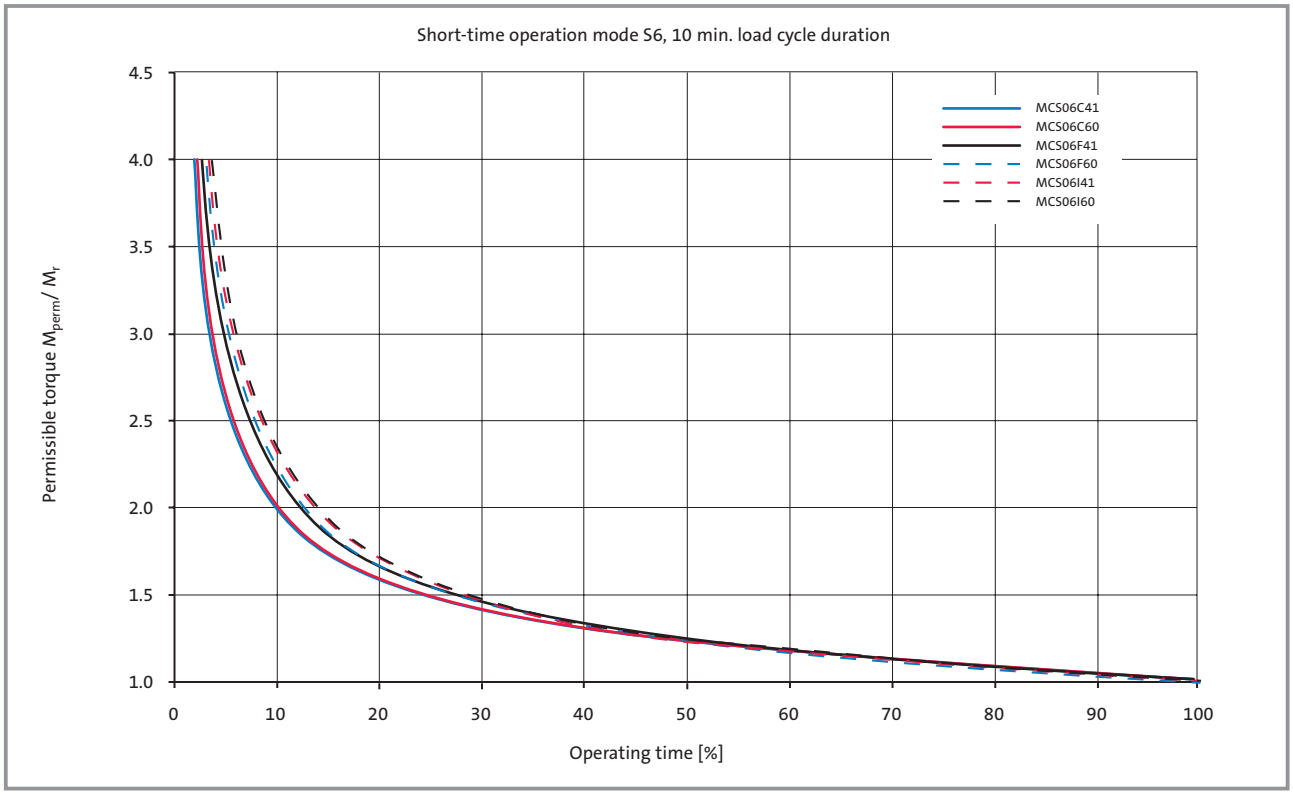

At speeds < 75 rpm servo controller derating may need to be taken into account. See "Servo controller assignment" tables.

## Short-time operation characteristic

Lenze MCS servo motors are designed to be used in dynamic applications with high torque peaks. In order to make full use of this highly dynamic response as simply as possible, the following diagrams for operating modes S2 and S6 illustrate the permissible operating times against the torque peaks required.

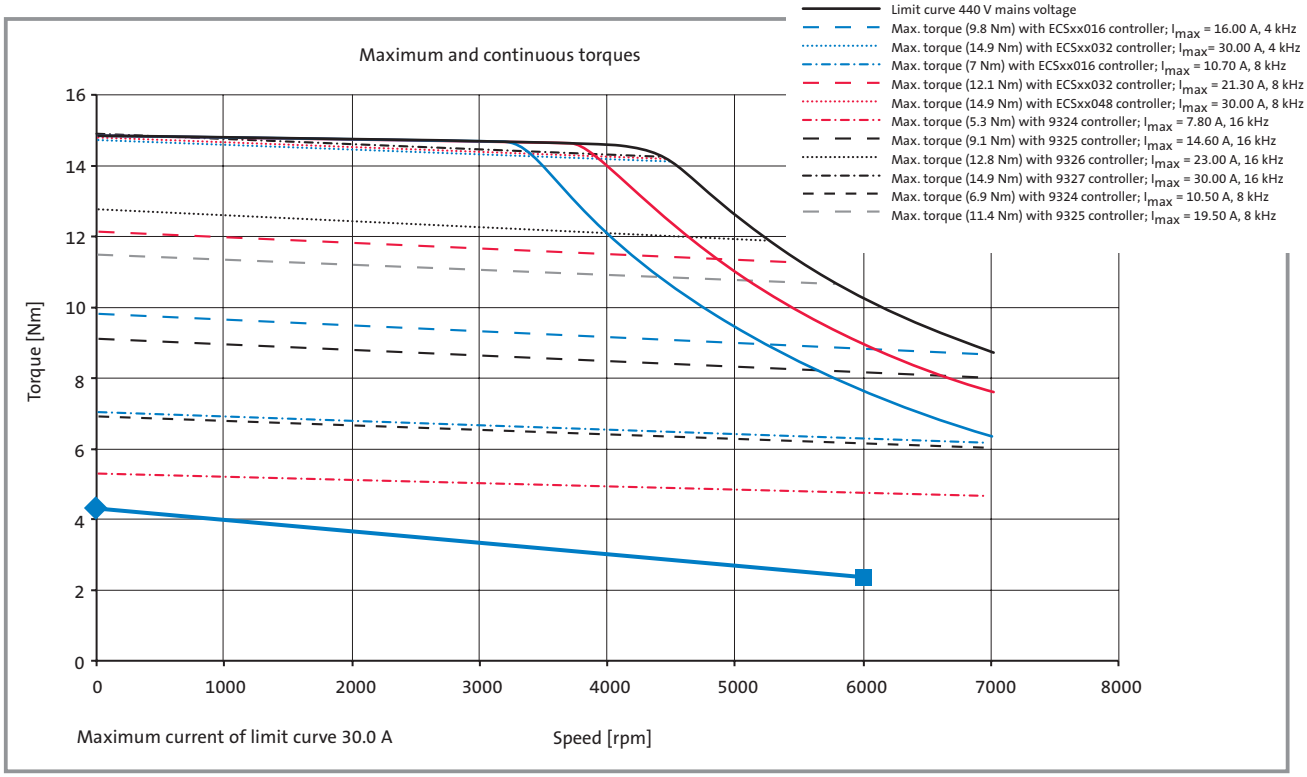


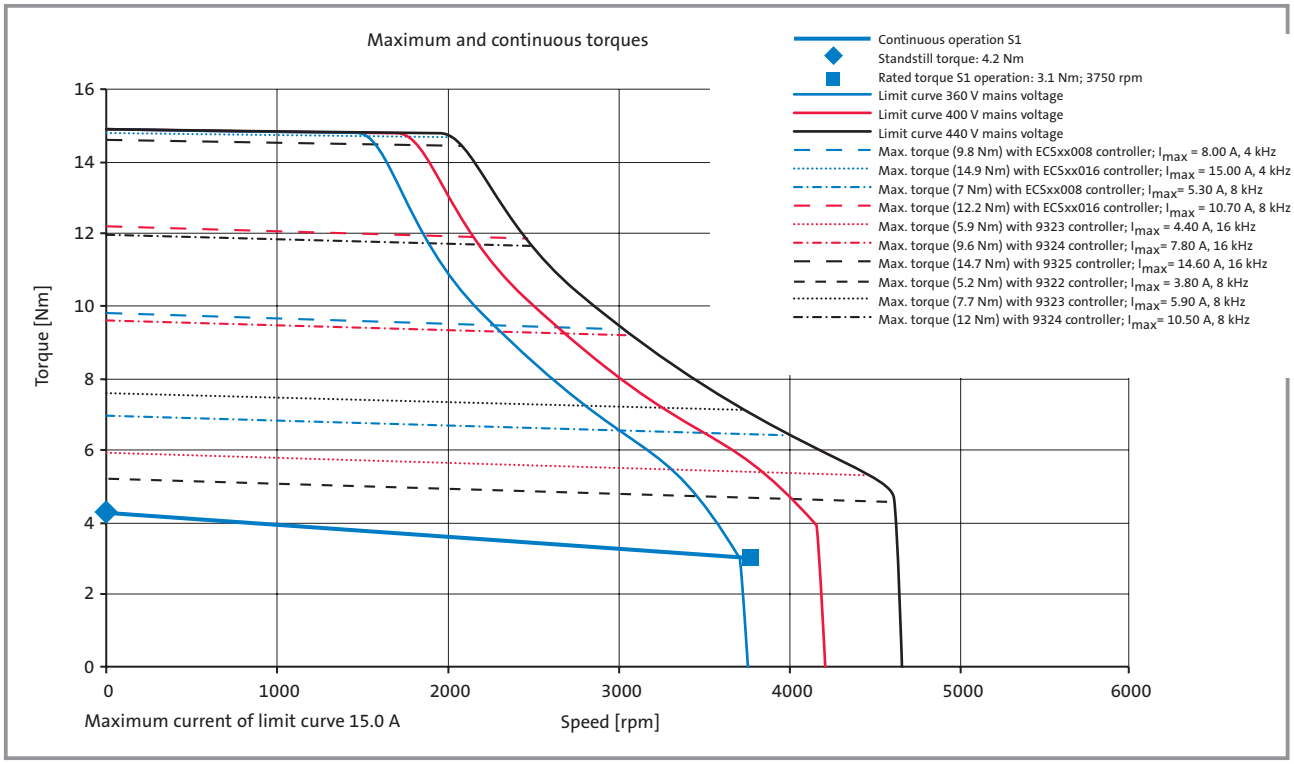

Short-time operation mode S6, 10 min. load cycle duration
Permissible torque $M_{perm}$ / $M_r$
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0
10
20
30
40
50
60
70
80
90
100
Operating time [%]
MCS06C41
MCS06C60
MCS06F41
MCS06F60
MCS06I41
MCS06I60

## Torque characteristics

### MCS 09F60

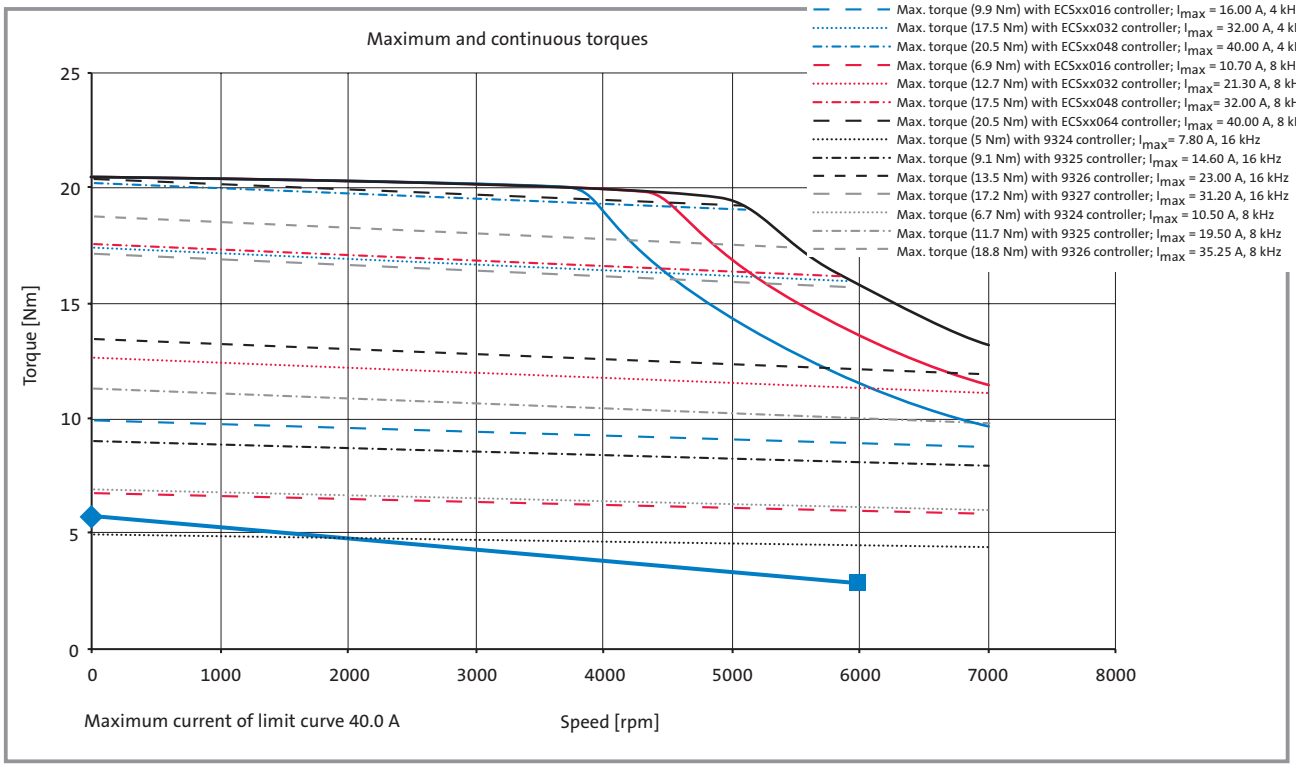



### MCS 09F38

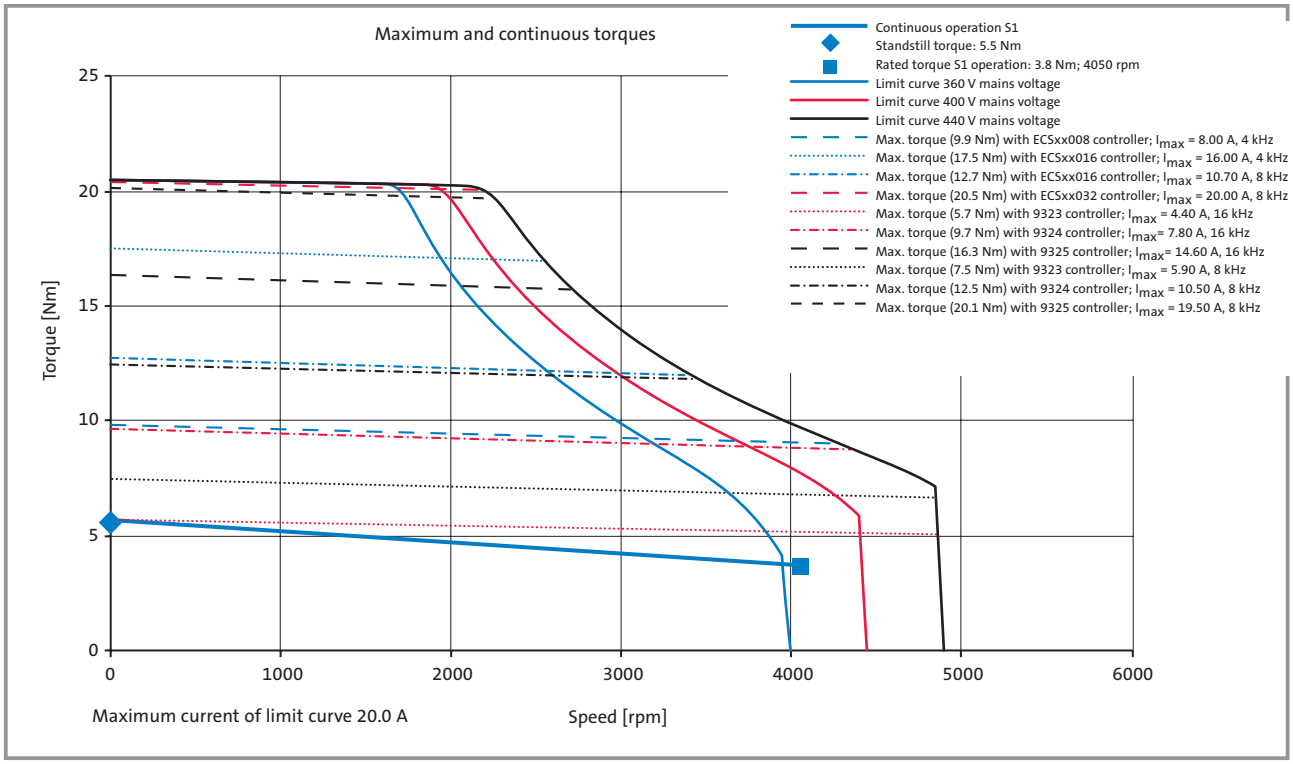



At speeds < 75 rpm servo controller derating may need to be taken into account. See "Servo controller assignment" tables.

## MCS 09H60



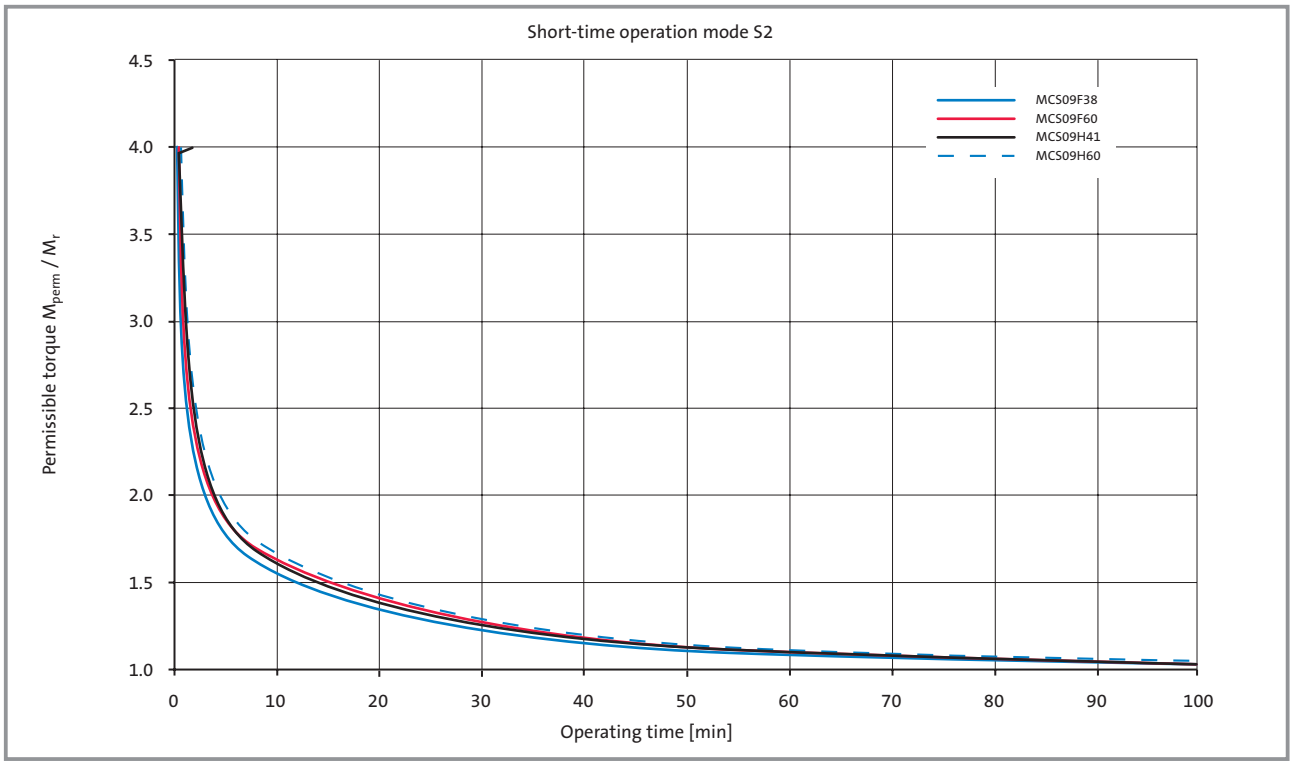

## MCS 09H41

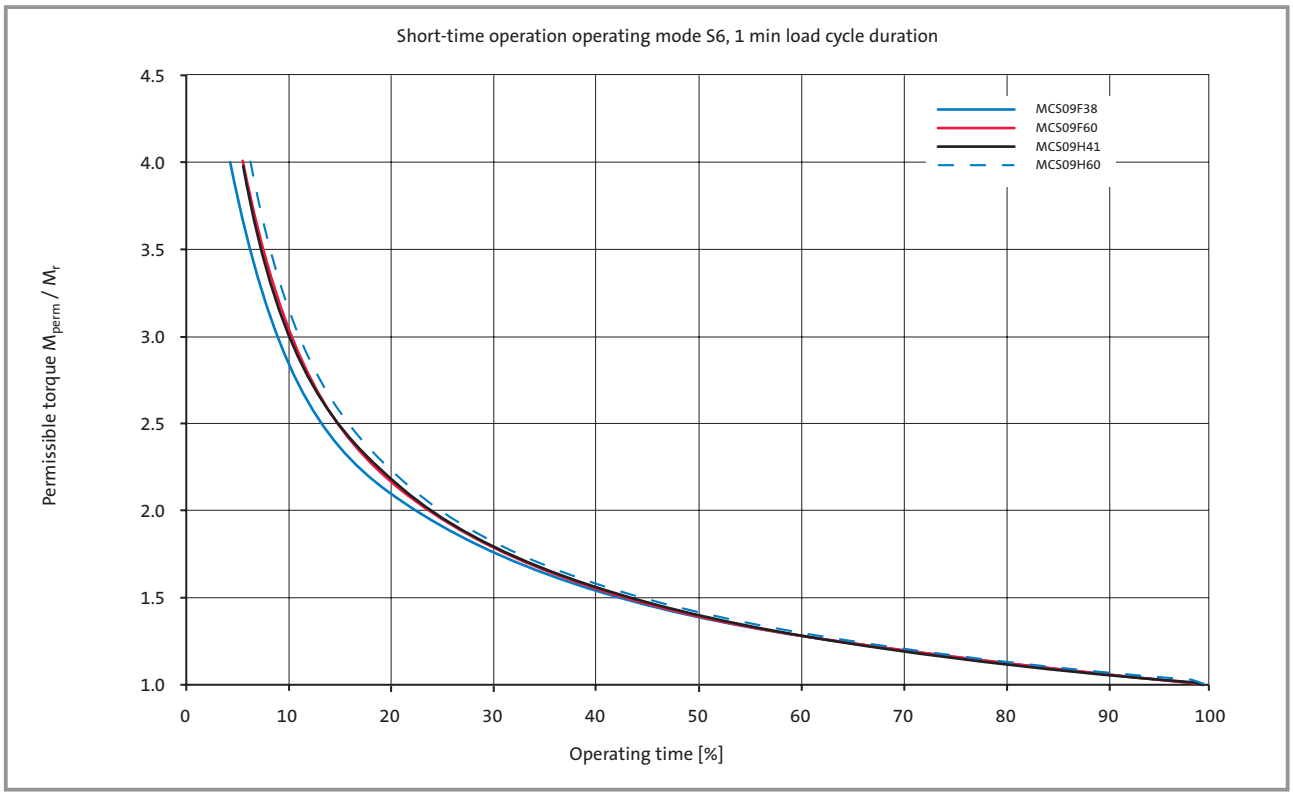


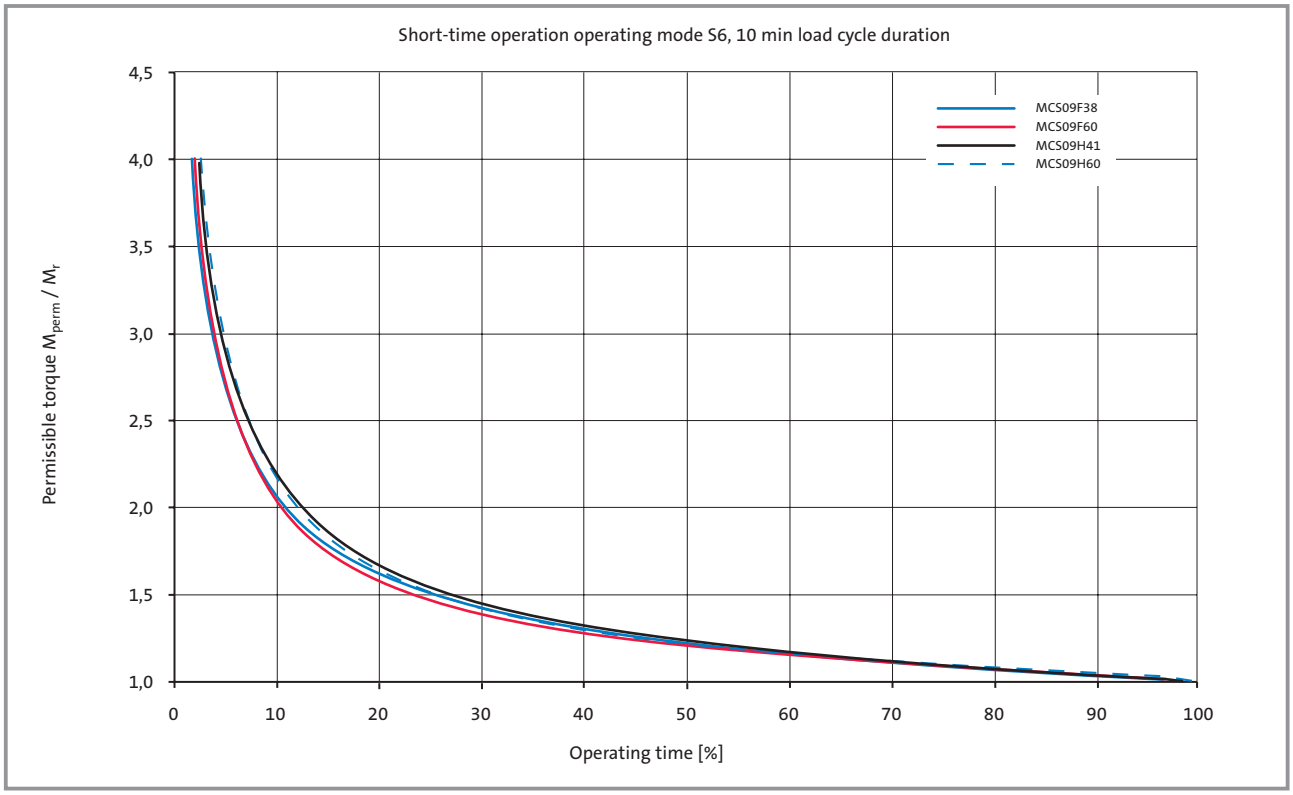

At speeds < 75 rpm servo controller derating may need to be taken into account. See "Servo controller assignment" tables.

## Short-time operation characteristic

Lenze MCS synchronous servo motors are designed to be used in dynamic applications with high torque peaks. In order to make full use of this highly dynamic response as simply as possible, the following diagrams for operating modes S2 and S6 illustrate the permissible operating times against the torque peaks required.

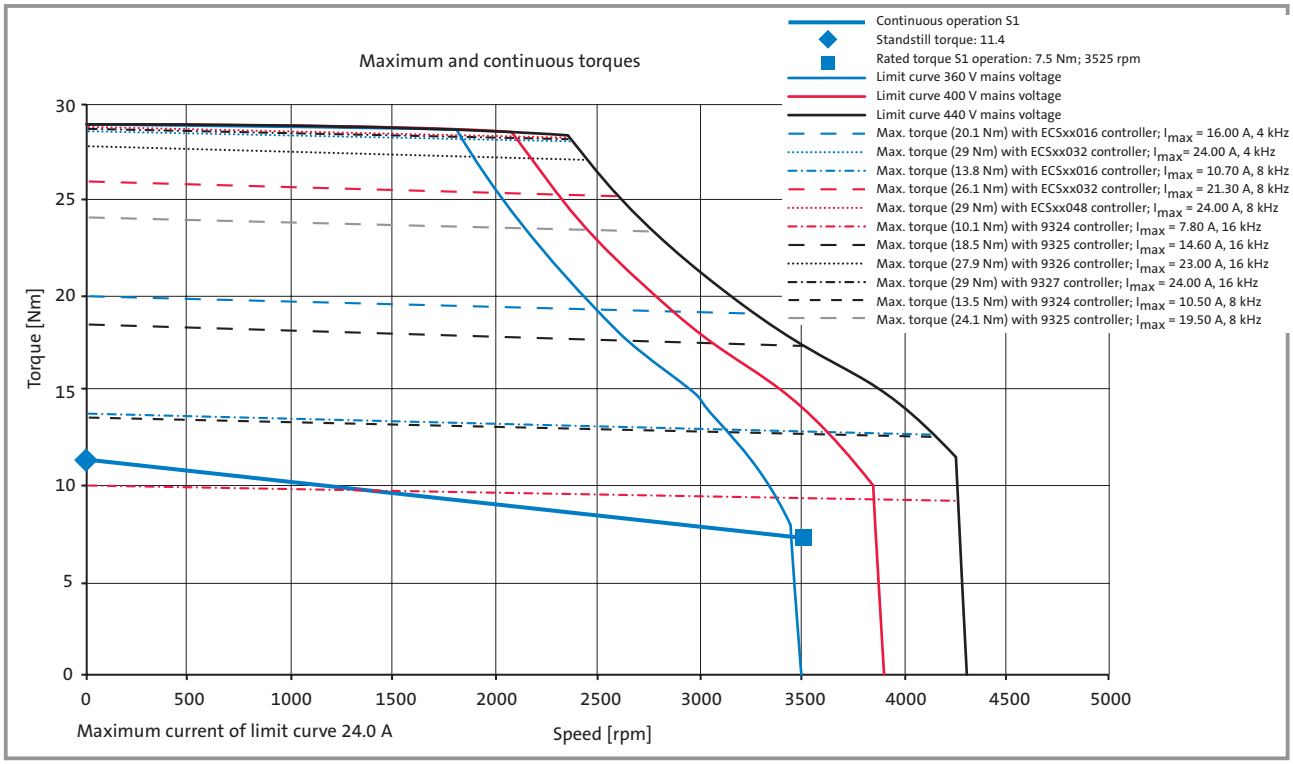


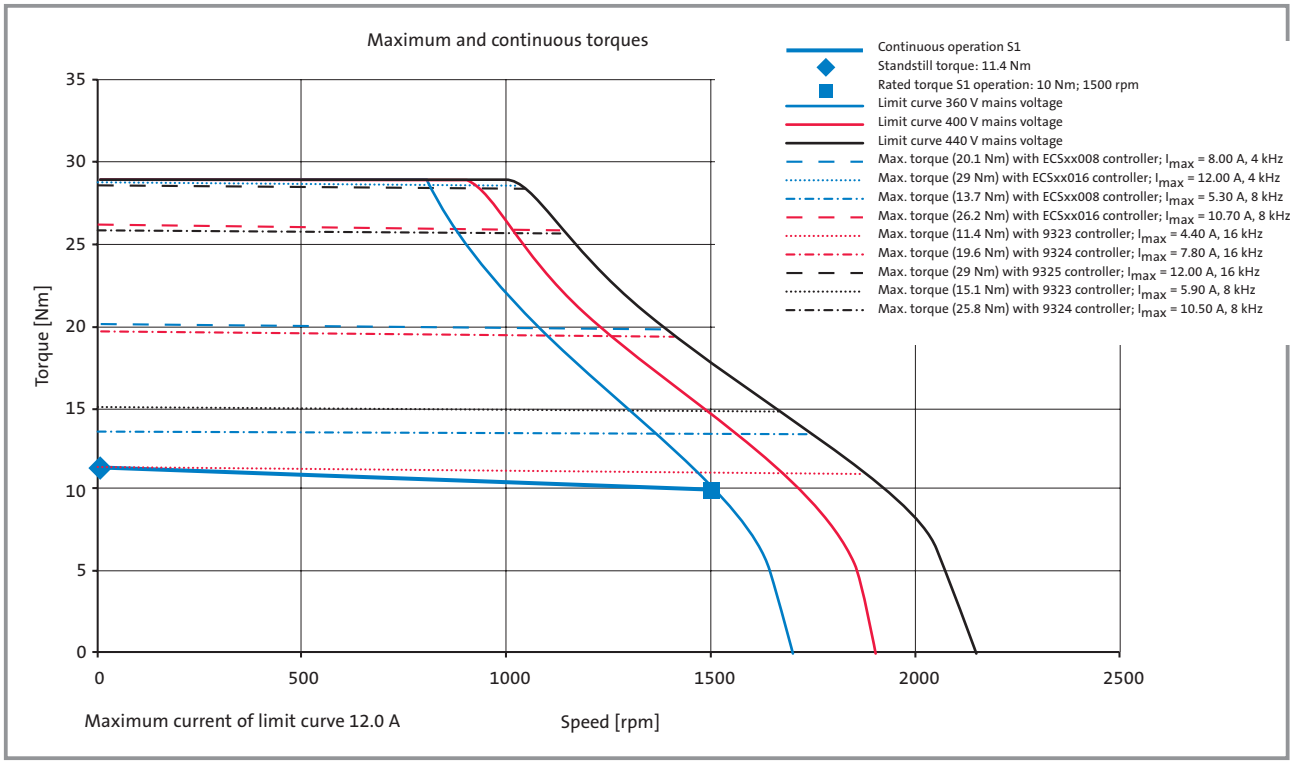

Short-time operation operating mode S6, 10 min load cycle duration
Permissible torque $M_{perm}$ / $M_r$
4,5
4,0
3,5
3,0
2,5
2,0
1,5
1,0
0
10
20
30
40
50
60
70
80
90
100
Operating time [%]
MCS09F38
MCS09F60
MCS09H41
MCS09H60

## Torque characteristics

### MCS 12H35

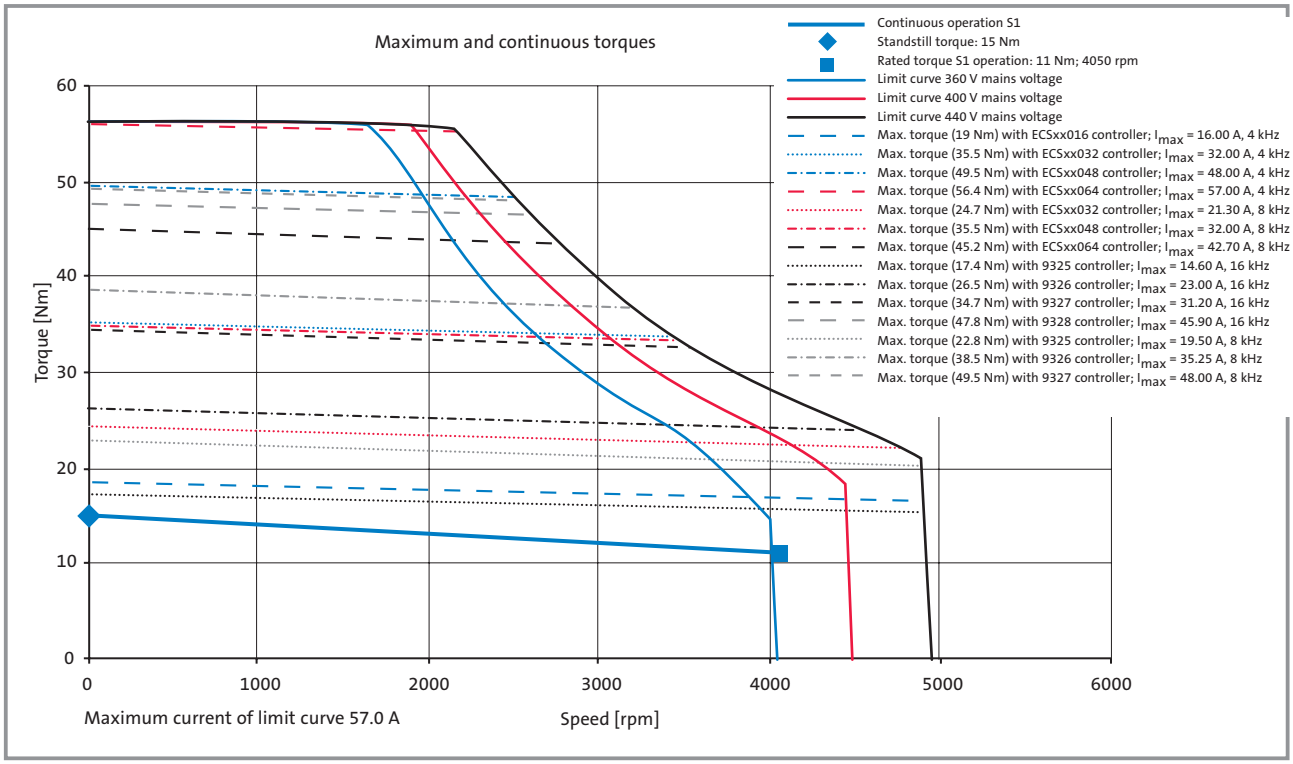



### MCS 12H15

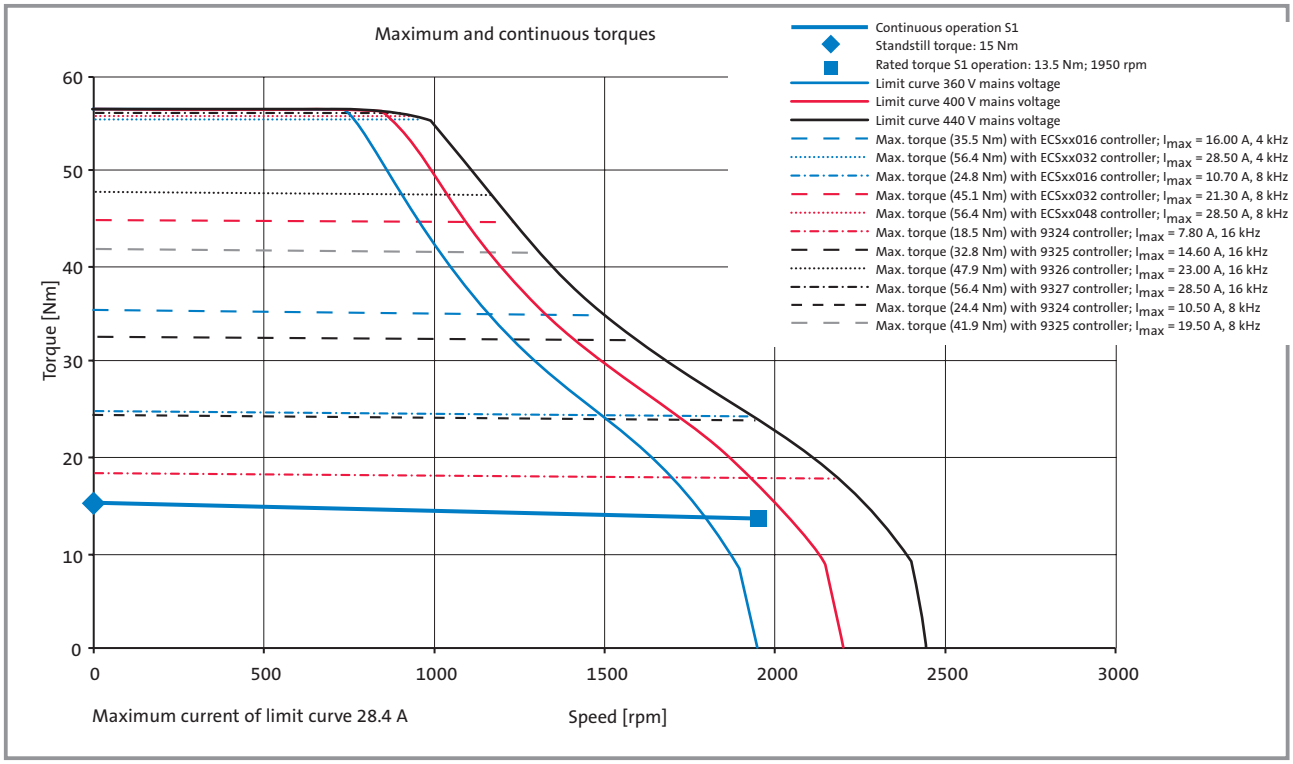



At speeds < 75 rpm servo controller derating may need to be taken into account. See "Servo controller assignment" tables.

## MCS 12L41



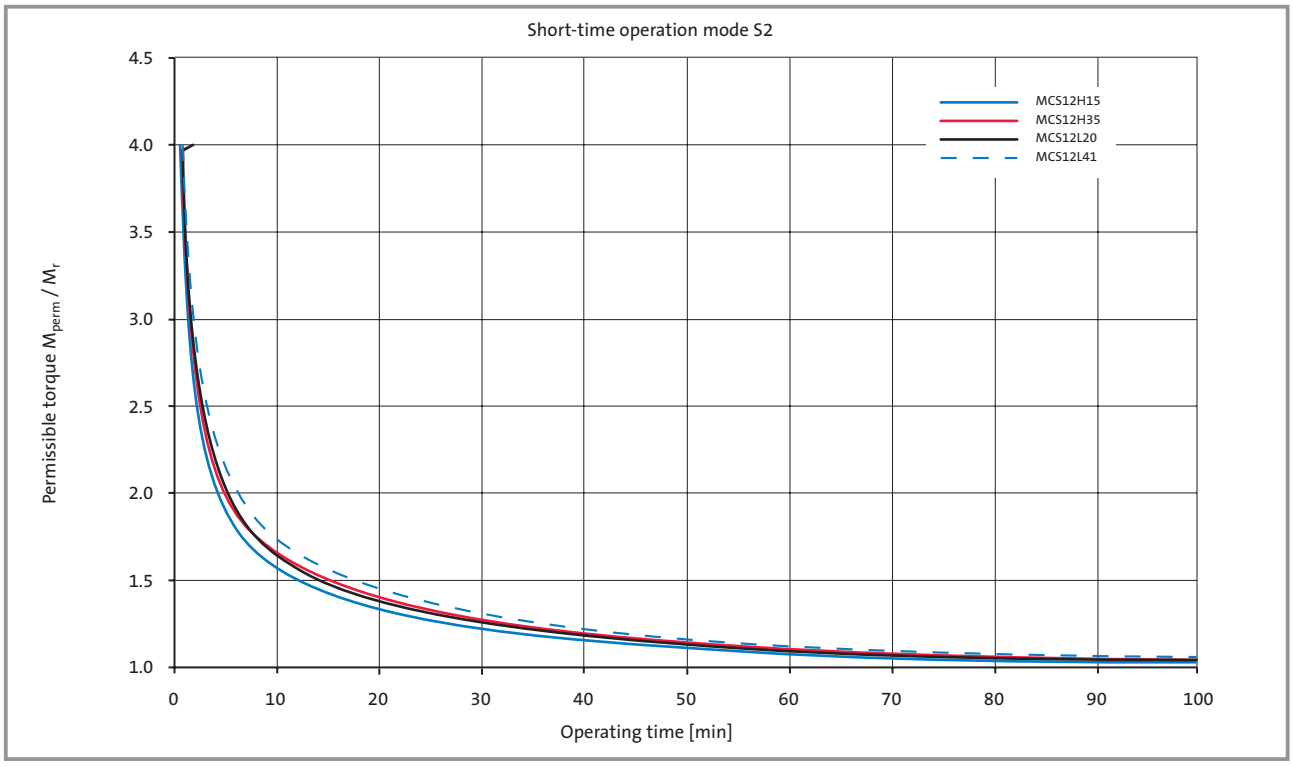

## MCS 12L20

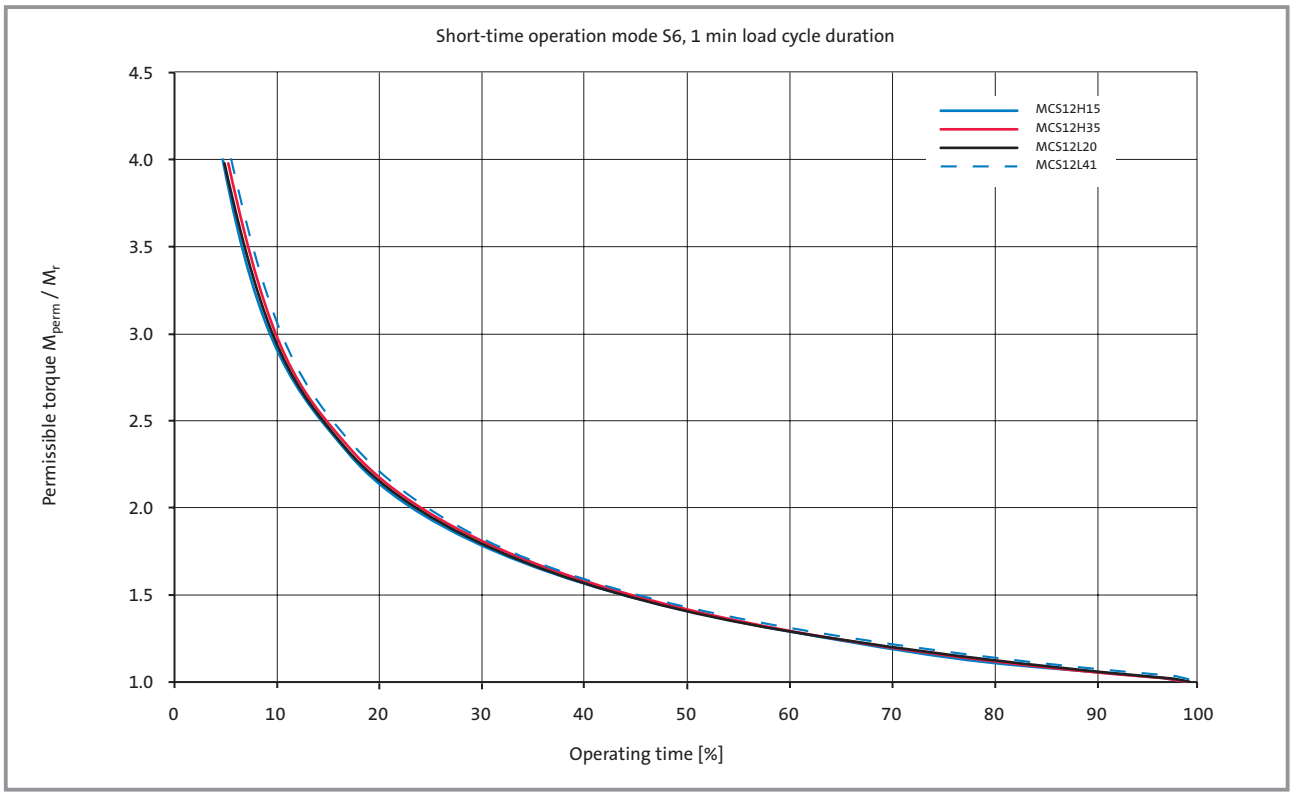


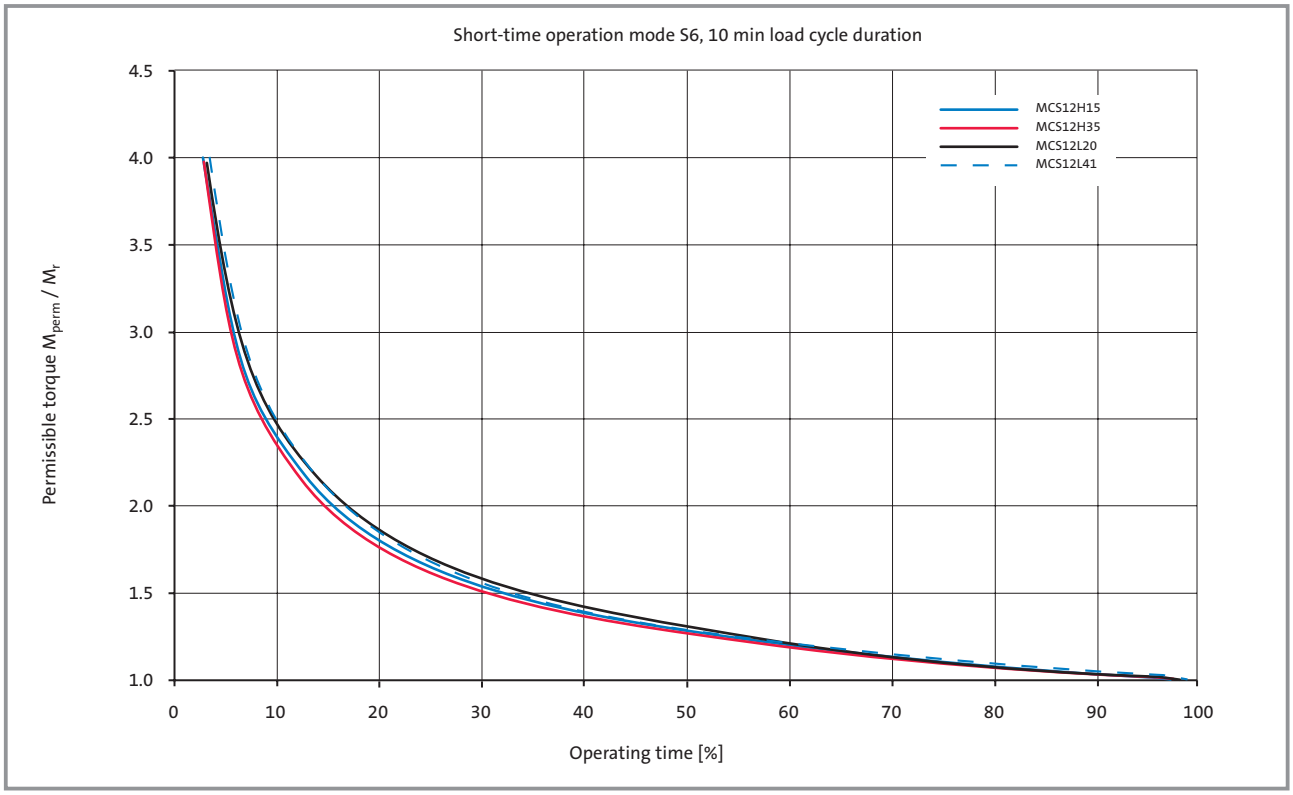

At speeds < 75 rpm servo controller derating may need to be taken into account. See "Servo controller assignment" tables.

## Short-time operation characteristic

Lenze MCS synchronous servo motors are designed to be used in dynamic applications with high torque peaks. In order to make full use of this highly dynamic response as simply as possible, the following diagrams for operating modes S2 and S6 illustrate the permissible operating times against the torque peaks required.

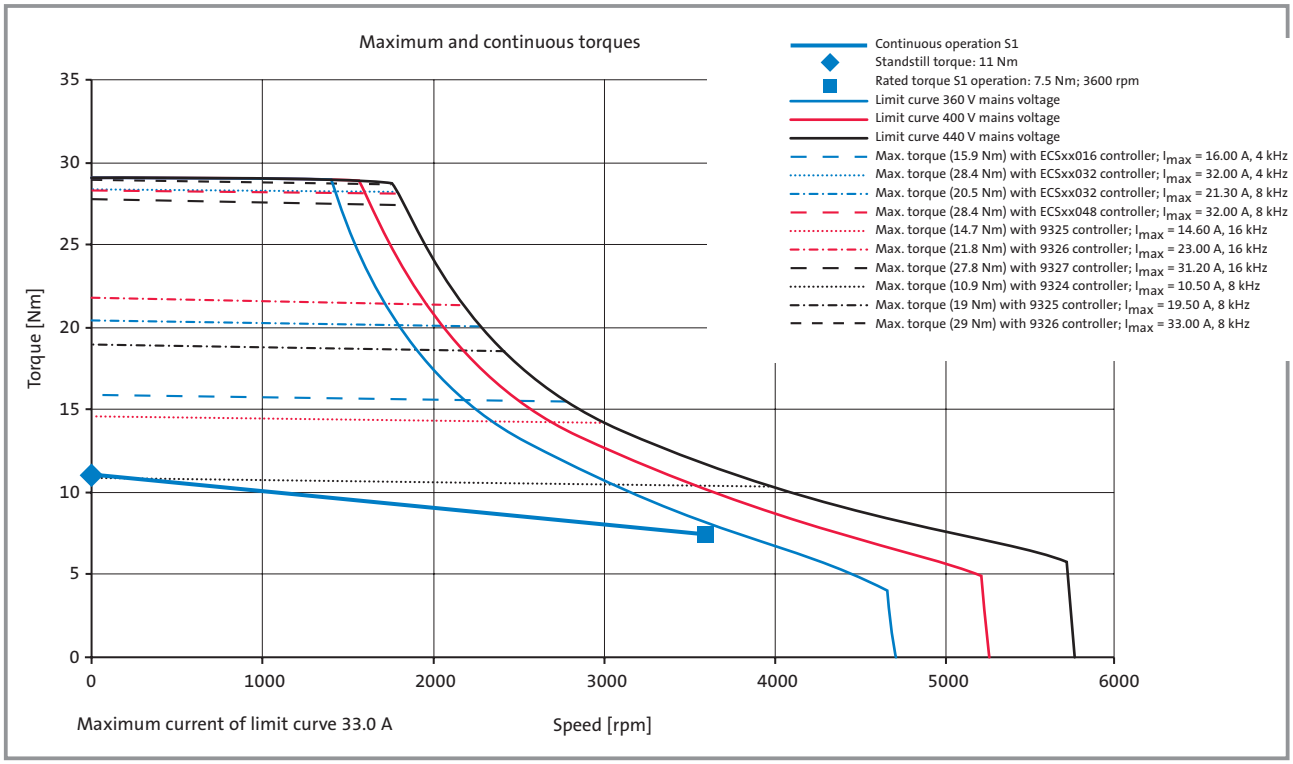


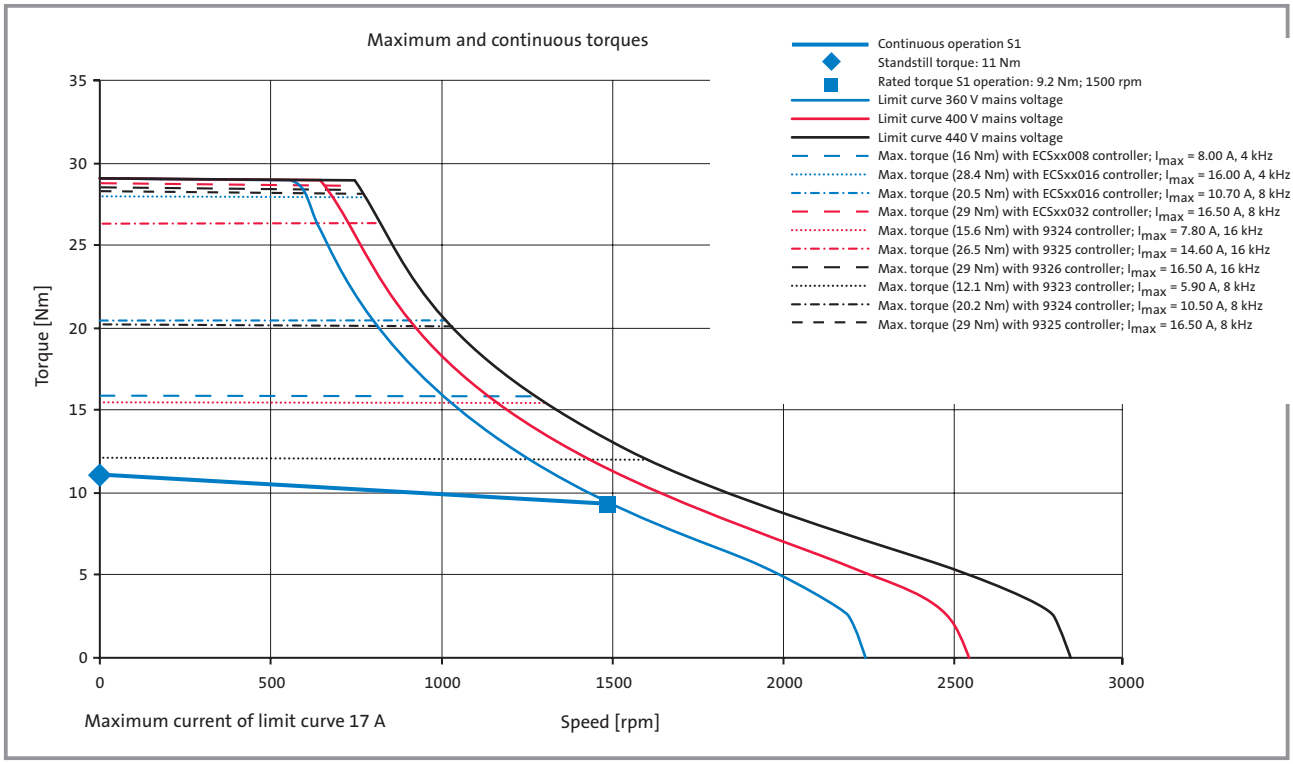

Short-time operation mode S6, 10 min load cycle duration
Permissible torque $M_{perm}$ / $M_r$
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0
10
20
30
40
50
60
70
80
90
100
Operating time [%]
MCS12H15
MCS12H35
MCS12L20
MCS12L41

## Torque characteristics

### MCS 14D36



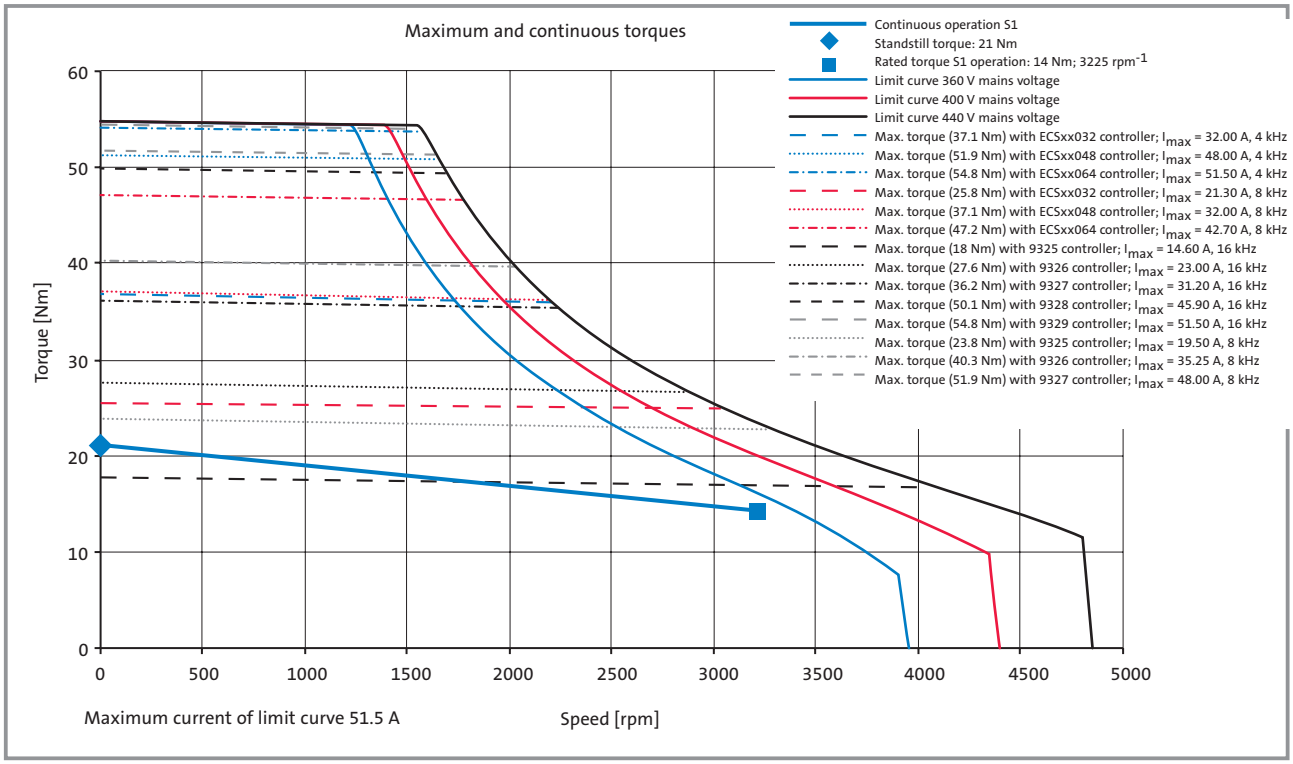

### MCS 14D15



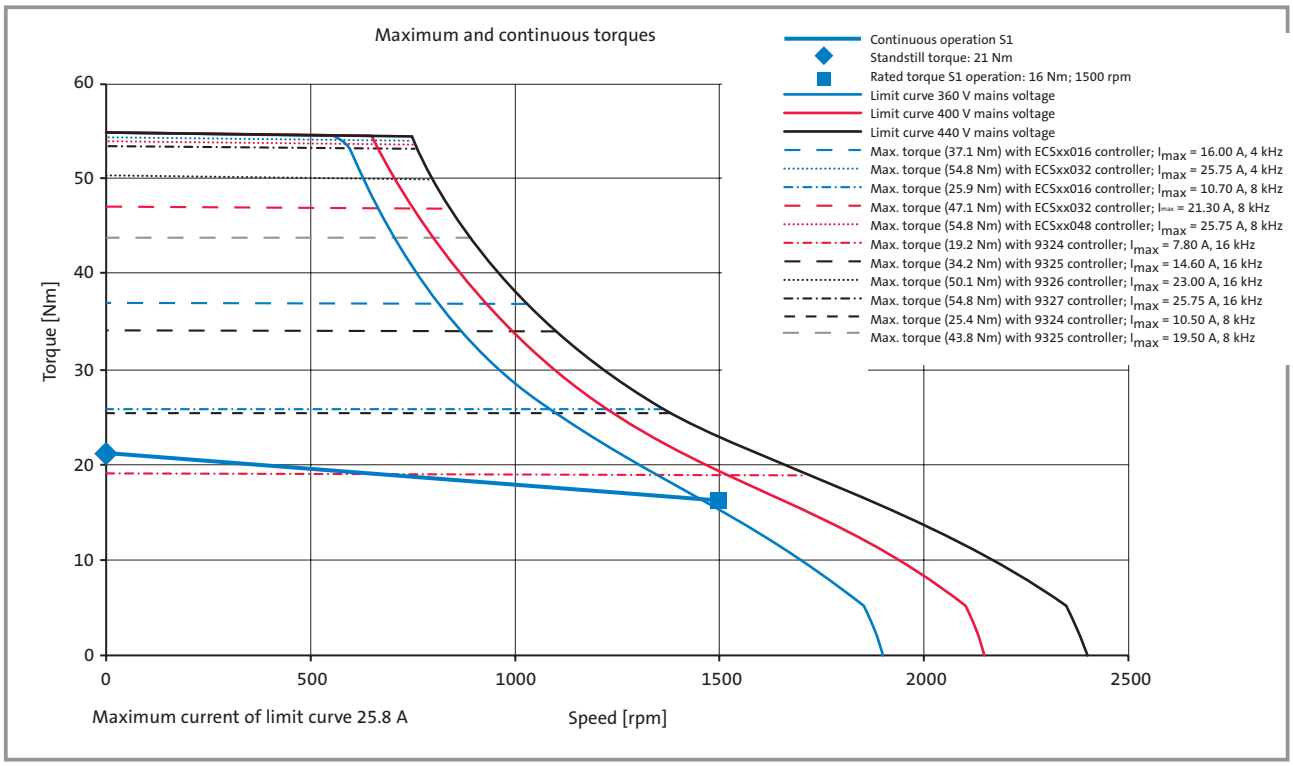

At speeds < 75 rpm servo controller derating may need to be taken into account. See "Servo controller assignment" tables.



## MCS 14H32



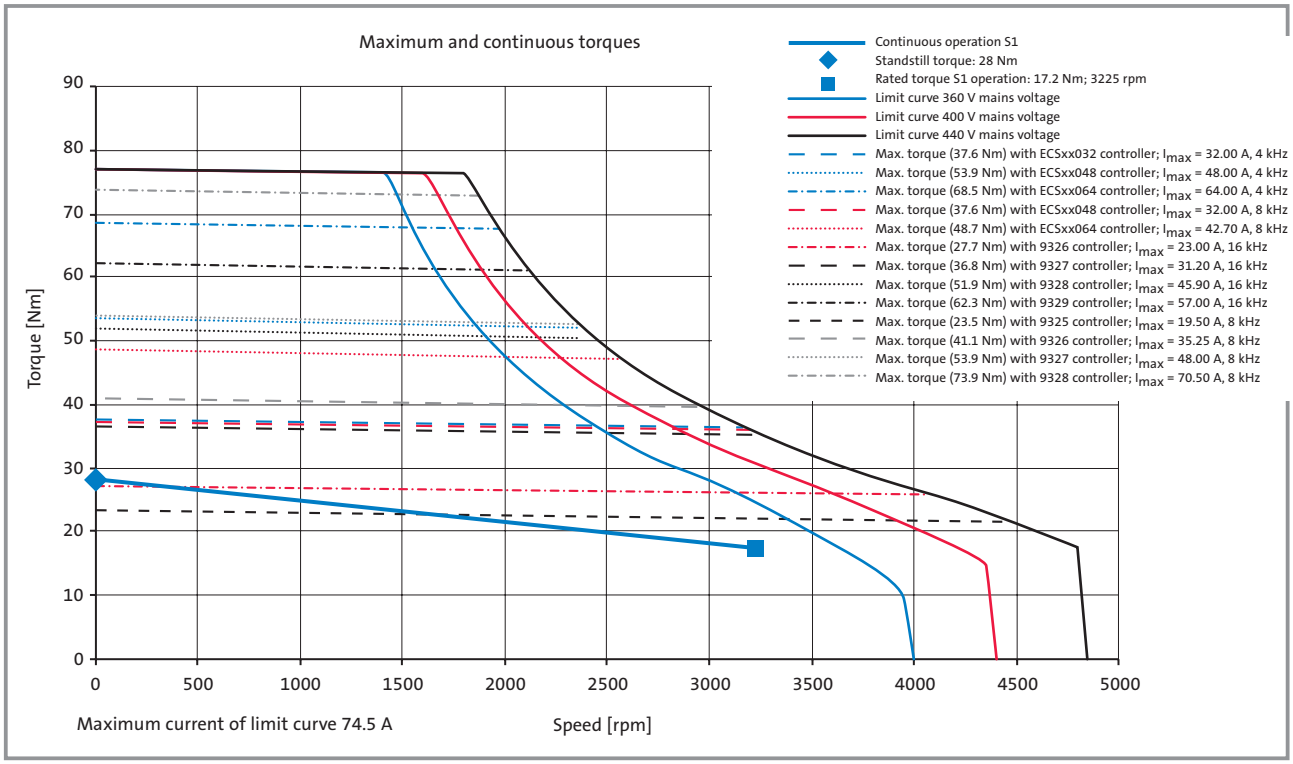

## MCS 14H15



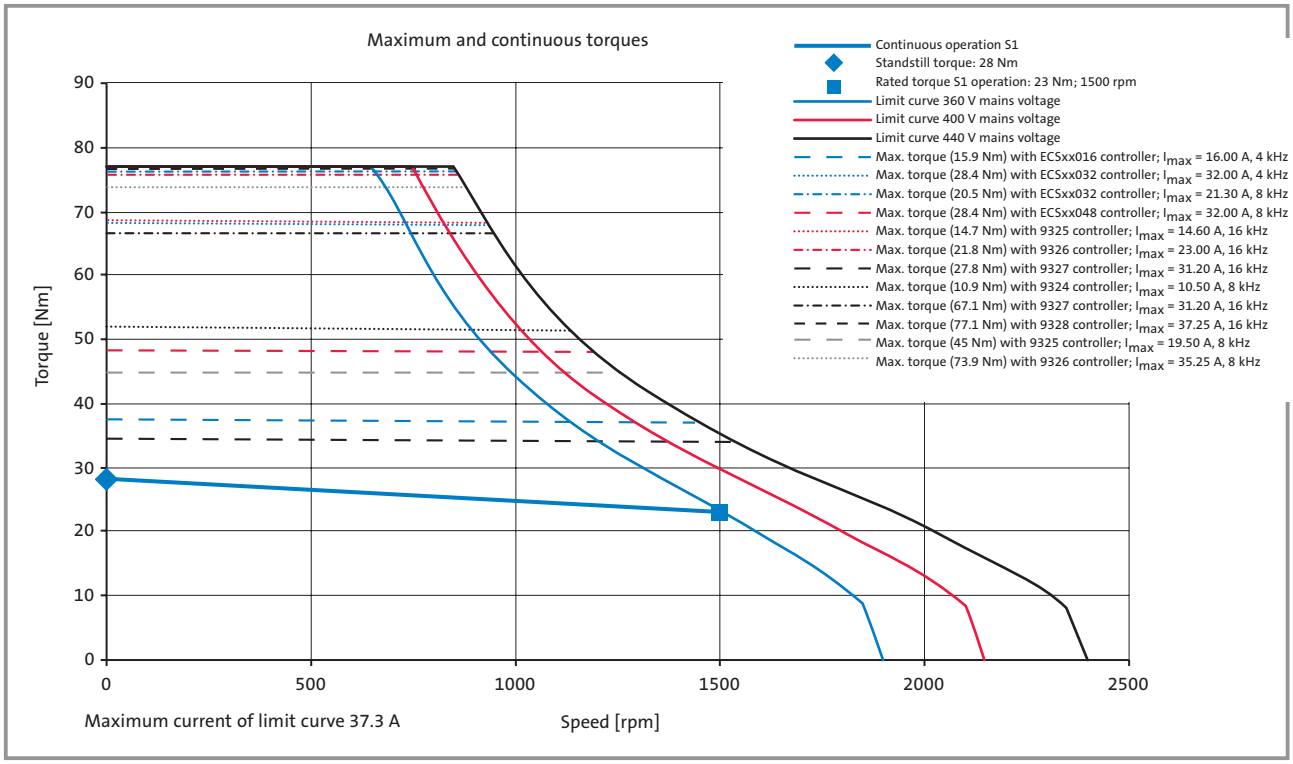

At speeds < 75 rpm servo controller derating may need to be taken into account. See "Servo controller assignment" tables.

## Torque characteristics

### MCS 14L32

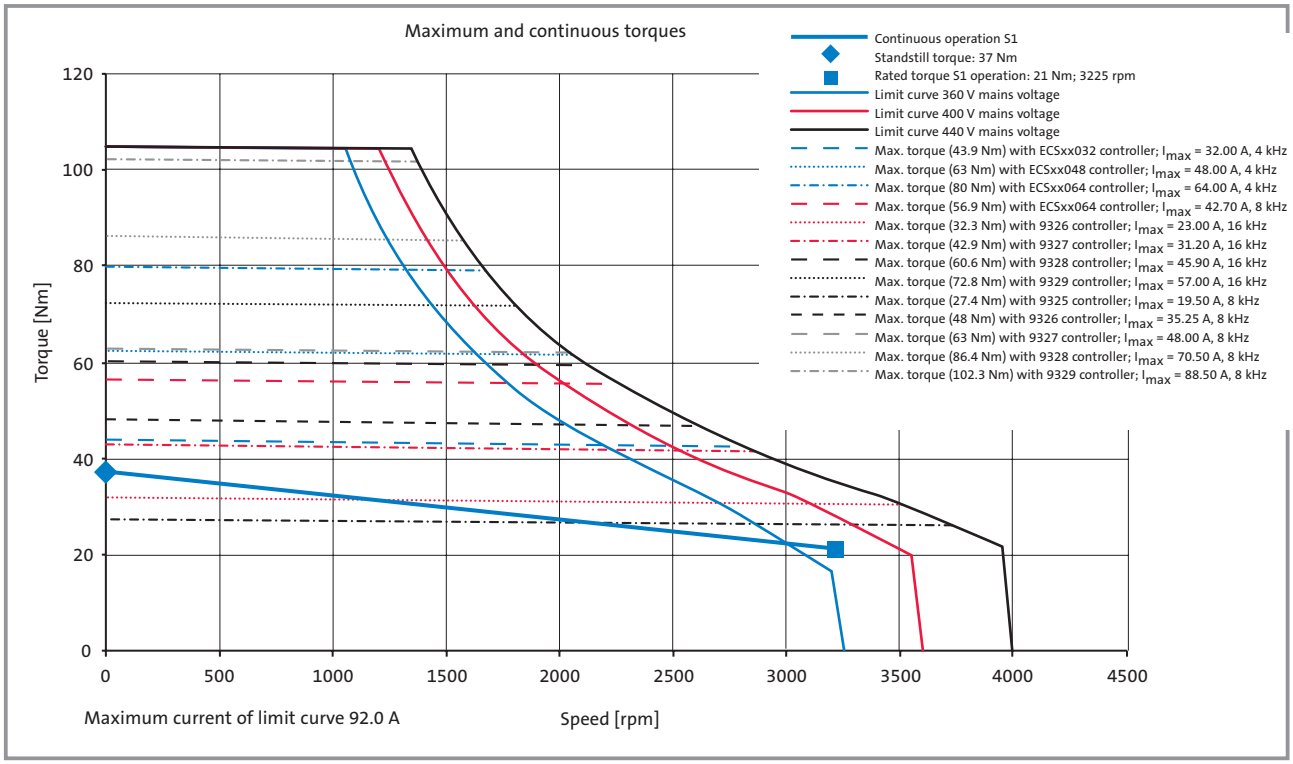



### MCS 14L15

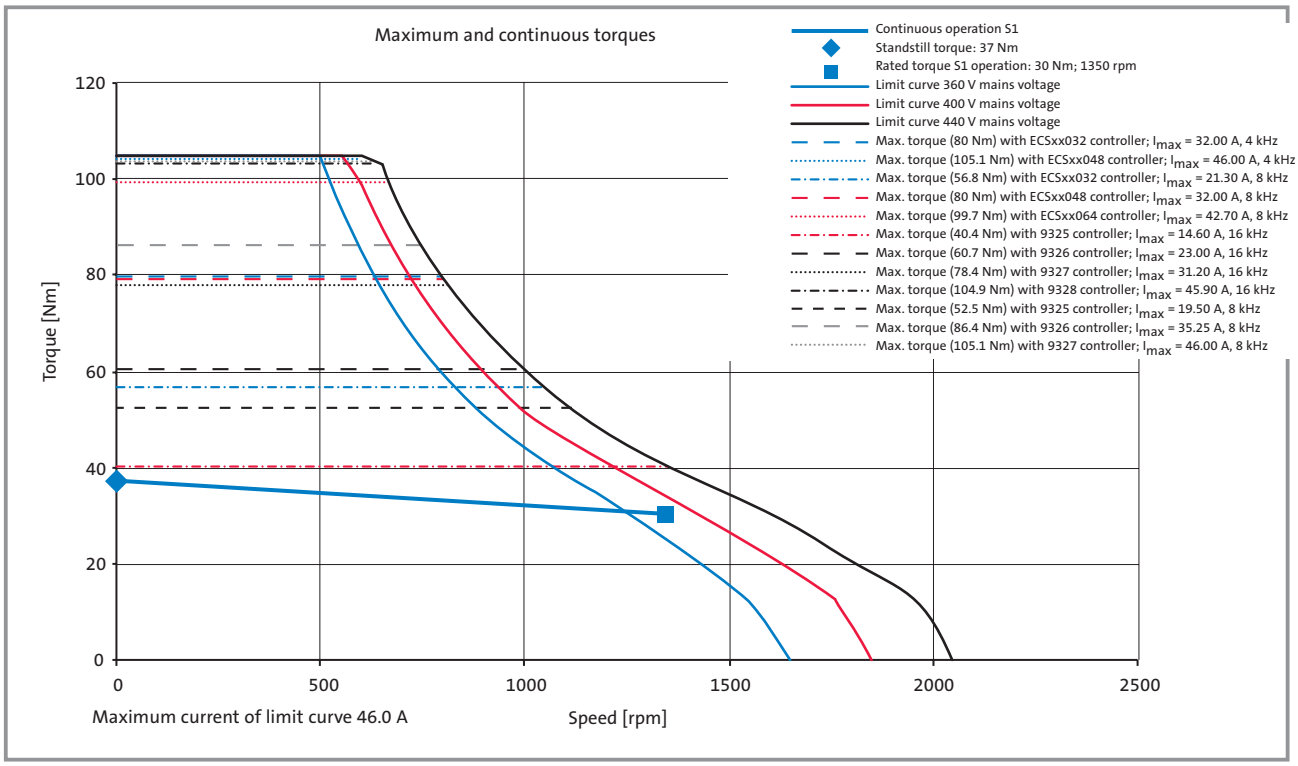



At speeds < 75 rpm servo controller derating may need to be taken into account. See "Servo controller assignment" tables.

## MCS 14P32



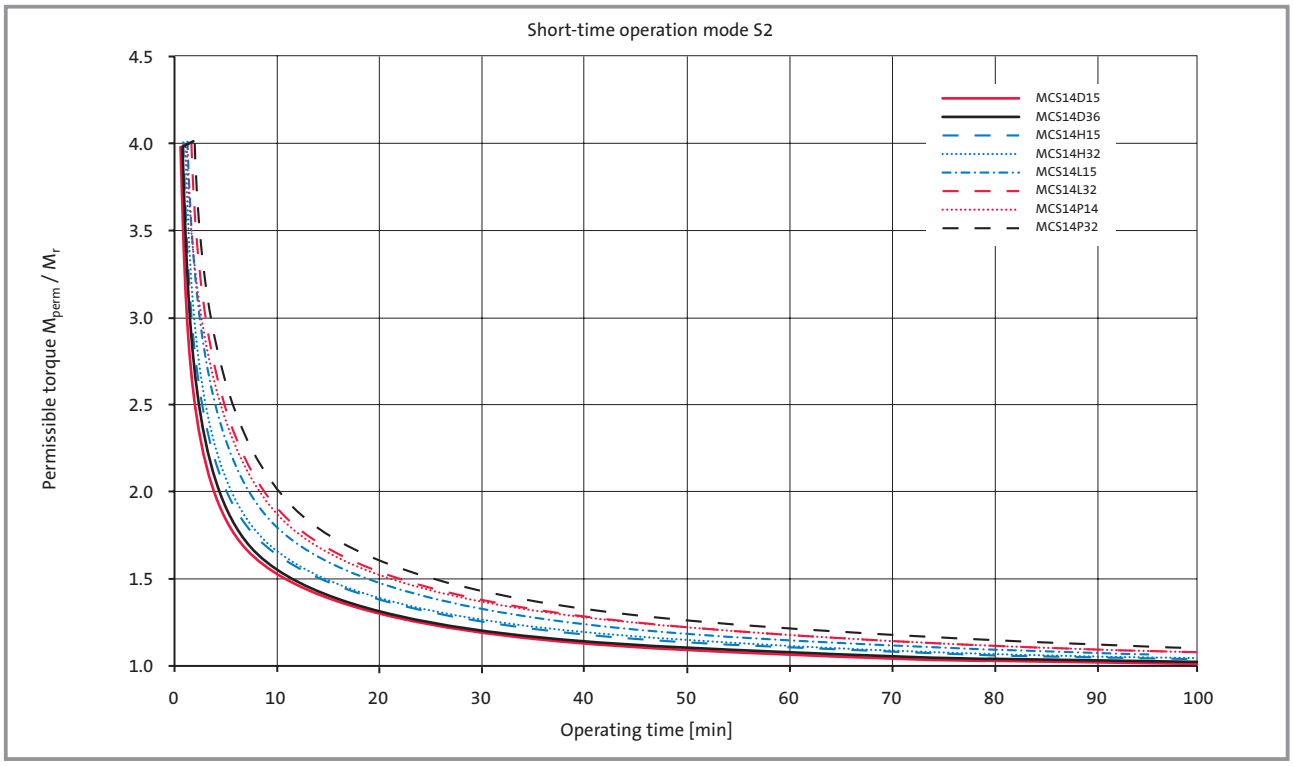

## MCS 14P14

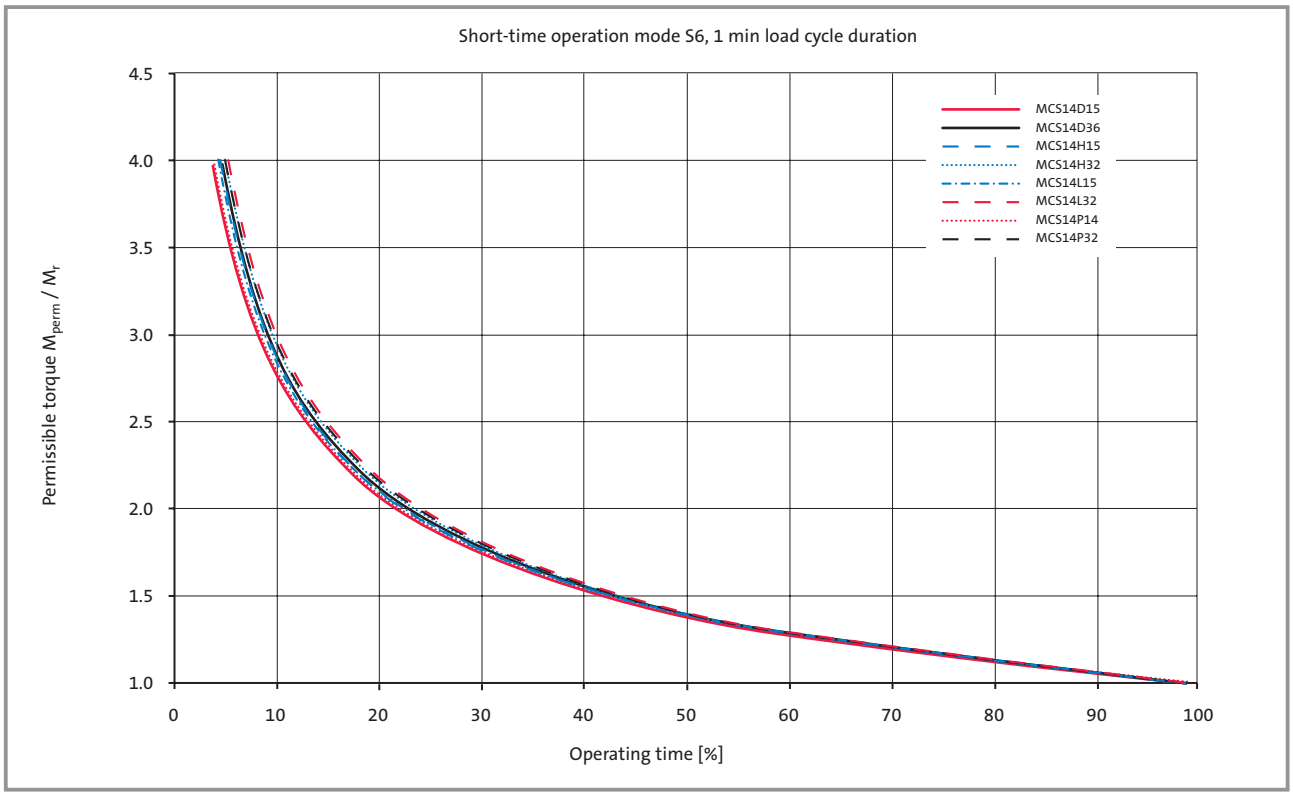


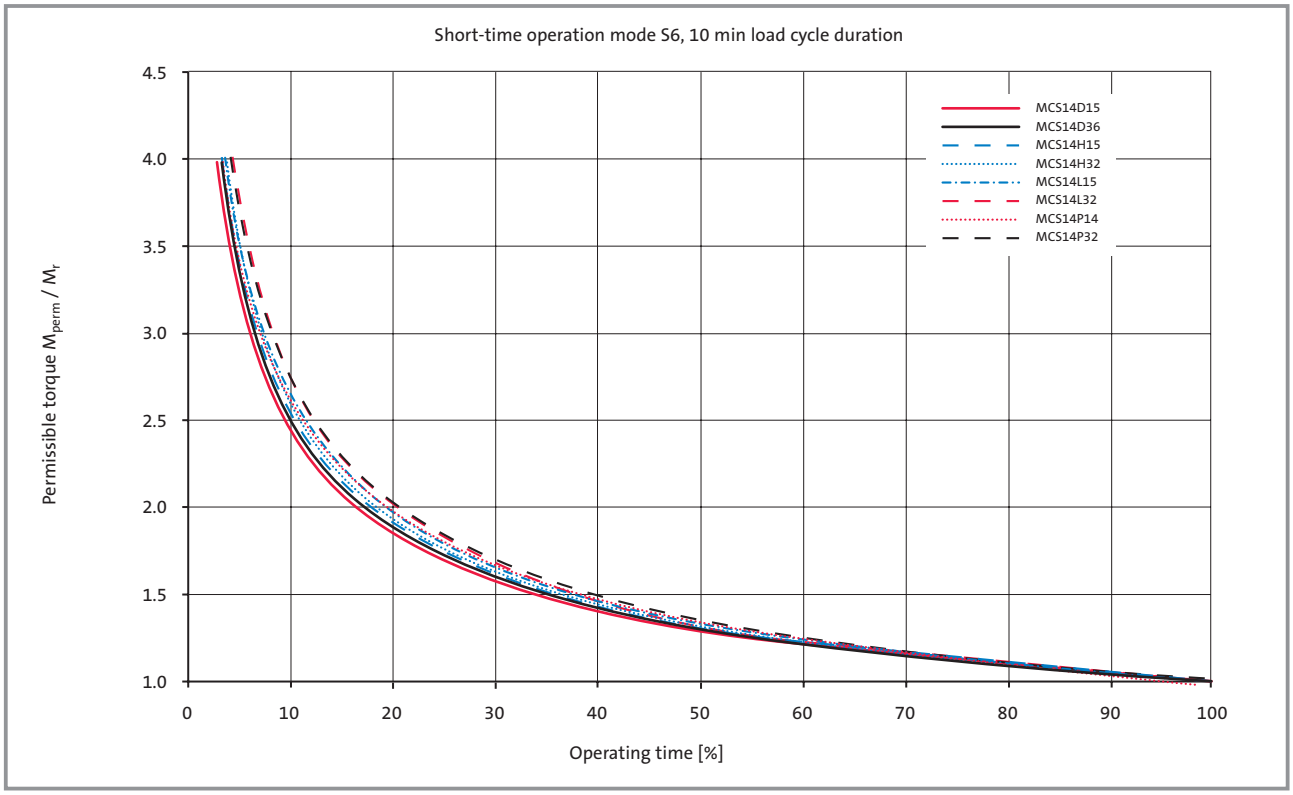

At speeds < 75 rpm servo controller derating may need to be taken into account. See "Servo controller assignment" tables.

## Short-time operation characteristic

Lenze MCS synchronous servo motors are designed to be used in dynamic applications with high torque peaks. In order to make full use of this highly dynamic response as simply as possible, the following diagrams for operating modes S2 and S6 illustrate the permissible operating times against the torque peaks required.

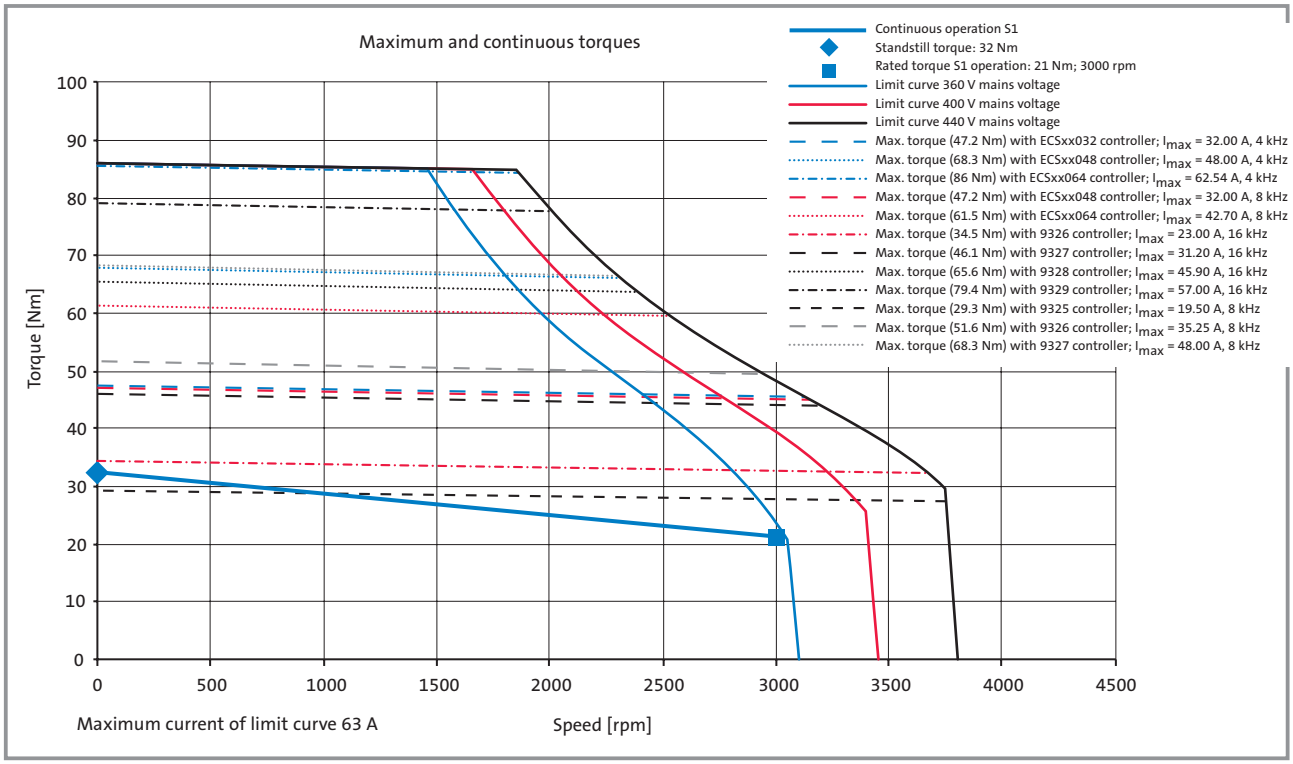


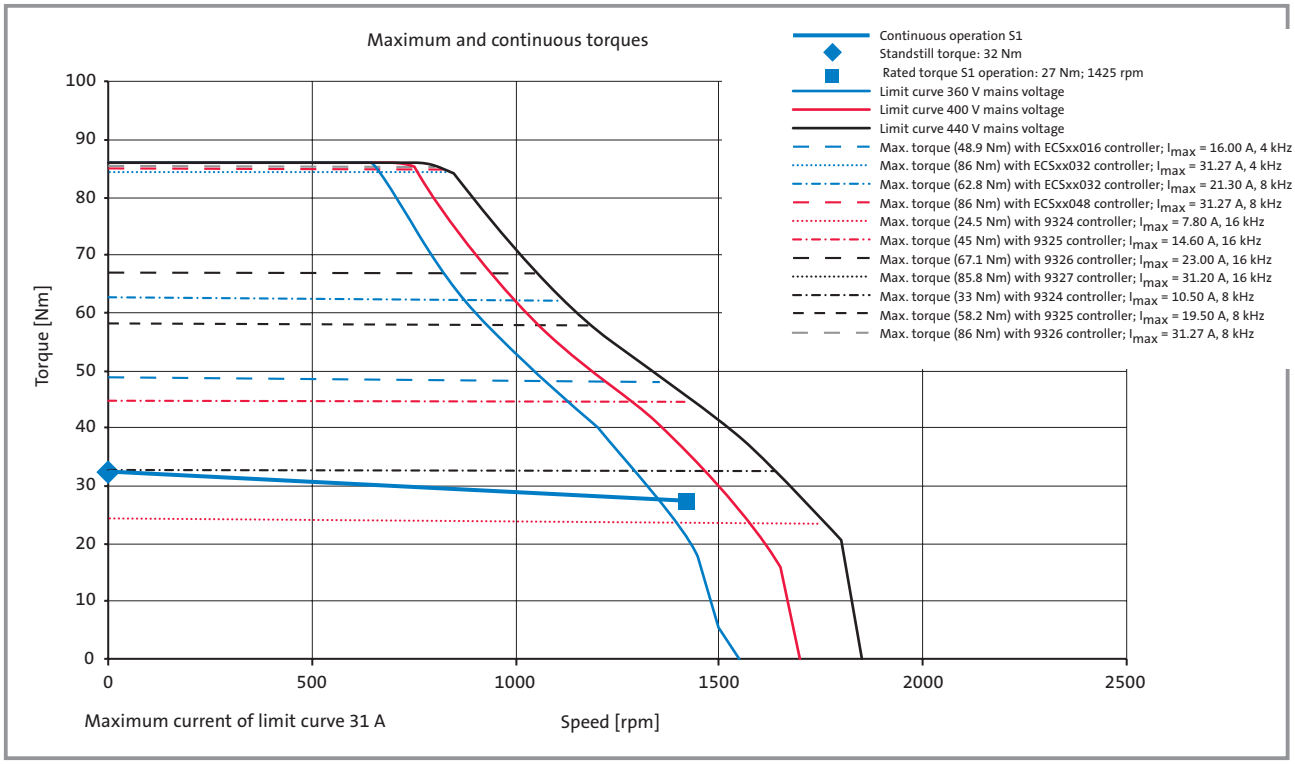

Short-time operation mode S6, 10 min load cycle duration
Permissible torque $M_{perm}$ / $M_r$
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0
10
20
30
40
50
60
70
80
90
100
Operating time [%]
MCS14D15
MCS14D36
MCS14H15
MCS14H32
MCS14L15
MCS14L32
MCS14P14
MCS14P32

## Torque characteristics

### MCS 19F30

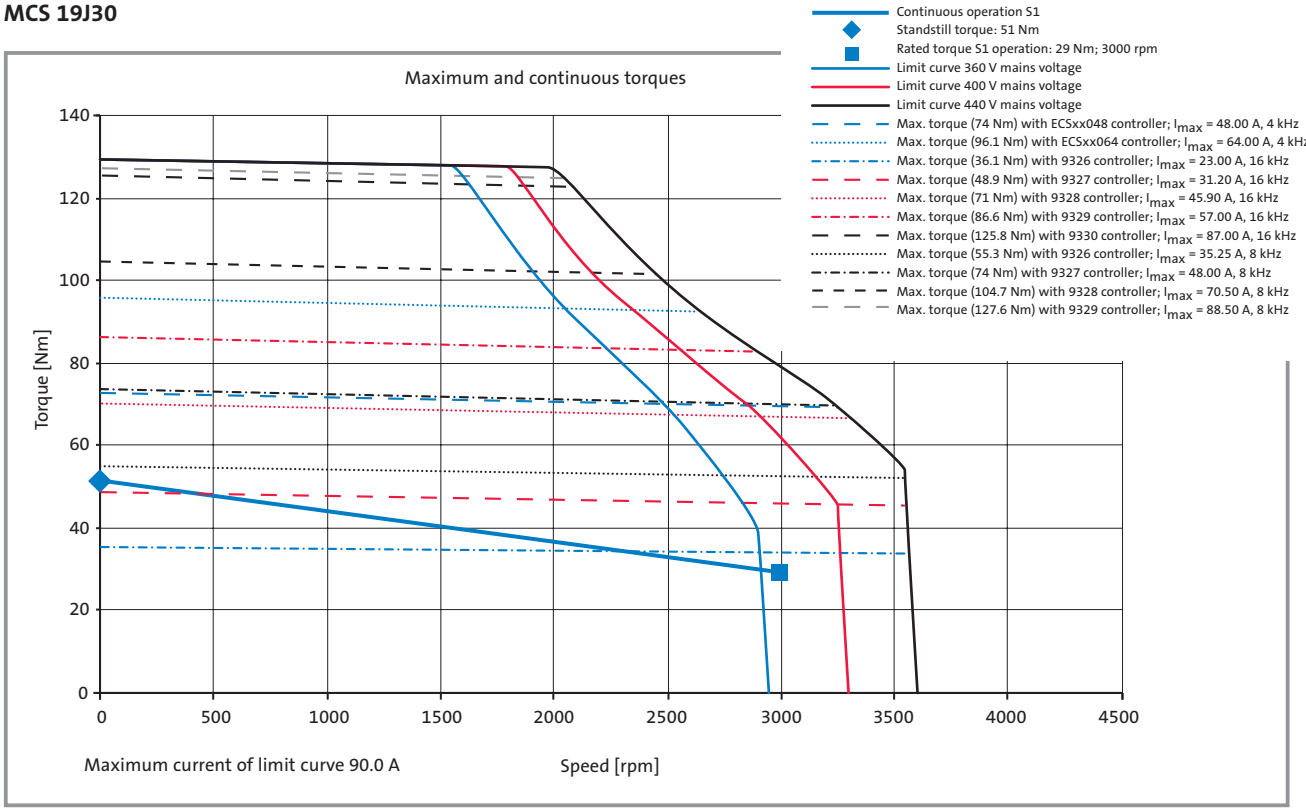



### MCS 19F14

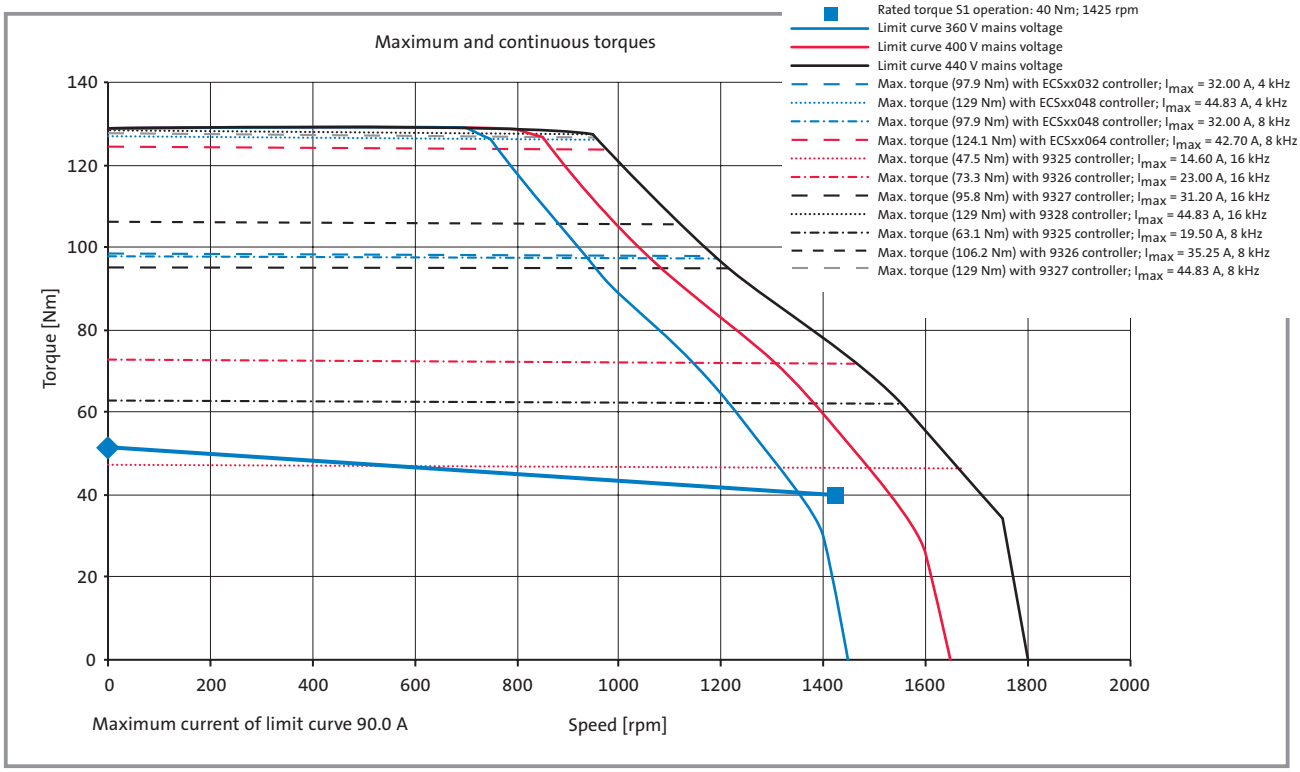



At speeds < 75 rpm servo controller derating may need to be taken into account. See "Servo controller assignment" tables.

## MCS 19J30



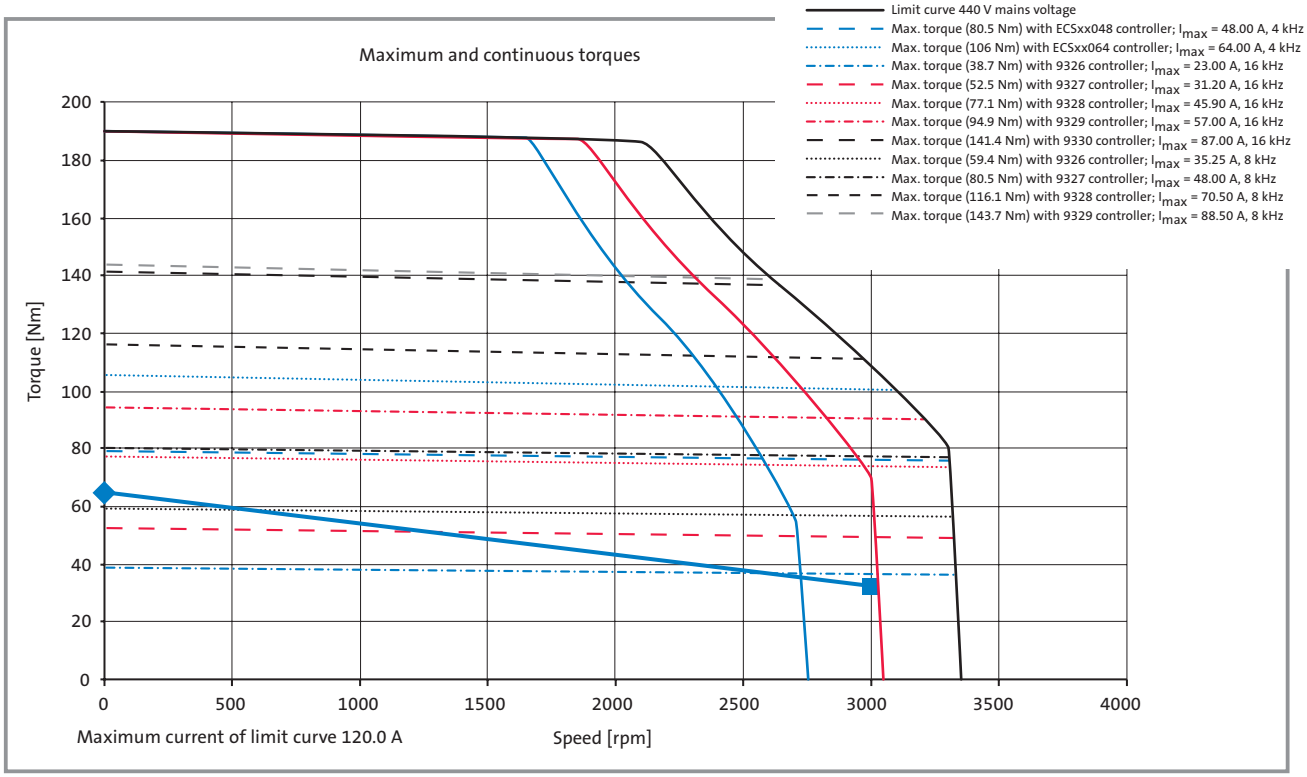

## MCS 19J14



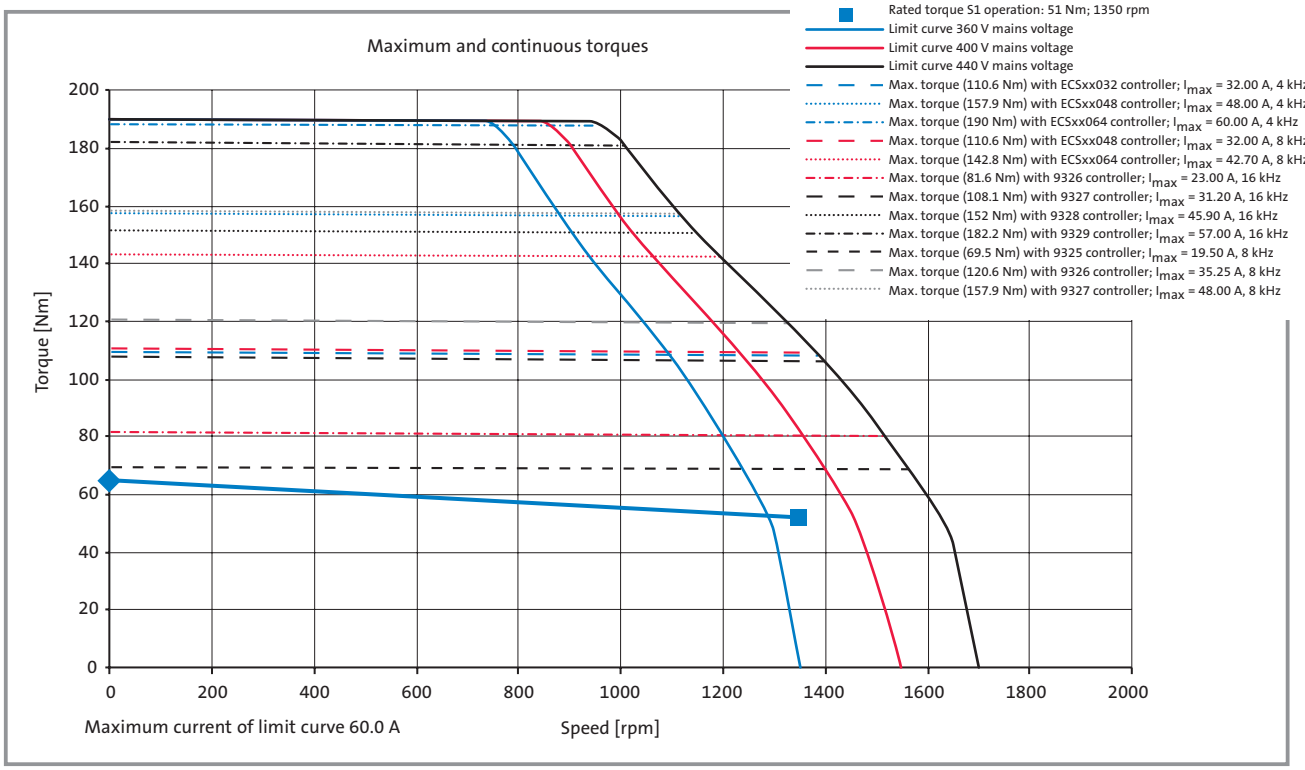

At speeds < 75 rpm servo controller derating may need to be taken into account. See "Servo controller assignment" tables.

## Torque characteristics

### MCS 19P30




### MCS 19P14




At speeds < 75 rpm servo controller derating may need to be taken into account. See "Servo controller assignment" tables.

## Short-time operation characteristic

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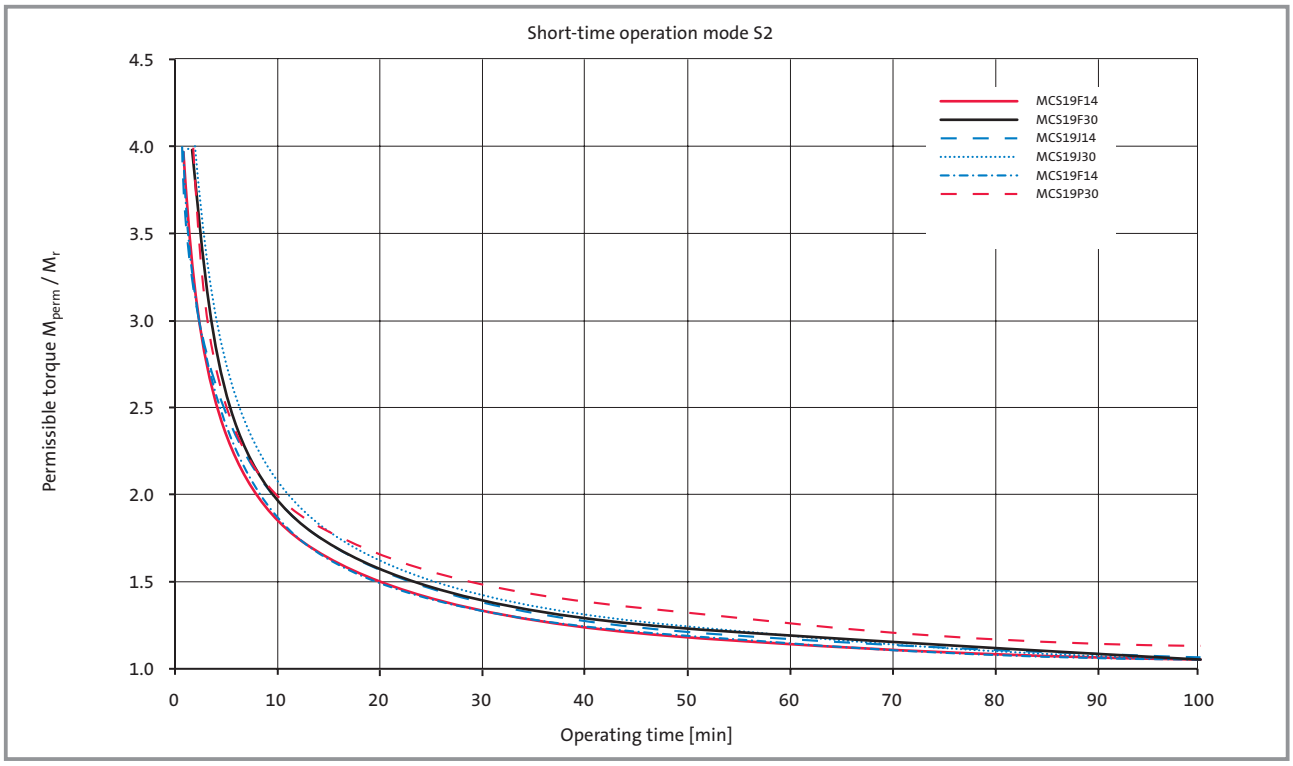
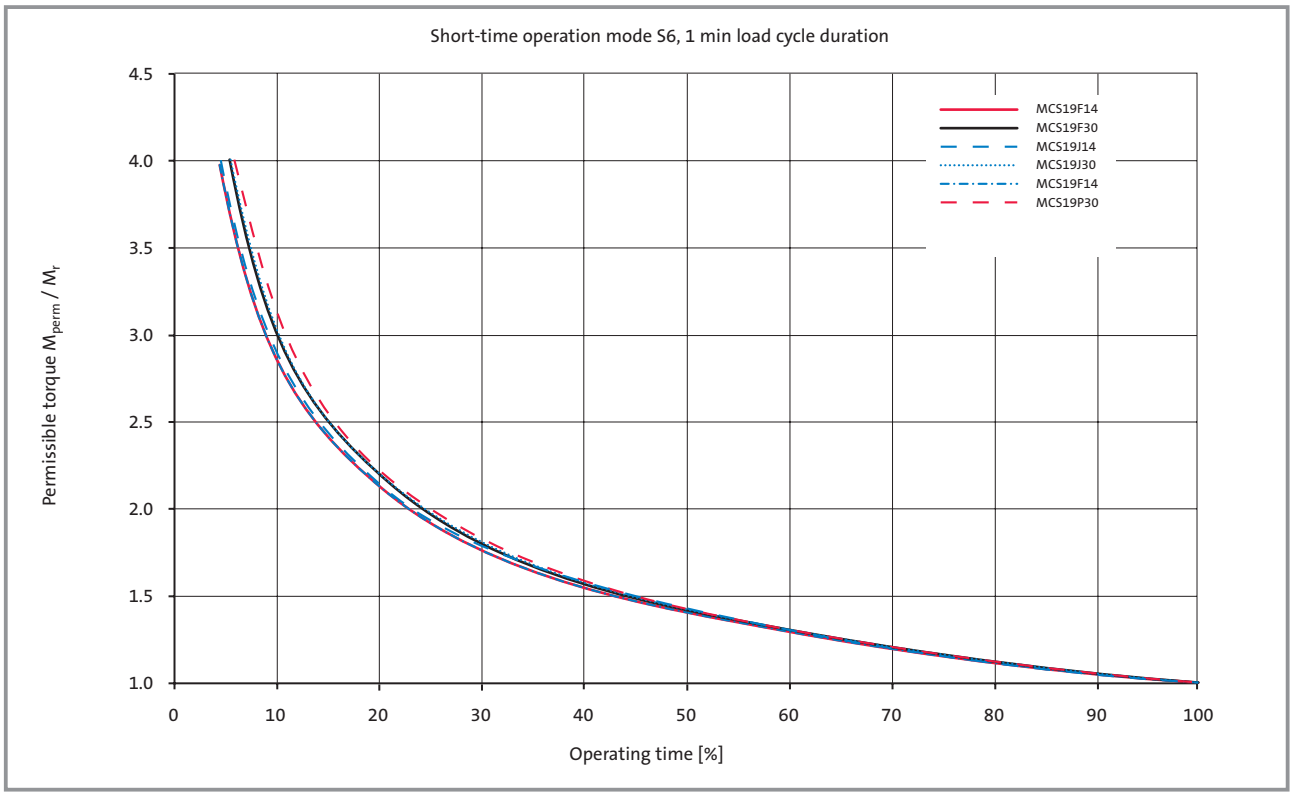
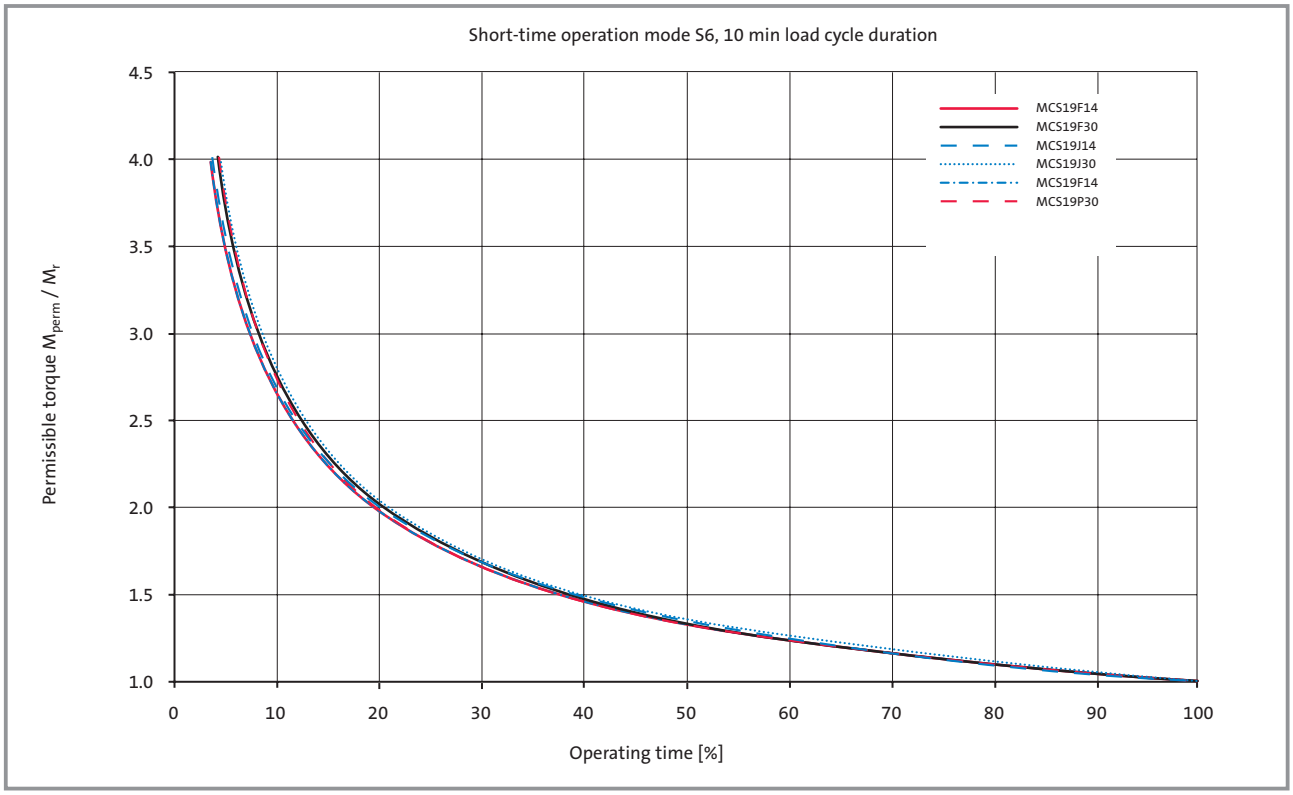



Short-time operation mode S6, 10 min load cycle duration
Permissible torque $M_{perm}$ / $M_r$
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0
10
20
30
40
50
60
70
80
90
100
Operating time [%]
MCS19F14
MCS19F30
MCS19J14
MCS19J30
MCS19F14
MCS19P30

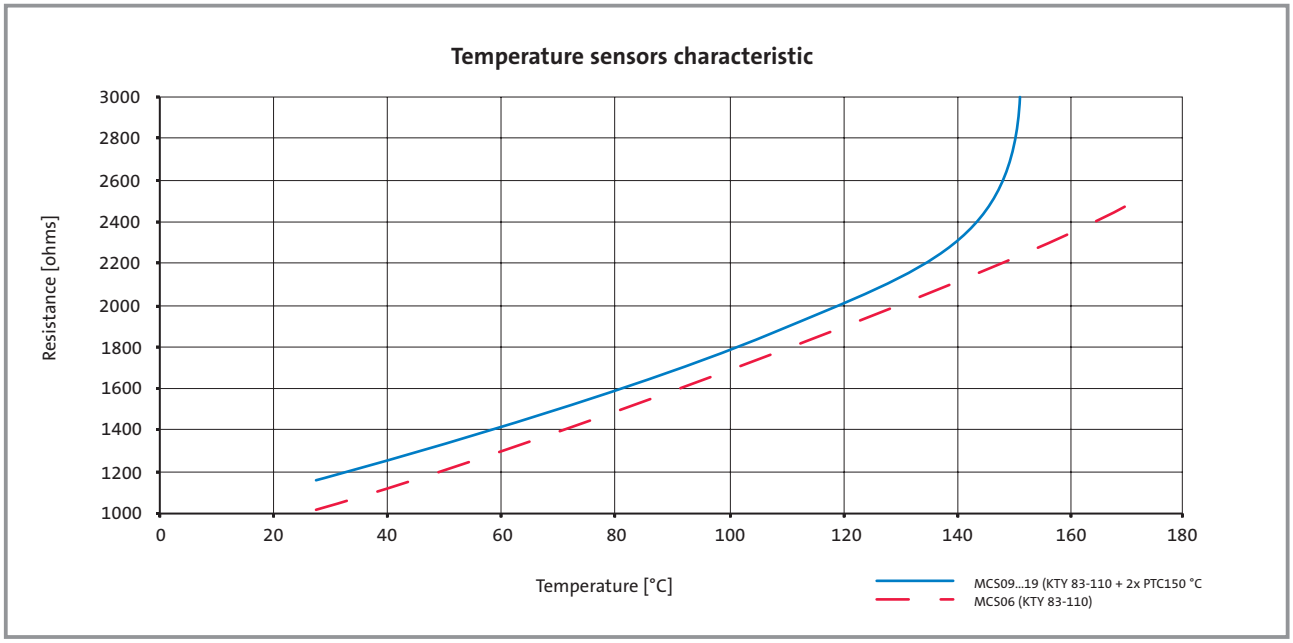


The thermal sensors used in the MCS motors continually monitor the motor temperature. The temperature information is passed to the servo controller via the system cable of the feedback system. Due to the varying physical conditions, two different types of temperature monitoring mechanisms are used with the MCS motors (neither provide full motor protection).

**MCS 06**
In this motor, the winding temperature of a winding phase is monitored by a KTY 83-110 thermal sensor.

**MCS 09-MCS 19**
These motors are monitored by three thermal sensors connected in series (1x KTY 83-110 + 2x PTC 150 °C ). This enables the normal operating temperature of the motor to be measured very accurately and also, in the event of an overtemperature in one of the winding phases, allows the controller to carry out the appropriate action.



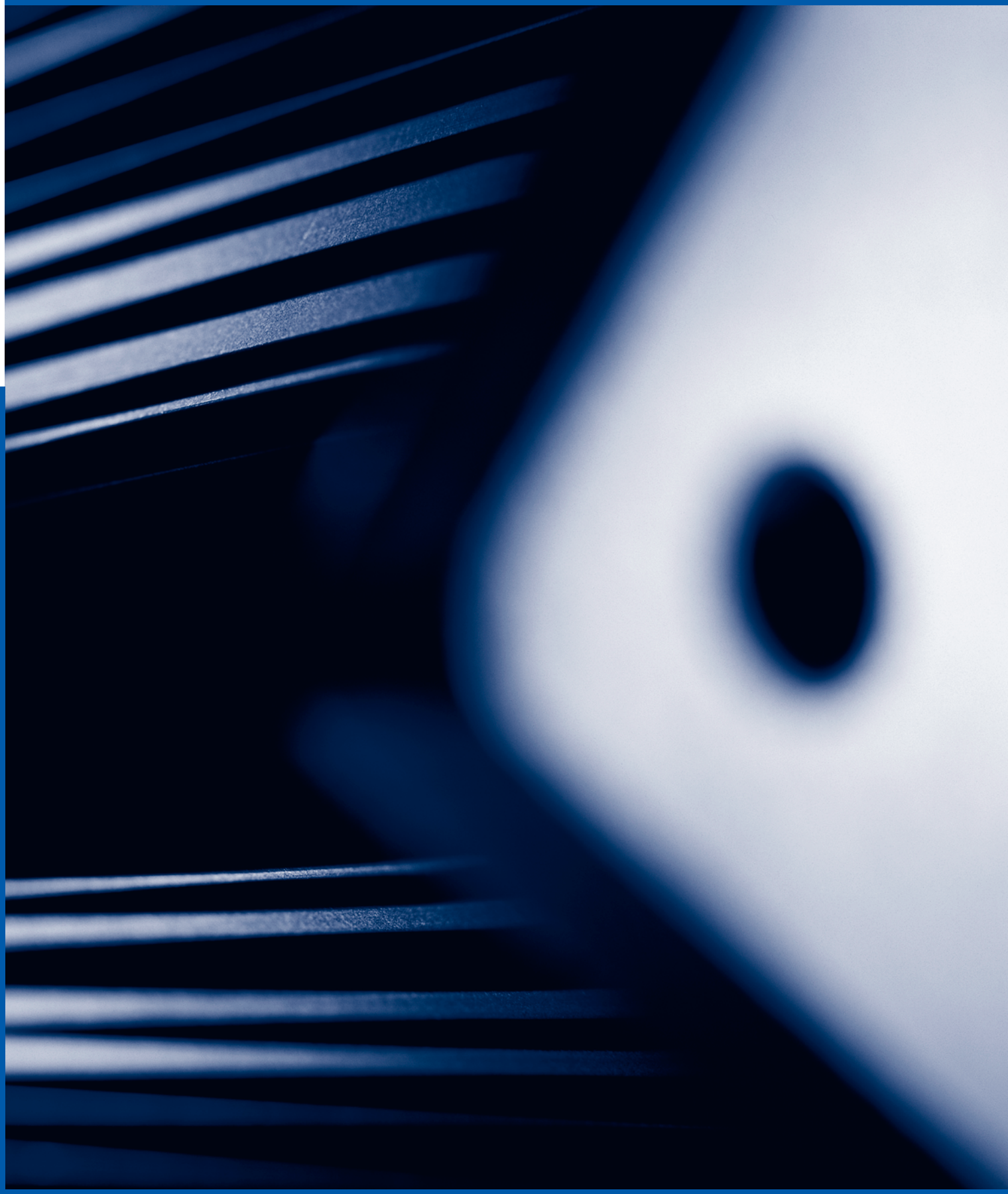



If the sensor is supplied with a measured current of 1 mA, the above relationship between the temperature and the resistance applies.

**Note:**
To ensure trouble-free operation, the thermal sensor must be connected to the servo controller with the correct polarity.

# Servomotori asincroni MCA

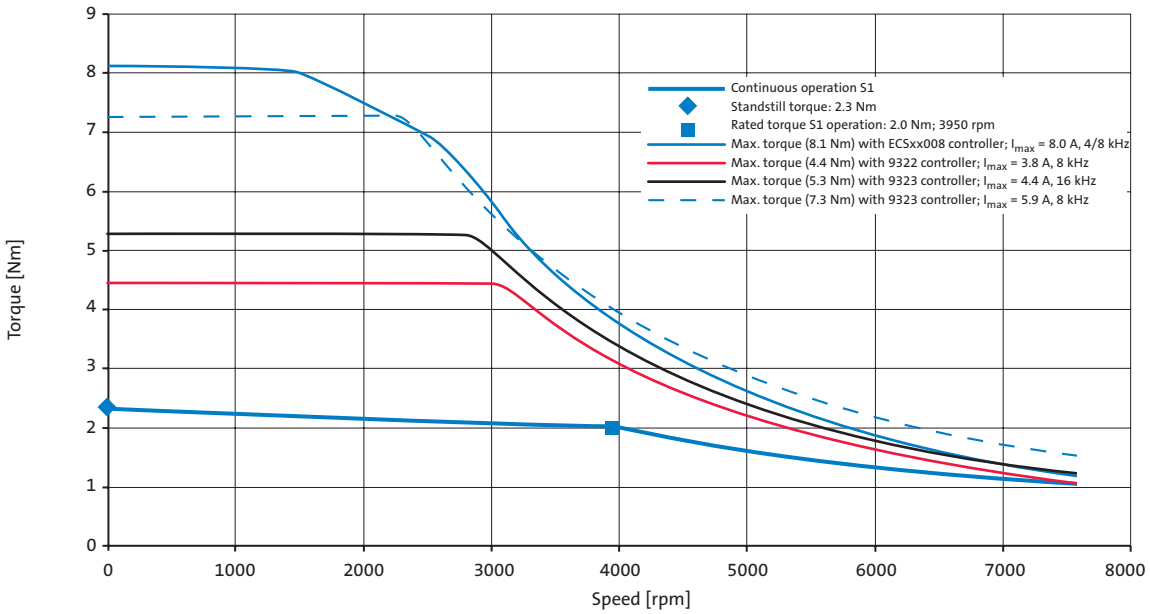
Curve di coppia



## Torque characteristics

### MCA 10I40...S00

**Maximum and continuous torques**
**MCA asynchronous servo motor 10I40... S00, 140 Hz, without fan**

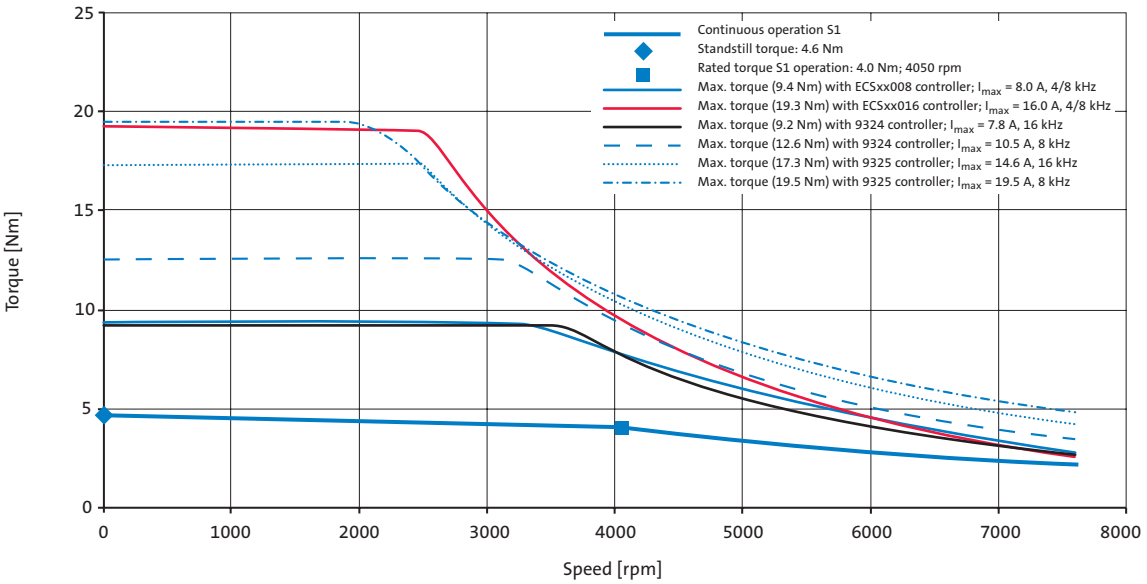



Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
Take account of derating at frequencies <5 Hz with ECS and 9326...9332!

## Torque characteristics

### MCA 13I41...S00

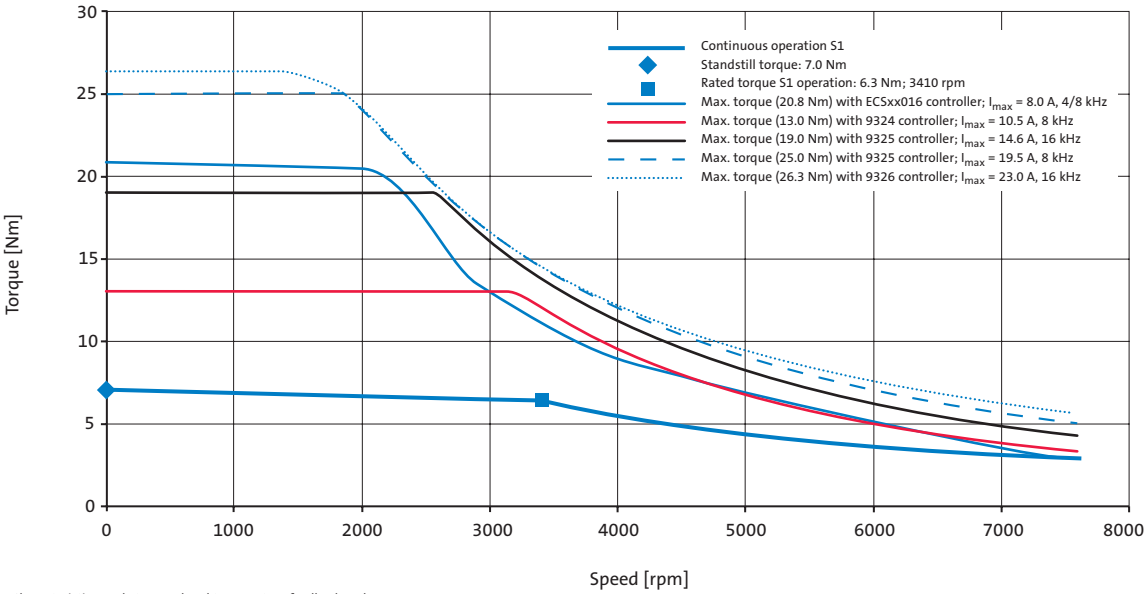
**Maximum and continuous torques**
**MCA asynchronous servo motor 13I41 ... S00, 140 Hz, without fan**




Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
Take account of derating at frequencies <5 Hz with ECS!

### MCA 13I34...F10

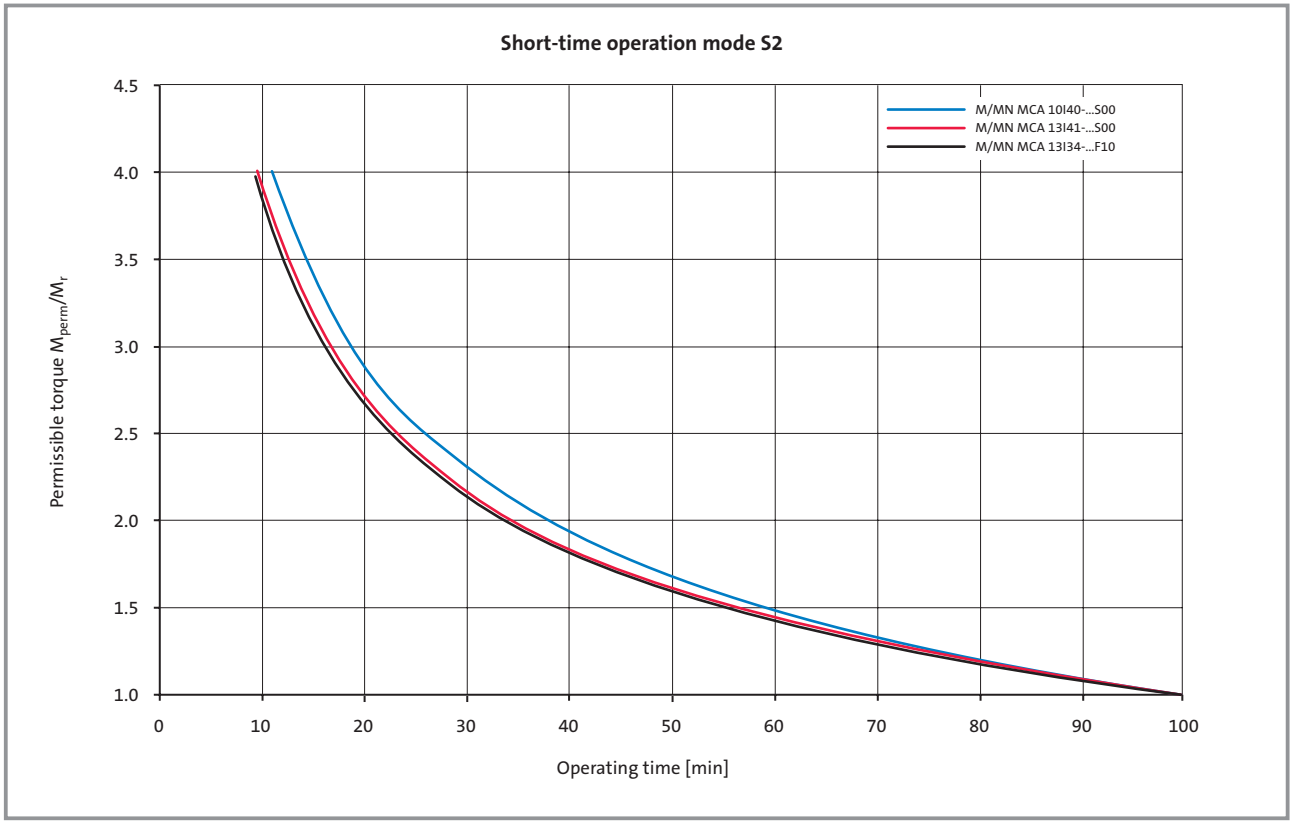
**Maximum and continuous torques**
**MCA asynchronous servo motor 13I34 ... F10, 120 Hz, with blower**

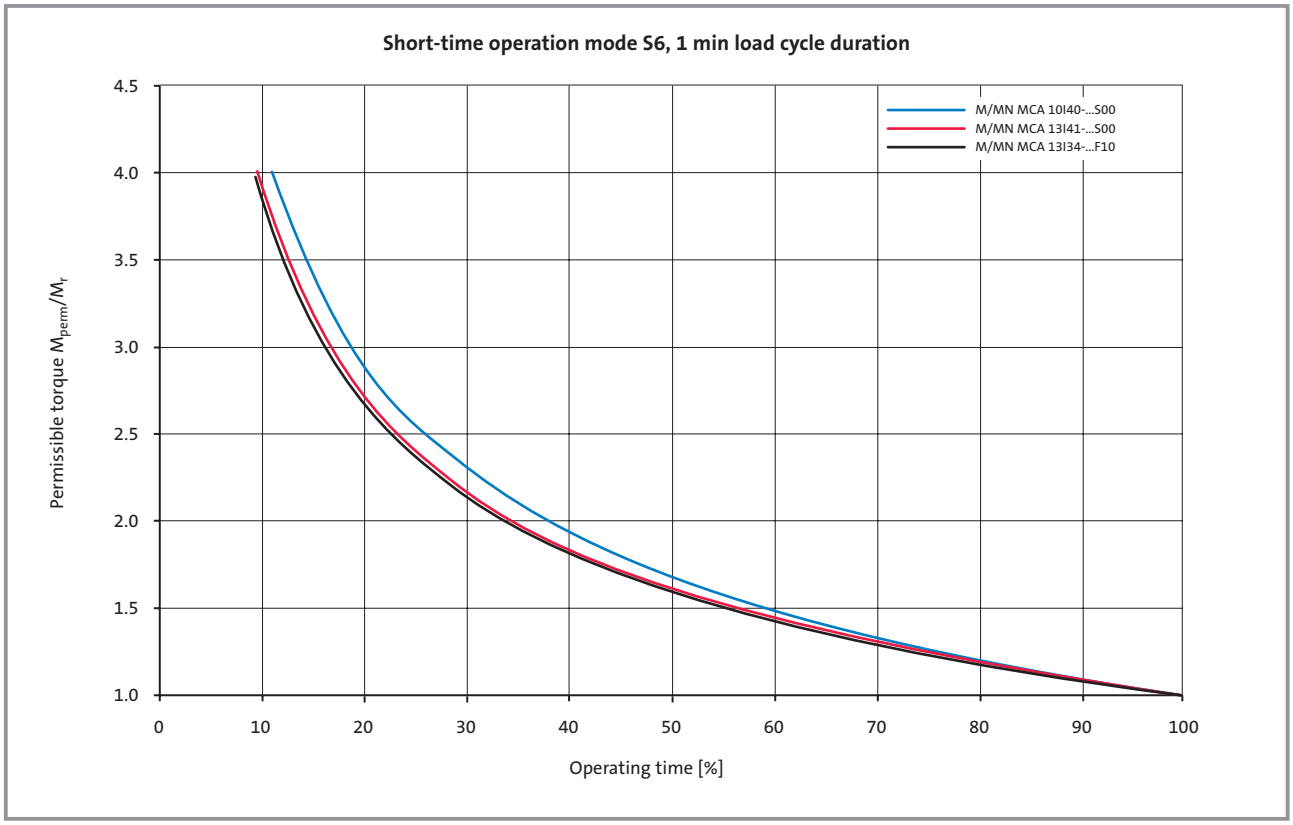


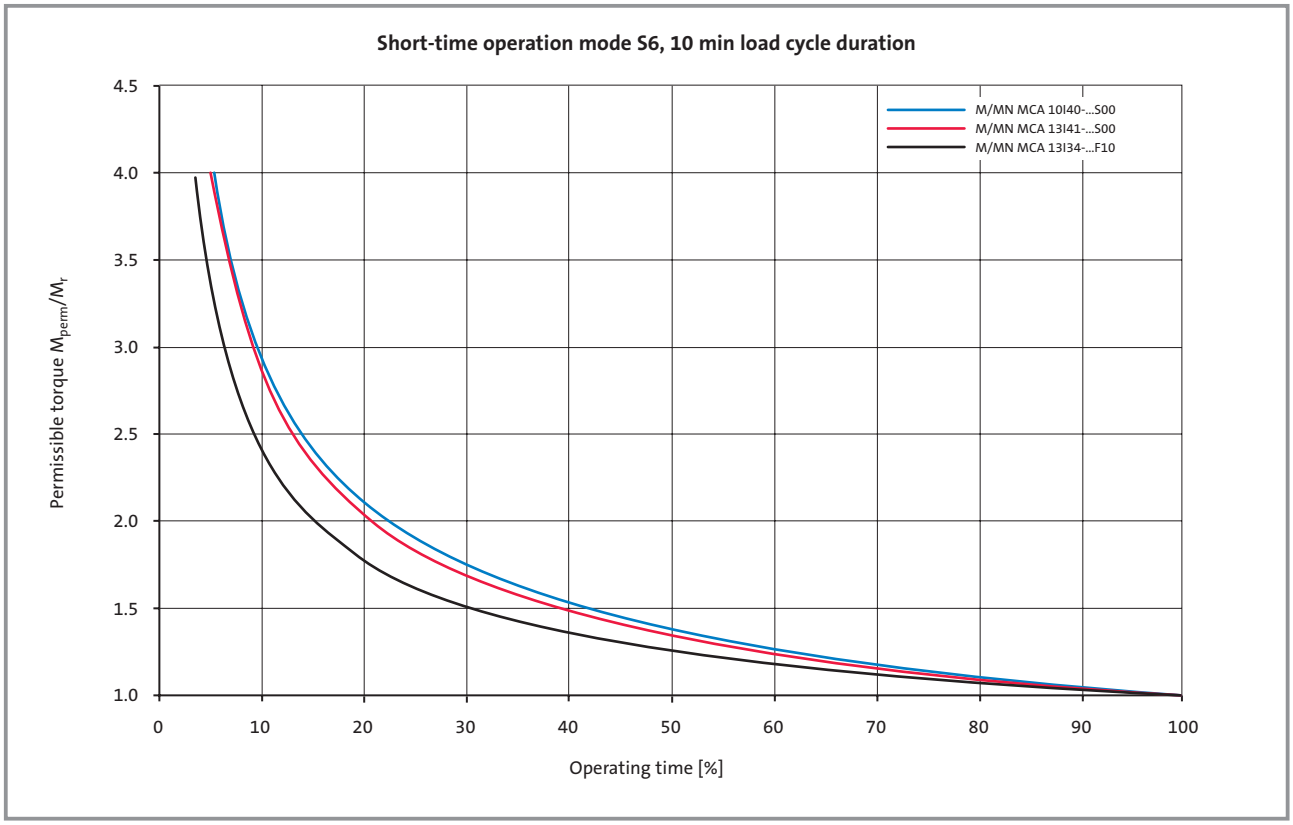

Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
Take account of derating at frequencies <5 Hz with ECS and 9326...9332!

## Short-time operation characteristic

Lenze MCA servo motors have high torque peaks. In order to make full use of this highly dynamic response as simply as possible, the following diagrams for operating modes S2 and S6 illustrate the permissible operating times against the torque peaks required.

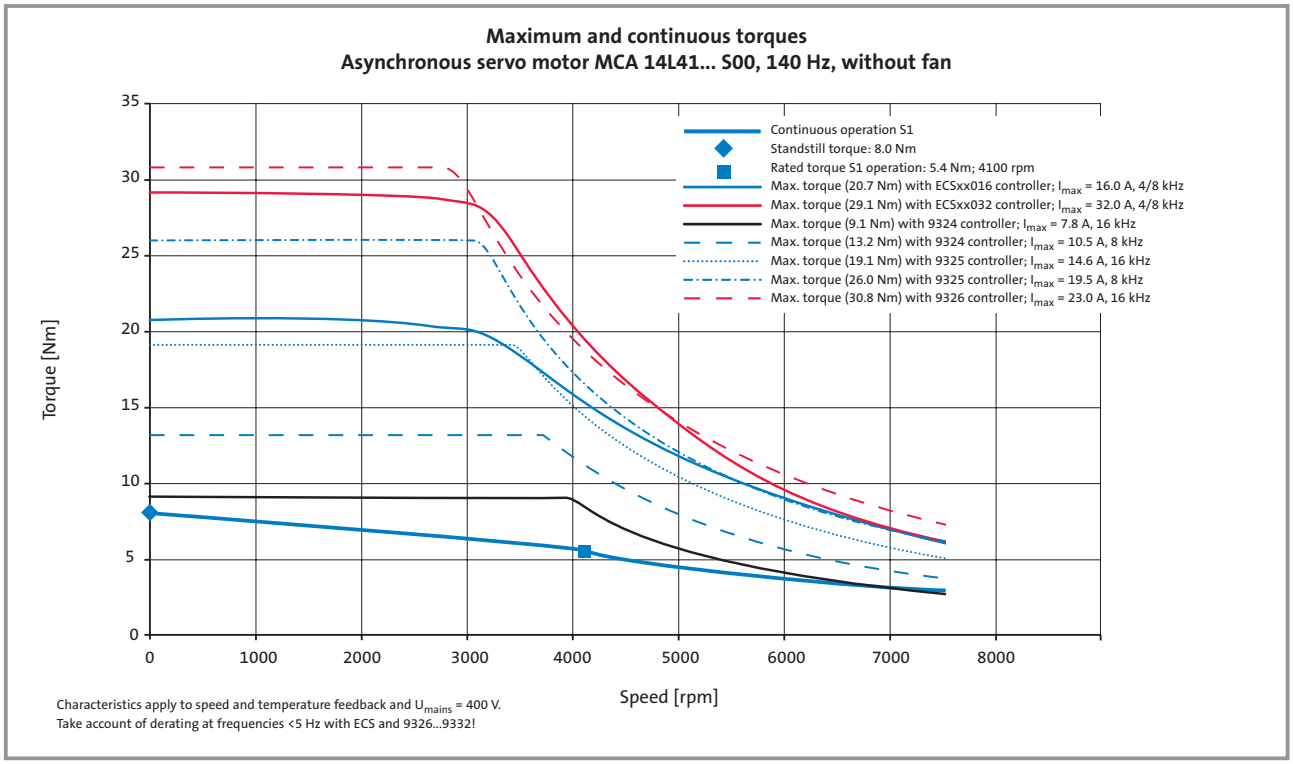



Short-time operation mode S6, 1 min load cycle duration
M/MN MCA 10I40-...S00
M/MN MCA 13I41-...S00
M/MN MCA 13I34-...F10
Permissible torque $M_{perm}/M_r$
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0
10
20
30
40
50
60
70
80
90
100
Operating time [%]


Short-time operation mode S6, 10 min load cycle duration
M/MN MCA 10I40-...S00
M/MN MCA 13I41-...S00
M/MN MCA 13I34-...F10
Permissible torque $M_{perm}/M_r$
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0
10
20
30
40
50
60
70
80
90
100
Operating time [%]

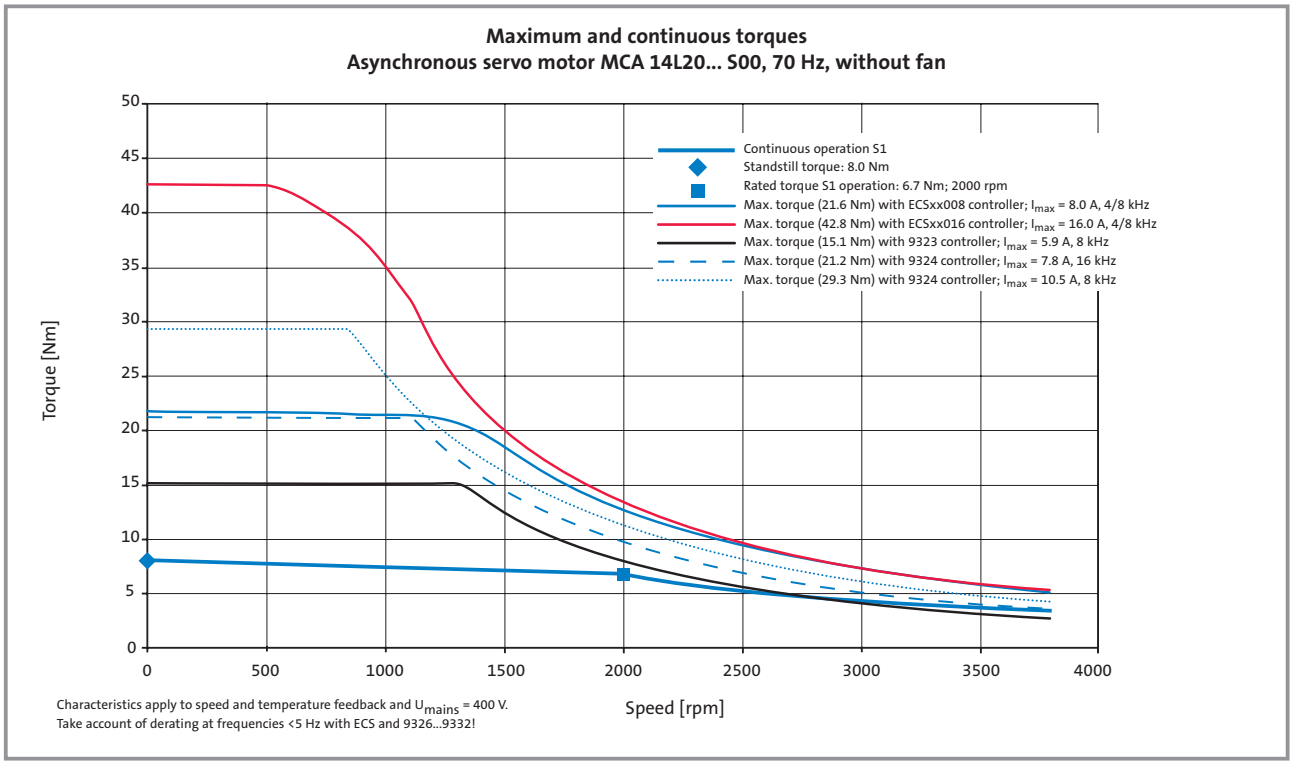
## Torque characteristics

### MCA 14L41...S00




Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
Take account of derating at frequencies <5 Hz with ECS and 9326...9332!

### MCA 14L20...S00

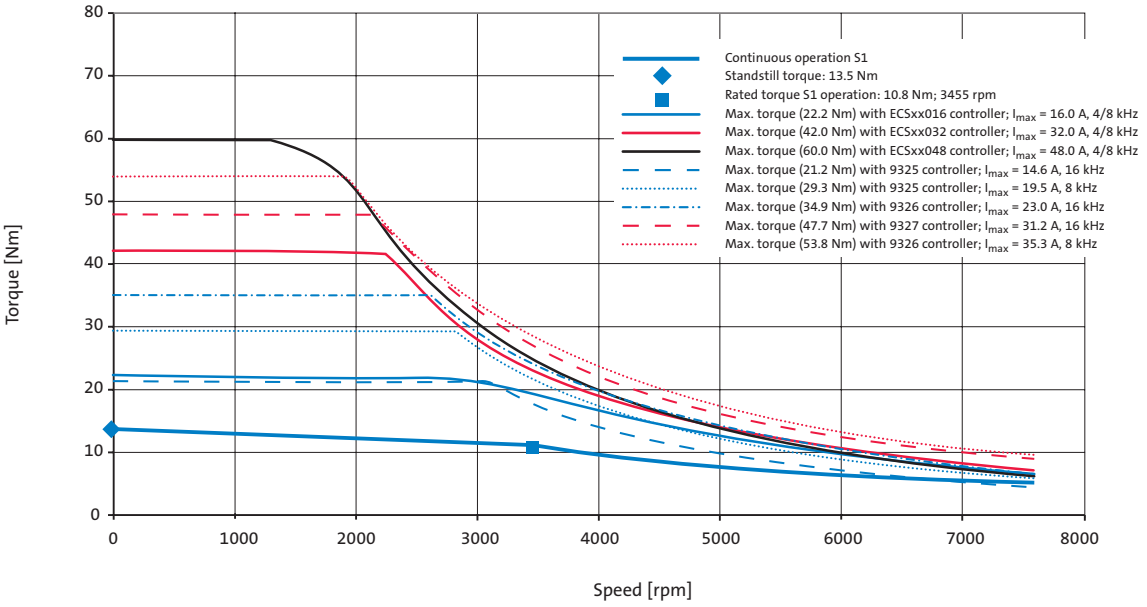



Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
Take account of derating at frequencies <5 Hz with ECS and 9326...9332!

## Torque characteristics

### MCA 14L35...F10

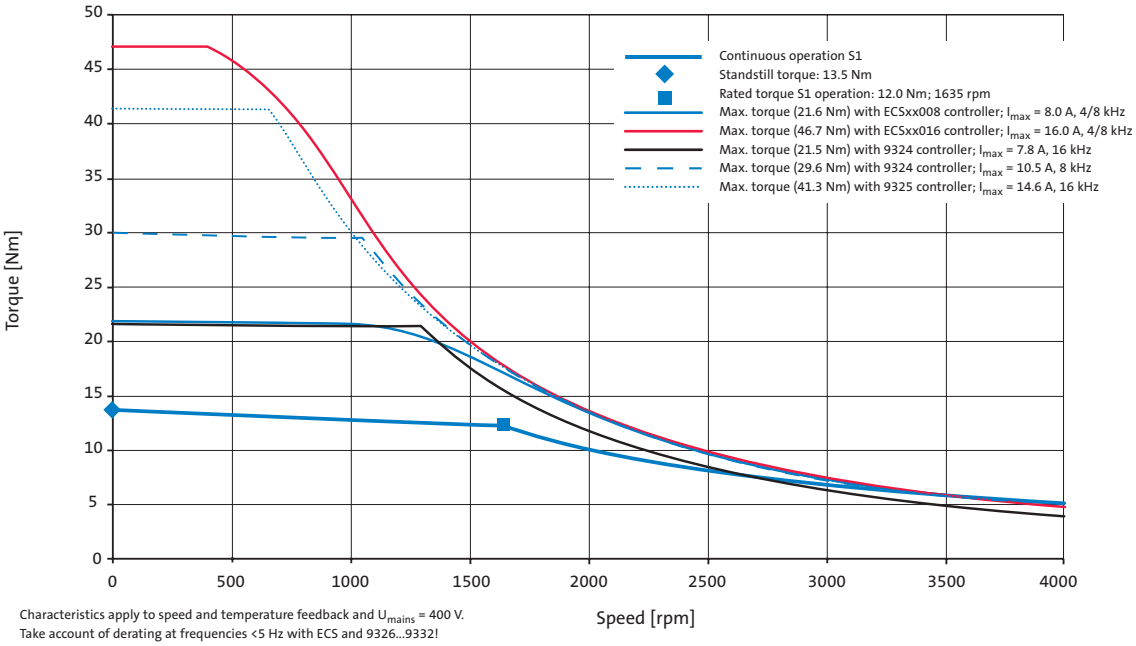
**Maximum and continuous torques**
**Asynchronous servo motor MCA 14L35 ... F10, 120 Hz, with blower**




Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
Take account of derating at frequencies <5 Hz with ECS and 9326...9332!

### MCA 14L16...F10

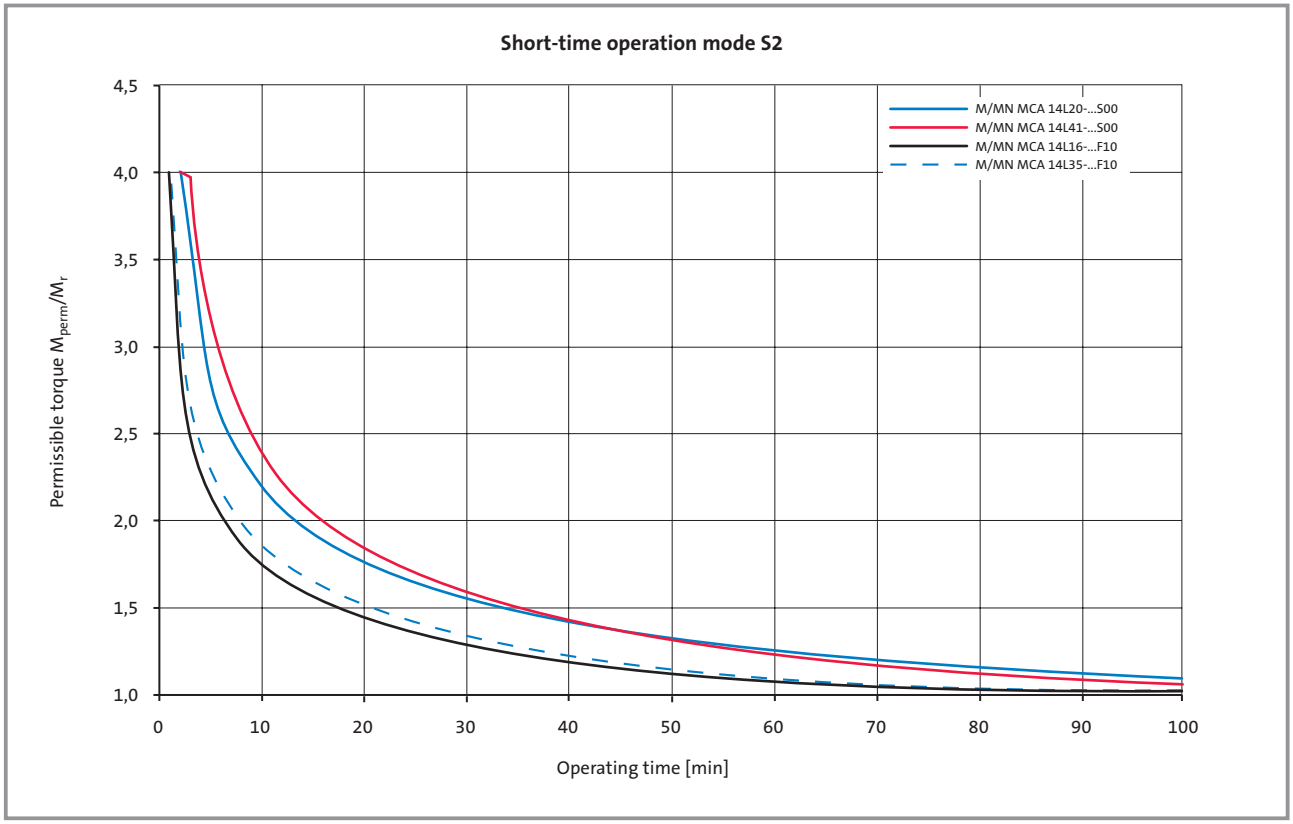
**Maximum and continuous torques**
**Asynchronous servo motor MCA 14L16 ... F10, 60 Hz, with blower**



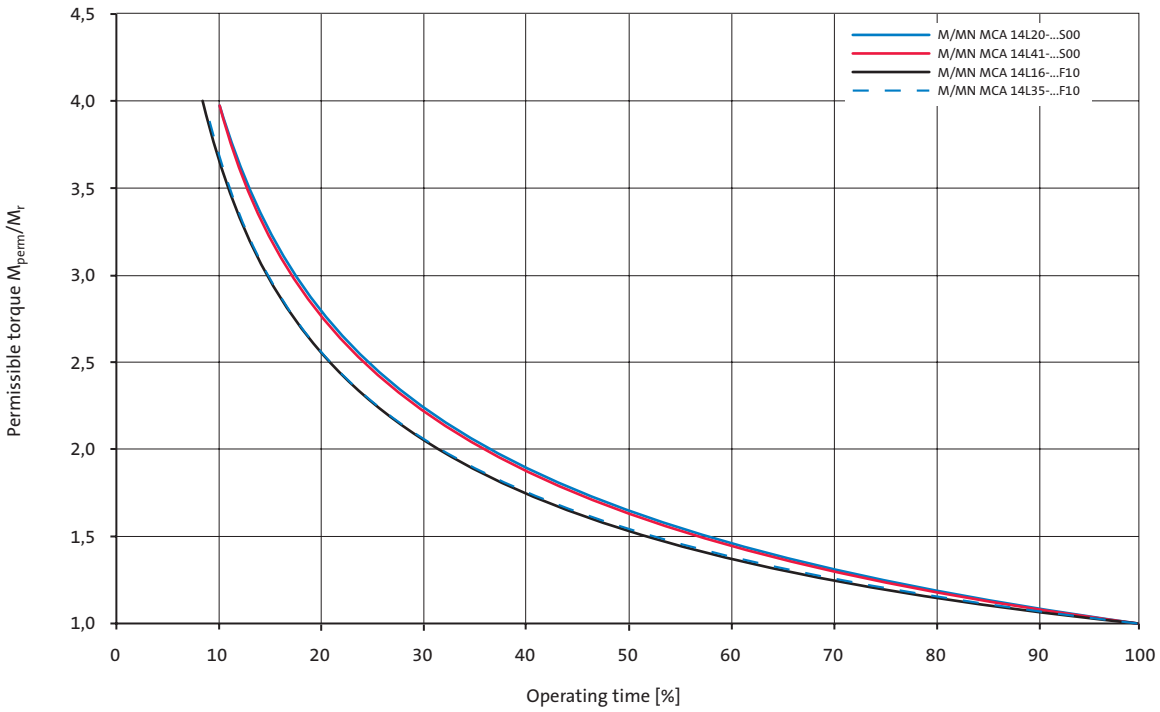

Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
Take account of derating at frequencies <5 Hz with ECS and 9326...9332!

## Short-time operation characteristic

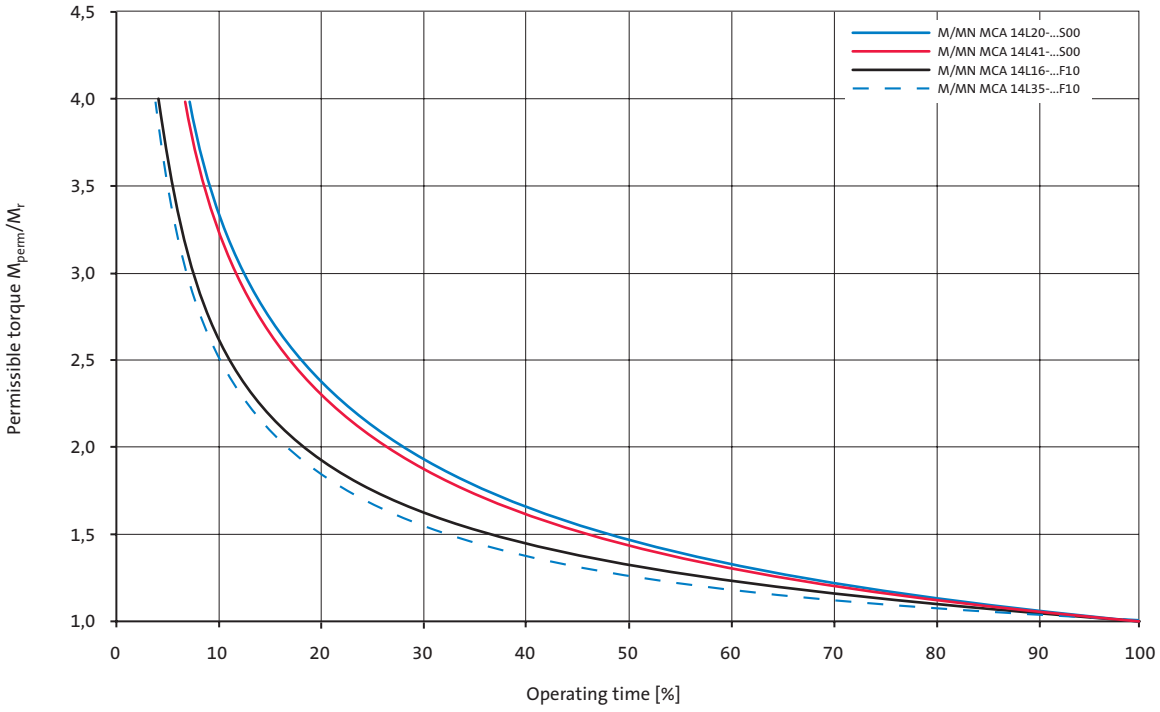
Lenze MCA servo motors have high torque peaks. In order to make full use of this highly dynamic response as simply as possible, the following diagrams for operating modes S2 and S6 illustrate the permissible operating times against the torque peaks required.



**Short-time operation mode S6, 1 min load cycle duration**

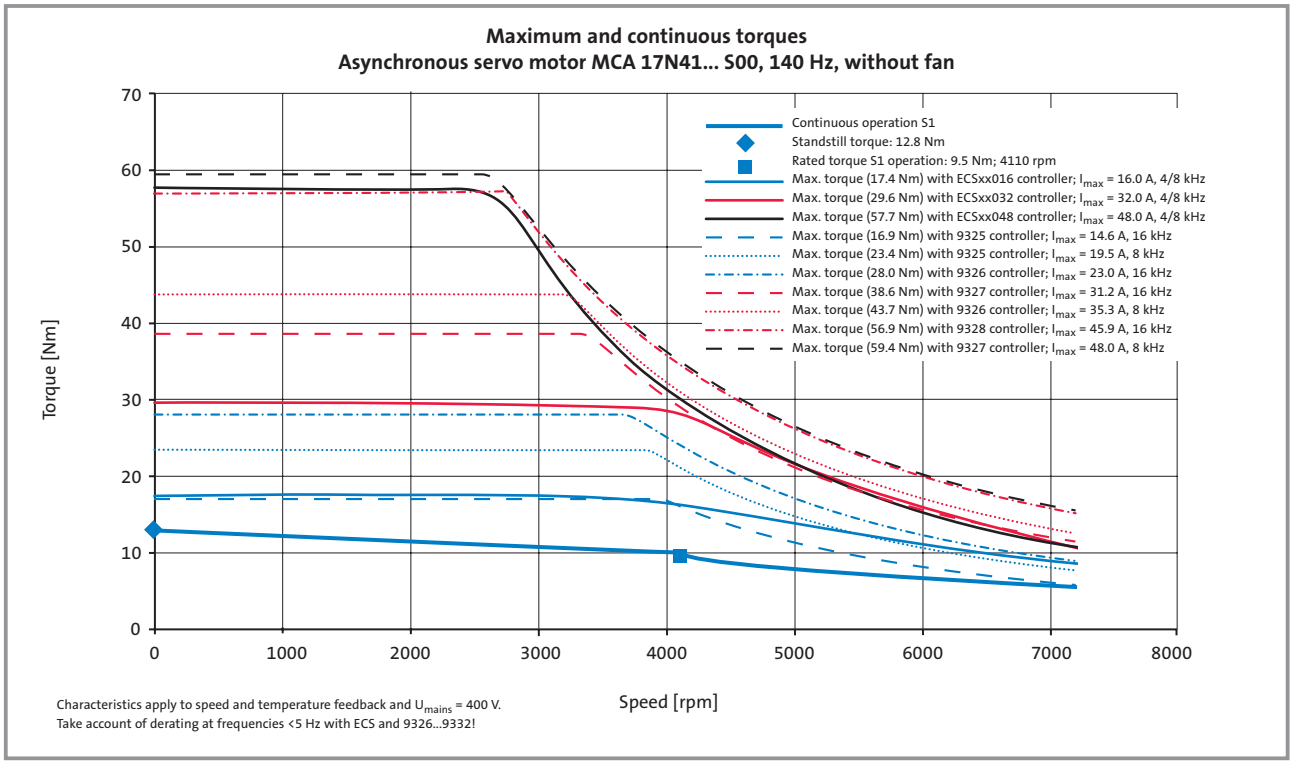



**Short-time operation mode S6, 10 min load cycle duration**



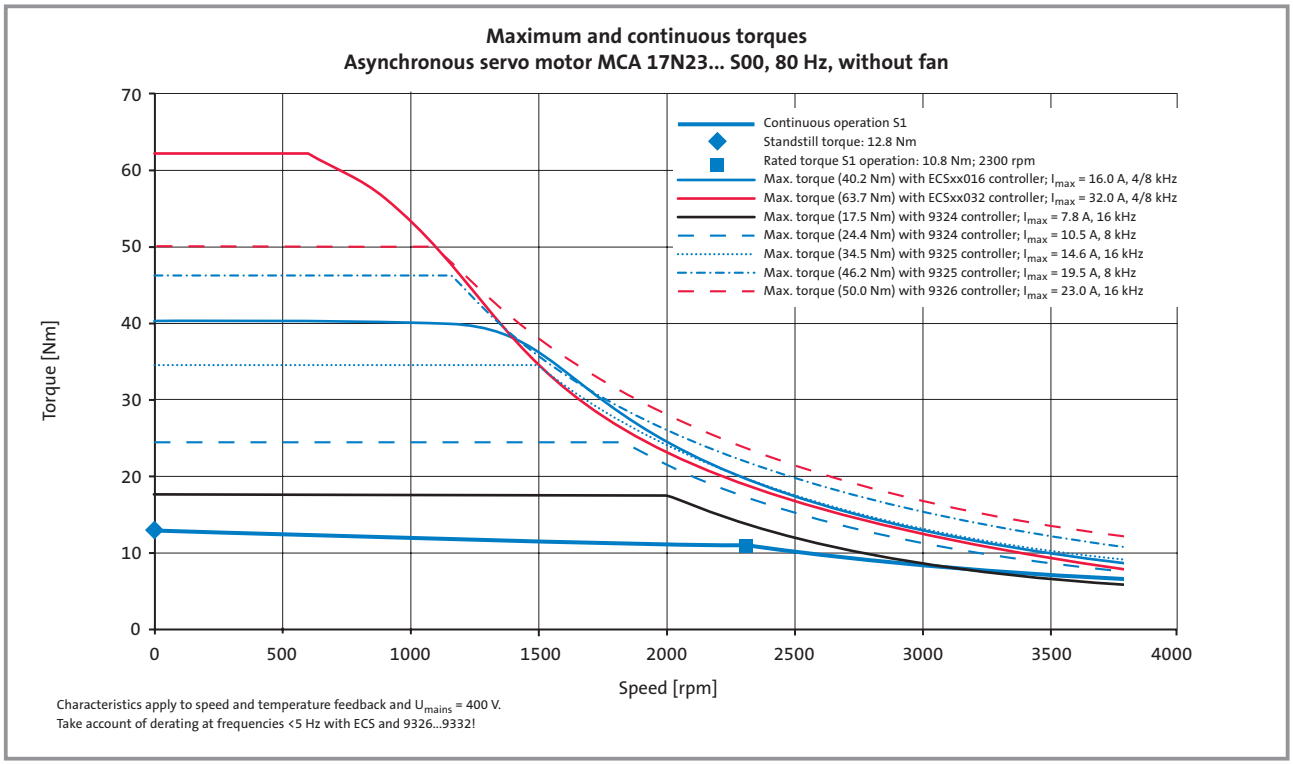
## Torque characteristics

### MCA 17N41...S00




Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
Take account of derating at frequencies <5 Hz with ECS and 9326...9332!

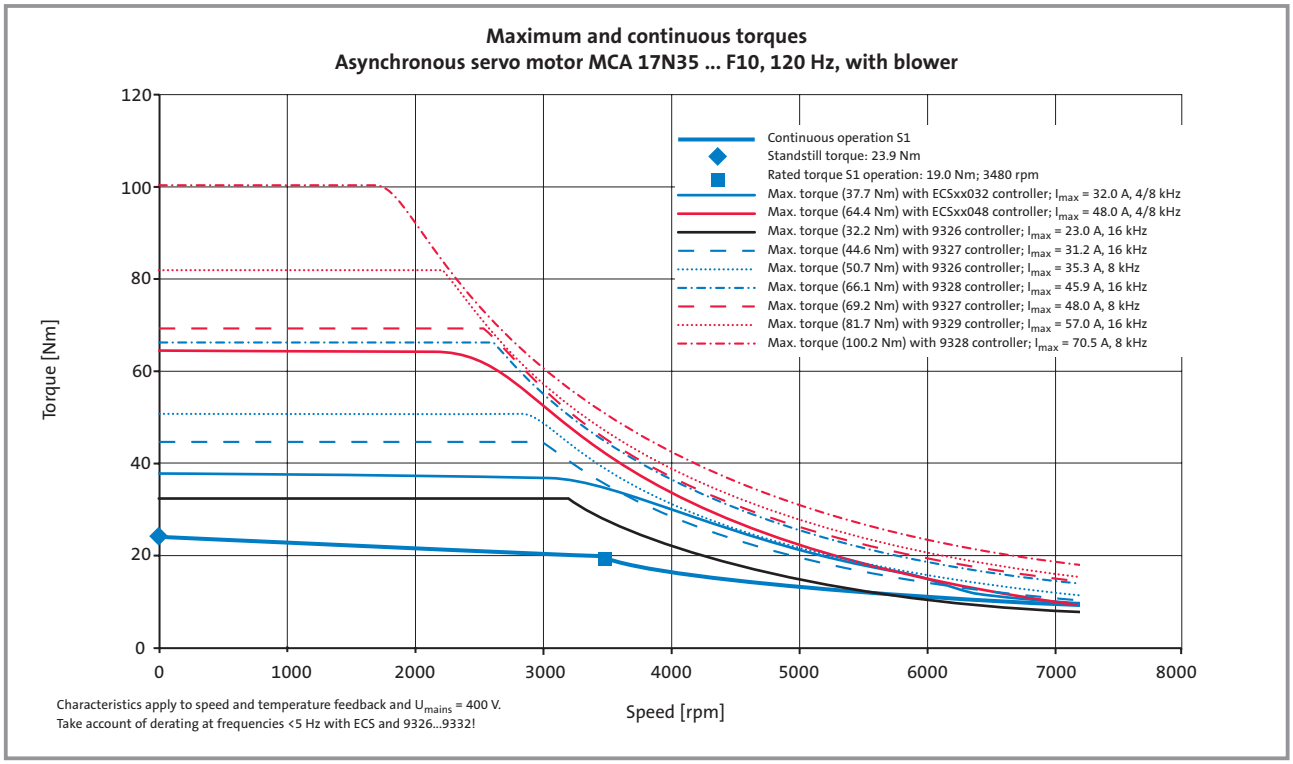
### MCA 17N23...S00



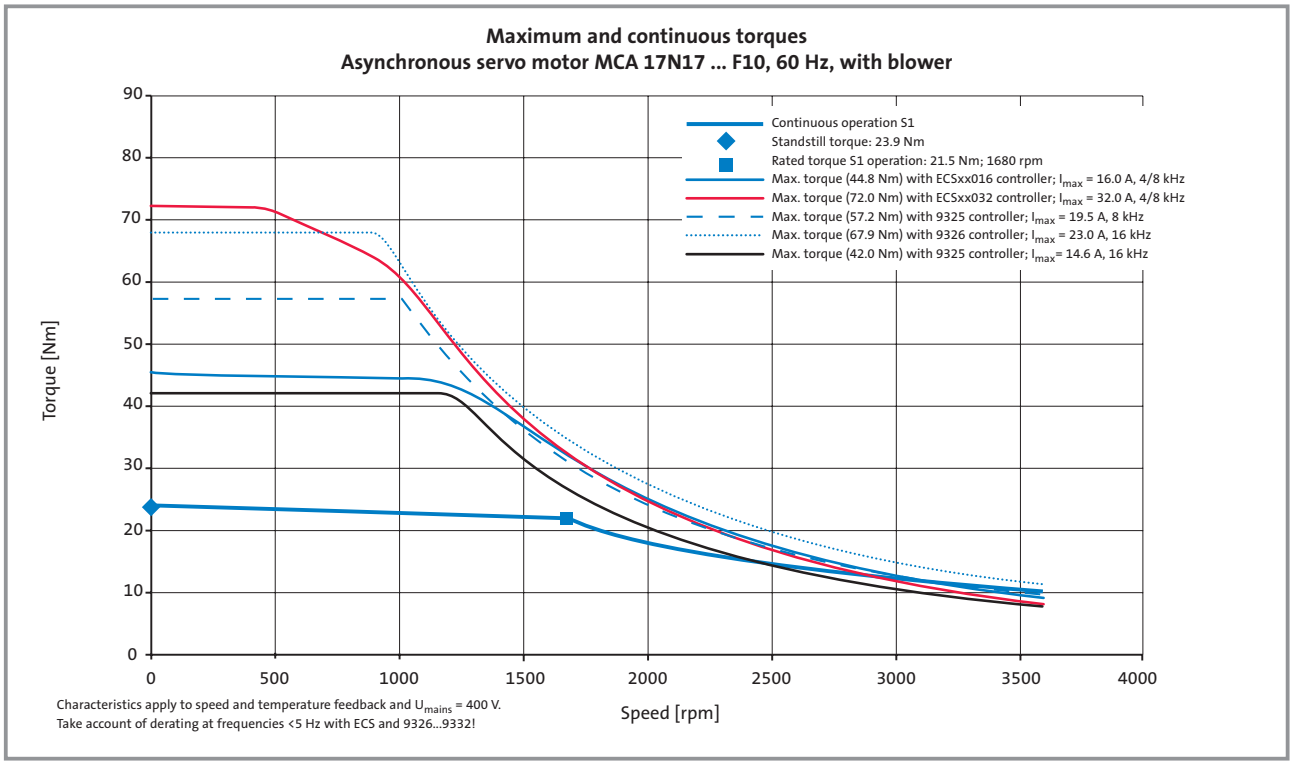

Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
Take account of derating at frequencies <5 Hz with ECS and 9326...9332!

## Torque characteristics

### MCA 17N35...F10

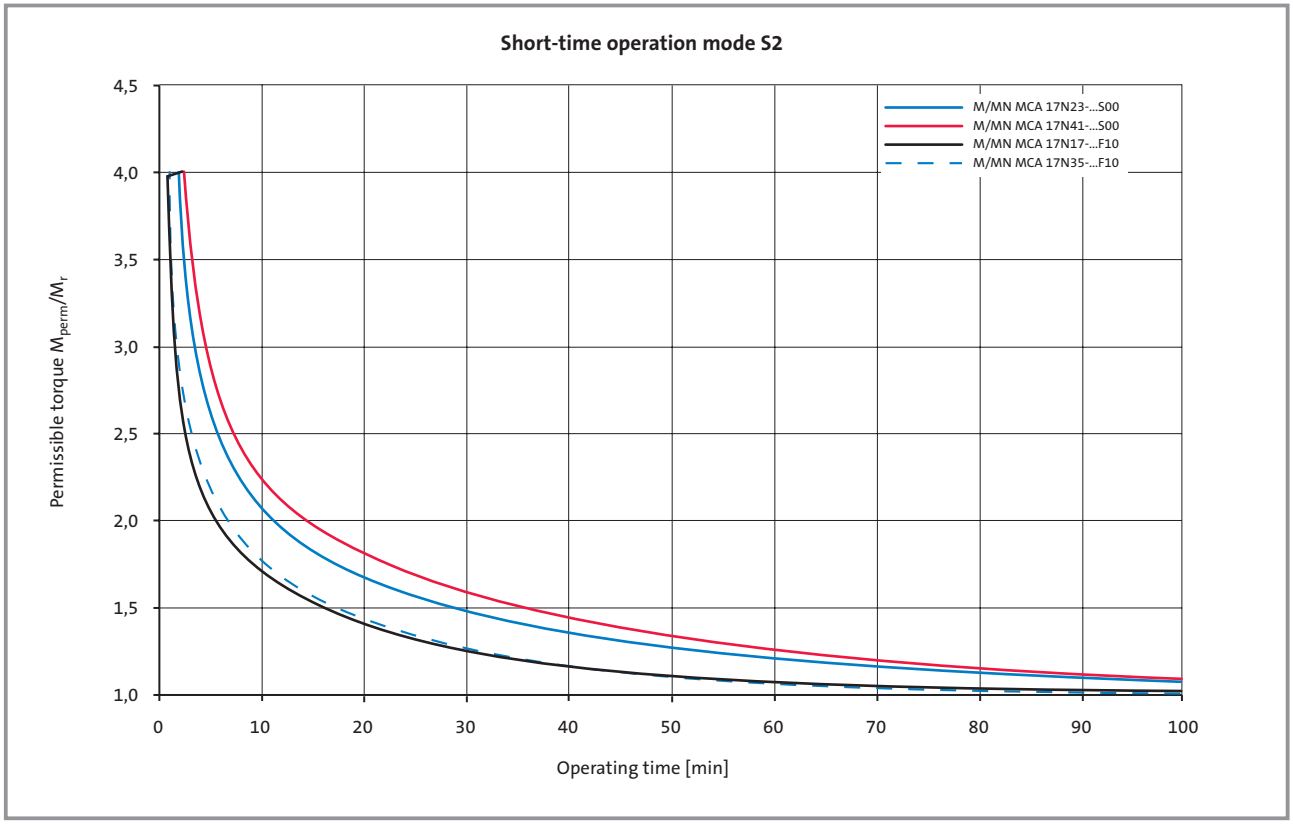


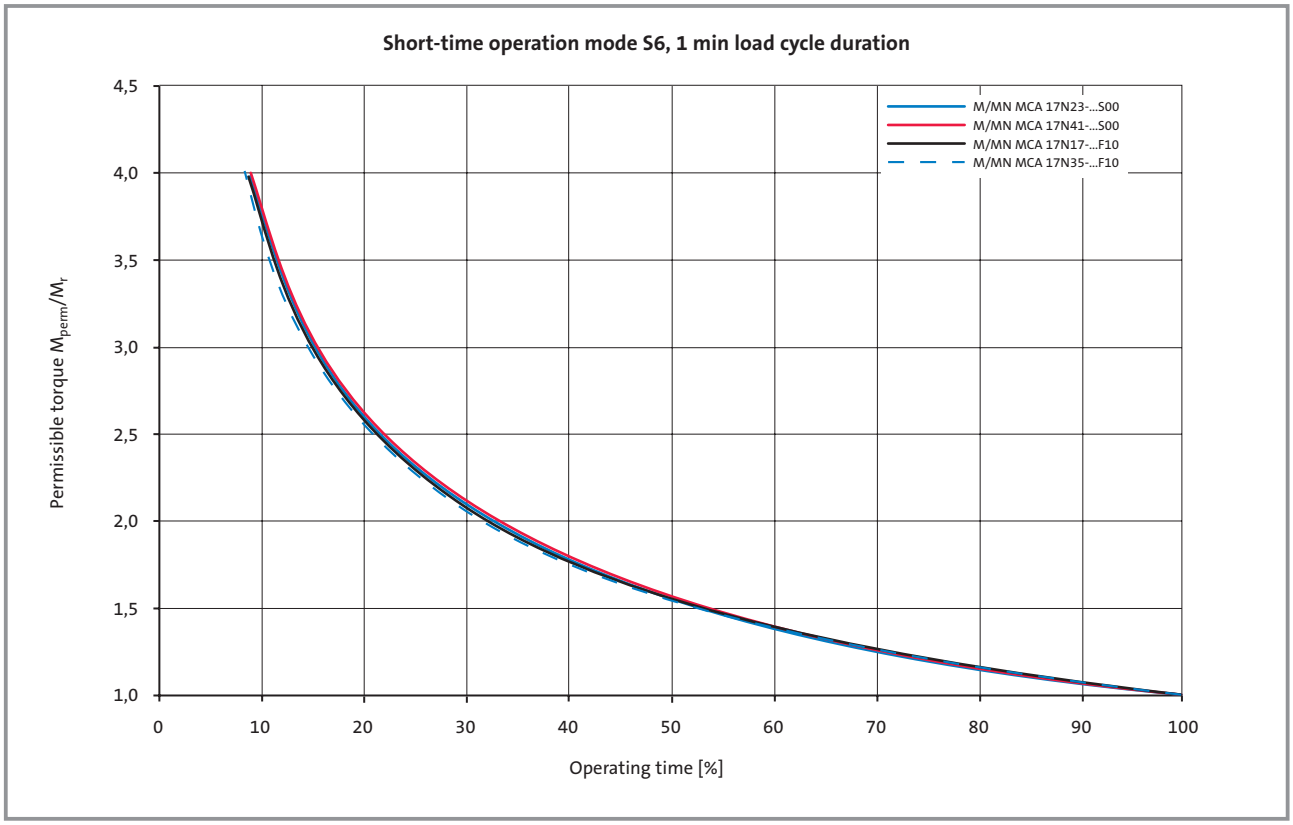

### MCA 17N17...F10

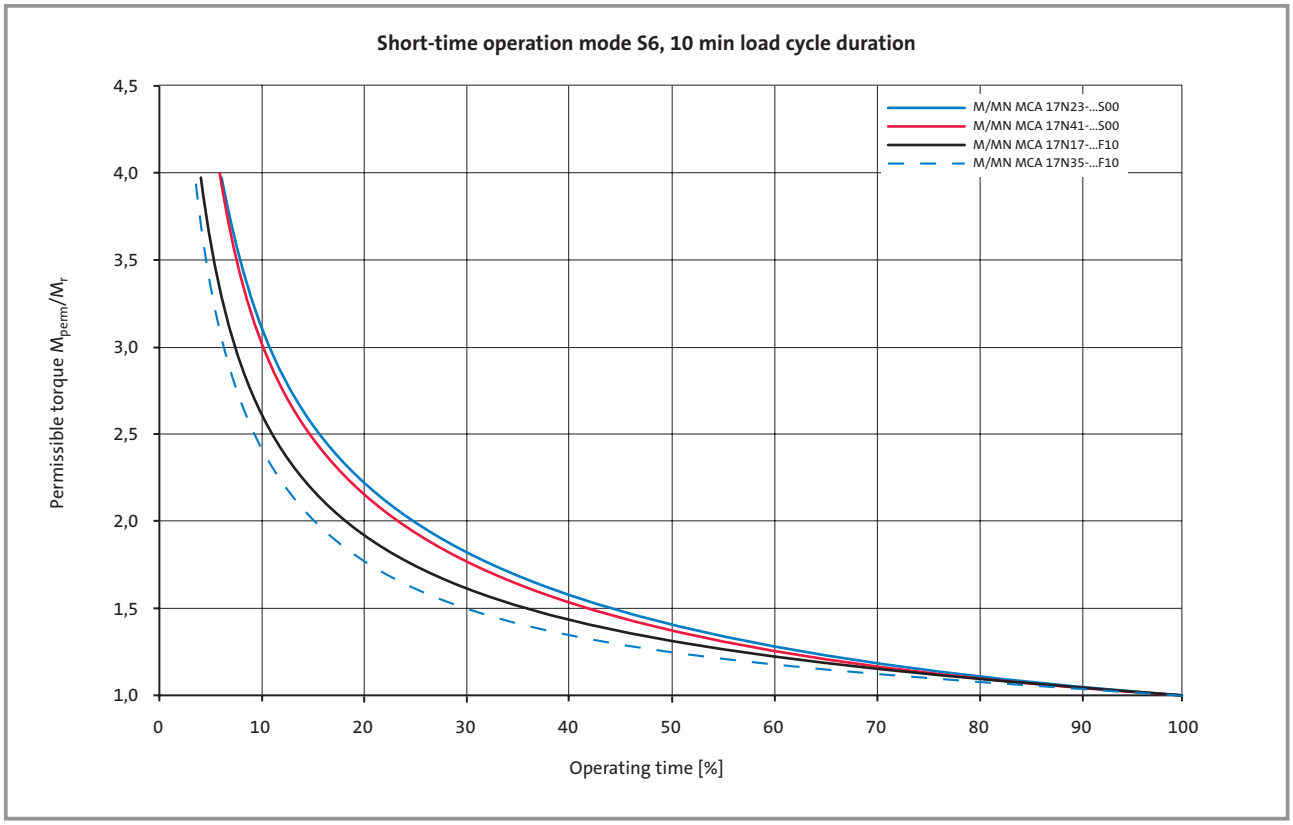


## Short-time operation characteristic

Lenze MCA servo motors have high torque peaks. In order to make full use of this highly dynamic response as simply as possible, the following diagrams for operating modes S2 and S6 illustrate the permissible operating times against the torque peaks required.

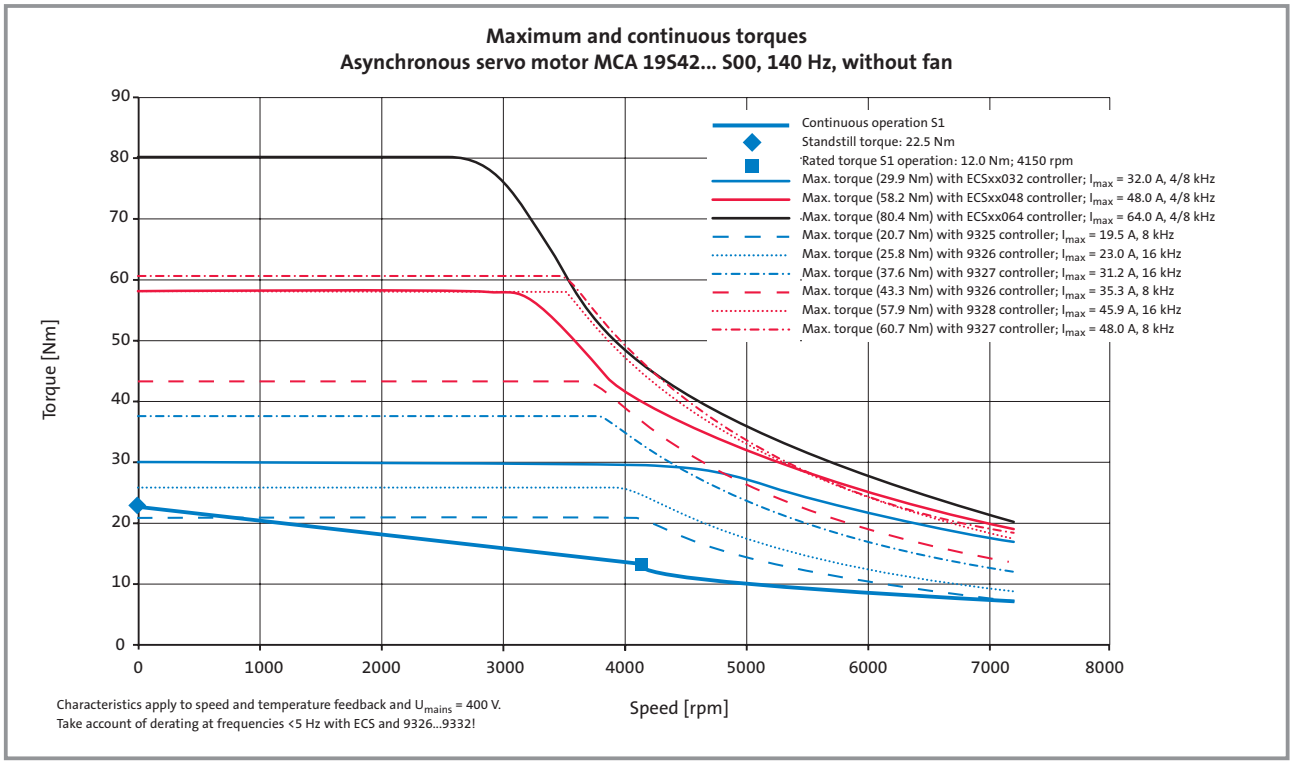



Short-time operation mode S6, 1 min load cycle duration
M/MN MCA 17N23-...S00
M/MN MCA 17N41-...S00
M/MN MCA 17N17-...F10
M/MN MCA 17N35-...F10
Permissible torque $M_{perm}/M_r$
4,5
4,0
3,5
3,0
2,5
2,0
1,5
1,0
0
10
20
30
40
50
60
70
80
90
100
Operating time [%]


Short-time operation mode S6, 10 min load cycle duration
M/MN MCA 17N23-...S00
M/MN MCA 17N41-...S00
M/MN MCA 17N17-...F10
M/MN MCA 17N35-...F10
Permissible torque $M_{perm}/M_r$
4,5
4,0
3,5
3,0
2,5
2,0
1,5
1,0
0
10
20
30
40
50
60
70
80
90
100
Operating time [%]

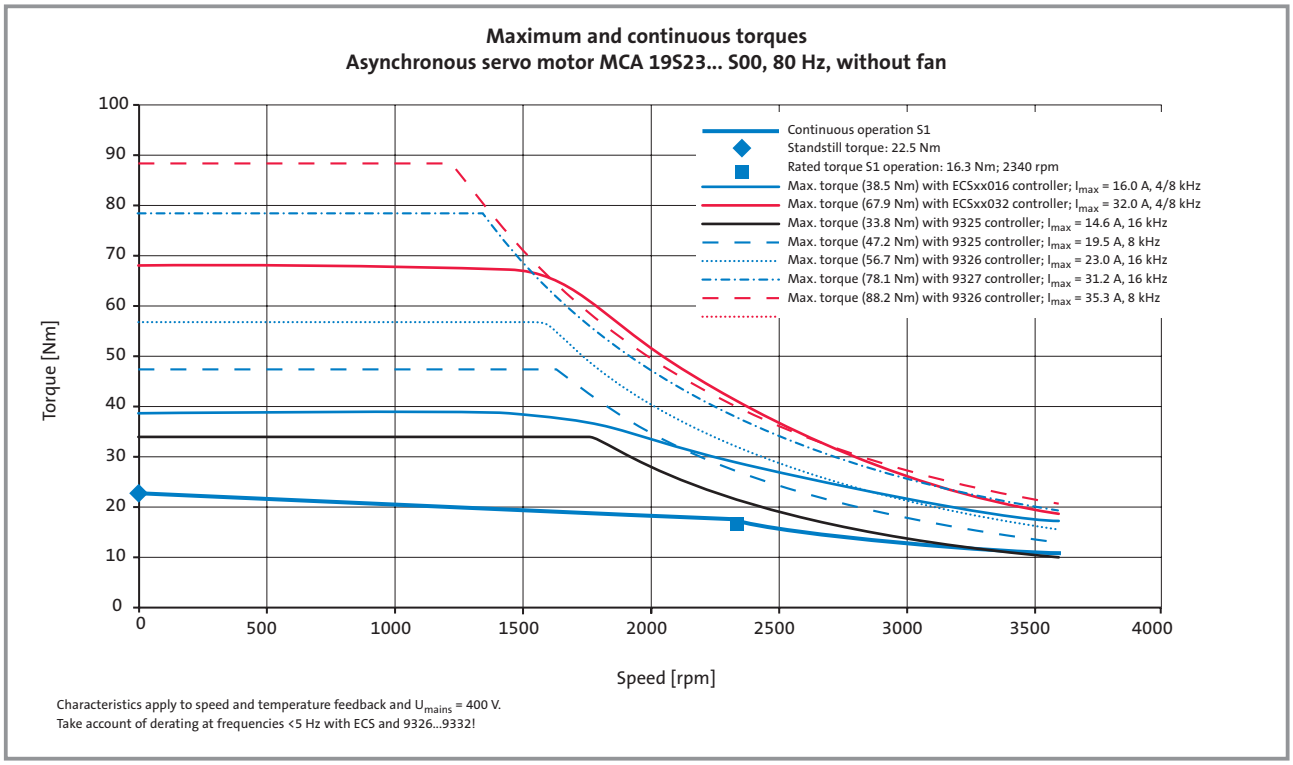
## Torque characteristics

### MCA 19S42...S00




Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
Take account of derating at frequencies <5 Hz with ECS and 9326...9332!

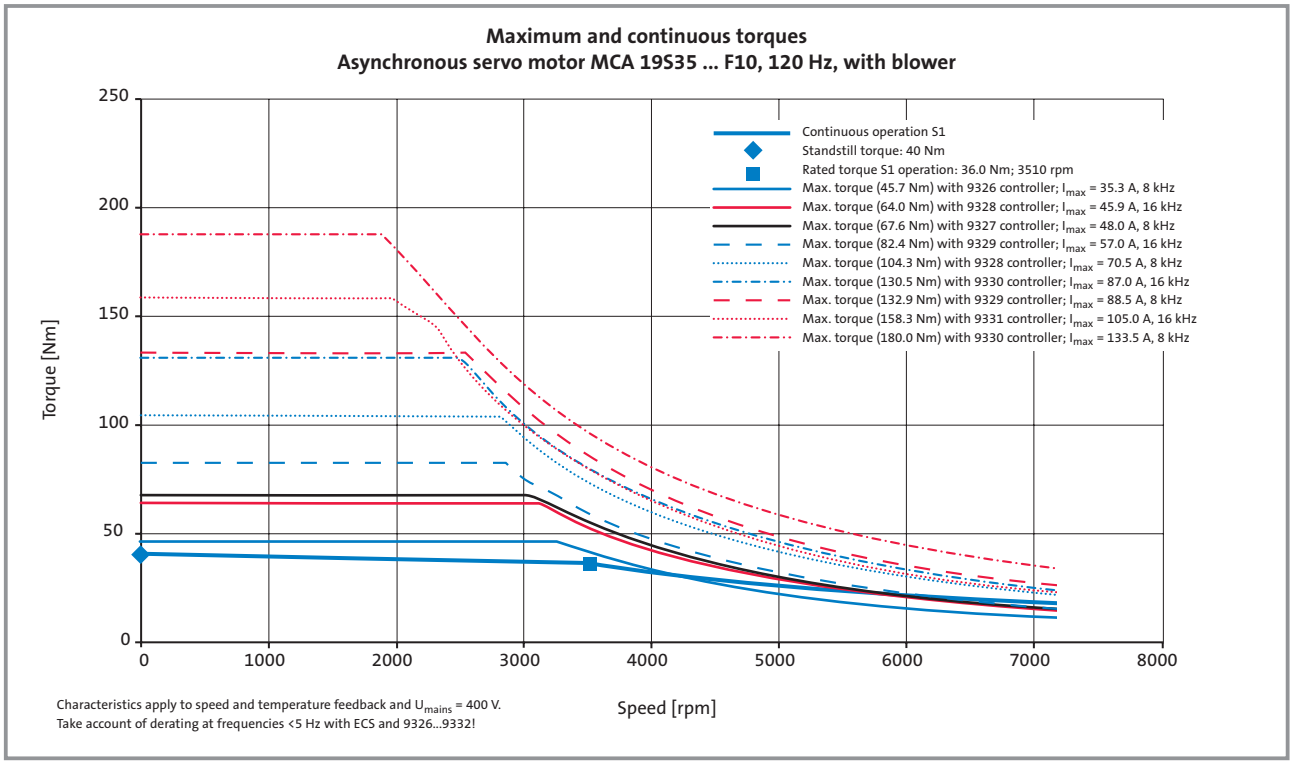
### MCA 19S40...S00




Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
Take account of derating at frequencies <5 Hz with ECS and 9326...9332!

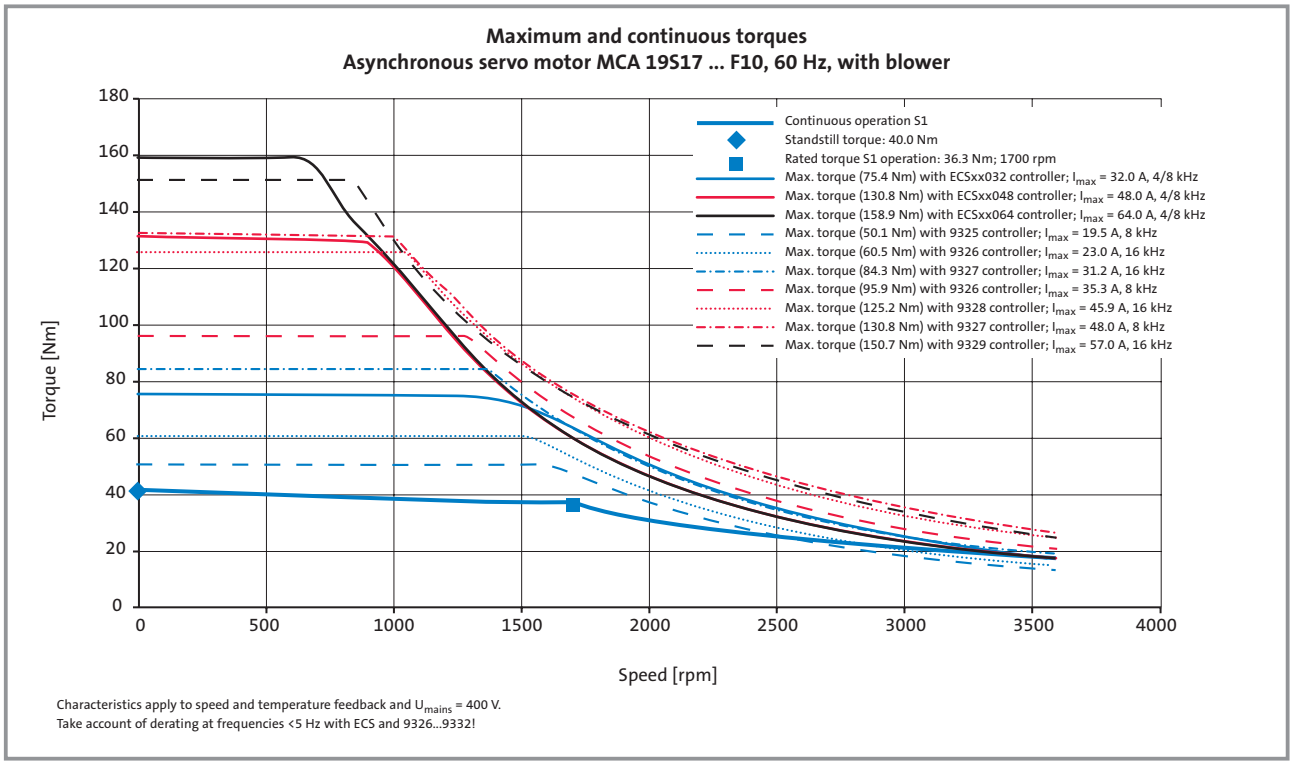
## Torque characteristics

### MCA 19S35...F10




Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
Take account of derating at frequencies <5 Hz with ECS and 9326...9332!

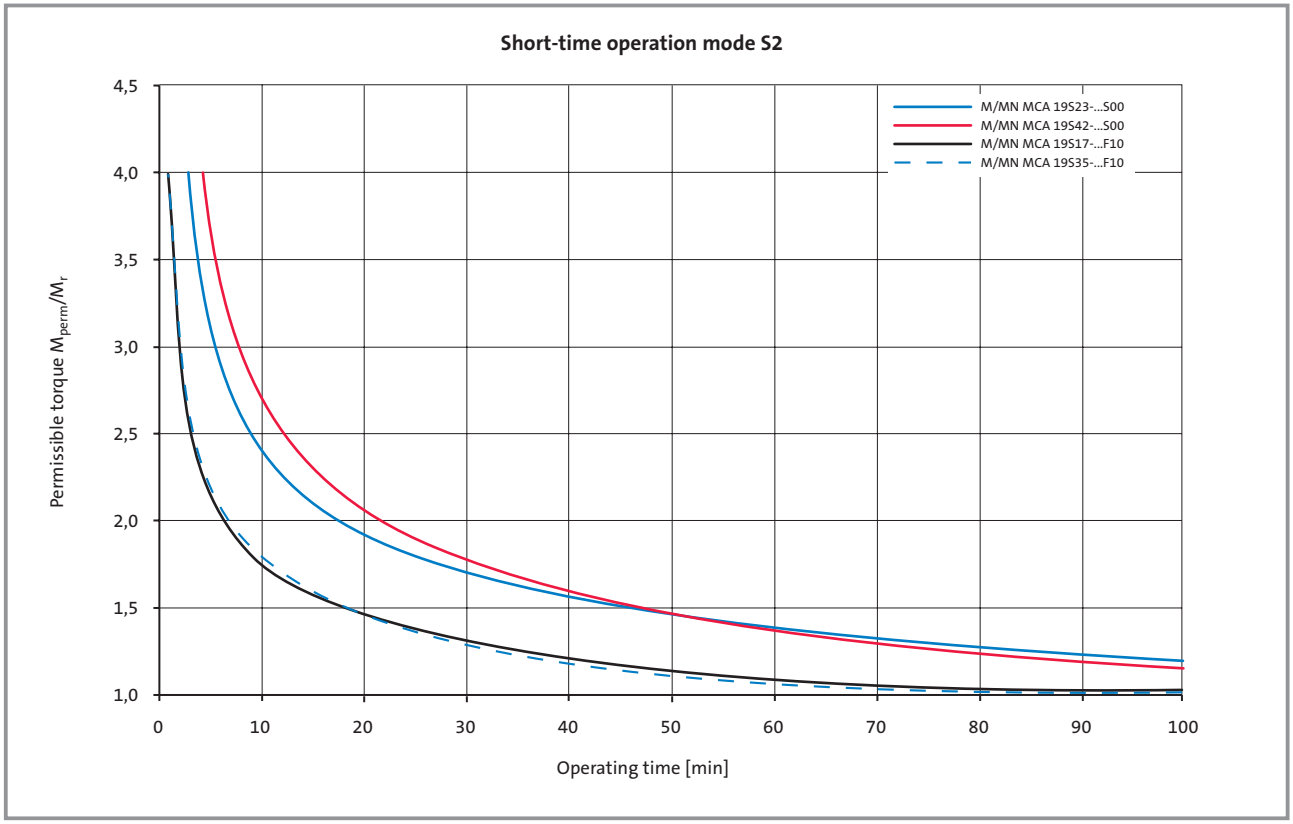
### MCA 19S17...F10

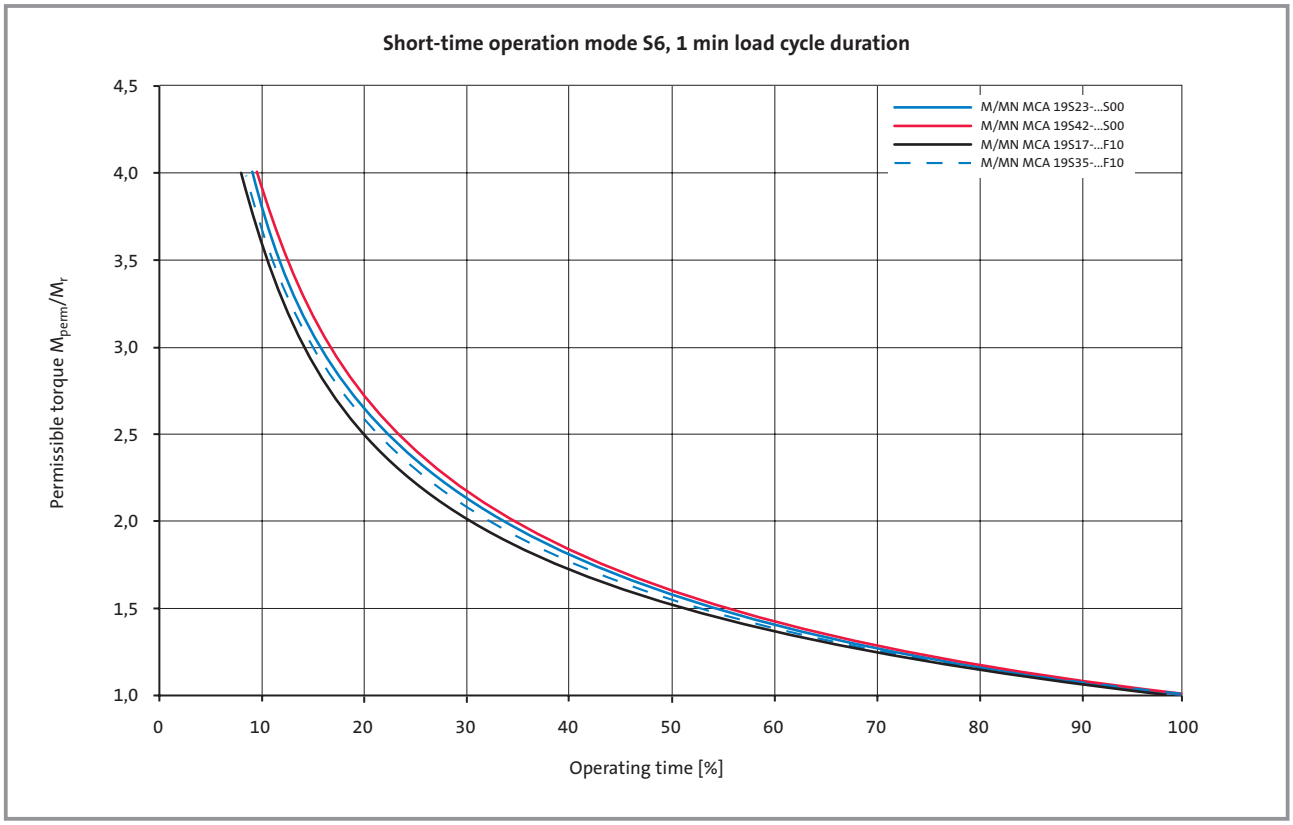


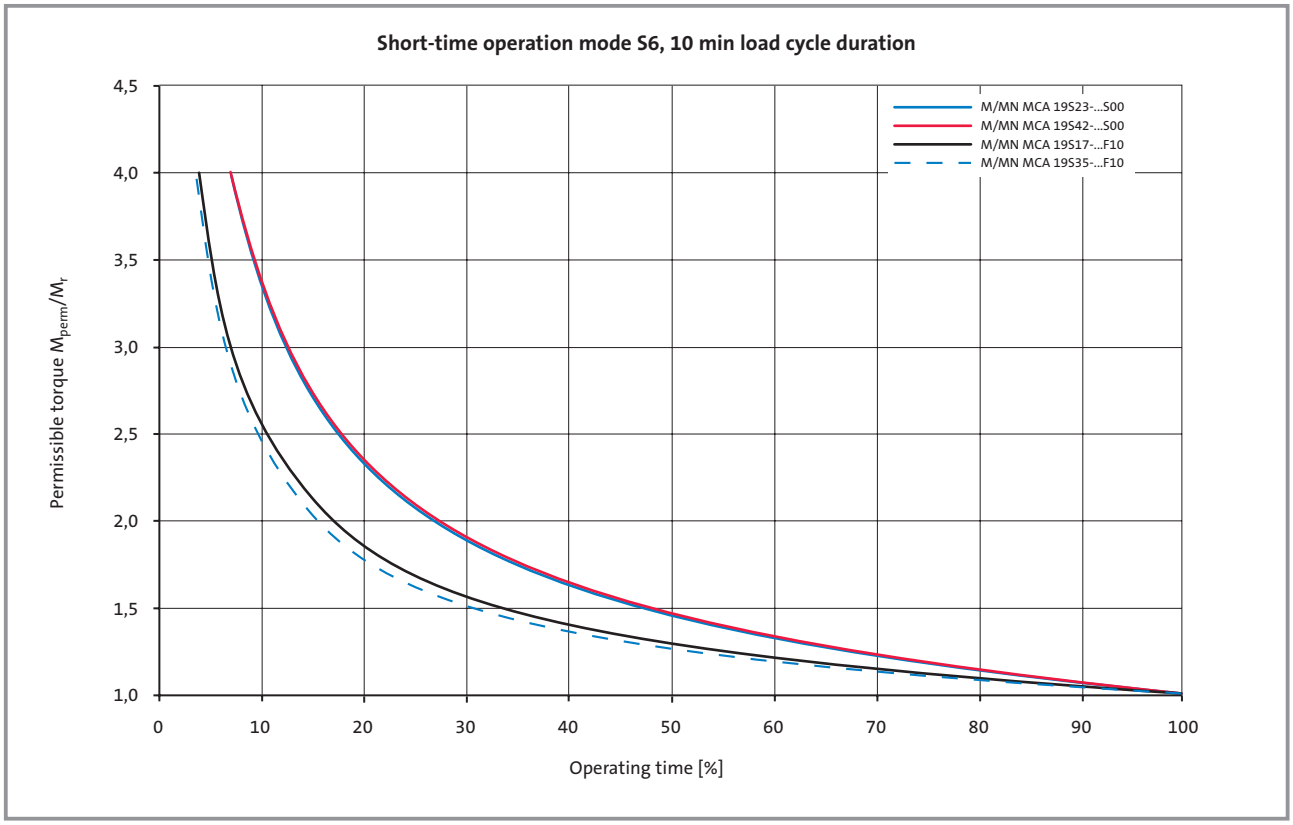

Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
Take account of derating at frequencies <5 Hz with ECS and 9326...9332!

## Short-time operation characteristic

Lenze MCA servo motors have high torque peaks. In order to make full use of this highly dynamic response as simply as possible, the following diagrams for operating modes S2 and S6 illustrate the permissible operating times against the torque peaks required.

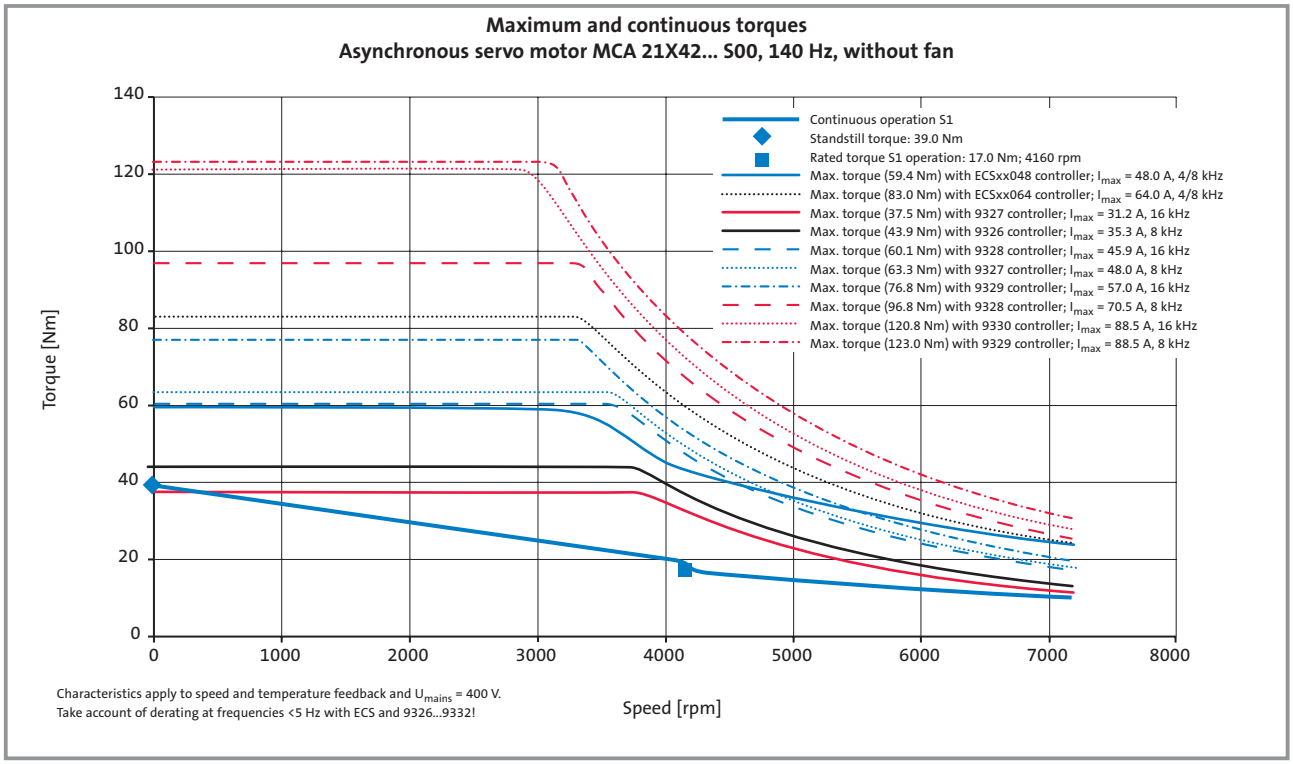



Short-time operation mode S6, 1 min load cycle duration
Permissible torque $M_{perm}/M_r$
4,5
4,0
3,5
3,0
2,5
2,0
1,5
1,0
0
10
20
30
40
50
60
70
80
90
100
Operating time [%]
M/MN MCA 19S23-...S00
M/MN MCA 19S42-...S00
M/MN MCA 19S17-...F10
M/MN MCA 19S35-...F10


Short-time operation mode S6, 10 min load cycle duration
Permissible torque $M_{perm}/M_r$
4,5
4,0
3,5
3,0
2,5
2,0
1,5
1,0
0
10
20
30
40
50
60
70
80
90
100
Operating time [%]
M/MN MCA 19S23-...S00
M/MN MCA 19S42-...S00
M/MN MCA 19S17-...F10
M/MN MCA 19S35-...F10

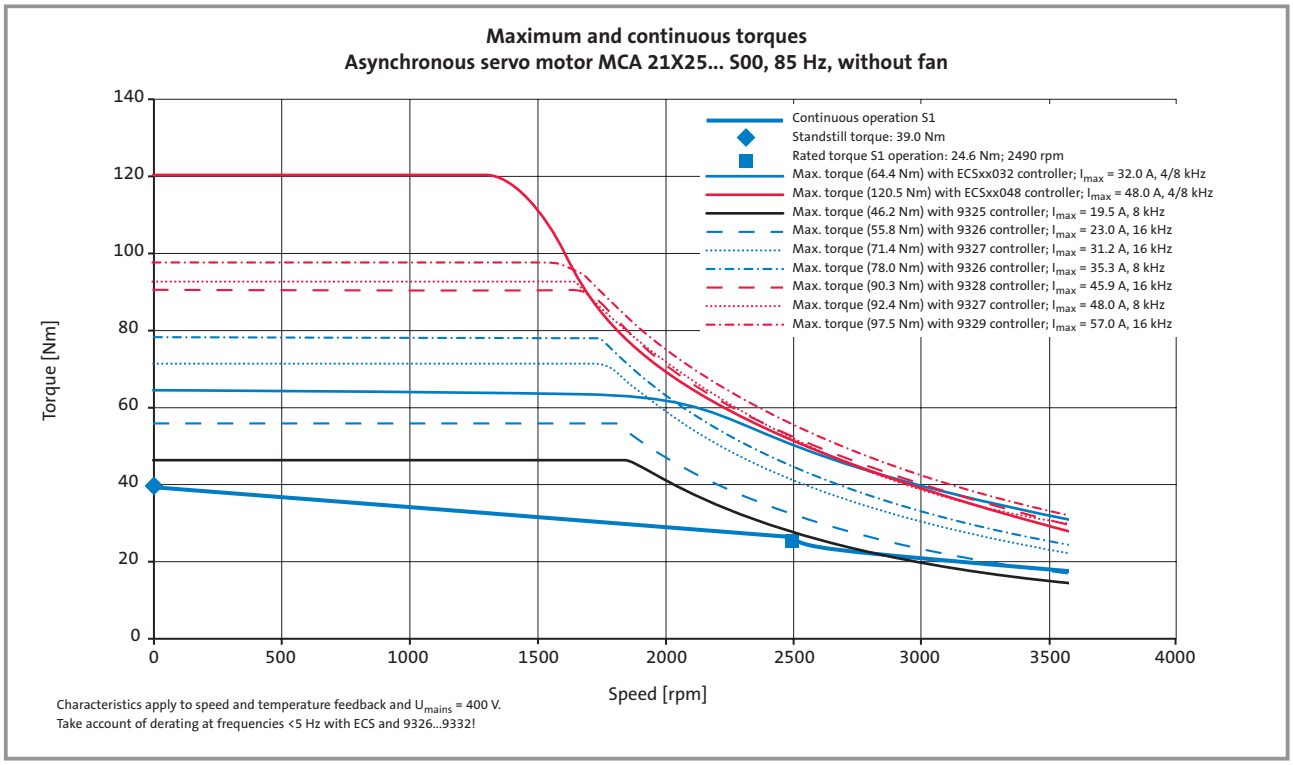
## Torque characteristics

### MCA 21X42...S00




Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
Take account of derating at frequencies <5 Hz with ECS and 9326...9332!

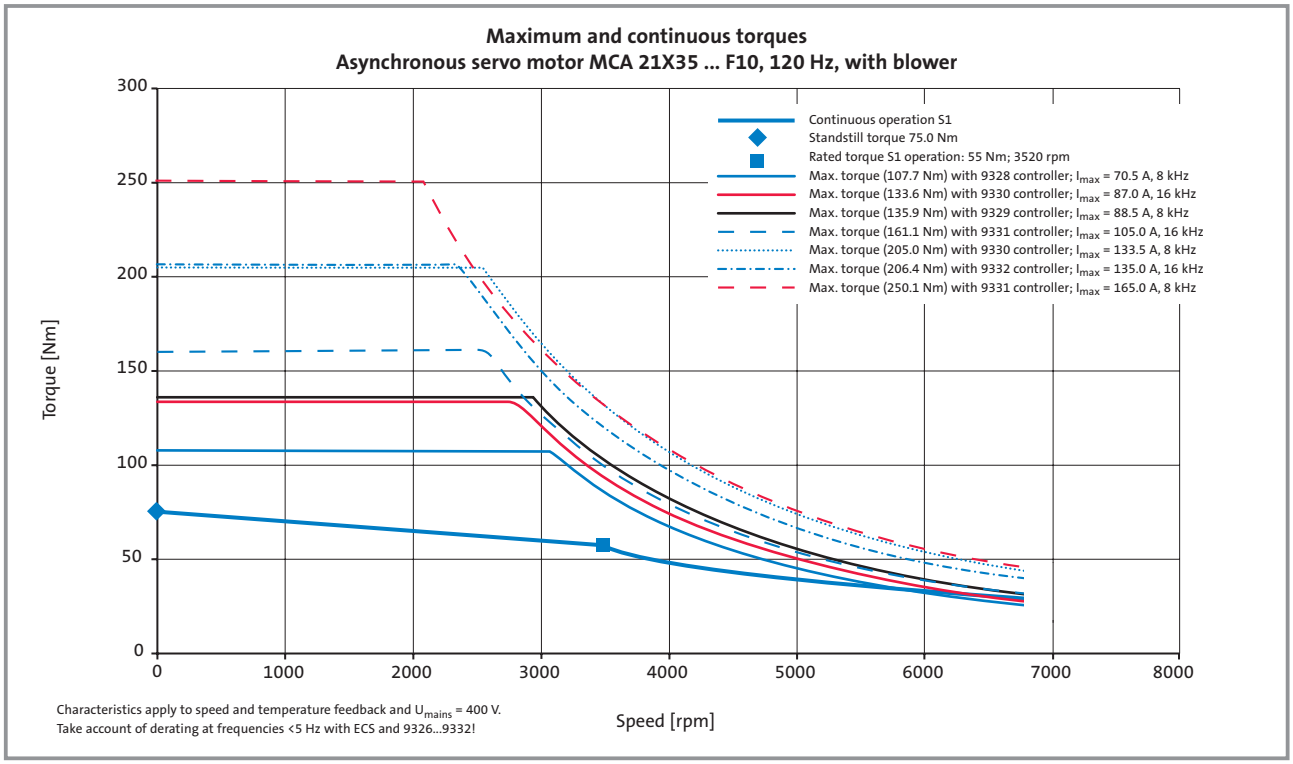
### MCA 21X25...S00



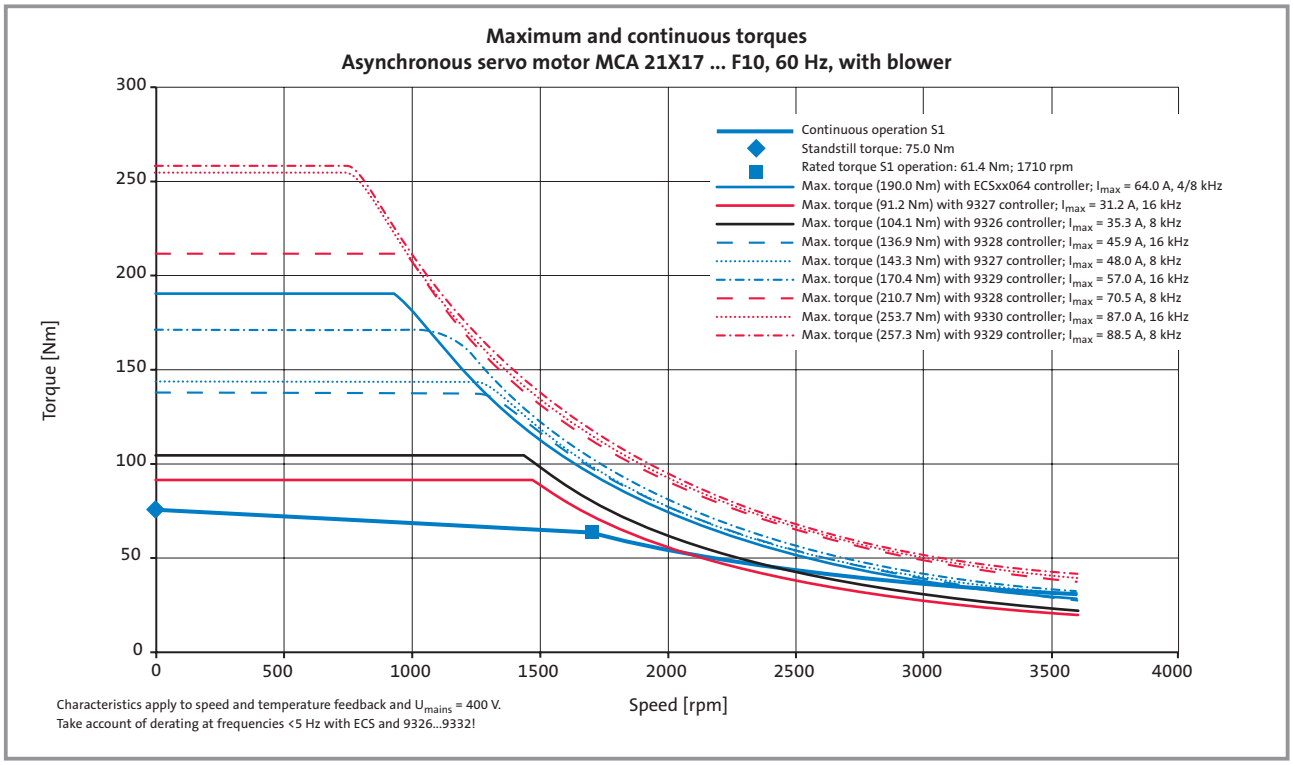

Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
Take account of derating at frequencies <5 Hz with ECS and 9326...9332!

## Torque characteristics

### MCA 21X35...F10

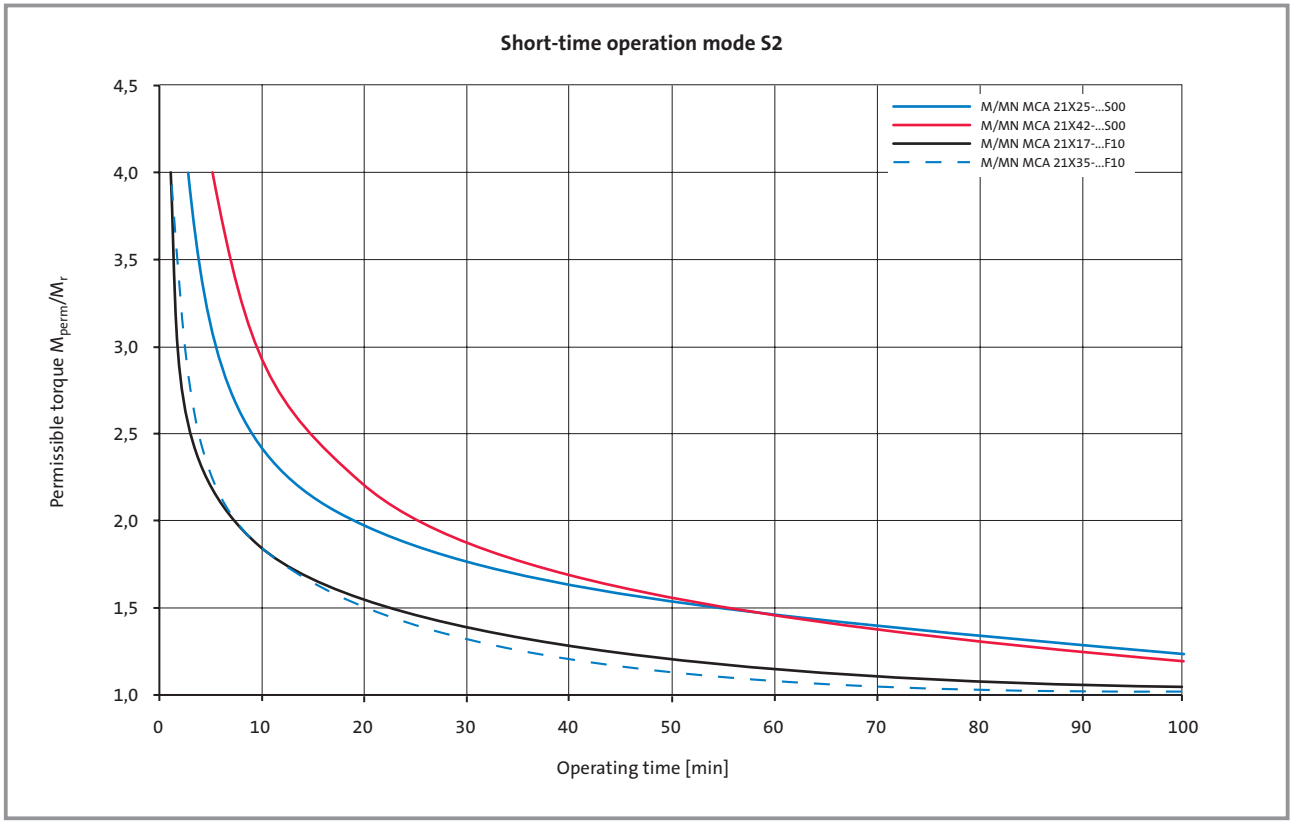



### MCA 21X17...F10

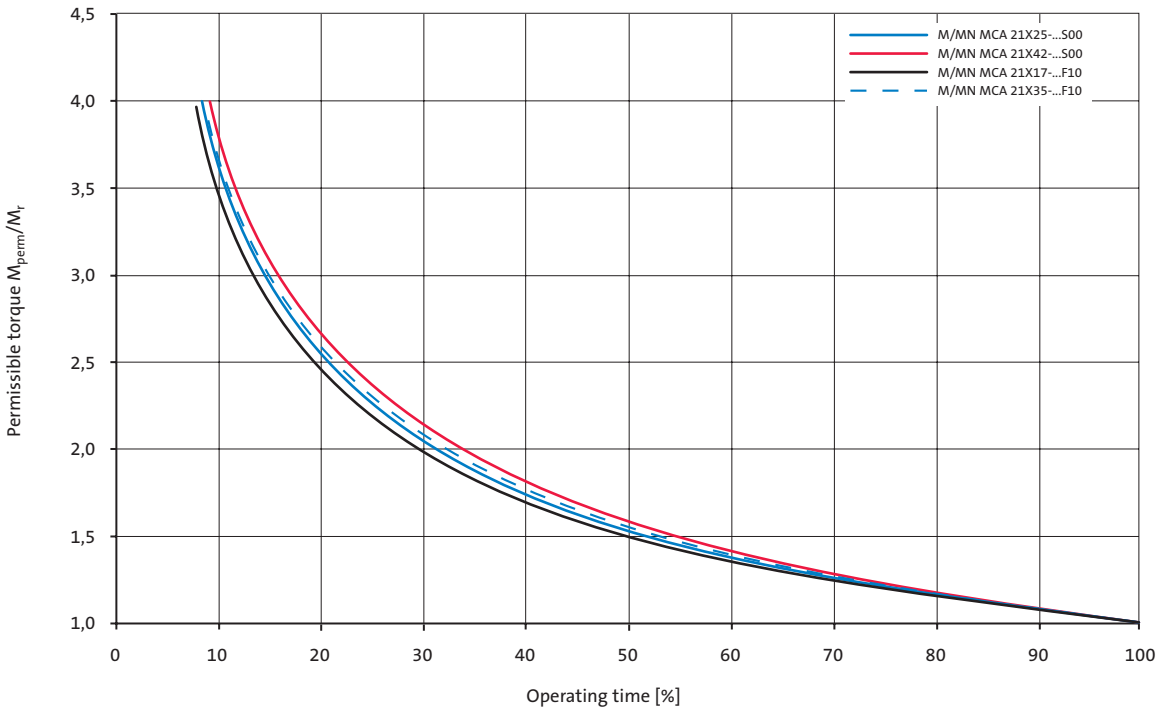


## Short-time operation characteristic

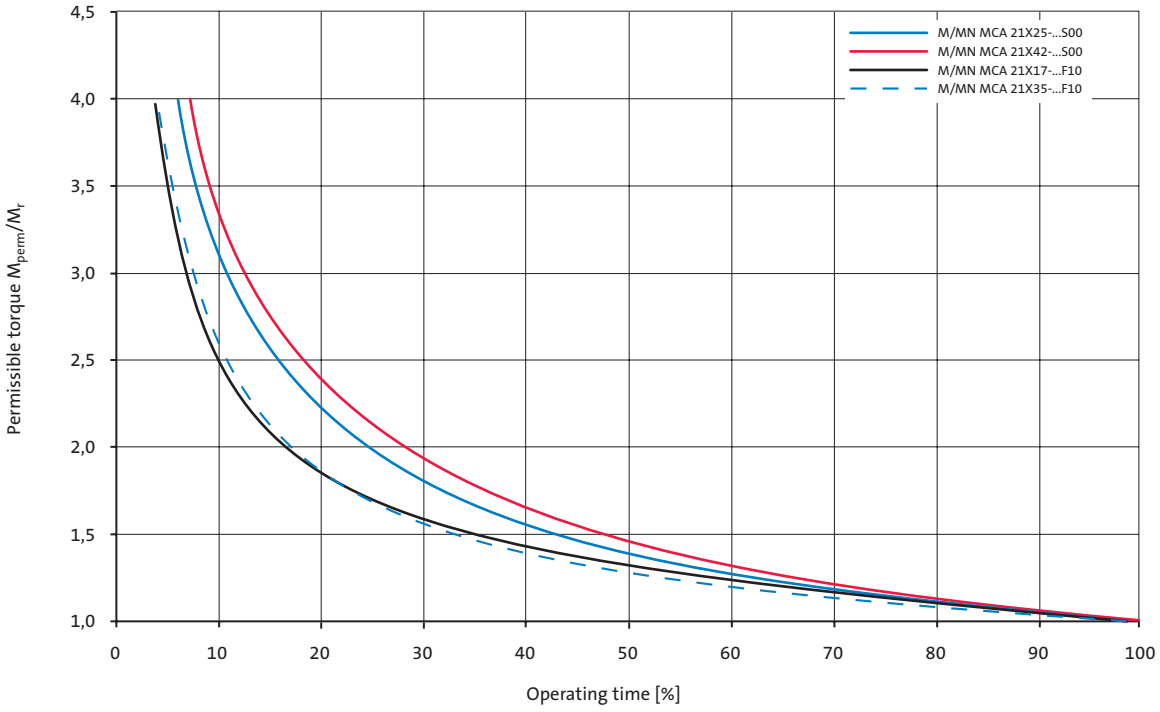
Lenze MCA servo motors have high torque peaks. In order to make full use of this highly dynamic response as simply as possible, the following diagrams for operating modes S2 and S6 illustrate the permissible operating times against the torque peaks required.



## Short-time operation mode S6, 1 min load cycle duration




## Short-time operation mode S6, 10 min load cycle duration

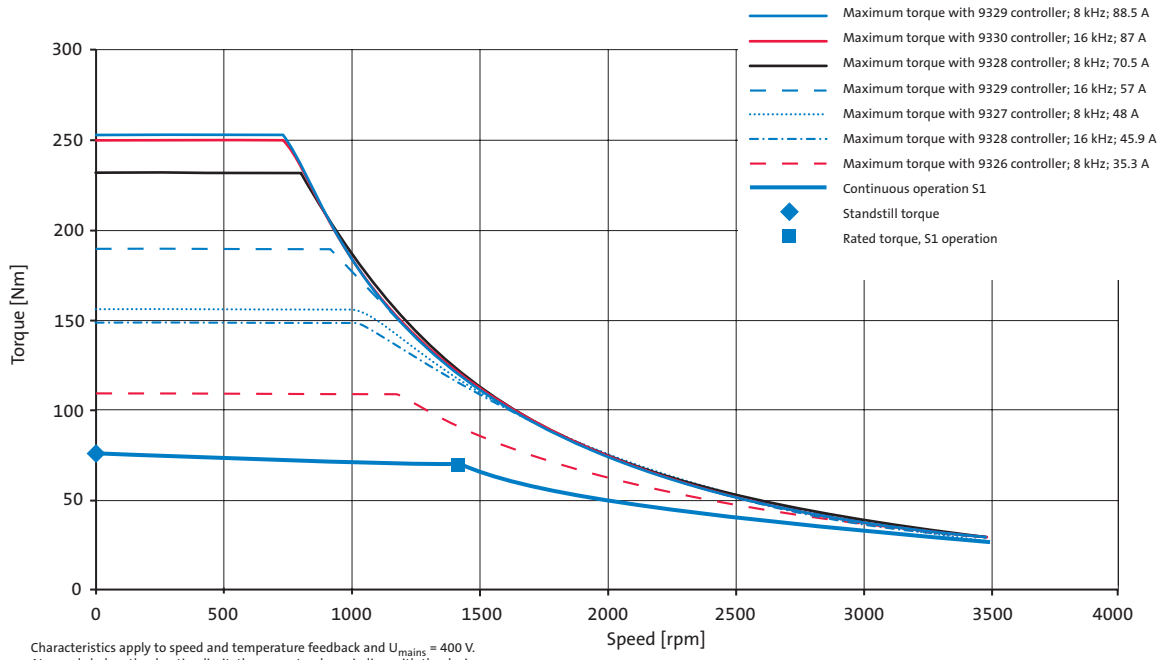


# Servomotori asincroni MDFQA

Curve di coppia

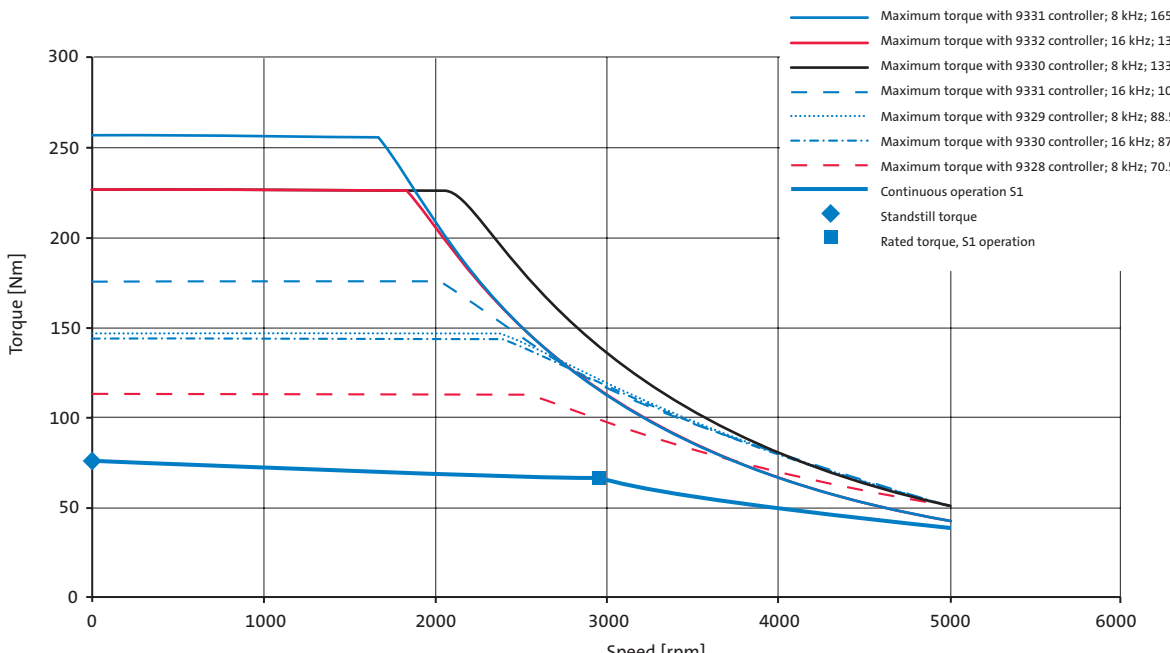
## Torque characteristics

### MDFQA 100-22, 50, Star connection with blower




Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
At speeds below the derating limit, the current reduces in line with the device utilisation.

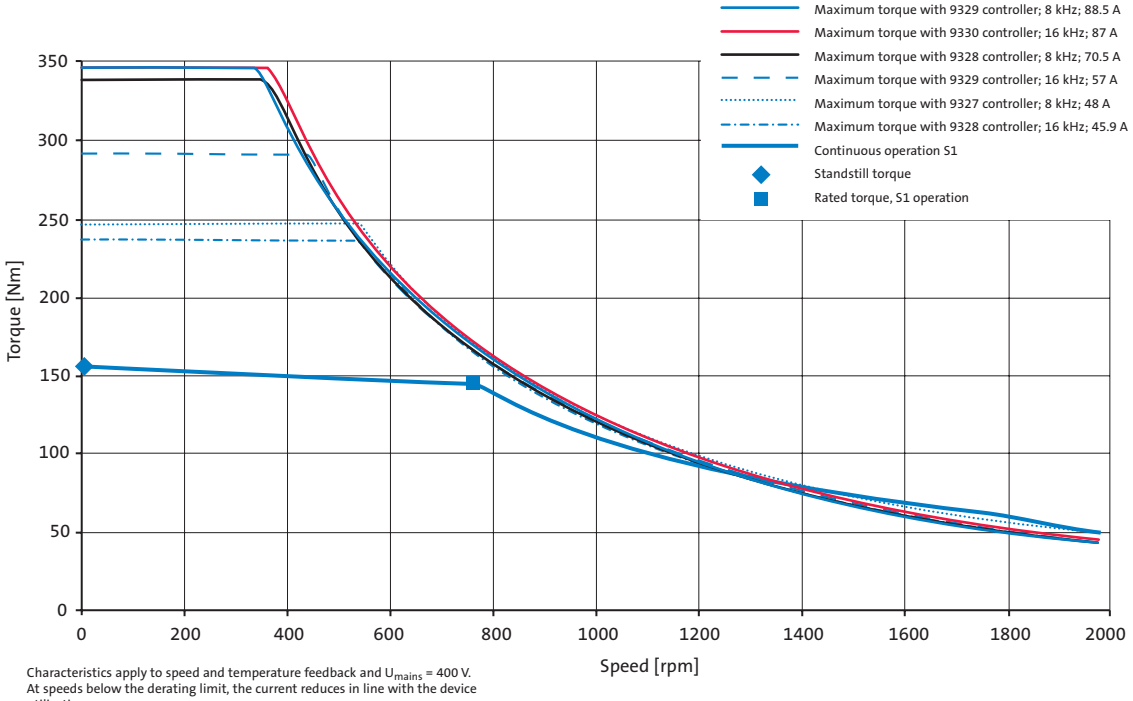
### MDFQA 100-22, 100, Star connection with blower




Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
At speeds below the derating limit, the current reduces in line with the device utilisation.

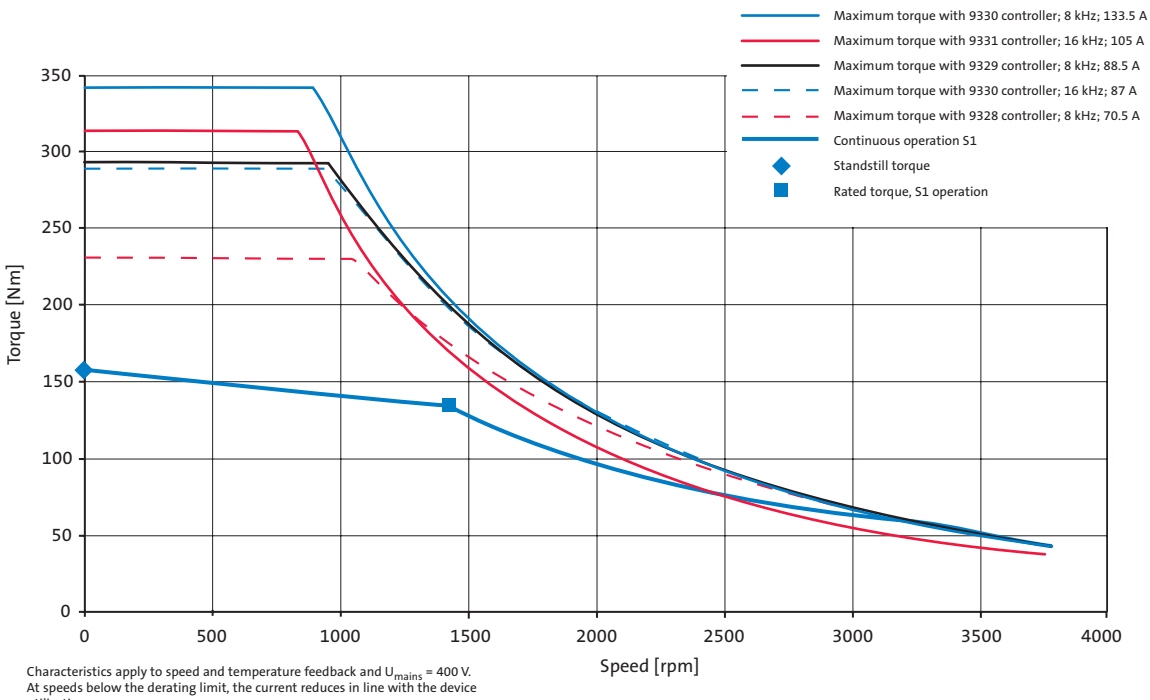
## Torque characteristics

### MDFQA 112-22, 50, Star connection with blower




Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
At speeds below the derating limit, the current reduces in line with the device utilisation.

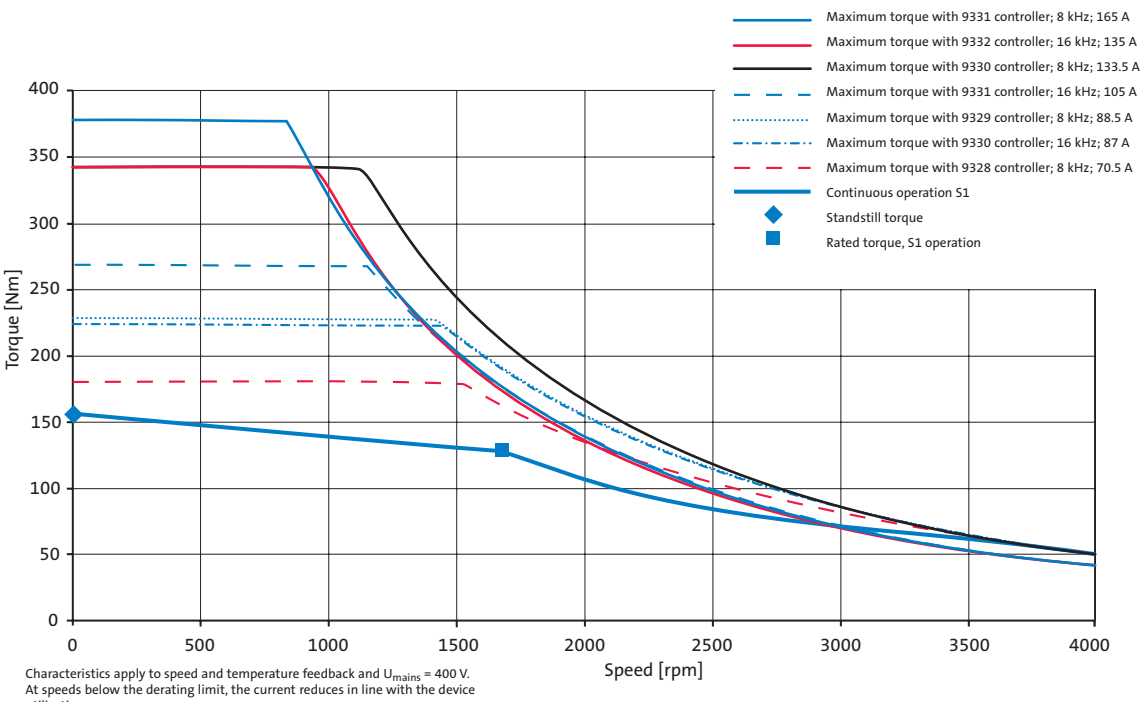
### MDFQA 112-22, 50, Delta connection with blower




Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
At speeds below the derating limit, the current reduces in line with the device utilisation.

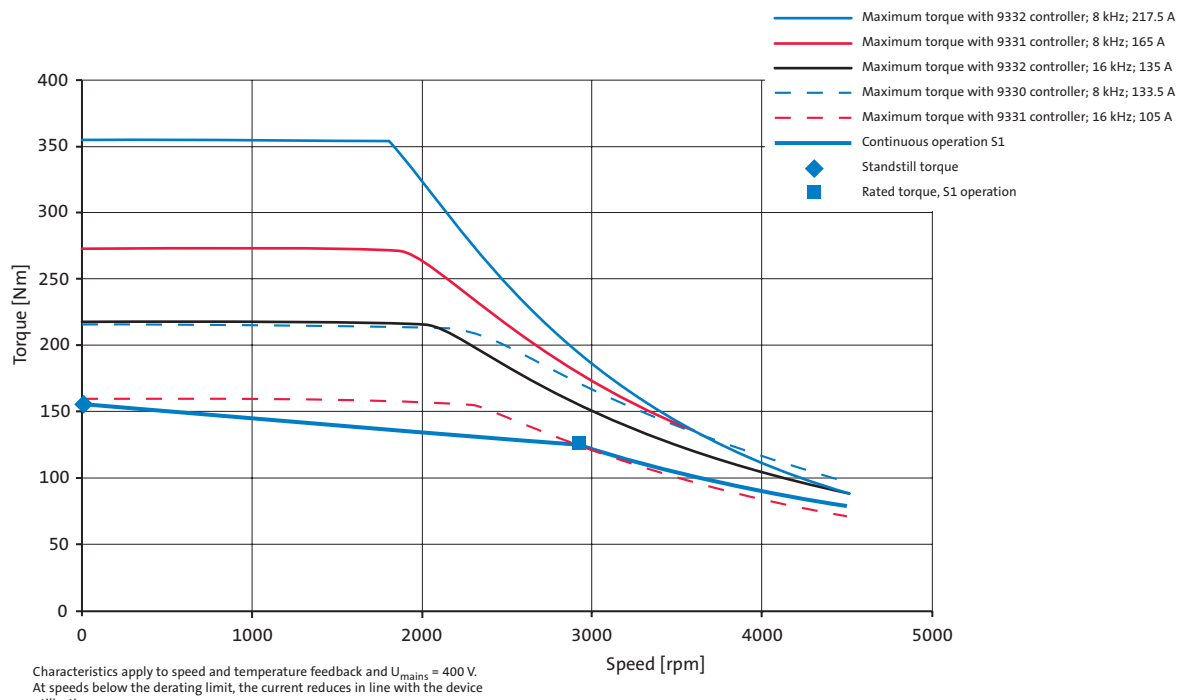
## Torque characteristics

### MDFQA 112-22, 100, Star connection with blower




Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
At speeds below the derating limit, the current reduces in line with the device utilisation.

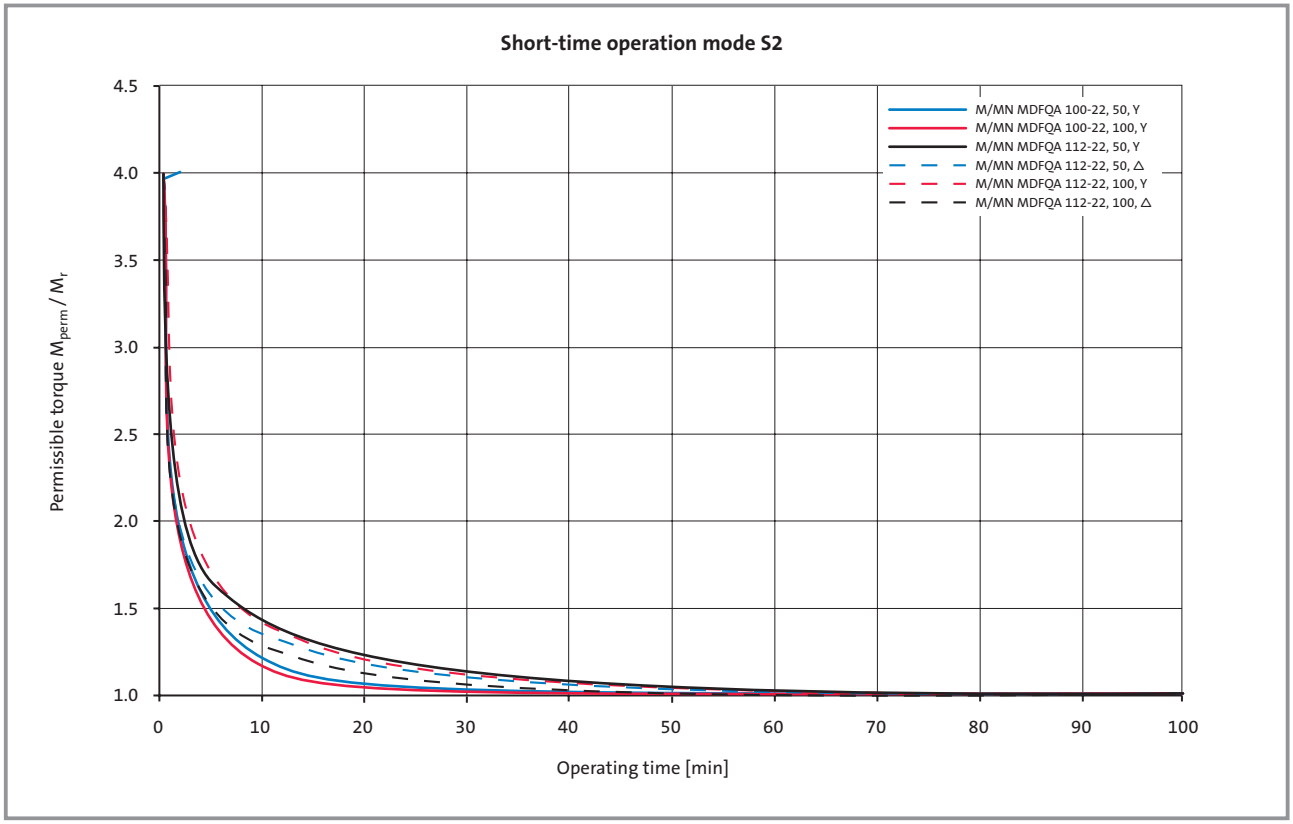
### MDFQA 112-22, 100, Delta connection with blower



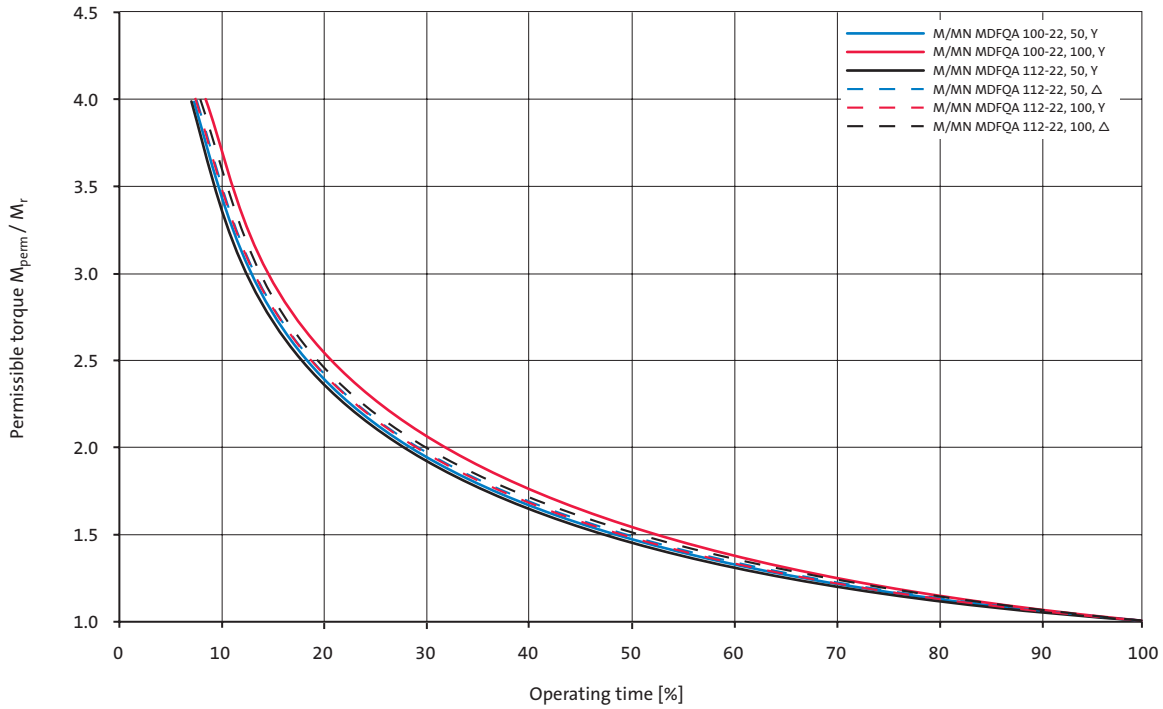

Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
At speeds below the derating limit, the current reduces in line with the device utilisation.

## Short-time operation characteristic

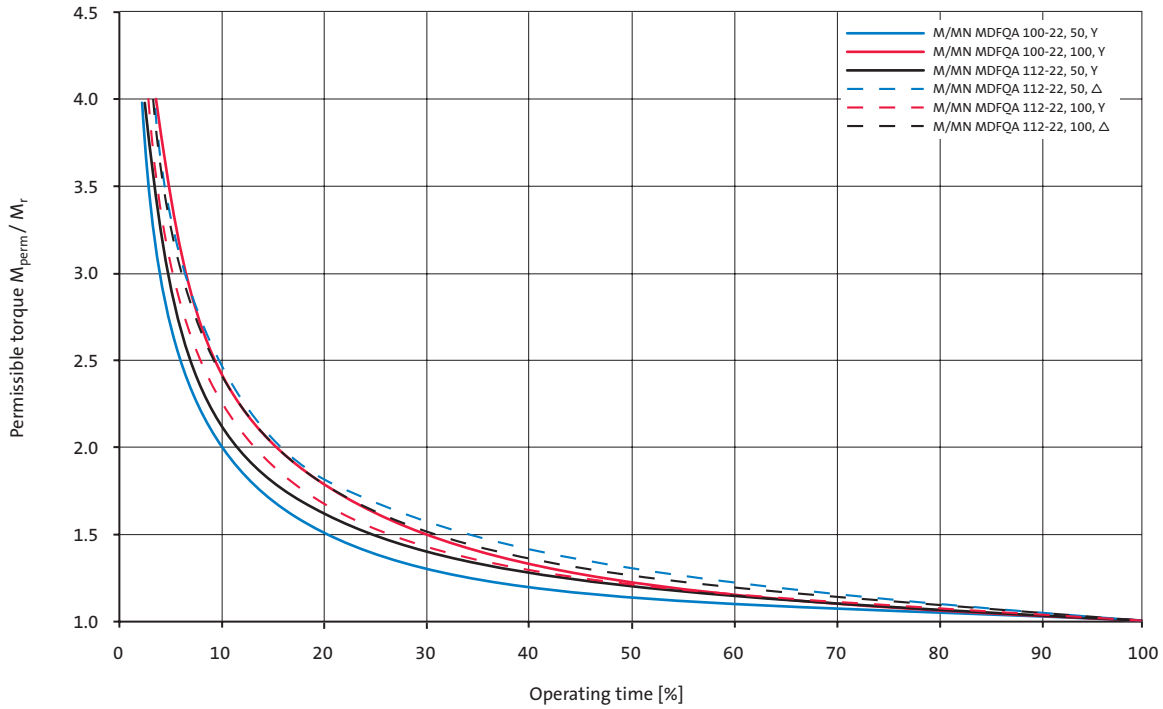
Lenze MDFQA servo motors can generate high torque peaks. In order to make full use of this highly dynamic response as simply as possible, without overloading the motor, the following diagrams for operating modes S2 and S6 illustrate the permissible operating times against the torque peaks required.



**Short-time operation mode S6, 1 min load cycle duration**

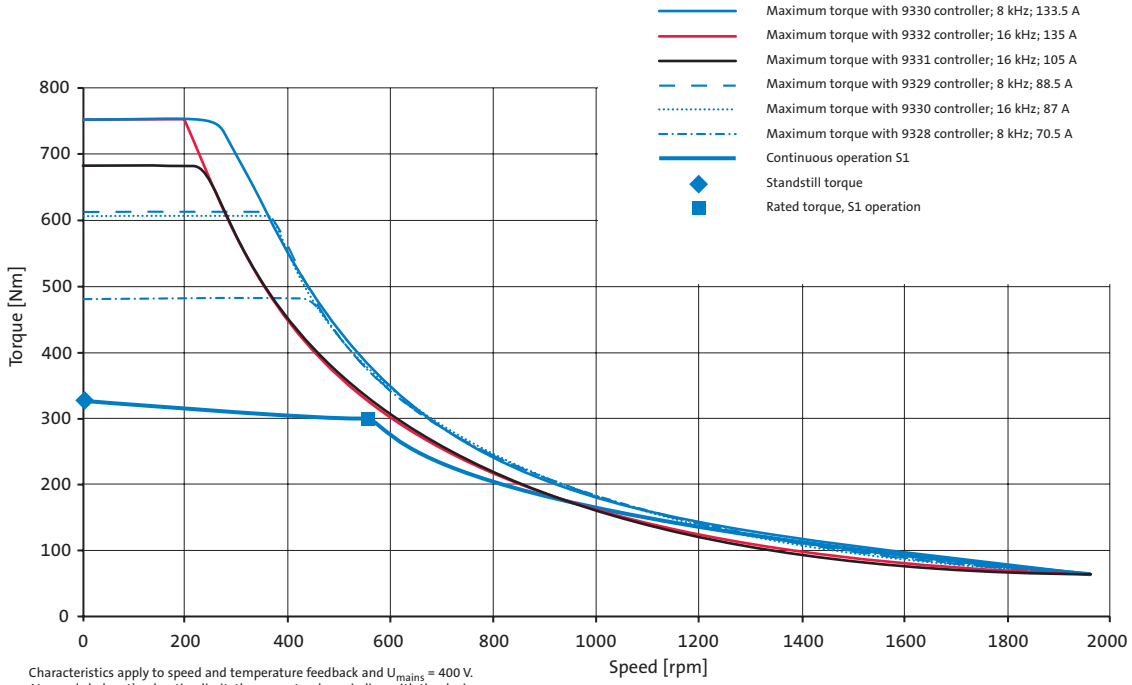



**Short-time operation mode S6, 10 min load cycle duration**



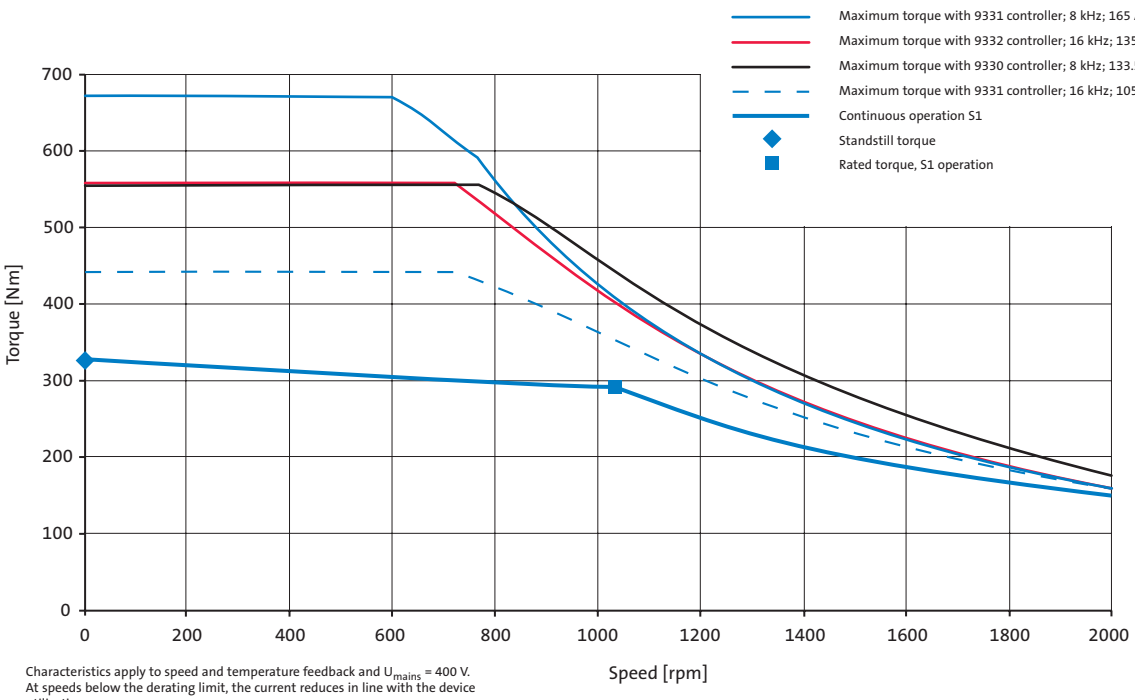
## Torque characteristics

### MDFQA 132-32, 36, star connection with blower




Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
At speeds below the derating limit, the current reduces in line with the device utilisation.

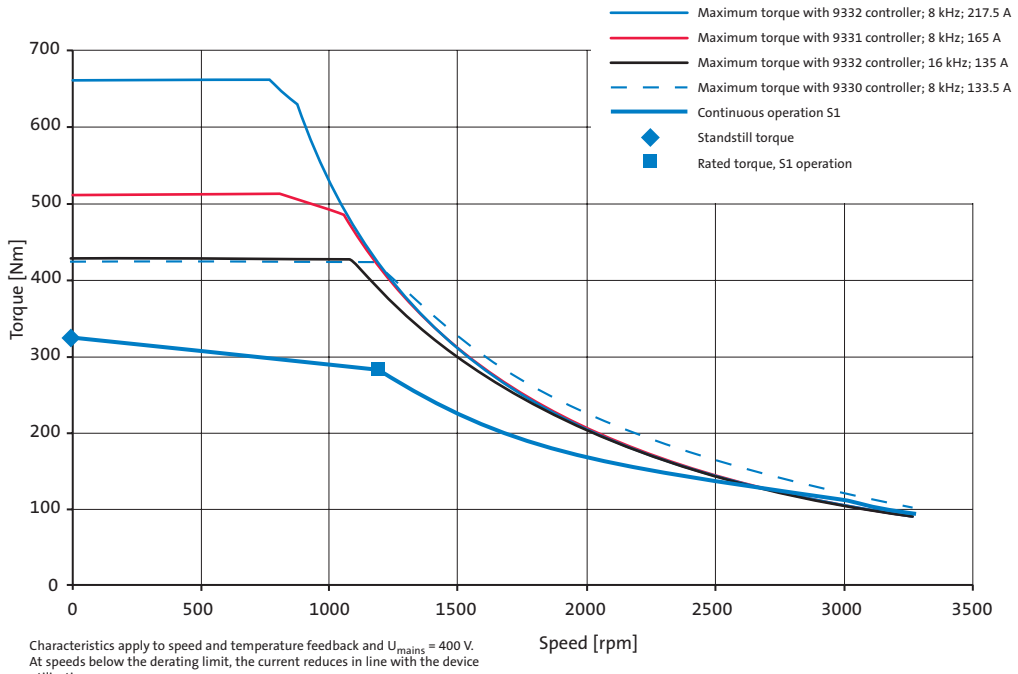
### MDFQA 132-32, 36, delta connection with blower




Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
At speeds below the derating limit, the current reduces in line with the device utilisation.

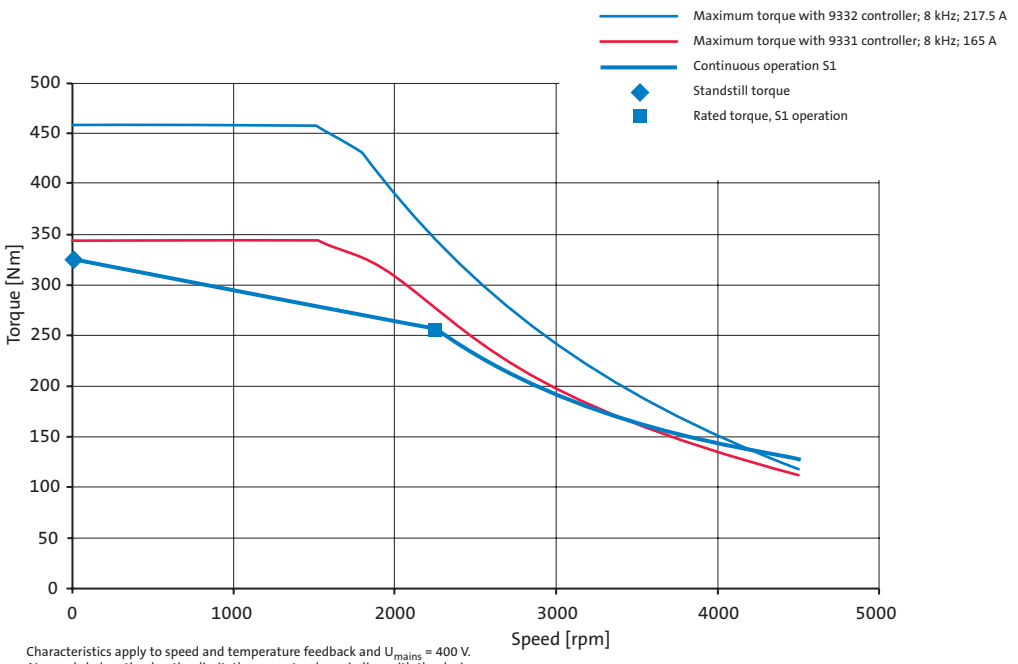
## Torque characteristics

### MDFQA 132-32, 76, star connection with blower




Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
At speeds below the derating limit, the current reduces in line with the device utilisation.

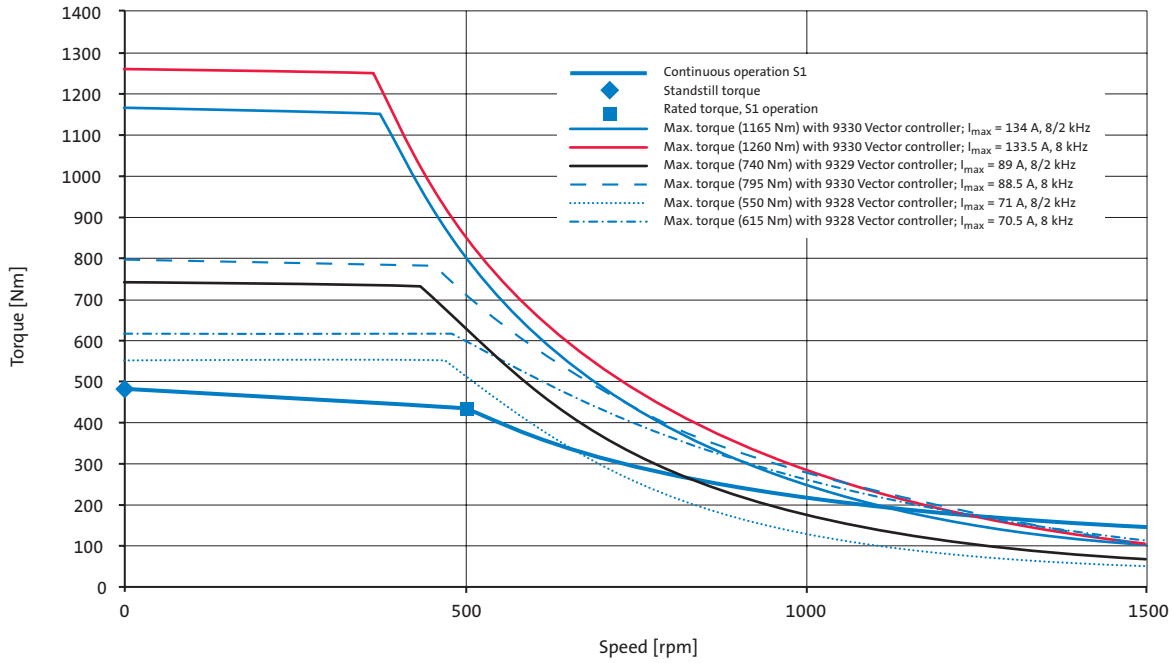
### MDFQA 132-32, 76, delta connection with blower




Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
At speeds below the derating limit, the current reduces in line with the device utilisation.

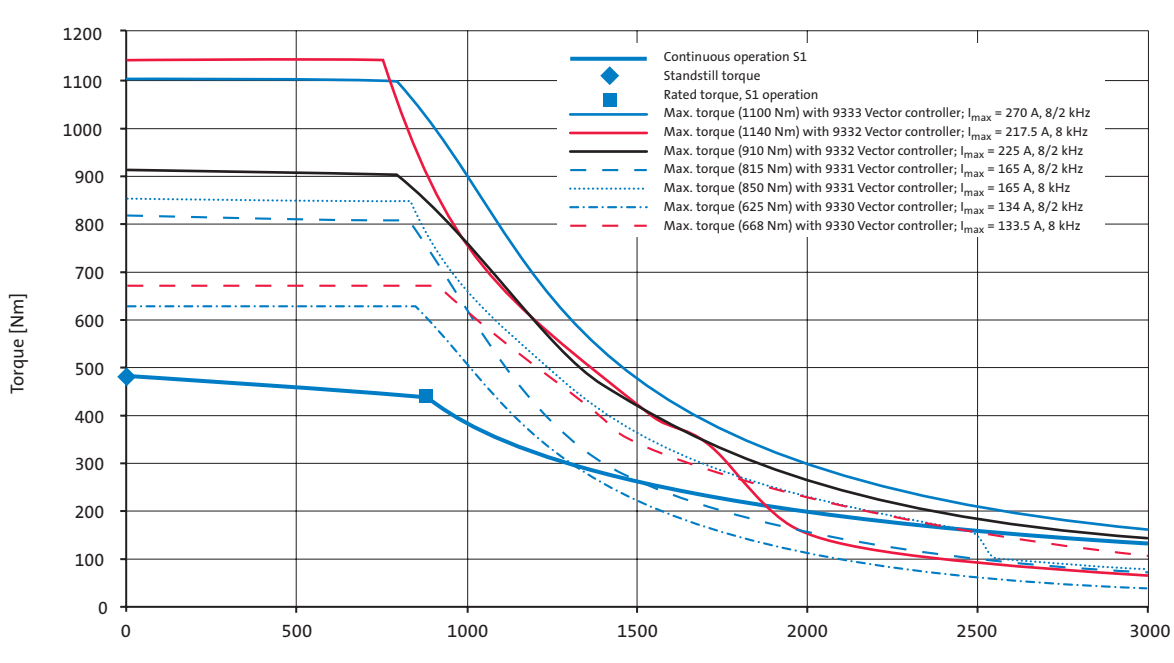
## Torque characteristics

### MDFQA 160-32, 31, star connection with blower




Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
Take account of derating at frequencies <5 Hz!

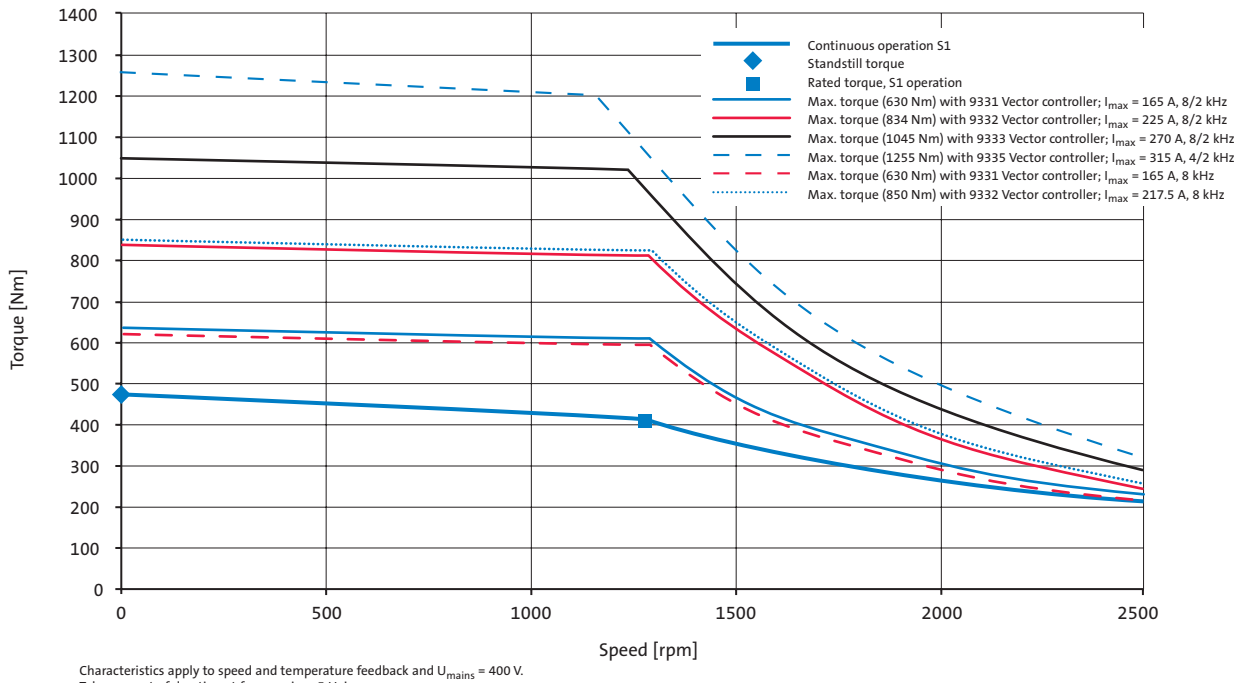
### MDFQA 160-32, 31, delta connection with blower




Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
Take account of derating at frequencies <5 Hz!

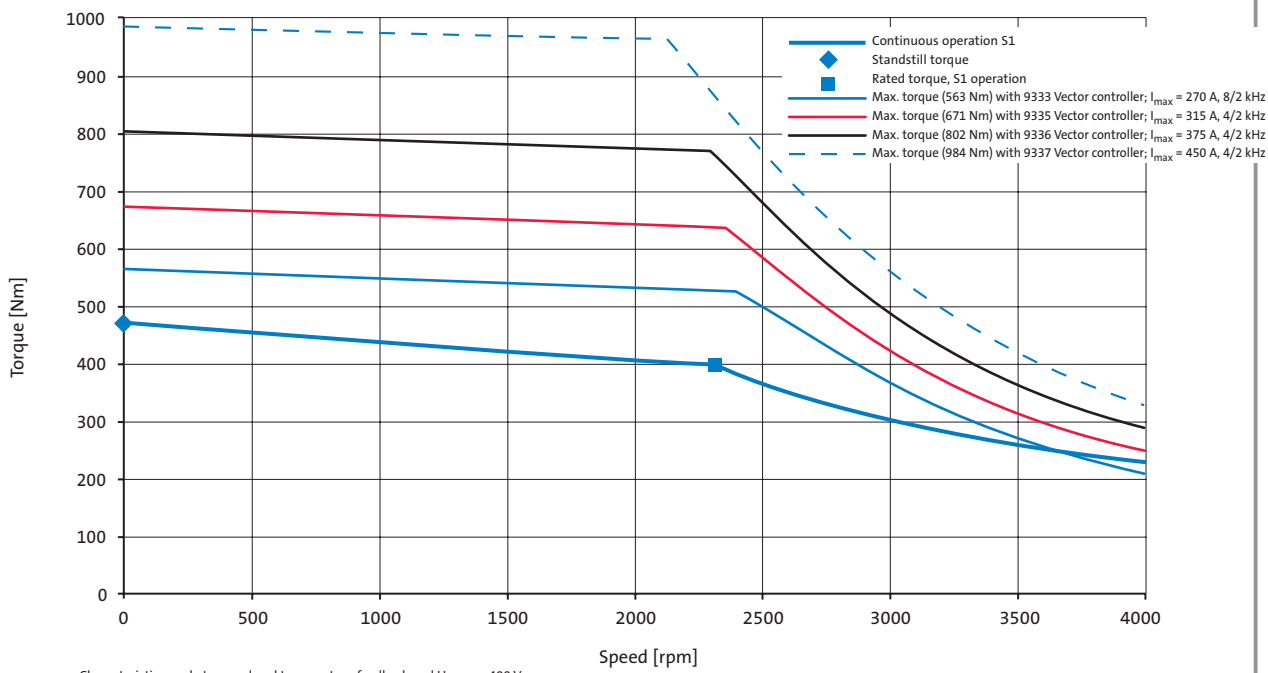
## Torque characteristics

### MDFQA 160-32, 78, star connection with blower




Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
Take account of derating at frequencies <5 Hz!

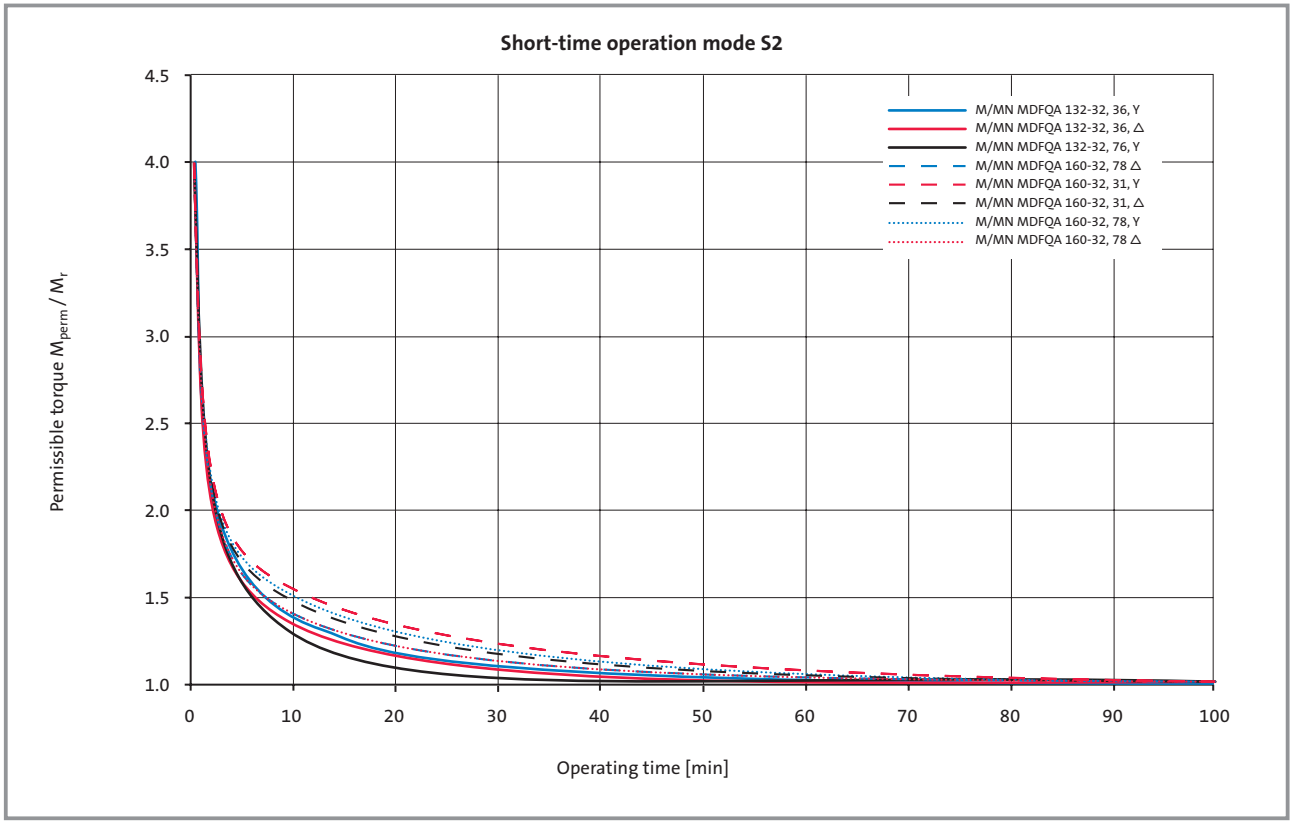
### MDFQA 160-32, 78, delta connection with blower

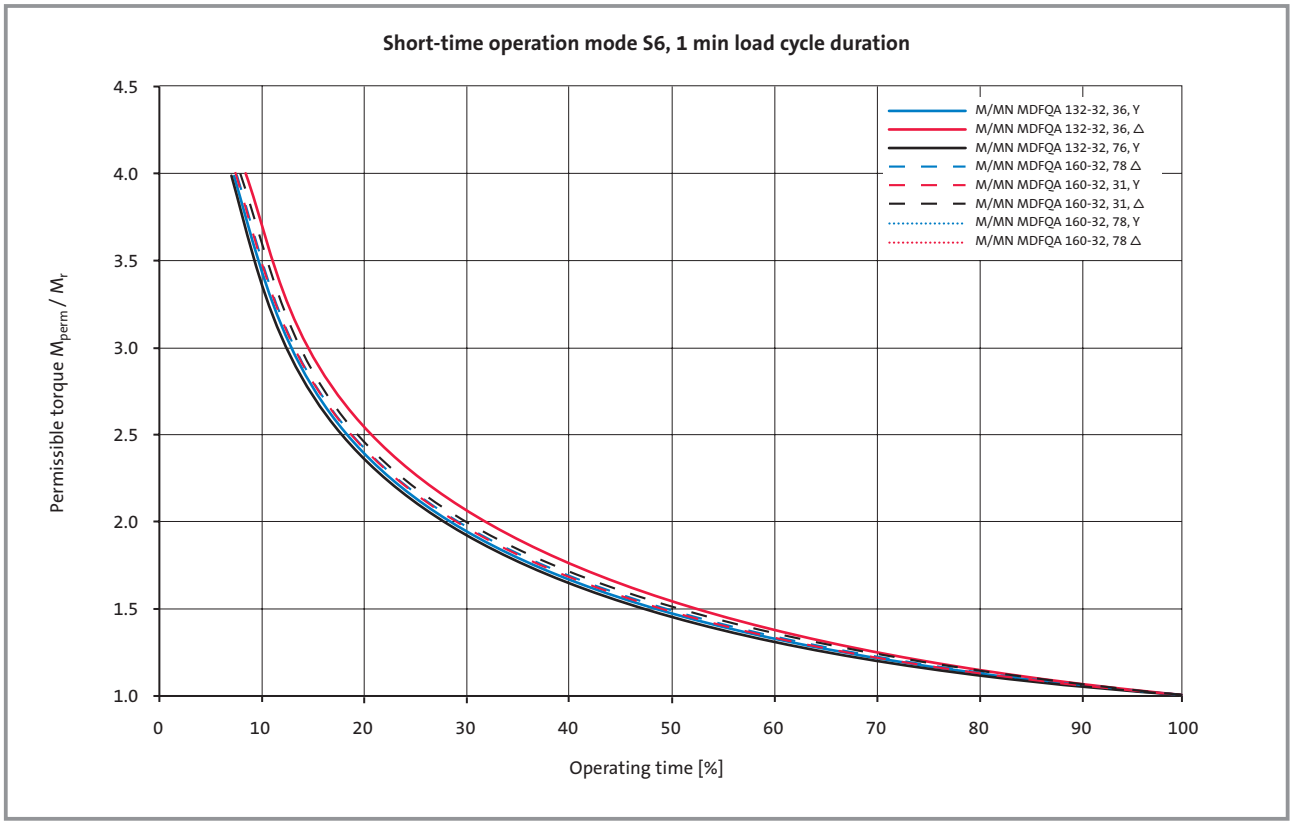



Characteristics apply to speed and temperature feedback and $U_{mains}$ = 400 V.
Take account of derating at frequencies <5 Hz!

## Short-time operation characteristic

Lenze MDFQA servo motors can generate high torque peaks. In order to make full use of this highly dynamic response as simply as possible, without overloading the motor, the following diagrams for operating modes S2 and S6 illustrate the permissible operating times against the torque peaks required.




Short-time operation mode S6, 1 min load cycle duration
Permissible torque $M_{perm}$ / $M_r$
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0
10
20
30
40
50
60
70
80
90
100
Operating time [%]
M/MN MDFQA 132-32, 36, Y
M/MN MDFQA 132-32, 36, Δ
M/MN MDFQA 132-32, 76, Y
M/MN MDFQA 160-32, 78 Δ
M/MN MDFQA 160-32, 31, Y
M/MN MDFQA 160-32, 31, Δ
M/MN MDFQA 160-32, 78, Y
M/MN MDFQA 160-32, 78 Δ


Short-time operation mode S6, 10 min load cycle duration
Permissible torque $M_{perm}$ / $M_r$
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0
10
20
30
40
50
60
70
80
90
100
Operating time [%]
M/MN MDFQA 132-32, 36, Y
M/MN MDFQA 132-32, 36, Δ
M/MN MDFQA 132-32, 76, Y
M/MN MDFQA 160-32, 78 Δ
M/MN MDFQA 160-32, 31, Y
M/MN MDFQA 160-32, 31, Δ
M/MN MDFQA 160-32, 78, Y
M/MN MDFQA 160-32, 78 Δ