

# Synchronous motors

## Dimensional drawings

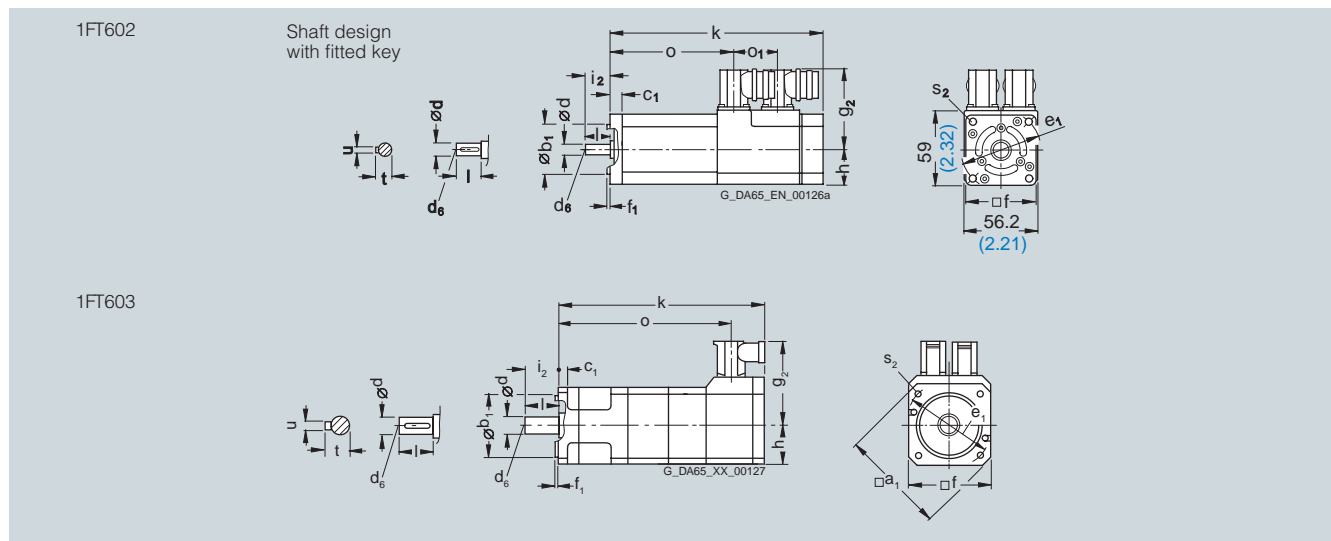
### 1FT6 motors without/with DRIVE-CLiQ Natural cooling

#### Dimensional drawings

| For motor  |         | Dimensions in mm (inches) |                  |                  |                   |                  |               |                  |                    |                  |              |                  |                  |                | Encoder system:<br>Resolver |                |               |     |
|--|---------|---------------------------|------------------|------------------|-------------------|------------------|---------------|------------------|--------------------|------------------|--------------|------------------|------------------|----------------|-----------------------------|----------------|---------------|-----|
| Shaft height   | Type    | DIN IEC                   | a <sub>1</sub> P | b <sub>1</sub> N | c <sub>1</sub> LA | e <sub>1</sub> M | f AB          | f <sub>1</sub> T | Without DRIVE-CLiQ | With DRIVE-CLiQ  | h H          | i <sub>2</sub> - | s <sub>2</sub> S | o <sub>1</sub> | without brake               |                | with brake    |     |
|  |         |                           |                  |                  |                   |                  |               |                  | g <sub>2</sub> -   | g <sub>2</sub> - |              |                  |                  |                | k LB                        | o -            | k LB          | o - |
| <b>1FT6, type of construction IM B5, natural cooling, with connector, without/with brake</b> |         |                           |                  |                  |                   |                  |               |                  |                    |                  |              |                  |                  |                |                             |                |               |     |
| 28   | 1FT6021 | -                         | 40<br>(1.57)     | 9.8<br>(0.39)    | 63<br>(2.48)      | 55<br>(2.17)     | 2.5<br>(0.10) | 64<br>(2.52)     | 73.5<br>(2.89)     | 28<br>(1.10)     | 20<br>(0.79) | 5.8<br>(0.23)    | 34.5<br>(1.36)   | 193<br>(7.60)  | 122<br>(4.80)               | 218<br>(8.58)  | 147<br>(5.79) |     |
|  | 1FT6024 |                           |                  |                  |                   |                  |               |                  |                    |                  |              |                  |                  | 233<br>(9.17)  | 162<br>(6.38)               | 258<br>(10.16) | 187<br>(7.36) |     |
| 36   | 1FT6031 | 92<br>(3.62)              | 60<br>(2.36)     | 8<br>(0.31)      | 75<br>(2.95)      | 72<br>(2.83)     | 3<br>(0.12)   | 76<br>(2.99)     | 86<br>(3.39)       | 36<br>(1.42)     | 30<br>(1.18) | 5.5<br>(0.22)    | -                | 180<br>(7.09)  | 151<br>(5.94)               | 200<br>(7.87)  | 171<br>(6.73) |     |
|  | 1FT6034 |                           |                  |                  |                   |                  |               |                  |                    |                  |              |                  |                  | 220<br>(8.66)  | 191<br>(7.52)               | 240<br>(9.45)  | 211<br>(8.31) |     |

| Shaft height | Type    | DIN IEC | Encoder system:<br>Incremental encoder<br>Absolute encoder |               |                |               | DE shaft extension  |                  |              |                |             |
|--------------|---------|---------|--|---------------|----------------|---------------|---------------------|------------------|--------------|----------------|-------------|
|              |         |         | k LB   | o -           | k LB           | o -           | d D                 | d <sub>6</sub> - | l E          | t GA           | u F         |
| 28           | 1FT6021 |         | 193<br>(7.60)  | 122<br>(4.80) | 218<br>(8.58)  | 147<br>(5.79) | <b>9</b><br>(0.35)  | M3               | 20<br>(0.79) | 10.2<br>(0.40) | 3<br>(0.12) |
|              | 1FT6024 |         | 233<br>(9.17)  | 162<br>(6.38) | 258<br>(10.16) | 187<br>(7.36) |                     |                  |              |                |             |
| 36           | 1FT6031 |         | 220<br>(8.66)  | 151<br>(5.94) | 240<br>(9.45)  | 171<br>(6.73) | <b>14</b><br>(0.55) | M5               | 30<br>(1.18) | 16<br>(0.63)   | 5<br>(0.20) |
|              | 1FT6034 |         | 260<br>(10.24)   | 191<br>(7.52) | 280<br>(11.02) | 211<br>(8.31) |                     |                  |              |                |             |

7



# Synchronous motors

## Dimensional drawings

### 1FT6 motors without/with DRIVE-CLiQ Natural cooling

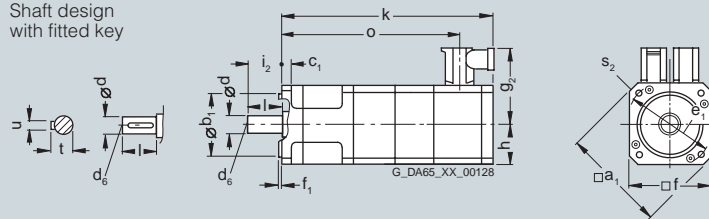
#### Dimensional drawings

| For motor  |         | Dimensions in mm (inches) |                     |                     |                      |                     |               |                     |                           |                        |              |                     |                                   |                                   | Encoder system:<br>Resolver |               |                |                |
|--|---------|---------------------------|---------------------|---------------------|----------------------|---------------------|---------------|---------------------|---------------------------|------------------------|--------------|---------------------|-----------------------------------|-----------------------------------|-----------------------------|---------------|----------------|----------------|
| Shaft height   | Type    | DIN IEC                   | a <sub>1</sub><br>P | b <sub>1</sub><br>N | c <sub>1</sub><br>LA | e <sub>1</sub><br>M | f<br>AB       | f <sub>1</sub><br>T | Without<br>DRIVE-<br>CLiQ | With<br>DRIVE-<br>CLiQ | h<br>H       | i <sub>2</sub><br>- | s <sub>2</sub> <sup>1)</sup><br>S | s <sub>2</sub> <sup>2)</sup><br>S | without brake               |               | with brake     |                |
|  |         |                           |                     |                     |                      |                     |               |                     | g <sub>2</sub><br>-       | g <sub>2</sub><br>-    |              |                     |                                   |                                   | k<br>LB                     | o<br>-        | k<br>LB        | o<br>-         |
| <b>1FT6, type of construction IM B5, natural cooling, with connector, without/with brake</b> |         |                           |                     |                     |                      |                     |               |                     |                           |                        |              |                     |                                   |                                   |                             |               |                |                |
| 48   | 1FT6041 |                           | 120<br>(4.72)       | 80<br>(3.15)        | 10<br>(0.39)         | 100<br>(3.94)       | 96<br>(3.78)  | 3<br>(0.12)         | 80<br>(3.15)              | 90<br>(3.54)           | 48<br>(1.89) | 40<br>(1.57)        | 7<br>(0.28)                       | M6                                | 185<br>(7.28)               | 159<br>(6.26) | 220<br>(8.66)  | 194<br>(7.64)  |
|  | 1FT6044 |                           |                     |                     |                      |                     |               |                     |                           |                        |              |                     |                                   |                                   | 235<br>(9.25)               | 209<br>(8.23) | 270<br>(10.63) | 244<br>(9.61)  |
| 63   | 1FT6061 |                           | 146<br>(5.75)       | 110<br>(4.33)       | 10<br>(0.39)         | 130<br>(5.12)       | 116<br>(4.57) | 3.5<br>(0.14)       | 90<br>(3.54)              | 100<br>(3.94)          | 58<br>(2.28) | 50<br>(1.97)        | 9<br>(0.35)                       | M8                                | 194<br>(7.64)               | 172<br>(6.77) | 224<br>(8.82)  | 202<br>(7.95)  |
|  | 1FT6062 |                           |                     |                     |                      |                     |               |                     |                           |                        |              |                     |                                   |                                   | 219<br>(8.62)               | 197<br>(7.76) | 249<br>(9.80)  | 227<br>(8.94)  |
|  | 1FT6064 |                           |                     |                     |                      |                     |               |                     |                           |                        |              |                     |                                   |                                   | 269<br>(10.59)              | 247<br>(9.72) | 299<br>(11.77) | 277<br>(10.91) |

| Shaft height | Type    | DIN IEC | Encoder system:<br>Incremental encoder<br>Absolute encoder |                      |                          |                      | DE shaft extension  |                     |              |                |             |  |  |  |
|--------------|---------|---------|--|----------------------|--------------------------|----------------------|---------------------|---------------------|--------------|----------------|-------------|--|--|--|
|              |         |         | without brake<br>k<br>LB                                   | with brake<br>o<br>- | without brake<br>k<br>LB | with brake<br>o<br>- | d<br>D              | d <sub>6</sub><br>- | l<br>E       | t<br>GA        | u<br>F      |  |  |  |
| 48           | 1FT6041 |         | 228<br>(8.98)  | 157<br>(6.18)        | 263<br>(10.35)           | 192<br>(7.56)        | <b>19</b><br>(0.75) | M6                  | 40<br>(1.57) | 21.5<br>(0.85) | 6<br>(0.24) |  |  |  |
|              | 1FT6044 |         | 278<br>(10.94)   | 207<br>(8.15)        | 313<br>(12.32)           | 242<br>(9.53)        |                     |                     |              |                |             |  |  |  |
| 63           | 1FT6061 |         | 228<br>(8.98)  | 172<br>(6.77)        | 258<br>(10.16)           | 202<br>(7.95)        | <b>24</b><br>(0.94) | M8                  | 50<br>(1.97) | 27<br>(1.06)   | 8<br>(0.31) |  |  |  |
|              | 1FT6062 |         | 253<br>(9.96)  | 197<br>(7.76)        | 283<br>(11.14)           | 227<br>(8.94)        |                     |                     |              |                |             |  |  |  |
|              | 1FT6064 |         | 303<br>(11.93)   | 247<br>(9.72)        | 333<br>(13.11)           | 277<br>(10.91)       |                     |                     |              |                |             |  |  |  |

1FT604  
1FT606

Shaft design  
with fitted key



<sup>1)</sup> IM B5.

<sup>2)</sup> IM B14.

# Synchronous motors

## Dimensional drawings

### 1FT6 motors without/with DRIVE-CLiQ Natural cooling

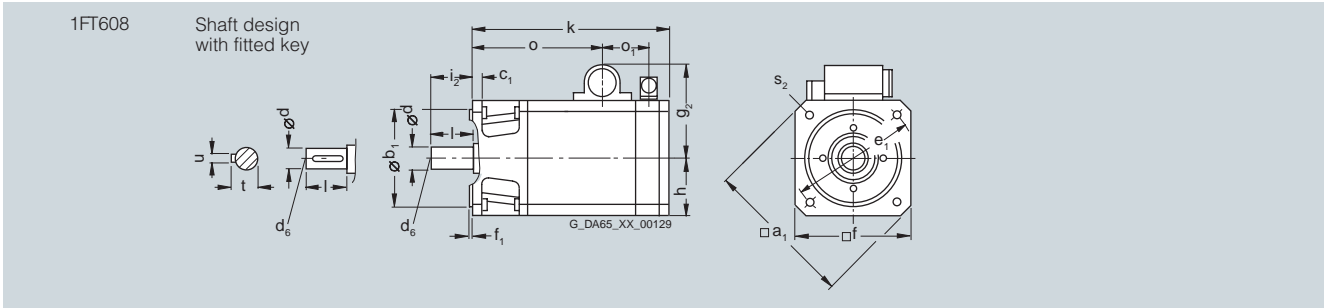
#### Dimensional drawings

For motor Dimensions in mm (inches)

| Shaft height   | Type    | DIN IEC | a <sub>1</sub> P | b <sub>1</sub> N | c <sub>1</sub> LA | e <sub>1</sub> M | f AB          | f <sub>1</sub> T | g <sub>2</sub> - | h H            | i <sub>2</sub> - | s <sub>2</sub> <sup>1)</sup> S | s <sub>2</sub> <sup>2)</sup> S | o <sub>1</sub> - | Encoder system:<br>Resolver |               |                |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---------|---------|------------------|------------------|-------------------|------------------|---------------|------------------|------------------|----------------|------------------|--------------------------------|--------------------------------|------------------|-----------------------------|---------------|----------------|----------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|  |         |         |                  |                  |                   |                  |               |                  |                  |                |                  |                                |                                |                  | without brake               |               | with brake     |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |         |         |                  |                  |                   |                  |               |                  |                  |                |                  |                                |                                |                  | k LB                        | o -           | k LB           | o -            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>1FT6, type of construction IM B5, natural cooling, with connector, without/with brake</b> |         |         |                  |                  |                   |                  |               |                  |                  |                |                  |                                |                                |                  |                             |               |                |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 80   | 1FT6081 |         | 194<br>(7.64)    | 130<br>(5.12)    | 12<br>(0.47)      | 165<br>(6.50)    | 155<br>(6.10) | 3.5<br>(0.14)    | 127.5<br>(5.02)  | 77.5<br>(3.05) | 58<br>(2.28)     | 11<br>(0.43)                   | M10                            | 76<br>(2.99)     | 221<br>(8.70)               | 113<br>(4.45) | 248<br>(9.76)  | 140<br>(5.51)  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 1FT6082 |         |                  |                  |                   |                  |               |                  |                  |                |                  |                                |                                |                  | 246<br>(9.69)               | 138<br>(5.43) | 273<br>(10.75) | 165<br>(6.50)  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 1FT6084 |         |                  |                  |                   |                  |               |                  |                  |                |                  |                                |                                |                  | 296<br>(11.65)              | 188<br>(7.40) | 342<br>(13.46) | 234<br>(9.21)  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 1FT6086 |         |                  |                  |                   |                  |               |                  |                  |                |                  |                                |                                |                  | 346<br>(13.62)              | 238<br>(9.37) | 392<br>(15.43) | 284<br>(11.18) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

| Shaft height | Type    | DIN IEC | Encoder system:<br>Incremental encoder<br>Absolute encoder |               |                |                | DE shaft extension         |                  |              |              |              |      |     |      |     |  |  |  |  |  |
|--------------|---------|---------|--|---------------|----------------|----------------|----------------------------|------------------|--------------|--------------|--------------|------|-----|------|-----|--|--|--|--|--|
|              |         |         | without brake  |               | with brake     |                | d D                        | d <sub>6</sub> - | l E          | t GA         | u F          |      |     |      |     |  |  |  |  |  |
|              |         |         |  |               |                |                |                            |                  |              |              |              | k LB | o - | k LB | o - |  |  |  |  |  |
| 80           | 1FT6081 |         | 221<br>(8.70)  | 113<br>(4.45) | 248<br>(9.76)  | 140<br>(5.51)  | <b>32</b><br><b>(1.26)</b> | M12              | 58<br>(2.28) | 35<br>(1.38) | 10<br>(0.39) |      |     |      |     |  |  |  |  |  |
|              | 1FT6082 |         | 246<br>(9.69)  | 138<br>(5.43) | 273<br>(10.75) | 165<br>(6.50)  |                            |                  |              |              |              |      |     |      |     |  |  |  |  |  |
|              | 1FT6084 |         | 296<br>(11.65)   | 188<br>(7.40) | 342<br>(13.46) | 234<br>(9.21)  |                            |                  |              |              |              |      |     |      |     |  |  |  |  |  |
|              | 1FT6086 |         | 346<br>(13.62)   | 238<br>(9.37) | 392<br>(15.43) | 284<br>(11.18) |                            |                  |              |              |              |      |     |      |     |  |  |  |  |  |

7



1) IM B5.  
2) IM B14.

# Synchronous motors

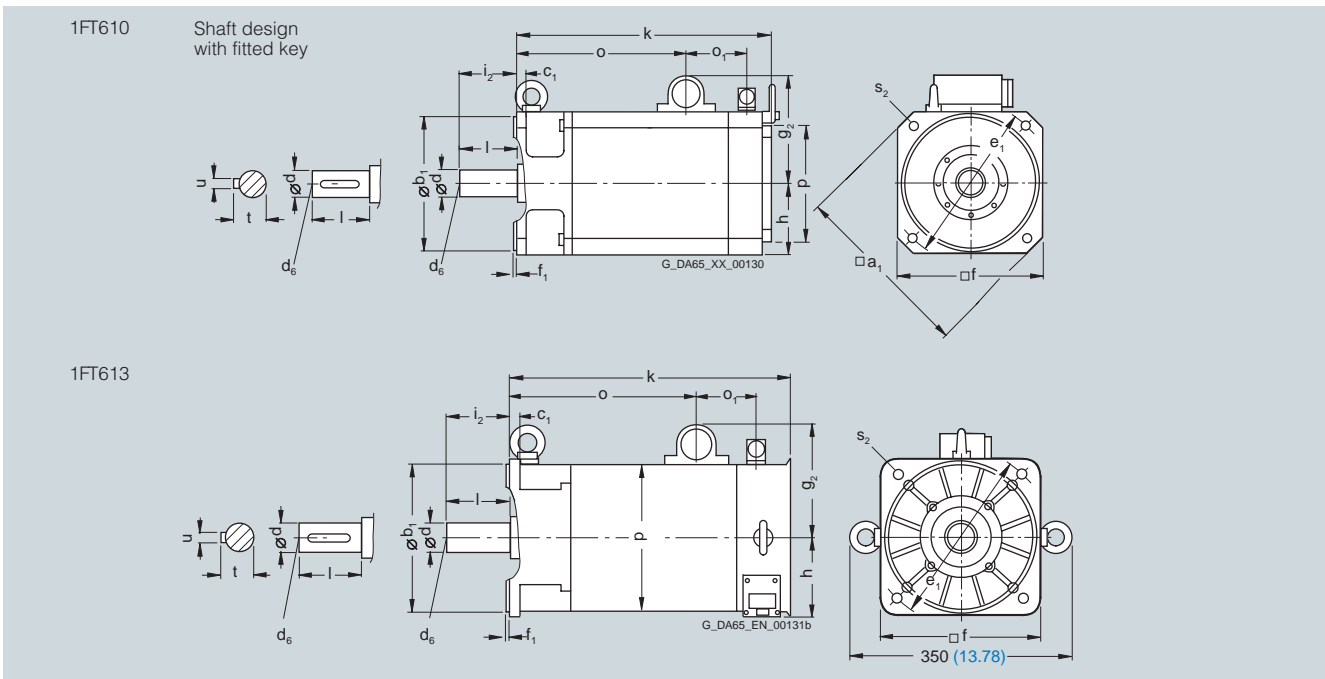
## Dimensional drawings

### 1FT6 motors without/with DRIVE-CLiQ Natural cooling

#### Dimensional drawings

| For motor  |                               | Dimensions in mm (inches) |                  |                  |                   |                  |                |                  |                 |                 |               |                  |               |                                |                                |                  |
|--|-------------------------------|---------------------------|------------------|------------------|-------------------|------------------|----------------|------------------|-----------------|-----------------|---------------|------------------|---------------|--------------------------------|--------------------------------|------------------|
| Shaft height   | Type                          | DIN IEC                   | a <sub>1</sub> P | b <sub>1</sub> N | c <sub>1</sub> LA | e <sub>1</sub> M | f AB           | f <sub>1</sub> T | Connector Size  |                 | h H           | i <sub>2</sub> - | p HD          | s <sub>2</sub> <sup>1)</sup> S | s <sub>2</sub> <sup>2)</sup> S | o <sub>1</sub> - |
|  |                               |                           |                  |                  |                   |                  |                |                  | 1.5             | 3               |               |                  |               |                                |                                |                  |
| <b>1FT6, type of construction IM B5, natural cooling, with connector, without/with brake</b> |                               |                           |                  |                  |                   |                  |                |                  |                 |                 |               |                  |               |                                |                                |                  |
| 100  | 1FT6102<br>1FT6105<br>1FT6108 |                           | 240<br>(9.45)    | 180<br>(7.09)    | 13<br>(0.51)      | 215<br>(8.46)    | 192<br>(7.56)  | 4<br>(0.16)      | 146<br>(5.75)   | 172<br>(6.77)   | 96<br>(3.78)  | 80<br>(3.15)     | 155<br>(6.10) | 14<br>(0.55)                   | M12                            | 76<br>(2.99)     |
| 132  | 1FT6132<br>1FT6134<br>1FT6136 |                           | -                | 250<br>(9.84)    | 18<br>(0.71)      | 300<br>(11.81)   | 260<br>(10.24) | 5<br>(0.20)      | 172.5<br>(6.79) | 198.5<br>(7.81) | 132<br>(5.20) | 82<br>(3.23)     | 245<br>(9.65) | 18<br>(0.71)                   | -                              | 66<br>(2.60)     |

| Shaft height | Type    | DIN IEC | Encoder system: |                |                |                |                     |                |                  |                | DE shaft extension  |     |              |                |              |
|--------------|---------|---------|-----------------|----------------|----------------|----------------|---------------------|----------------|------------------|----------------|---------------------|-----|--------------|----------------|--------------|
|              |         |         | Resolver        |                |                |                | Incremental encoder |                |                  |                | Absolute encoder    |     |              |                |              |
|              |         |         | without brake   |                | with brake     |                | without brake       |                | with brake       |                | without brake       |     | with brake   |                |              |
| k LB         | o -     | k LB    | o -             | k LB           | o -            | k LB           | o -                 | d D            | d <sub>6</sub> - | l E            | t GA                | u F |              |                |              |
| 100          | 1FT6102 |         | 295<br>(11.61)  | 186<br>(7.32)  | 341<br>(13.43) | 232<br>(9.13)  | 295<br>(11.61)      | 186<br>(7.32)  | 341<br>(13.43)   | 232<br>(9.13)  | <b>38</b><br>(1.50) | M12 | 80<br>(3.15) | 41<br>(1.61)   | 10<br>(0.39) |
|              | 1FT6105 |         | 370<br>(14.57)  | 261<br>(10.28) | 416<br>(16.38) | 307<br>(12.09) | 370<br>(14.57)      | 261<br>(10.28) | 416<br>(16.38)   | 307<br>(12.09) |                     |     |              |                |              |
|              | 1FT6108 |         | 470<br>(18.50)  | 361<br>(14.21) | 516<br>(20.31) | 407<br>(16.02) | 470<br>(18.50)      | 361<br>(14.21) | 516<br>(20.31)   | 407<br>(16.02) |                     |     |              |                |              |
| 132          | 1FT6132 |         | 423<br>(16.65)  | 288<br>(11.34) | 473<br>(18.62) | 338<br>(13.31) | 423<br>(16.65)      | 288<br>(11.34) | 473<br>(18.62)   | 338<br>(13.31) | <b>48</b><br>(1.89) | M16 | 82<br>(3.23) | 52.5<br>(2.07) | 14<br>(0.55) |
|              | 1FT6134 |         | 473<br>(18.62)  | 338<br>(13.31) | 523<br>(20.59) | 388<br>(15.28) | 473<br>(18.62)      | 338<br>(13.31) | 523<br>(20.59)   | 388<br>(15.28) |                     |     |              |                |              |
|              | 1FT6136 |         | 523<br>(20.59)  | 388<br>(15.28) | 573<br>(22.56) | 438<br>(17.24) | 523<br>(20.59)      | 388<br>(15.28) | 573<br>(22.56)   | 438<br>(17.24) |                     |     |              |                |              |



1) IM B5.  
2) IM B14.

# Synchronous motors

## Dimensional drawings

### 1FT6 motors without/with DRIVE-CLiQ Natural cooling

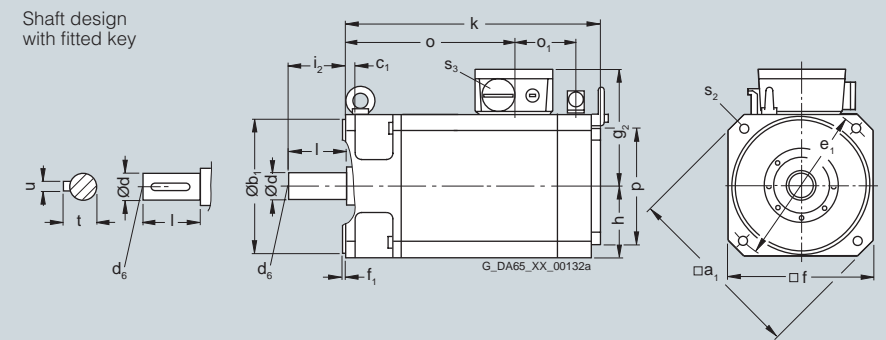
#### Dimensional drawings

| For motor   |                               | Dimensions in mm (inches) |                  |                  |                   |                  |                |                  |       |       |                  |                  |              |                  |               | Terminal box                   |                                |                  |                  |
|---|-------------------------------|---------------------------|------------------|------------------|-------------------|------------------|----------------|------------------|-------|-------|------------------|------------------|--------------|------------------|---------------|--------------------------------|--------------------------------|------------------|------------------|
| Shaft height  | Type                          | DIN IEC                   | a <sub>1</sub> P | b <sub>1</sub> N | c <sub>1</sub> LA | e <sub>1</sub> M | f AB           | f <sub>1</sub> T | Type  |       | g <sub>2</sub> - | g <sub>2</sub> - | h H          | i <sub>2</sub> - | p HD          | s <sub>2</sub> <sup>1)</sup> S | s <sub>2</sub> <sup>2)</sup> S | s <sub>3</sub> - | o <sub>1</sub> - |
|   |                               |                           |                  |                  |                   |                  |                |                  | gk130 | gk230 |                  |                  |              |                  |               |                                |                                |                  |                  |
| <b>1FT6, type of construction IM B5, natural cooling, with terminal box, without/with brake</b> |                               |                           |                  |                  |                   |                  |                |                  |       |       |                  |                  |              |                  |               |                                |                                |                  |                  |
| 100   | 1FT6102<br>1FT6105<br>1FT6108 |                           | 240<br>(9.45)    | 180<br>(7.09)    | 13<br>(0.51)      | 215<br>(8.46)    | 192<br>(7.56)  | 4<br>(0.16)      |       |       | 155<br>(6.10)    | 160<br>(6.30)    | 96<br>(3.78) | 80<br>(3.15)     | 155<br>(6.10) | 14<br>(0.55)                   | M12                            | PG29             | 76<br>(2.99)     |
| 132   | 1FT6132<br>1FT6134<br>1FT6136 |                           | -                | 250<br>(9.84)    | 18<br>(0.71)      | 300<br>(11.81)   | 260<br>(10.24) | 5<br>(0.20)      |       |       | 194<br>(7.64)    | 132<br>(5.20)    | 82<br>(3.23) | 245<br>(9.65)    | 18<br>(0.71)  | -                              | PG29/<br>PG36                  | -                |                  |

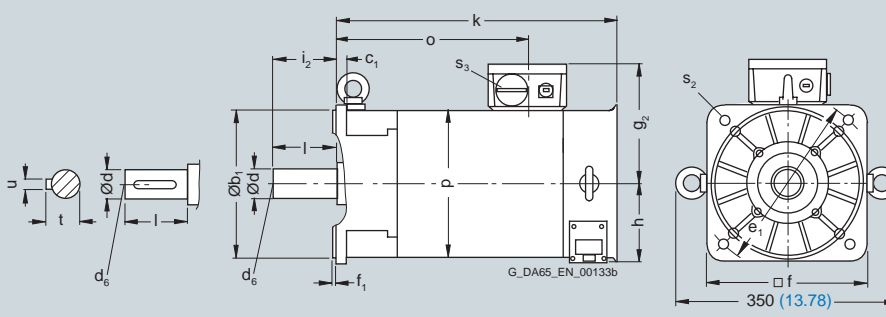
| Shaft height | Type                          | DIN IEC | Encoder system: |                |                |                |                     |                |                |                | DE shaft extension  |     |              |                |              |
|--------------|-------------------------------|---------|-----------------|----------------|----------------|----------------|---------------------|----------------|----------------|----------------|---------------------|-----|--------------|----------------|--------------|
|              |                               |         | Resolver        |                |                |                | Incremental encoder |                |                |                | Absolute encoder    |     |              |                |              |
|              |                               |         | without brake   |                | with brake     |                | without brake       |                | with brake     |                | without brake       |     | with brake   |                |              |
| k LB         | o -                           | k LB    | o -             | k LB           | o -            | k LB           | o -                 | k LB           | o -            | d D            | d <sub>6</sub> -    | l E | t GA         | u F            |              |
| 100          | 1FT6102<br>1FT6105<br>1FT6108 |         | 295<br>(11.61)  | 186<br>(7.32)  | 341<br>(13.43) | 232<br>(9.13)  | 295<br>(11.61)      | 186<br>(7.32)  | 341<br>(13.43) | 232<br>(9.13)  | <b>38</b><br>(1.50) | M12 | 80<br>(3.15) | 41<br>(1.61)   | 10<br>(0.39) |
| 132          | 1FT6132<br>1FT6134<br>1FT6136 |         | 423<br>(16.65)  | 288<br>(11.34) | 473<br>(18.62) | 338<br>(13.31) | 423<br>(16.65)      | 288<br>(11.34) | 473<br>(18.62) | 338<br>(13.31) | <b>48</b><br>(1.89) | M16 | 82<br>(3.23) | 51.5<br>(2.03) | 14<br>(0.55) |

1FT610

Shaft design with fitted key



1FT613



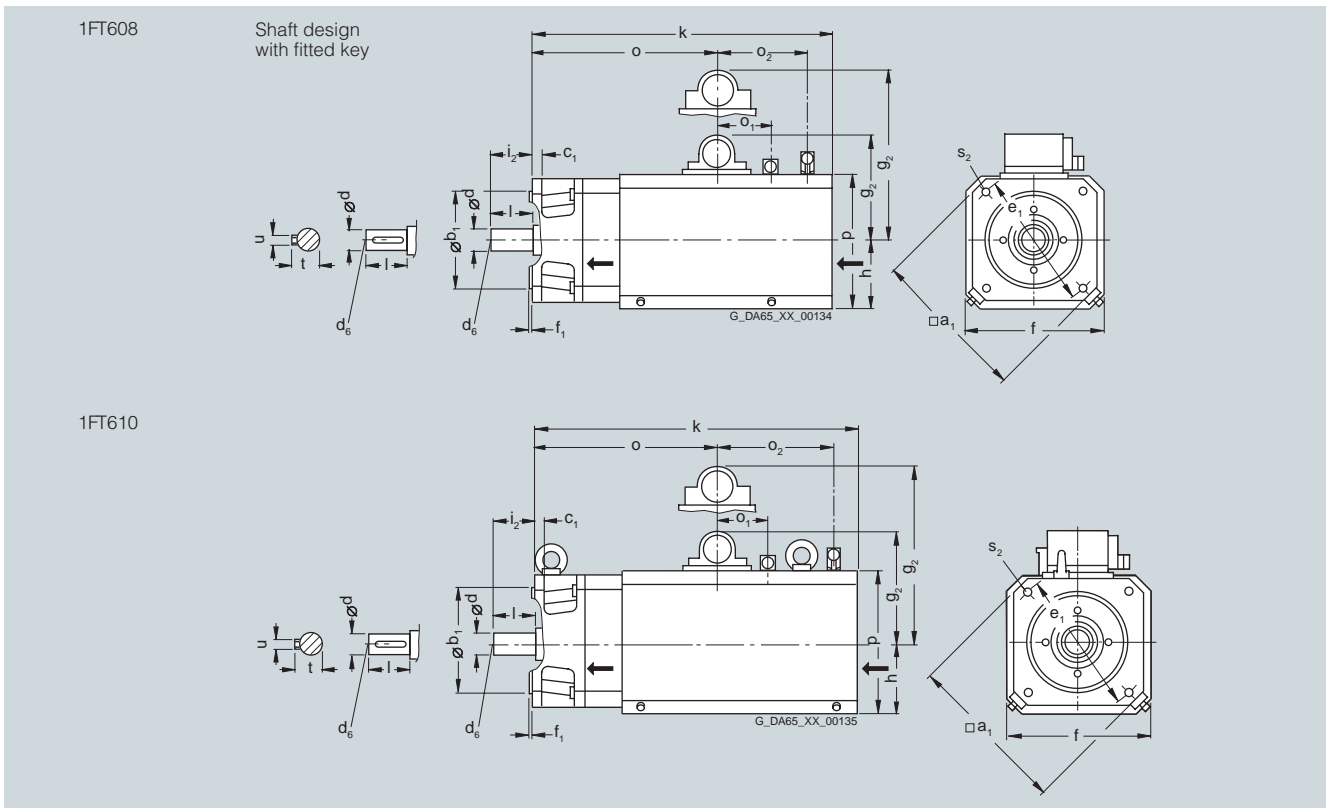
1) IM B5.  
2) IM B14.

**1FT6 motors without/with DRIVE-CLiQ  
Forced ventilation**

### Dimensional drawings

| For motor   |                    | Dimensions in mm (inches) |                     |                     |                      |                     |               |                     |                |               |               |                     |               |                                   |                                   |                     |                     |
|---|--------------------|---------------------------|---------------------|---------------------|----------------------|---------------------|---------------|---------------------|----------------|---------------|---------------|---------------------|---------------|-----------------------------------|-----------------------------------|---------------------|---------------------|
| Shaft height  | Type               | DIN IEC                   | a <sub>1</sub><br>P | b <sub>1</sub><br>N | c <sub>1</sub><br>LA | e <sub>1</sub><br>M | f<br>AB       | f <sub>1</sub><br>T | Connector Size |               | h<br>H        | i <sub>2</sub><br>- | p<br>HD       | s <sub>2</sub> <sup>1)</sup><br>S | s <sub>2</sub> <sup>2)</sup><br>S | o <sub>1</sub><br>- | o <sub>2</sub><br>- |
|   |                    |                           |                     |                     |                      |                     |               |                     | 1.5            | 3             |               |                     |               |                                   |                                   |                     |                     |
| <b>1FT6, type of construction IM B5, forced ventilation, with connector, without/with brake</b> |                    |                           |                     |                     |                      |                     |               |                     |                |               |               |                     |               |                                   |                                   |                     |                     |
| 80  | 1FT6084<br>1FT6086 |                           | 194<br>(7.64)       | 130<br>(5.12)       | 12<br>(0.47)         | 165<br>(6.50)       | 185<br>(7.28) | 3.5<br>(0.14)       | 140<br>(5.51)  | 154<br>(6.06) | 93<br>(3.66)  | 58<br>(2.28)        | 175<br>(6.89) | 11<br>(0.43)                      | M10                               | 76<br>(2.99)        | 169<br>(6.65)       |
| 100   | 1FT6105<br>1FT6108 |                           | 240<br>(9.45)       | 180<br>(7.09)       | 13<br>(0.51)         | 215<br>(8.46)       | 221<br>(8.70) | 4<br>(0.16)         | 158<br>(6.22)  | 172<br>(6.77) | 111<br>(4.37) | 80<br>(3.15)        | 212<br>(8.35) | 14<br>(0.55)                      | M12                               | 76<br>(2.99)        | 170<br>(6.69)       |

| Shaft height | Type               | DIN IEC | Encoder system: |                |                |                | DE shaft extension  |                |              |              |              |
|--------------|--------------------|---------|-----------------|----------------|----------------|----------------|---------------------|----------------|--------------|--------------|--------------|
|              |                    |         | without brake   |                | with brake     |                | d                   | d <sub>6</sub> | l            | t            | u            |
|              |                    |         | k<br>LB         | o<br>-         | k<br>LB        | o<br>-         | D                   | -              | E            | GA           | F            |
| 80           | 1FT6084<br>1FT6086 |         | 399<br>(15.71)  | 188<br>(7.40)  | 445<br>(17.52) | 234<br>(9.21)  | <b>32</b><br>(1.26) | M12            | 58<br>(2.28) | 35<br>(1.38) | 10<br>(0.39) |
| 100          | 1FT6105<br>1FT6108 |         | 473<br>(18.62)  | 261<br>(10.28) | 519<br>(20.43) | 307<br>(12.09) | <b>38</b><br>(1.50) | M12            | 80<br>(3.15) | 41<br>(1.61) | 10<br>(0.39) |



1) IM B5.  
2) IM B14.

# Synchronous motors

## Dimensional drawings

### 1FT6 motors without/with DRIVE-CLiQ Forced ventilation

#### Dimensional drawings

For motor Dimensions in mm (inches)

| Shaft height | Type | DIN IEC | a <sub>1</sub> P | b <sub>1</sub> N | c <sub>1</sub> LA | e <sub>1</sub> M | f AB | f <sub>1</sub> T | g <sub>2</sub> - | h H | i <sub>2</sub> - | p HD | s <sub>2</sub> <sup>1)</sup> S | s <sub>2</sub> <sup>2)</sup> S | o <sub>1</sub> - | o <sub>2</sub> - |
|--------------|------|---------|------------------|------------------|-------------------|------------------|------|------------------|------------------|-----|------------------|------|--------------------------------|--------------------------------|------------------|------------------|
|--------------|------|---------|------------------|------------------|-------------------|------------------|------|------------------|------------------|-----|------------------|------|--------------------------------|--------------------------------|------------------|------------------|

Connector Size  
3

#### 1FT6, type of construction IM B5, forced ventilation, with connector, without/with brake

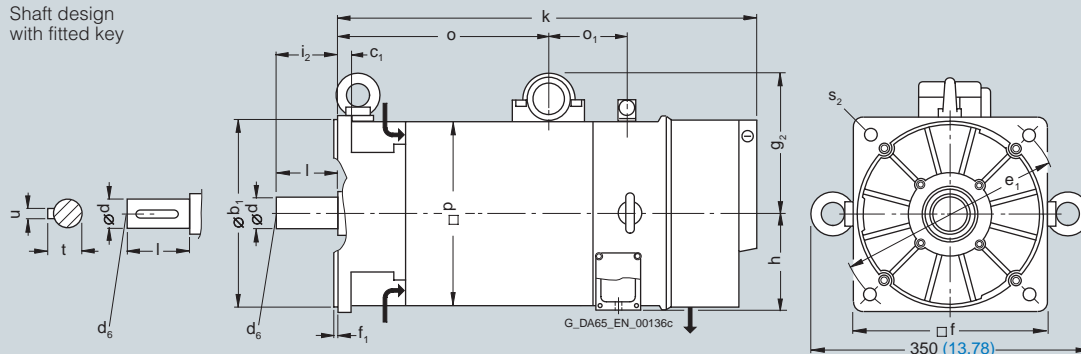
|     |                               |   |               |              |                |                |             |                 |               |              |               |              |   |              |   |
|-----|-------------------------------|---|---------------|--------------|----------------|----------------|-------------|-----------------|---------------|--------------|---------------|--------------|---|--------------|---|
| 132 | 1FT6132<br>1FT6134<br>1FT6136 | - | 250<br>(9.84) | 18<br>(0.71) | 300<br>(11.81) | 260<br>(10.24) | 5<br>(0.20) | 198.5<br>(7.81) | 132<br>(5.20) | 82<br>(3.23) | 245<br>(9.65) | 18<br>(0.71) | - | 66<br>(2.60) | - |
|-----|-------------------------------|---|---------------|--------------|----------------|----------------|-------------|-----------------|---------------|--------------|---------------|--------------|---|--------------|---|

| Shaft height | Type | DIN IEC | Encoder system: |            | DE shaft extension |     | d D | d <sub>6</sub> - | l E | t GA | u F |
|--------------|------|---------|-----------------|------------|--------------------|-----|-----|------------------|-----|------|-----|
|              |      |         | without brake   | with brake | k LB               | o - |     |                  |     |      |     |

|     |         |                |                |                |                |                            |     |              |                |              |
|-----|---------|----------------|----------------|----------------|----------------|----------------------------|-----|--------------|----------------|--------------|
| 132 | 1FT6132 | 541<br>(21.30) | 288<br>(11.34) | 591<br>(23.27) | 338<br>(13.31) | <b>48</b><br><b>(1.89)</b> | M16 | 82<br>(3.23) | 51.5<br>(2.03) | 14<br>(0.55) |
|     | 1FT6134 | 591<br>(23.27) | 338<br>(13.31) | 641<br>(25.24) | 388<br>(15.28) |                            |     |              |                |              |
|     | 1FT6136 | 641<br>(25.24) | 388<br>(15.28) | 691<br>(27.20) | 438<br>(17.24) |                            |     |              |                |              |

1FT613

Shaft design with fitted key



7

1) IM B5.

2) IM B14.

# Synchronous motors

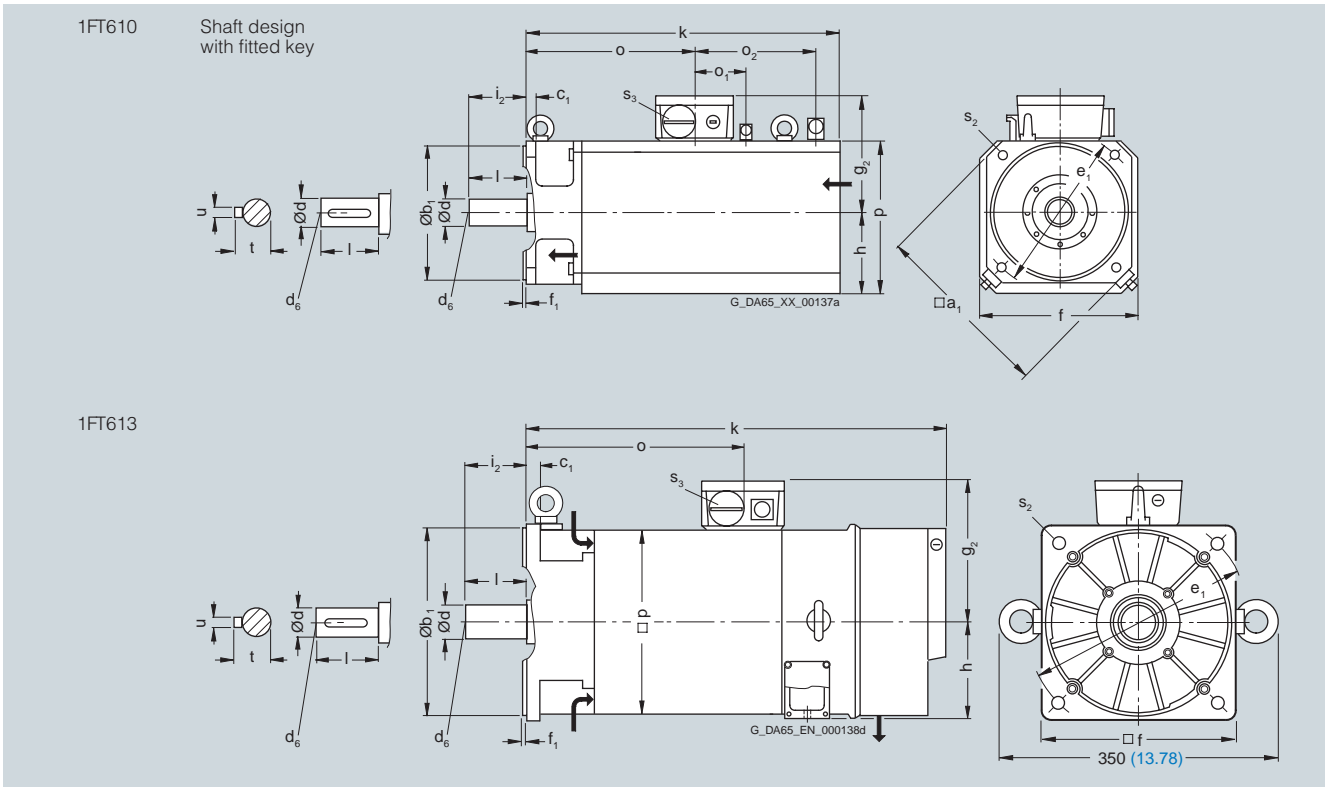
## Dimensional drawings

**1FT6 motors without/with DRIVE-CLiQ  
Forced ventilation**

**Dimensional drawings**

| For motor  |                               | Dimensions in mm (inches) |                     |                     |                      |                     |                |                     |               |                 |               |               |                     |               |                                   |                                   |                     |
|--|-------------------------------|---------------------------|---------------------|---------------------|----------------------|---------------------|----------------|---------------------|---------------|-----------------|---------------|---------------|---------------------|---------------|-----------------------------------|-----------------------------------|---------------------|
| Shaft height   | Type                          | DIN IEC                   | a <sub>1</sub><br>P | b <sub>1</sub><br>N | c <sub>1</sub><br>LA | e <sub>1</sub><br>M | f<br>AB        | f <sub>1</sub><br>T | Terminal box  |                 |               | h<br>H        | i <sub>2</sub><br>- | p<br>HD       | s <sub>2</sub> <sup>1)</sup><br>S | s <sub>2</sub> <sup>2)</sup><br>S | s <sub>3</sub><br>- |
|  |                               |                           |                     |                     |                      |                     |                |                     | Type          | gk130           | gk230         |               |                     |               |                                   |                                   |                     |
| <b>1FT6, type of construction IM B5, forced ventilation, with terminal box, without/with brake</b> |                               |                           |                     |                     |                      |                     |                |                     |               |                 |               |               |                     |               |                                   |                                   |                     |
| 100  | 1FT6105<br>1FT6108            |                           | 240<br>(9.45)       | 180<br>(7.09)       | 13<br>(0.51)         | 215<br>(8.46)       | 221<br>(8.70)  | 4<br>(0.16)         | 167<br>(6.57) | 172<br>(6.77)   | -             | 111<br>(4.37) | 80<br>(3.15)        | 212<br>(8.35) | 14<br>(0.55)                      | M12                               | PG29                |
| 132  | 1FT6132<br>1FT6134<br>1FT6136 |                           | -                   | 250<br>(9.84)       | 18<br>(0.71)         | 300<br>(11.81)      | 260<br>(10.24) | 5<br>(0.20)         | -             | 186.5<br>(7.34) | 202<br>(7.95) | 132<br>(5.20) | 82<br>(3.23)        | 245<br>(9.65) | 18<br>(0.71)                      | -                                 | PG29/<br>PG36       |

| Shaft height | Type                          | DIN IEC | o <sub>1</sub><br>- | o <sub>2</sub><br>- | Encoder system: |                     |                  |                | DE shaft extension  |        |                     |                |              |
|--------------|-------------------------------|---------|---------------------|---------------------|-----------------|---------------------|------------------|----------------|---------------------|--------|---------------------|----------------|--------------|
|              |                               |         |                     |                     | Resolver        | Incremental encoder | Absolute encoder | without brake  | with brake          | d<br>D | d <sub>6</sub><br>- | l<br>E         | t<br>GA      |
| 100          | 1FT6105<br>1FT6108            |         | 76<br>(2.99)        | 170<br>(6.69)       | 473<br>(18.62)  | 261<br>(10.28)      | 519<br>(20.43)   | 307<br>(12.09) | <b>38</b><br>(1.50) | M12    | 80<br>(3.15)        | 41<br>(1.61)   | 10<br>(0.39) |
| 132          | 1FT6132<br>1FT6134<br>1FT6136 |         | -                   | -                   | 541<br>(21.30)  | 288<br>(11.34)      | 591<br>(23.27)   | 338<br>(13.31) | <b>48</b><br>(1.89) | M16    | 82<br>(3.23)        | 51.5<br>(2.03) | 14<br>(0.55) |



1) IM B5.  
2) IM B14.



# Synchronous motors

## Dimensional drawings

### 1FT6 motors without/with DRIVE-CLiQ Water cooling

#### Dimensional drawings

For motor Dimensions in mm (inches)

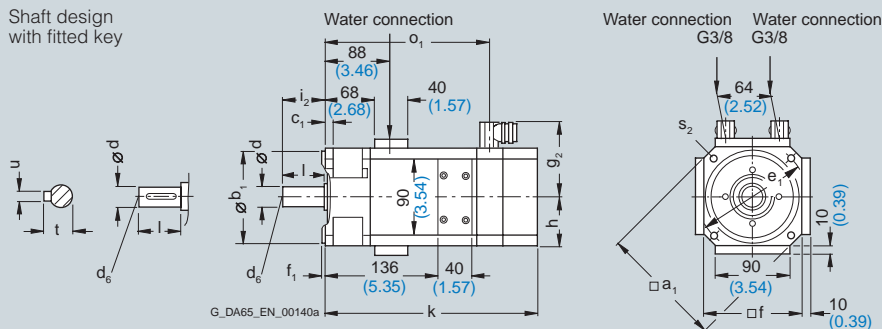
| Shaft height   | Type               | DIN IEC | a <sub>1</sub><br>P | b <sub>1</sub><br>N | c <sub>1</sub><br>LA | e <sub>1</sub><br>M | f<br>AB       | f <sub>1</sub><br>T | Connector Size  |              |                    |                 | h<br>H         | i <sub>2</sub> | p<br>HD | s <sub>2</sub> <sup>1)</sup><br>S | s <sub>2</sub> <sup>2)</sup><br>S |
|--|--------------------|---------|---------------------|---------------------|----------------------|---------------------|---------------|---------------------|-----------------|--------------|--------------------|-----------------|----------------|----------------|---------|-----------------------------------|-----------------------------------|
|  |                    |         |                     |                     |                      |                     |               |                     | With DRIVE-CLiQ |              | Without DRIVE-CLiQ |                 |                |                |         |                                   |                                   |
|  |                    |         |                     |                     |                      |                     |               |                     | 1               | 1            | 1.5                | 3               |                |                |         |                                   |                                   |
| <b>1FT6, type of construction IM B5, water cooling, with connector, without/with brake</b> |                    |         |                     |                     |                      |                     |               |                     |                 |              |                    |                 |                |                |         |                                   |                                   |
| 63   | 1FT6062<br>1FT6064 |         | 146<br>(5.75)       | 110<br>(4.33)       | 10<br>(0.39)         | 130<br>(5.12)       | 116<br>(4.57) | 3.5<br>(0.14)       | 100<br>(3.94)   | 99<br>(3.90) | -                  | -               | 58<br>(2.28)   | 50<br>(1.97)   | -       | 9<br>(0.35)                       | M8                                |
| 80   | 1FT6084<br>1FT6086 |         | 194<br>(7.64)       | 130<br>(5.12)       | 12<br>(0.47)         | 165<br>(6.50)       | 155<br>(6.10) | 3.5<br>(0.14)       | -               | -            | 139.5<br>(5.49)    | 153.5<br>(6.04) | 77.5<br>(3.05) | 58<br>(2.28)   | -       | 11<br>(0.43)                      | M10                               |

| Shaft height | Type               | DIN IEC | Encoder system: |                |                    |                    |                     |                    |                    |                    | DE shaft extension |                            |               |              |              |              |                    |  |                    |  |
|--------------|--------------------|---------|-----------------|----------------|--------------------|--------------------|---------------------|--------------------|--------------------|--------------------|--------------------|----------------------------|---------------|--------------|--------------|--------------|--------------------|--|--------------------|--|
|              |                    |         | Resolver        |                |                    |                    | Incremental encoder |                    |                    |                    | Absolute encoder   |                            | without brake |              | with brake   |              | without/with brake |  | without/with brake |  |
|              |                    |         | without brake   | with brake     | without/with brake | without/with brake | without/with brake  | without/with brake | without/with brake | without/with brake | d<br>D             | d <sub>6</sub>             | l<br>E        | t<br>GA      | u<br>F       |              |                    |  |                    |  |
| 63           | 1FT6062<br>1FT6064 |         | -               | -              | -                  | -                  | -                   | 253<br>(9.96)      | 227<br>(8.94)      | 283<br>(11.14)     | 227<br>(8.94)      | <b>24</b><br><b>(0.94)</b> | M8            | 50<br>(1.97) | 27<br>(1.06) | 8<br>(0.31)  |                    |  |                    |  |
|              |                    |         |                 |                |                    |                    |                     | 303<br>(11.93)     | 277<br>(10.91)     | 333<br>(13.11)     | 277<br>(10.91)     |                            |               |              |              |              |                    |  |                    |  |
| 80           | 1FT6084<br>1FT6086 |         | 76<br>(2.99)    | 296<br>(11.65) | 188<br>(7.40)      | 342<br>(13.46)     | 234<br>(9.21)       | -                  | -                  | -                  | -                  | <b>32</b><br><b>(1.26)</b> | M12           | 58<br>(2.28) | 35<br>(1.38) | 10<br>(0.39) |                    |  |                    |  |
|              |                    |         |                 |                |                    |                    |                     | 346<br>(13.62)     | 238<br>(9.37)      | 392<br>(15.43)     | 284<br>(11.18)     |                            |               |              |              |              |                    |  |                    |  |

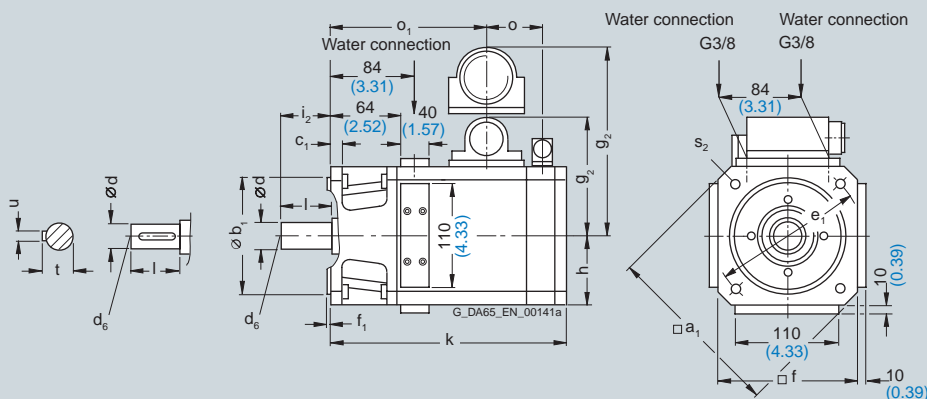
7

1FT606

Shaft design with fitted key



1FT608



1) IM B5.  
2) IM B14.

# Synchronous motors

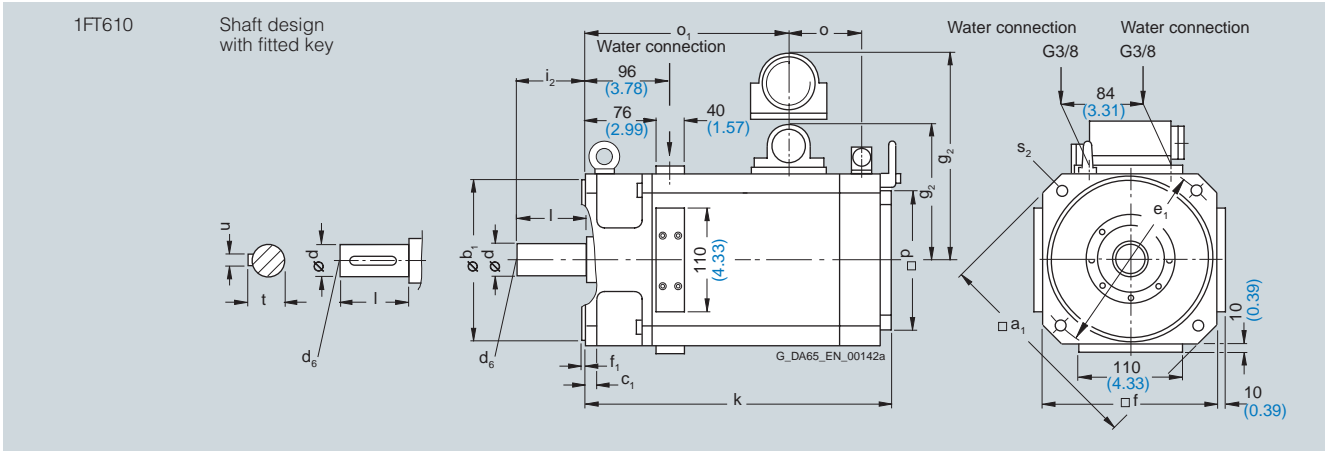
## Dimensional drawings

### 1FT6 motors without/with DRIVE-CLiQ Water cooling

#### Dimensional drawings

| For motor  |                    | Dimensions in mm (inches) |                  |                  |                   |                  |               |                  |                |               |              |                  |               |                                |                                |              |
|--|--------------------|---------------------------|------------------|------------------|-------------------|------------------|---------------|------------------|----------------|---------------|--------------|------------------|---------------|--------------------------------|--------------------------------|--------------|
| Shaft height   | Type               | DIN IEC                   | a <sub>1</sub> P | b <sub>1</sub> N | c <sub>1</sub> LA | e <sub>1</sub> M | f AB          | f <sub>1</sub> T | Connector Size |               | h H          | i <sub>2</sub> - | p HD          | s <sub>2</sub> <sup>1)</sup> S | s <sub>2</sub> <sup>2)</sup> S | o -          |
|  |                    |                           |                  |                  |                   |                  |               |                  | 1.5            | 3             |              |                  |               |                                |                                |              |
| <b>1FT6, type of construction IM B5, water cooling, with connector, without/with brake</b> |                    |                           |                  |                  |                   |                  |               |                  |                |               |              |                  |               |                                |                                |              |
| 100  | 1FT6105<br>1FT6108 |                           | 240<br>(9.45)    | 180<br>(7.09)    | 13<br>(0.51)      | 215<br>(8.46)    | 192<br>(7.56) | 4<br>(0.16)      | 158<br>(6.22)  | 172<br>(6.77) | 96<br>(3.78) | 80<br>(3.15)     | 155<br>(6.10) | 14<br>(0.55)                   | M12                            | 76<br>(2.99) |

| Shaft height | Type               | DIN IEC | Encoder system: |                     |                  |                  | DE shaft extension |     |                  |              |              |     |  |  |  |  |
|--------------|--------------------|---------|-----------------|---------------------|------------------|------------------|--------------------|-----|------------------|--------------|--------------|-----|--|--|--|--|
|              |                    |         | Resolver        | Incremental encoder | Absolute encoder | without brake    | with brake         | d D | d <sub>6</sub> - | l E          | t GA         | u F |  |  |  |  |
| 100          | 1FT6105<br>1FT6108 |         | k LB            | o <sub>1</sub> -    | k LB             | o <sub>1</sub> - | <b>38</b>          | M12 | 80               | 41           | 10           |     |  |  |  |  |
|              |                    |         | 370<br>(14.57)  | 261<br>(10.28)      | 416<br>(16.38)   | 307<br>(12.09)   | <b>(1.50)</b>      |     | 80<br>(3.15)     | 41<br>(1.61) | 10<br>(0.39) |     |  |  |  |  |
|              |                    |         | 470<br>(18.50)  | 361<br>(14.21)      | 516<br>(20.31)   | 407<br>(16.02)   |                    |     |                  |              |              |     |  |  |  |  |



1) IM B5.  
2) IM B14.

# Synchronous motors

## Dimensional drawings

### 1FT6 motors without/with DRIVE-CLiQ Water cooling

#### Dimensional drawings

For motor Dimensions in mm (inches)

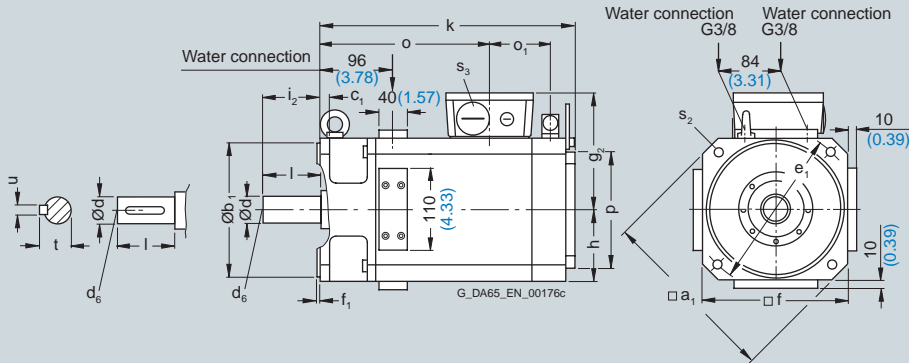
| Shaft height   | Type    | DIN IEC | a <sub>1</sub> P | b <sub>1</sub> N | c <sub>1</sub> LA | e <sub>1</sub> M | f AB   | f <sub>1</sub> T | g <sub>2</sub> - | h H    | i <sub>2</sub> - | Encoder system: |         |            |         | o <sub>1</sub> - | p HD   | s <sub>2</sub> S | s <sub>3</sub> - |
|--|---------|---------|------------------|------------------|-------------------|------------------|--------|------------------|------------------|--------|------------------|-----------------|---------|------------|---------|------------------|--------|------------------|------------------|
|  |         |         |                  |                  |                   |                  |        |                  |                  |        |                  | without brake   |         | with brake |         |                  |        |                  |                  |
|  |         |         |                  |                  |                   |                  |        |                  |                  |        |                  | k LB            | o -     | k LB       | o -     |                  |        |                  |                  |
| <b>1FT6, type of construction IM B5, water cooling, with terminal box gk230 for n<sub>rated</sub> ≤ 2000 rpm, without/with brake</b> |         |         |                  |                  |                   |                  |        |                  |                  |        |                  |                 |         |            |         |                  |        |                  |                  |
| 100  | 1FT6105 |         | 240              | 180              | 13                | 215              | 192    | 4                | 161              | 96     | 80               | 370             | 261     | 416        | 307     | 76               | 155    | 14               | PG29             |
|  |         |         | (9.45)           | (7.09)           | (0.51)            | (8.46)           | (7.56) | (0.16)           | (6.34)           | (3.78) | (3.15)           | (14.57)         | (10.28) | (16.38)    | (12.09) | (2.99)           | (6.10) | (0.55)           |                  |
|  | 1FT6108 |         |                  |                  |                   |                  |        |                  |                  |        |                  | 470             | 361     | 516        | 407     |                  |        |                  |                  |
|  |         |         |                  |                  |                   |                  |        |                  |                  |        |                  | (18.50)         | (14.21) | (20.31)    | (16.02) |                  |        |                  |                  |
| <b>1FT6, type of construction IM B5, water cooling, with terminal box gk420 for n<sub>rated</sub> ≤ 3000 rpm, without/with brake</b> |         |         |                  |                  |                   |                  |        |                  |                  |        |                  |                 |         |            |         |                  |        |                  |                  |
|  | 1FT6105 |         | 240              | 180              | 13                | 215              | 192    | 4                | 176              | 96     | 80               | 370             | 261     | 416        | 307     | -                | 155    | 14               | PG36             |
|  |         |         | (9.45)           | (7.09)           | (0.51)            | (8.46)           | (7.56) | (0.16)           | (6.93)           | (3.78) | (3.15)           | (14.57)         | (10.28) | (16.38)    | (12.09) |                  | (6.10) | (0.55)           |                  |
|  | 1FT6108 |         |                  |                  |                   |                  |        |                  |                  |        |                  | 470             | 361     | 516        | 407     |                  |        |                  |                  |
|  |         |         |                  |                  |                   |                  |        |                  |                  |        |                  | (18.50)         | (14.21) | (20.31)    | (16.02) |                  |        |                  |                  |

DE shaft extension

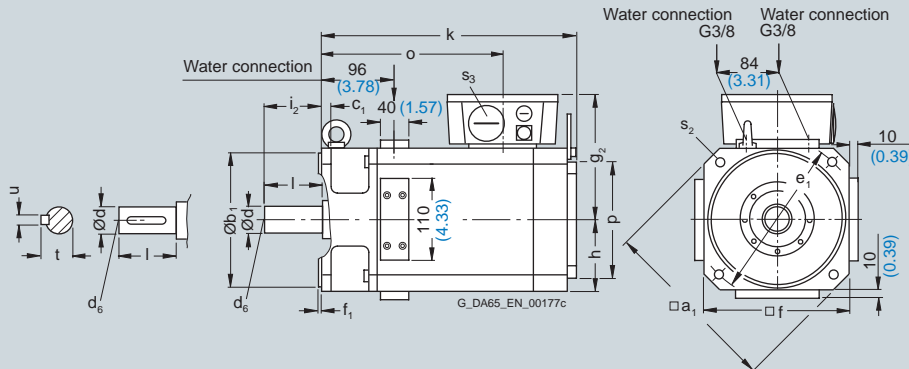
| Shaft height | Type    | DIN IEC | d D           | d <sub>6</sub> - | l E    | t GA   | u F    |
|--------------|---------|---------|---------------|------------------|--------|--------|--------|
| 100          | 1FT6105 |         | <b>38</b>     | M12              | 80     | 41     | 10     |
|              | 1FT6108 |         | <b>(1.50)</b> |                  | (3.15) | (1.61) | (0.39) |
|              | 1FT6105 |         | <b>38</b>     | M12              | 80     | 41     | 10     |
|              | 1FT6108 |         | <b>(1.50)</b> |                  | (3.15) | (1.61) | (0.39) |

7

1FT610  
with  
terminal  
box  
gk230



1FT610  
with  
terminal  
box  
gk420



# Synchronous motors

## Dimensional drawings

### 1FT6 motors without/with DRIVE-CLiQ Water cooling

#### Dimensional drawings

For motor Dimensions in mm (inches)

| Shaft height   | Type    | DIN IEC | a B            | b A           | b <sub>1</sub> N | c LA         | c <sub>1</sub> - | e BB           | e <sub>1</sub> M | f AB           | f <sub>1</sub> T | f <sub>2</sub> - | h H           | i <sub>2</sub> - | k LB           | m BA         | m <sub>1</sub> - | m <sub>2</sub> - |
|--|---------|---------|----------------|---------------|------------------|--------------|------------------|----------------|------------------|----------------|------------------|------------------|---------------|------------------|----------------|--------------|------------------|------------------|
| <b>1FT6, type of construction IM B35, water cooling, with terminal box</b> |         |         |                |               |                  |              |                  |                |                  |                |                  |                  |               |                  |                |              |                  |                  |
| 132  | 1FT6132 |         | 342<br>(13.46) | 216<br>(8.50) | 250<br>(9.84)    | 14<br>(0.55) | 16<br>(0.63)     | 366<br>(14.41) | 300<br>(11.81)   | 260<br>(10.24) | 5<br>(0.20)      | 245<br>(9.65)    | 132<br>(5.20) | 82<br>(3.23)     | 423<br>(16.65) | 36<br>(1.42) | 53<br>(2.09)     | 23<br>(0.91)     |
|  | 1FT6134 |         | 392<br>(15.43) |               |                  |              |                  | 416<br>(16.38) |                  |                |                  |                  |               |                  | 473<br>(18.62) |              |                  |                  |
|  | 1FT6136 |         | 442<br>(17.40) |               |                  |              |                  | 466<br>(18.35) |                  |                |                  |                  |               |                  | 523<br>(20.59) |              |                  |                  |
|  | 1FT6138 |         | 517<br>(20.35) |               |                  |              |                  | 541<br>(21.30) |                  |                |                  |                  |               |                  | 598<br>(23.54) |              |                  |                  |

| Shaft height | Type    | DIN IEC | n AA         | o -              | p HD             | p <sub>1</sub> AC | s K          | s <sub>2</sub> K | n <sub>rated</sub> =1500 rpm |                  | n <sub>rated</sub> =2500 rpm |                            | DE shaft extension |              |                |              |  |
|--------------|---------|---------|--------------|------------------|------------------|-------------------|--------------|------------------|------------------------------|------------------|------------------------------|----------------------------|--------------------|--------------|----------------|--------------|--|
|              |         |         |              |                  |                  |                   |              |                  | s <sub>3</sub> -             | s <sub>3</sub> - | w <sub>1</sub> C             | d D                        | d <sub>6</sub> -   | l E          | t GA           | u F          |  |
| 132          | 1FT6132 |         | 14<br>(0.55) | 255.5<br>(10.06) | 350.5<br>(13.80) | 245<br>(9.65)     | 12<br>(0.47) | 18<br>(0.71)     | M32 × 1.5                    | M40 × 1.5        | 53<br>(2.09)                 | <b>48</b><br><b>(1.89)</b> | M16                | 82<br>(3.23) | 51.5<br>(2.03) | 14<br>(0.55) |  |
|              | 1FT6134 |         |              | 305.5<br>(12.03) |                  |                   |              |                  | M40 × 1.5                    | M50 × 1.5        |                              |                            |                    |              |                |              |  |
|              | 1FT6136 |         |              | 355.5<br>(14.00) |                  |                   |              |                  | M50 × 1.5                    | M50 × 1.5        |                              |                            |                    |              |                |              |  |
|              | 1FT6138 |         |              | 430.5<br>(16.95) |                  |                   |              |                  | M50 × 1.5                    | M50 × 1.5        |                              |                            |                    |              |                |              |  |

