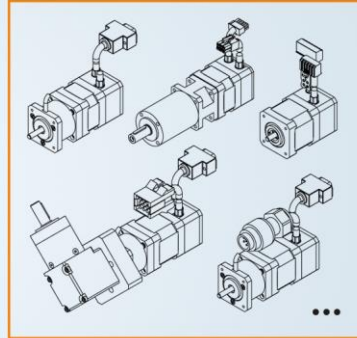


## ECOSTEP® Servo Motors Series 17H

Power based on torque



### Compact and powerful

Very high maximum torque in relation to the motor size.



### Direct drive

Saving of a gearbox is possible

Very high dynamic by genuine servo operation



### Various mechanical options

Optimal adaptation to your application from quantity 1



### Electrical adaptation

Customer-specific adaptation of the winding for an optimal operating point



### Economical

Very good price/performance ratio in the operating point compared to AC servo motors

#### Flange:

42 mm (NEMA 17)

#### DC link voltage:

24 ... 60 V<sub>DC</sub>

#### Encoder:

Incremental encoder

4000 up to 256 000 inc/rev

Absolut value encoder

17Bit/U und 15 Bit revolutions

Protocoll: BiSS-C

#### Choice of mechanical options:

Holding brake

Gear

Different connector configurations

Different cable lengths

#### Appropriate servo amplifiers:

ECOVARIO® 114(D)

ECOMODUL

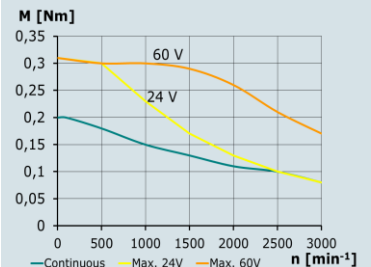
ECOMiniDual

## ECOSTEP® Servo Motors Series 17H

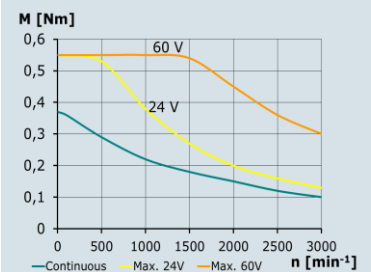
### → Technical data

|                                       |                                     | 17H13-0230                            | 17H19-0230 |
|---------------------------------------|-------------------------------------|---------------------------------------|------------|
| <b>Rated Values</b>                   |                                     |                                       |            |
| Peak torque*                          | Nm                                  | 0,3                                   | 0,55       |
| Stall torque*                         | Nm                                  | 0,2                                   | 0,37       |
| Rated torque*                         | Nm                                  | 0,11                                  | 0,15       |
| Rated speed                           | min <sup>-1</sup>                   | 2000                                  | 2000       |
| Maximum speed                         | min <sup>-1</sup>                   | 3000                                  | 3000       |
| Peak current (per phase)*             | A <sub>RMS</sub>                    | 4                                     | 5          |
| Stall current (per phase)*            | A <sub>RMS</sub>                    | 2,1                                   | 2,3        |
| Rated current (per phase)*            | A <sub>RMS</sub>                    | 1,7                                   | 1,9        |
| Rated power                           | W                                   | 23                                    | 31         |
| at DC link voltage                    | V <sub>DC</sub>                     | 60                                    | 60         |
| *) Mounting flange 55 x 55 x 20 mm.   |                                     |                                       |            |
| <b>Technical Data Motor</b>           |                                     |                                       |            |
| Torque constant (rated)               | Nm/A                                | 0,08                                  | 0,13       |
| Voltage constant (EMK, 25 °C)         | V/1000min <sup>-1</sup>             | 4                                     | 6,8        |
| Winding resistance (at 25 °C)         | Ω                                   | 0,79                                  | 0,72       |
| Winding inductivity (at 25 °C, 1 kHz) | mH                                  | 0,75                                  | 0,83       |
| Number of motor phases                |                                     | 2                                     | 2          |
| Number of pole pairs                  |                                     | 50                                    | 50         |
| Motor inertia without brake           | kgm <sup>2</sup> x 10 <sup>-3</sup> | 0,0038                                | 0,0082     |
| Mass                                  | kg                                  | 0,3                                   | 0,4        |
| Motor length (L)                      | mm                                  | 58                                    | 68         |
| Insulation class                      |                                     | B, 130 °C                             |            |
| Ambient temperature                   | °C                                  | -20 ... +40                           |            |
| Protection class                      |                                     | IP40, option: IP65 (shaft gland IP40) |            |
| Max. axial load                       | N                                   | 40                                    |            |
| Max. radial load                      | N                                   | 50                                    |            |
| Max. axial load during assembly       | N                                   | 100                                   |            |

**Characteristic 17H13**



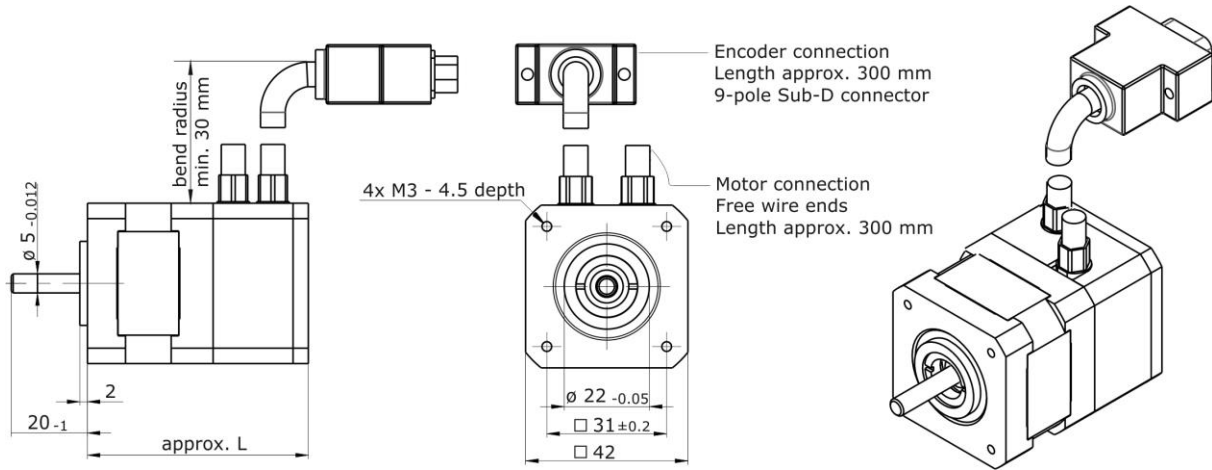
**Characteristic 17H19**



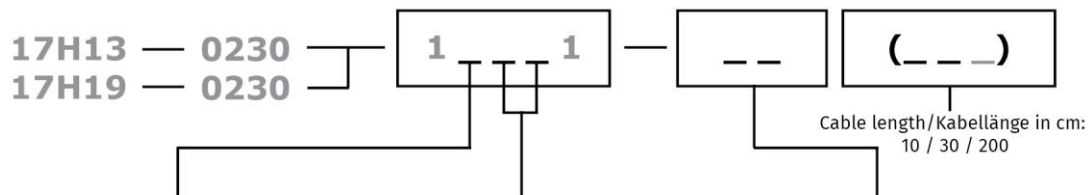
All characteristics with servo amplifier ECOVARIO® 114D.

## ECOSTEP® Servo Motors Series 17H

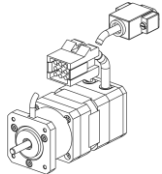
### → Dimensions



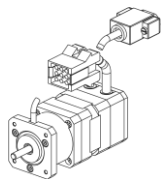
### → Ordering key



| Holding brake |                                          | Encoder type                                                            |                  |                     | Options        |    |                                                                                       |
|---------------|------------------------------------------|-------------------------------------------------------------------------|------------------|---------------------|----------------|----|---------------------------------------------------------------------------------------|
| 0             | none                                     |                                                                         | Interface        | Resolution          | U <sub>b</sub> | 55 | Motor cable and encoder cable with connectors                                         |
| C             | 0,15 Nm braking module fixed (for 17H13) | GK                                                                      | Incremental ABN  | 4000 inc/rev        | 5 V            |    | <div><div></div> Motor: RSV1.6</div> <div><div></div> Encoder: Sub-D, 9-pin</div>     |
| D             | 0,30 Nm braking module fixed (for 17H19) | GJ                                                                      | Incremental ABN  | 8000 inc/rev        | 5 V            |    |                                                                                       |
|               |                                          | GL                                                                      | Incremental ABN  | 40 000 inc/rev      | 5 V            | 52 | Encoder cable with 9-pin Sub-D connector, motor cable unassembled                     |
|               |                                          | GP                                                                      | Incremental ABN  | 160 000 inc/rev     | 5 V            |    |                                                                                       |
|               |                                          | GR                                                                      | Inkrementell ABN | 256.000 Ink/U*      | 5 V            | 78 | Connectors for ECOMODUL                                                               |
|               |                                          | GA                                                                      | Absolut BiSS-C   | 17 Bit ST/15 Bit MT | 5 V            |    |                                                                                       |
|               |                                          | * max. velocity 1.400 U/min                                             |                  |                     |                |    |                                                                                       |
|               |                                          | <div><div></div> Encoders are EDS capable (electronic data sheet)</div> |                  |                     |                | 84 | Connectors for ECOMiniDual                                                            |
|               |                                          | With absolute value encoder, motor length (L) increases by 8 mm.        |                  |                     |                |    |                                                                                       |
|               |                                          |                                                                         |                  |                     |                | 92 | Encoder cable with 15-pin HD-Sub connector for ECOVARIO 114D, motor cable unassembled |
|               |                                          |                                                                         |                  |                     |                |    | Further options on request.                                                           |



With holding brake fixed, motor length (L) increases by 35,4 mm. The mass increases by 0,25 kg for 17H13 and by 0,38 kg for 17H19.



With holding brake fixed, motor length (L) increases by 35,4 mm. The mass increases by 0,25 kg for 17H13 and by 0,38 kg for 17H19.

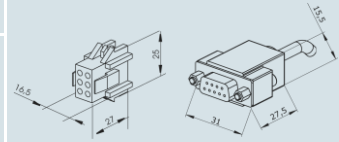
## ECOSTEP® Servo Motors Series 17H

### → Accessories

#### Coupling Set 70.040 (for motors without holding brake: „mating connector set“ for cable extensions made by customer)

Motor: RSV1.6, 6-pole socket

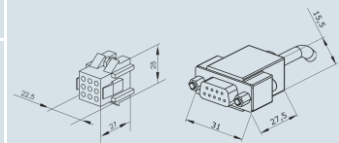
Encoder: DSub, 9-pole socket



#### Coupling Set 70.044 (for motors with holding brake: „mating connector set“ for cable extensions made by customer)

Motor: RSV1.6, 9-pole socket

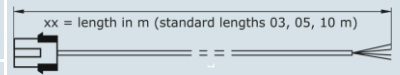
Encoder: DSub, 9-pole socket



#### Cable assemblies

Motor cable extension  
MOT43-132-721-0xx-000

Ø 6,4 mm;  
trailing capability from bend radius > 35 mm

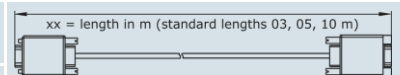


Motor/brake cable extension  
MOT45-132-722-0xx-000

Ø 8,1 mm;  
trailing capability from bend radius > 45 mm

Encoder cable extension  
ENC47-305-495-0xx-000

Ø ca. 6,2 mm;  
trailing capability from bend radius > 35 mm



Absolute encoder cable extension  
ABS47-300-301-0xx-000

Ø approx. 6,2 mm, HD-Sub 15-pole;  
trailing capability from bend radius > 35 mm

### → Connector and cable assignment

| Cable assignment motor |                  |                            |                       | Cable assignment incremental encoder |                    |                  |                      | Cable assignment absolute encoder |                    |                    |                      |
|------------------------|------------------|----------------------------|-----------------------|--------------------------------------|--------------------|------------------|----------------------|-----------------------------------|--------------------|--------------------|----------------------|
| Connection             | Motor cable wire | Pin motor connector RSV1.6 | Cable ext. wire MOT43 | Connection                           | Encoder cable wire | Pin D-Sub HD-Sub | Cable extension wire | Connection                        | Encoder cable wire | Pin HD-Sub 15-pole | Cable extension wire |
| Phase A                | black            | 3                          | black                 | +5 V                                 | red                | 1                | red                  | +U <sub>p</sub>                   | red                | 1                  | red                  |
| Phase /A               | orange           | 1                          | orange                | GND                                  | blue               | 6                | blue                 | GND                               | blue               | 6                  | blue                 |
| Phase B                | red              | 4                          | red                   | Channel A                            | white              | 2                | white                | CLK                               | green              | 14                 | green                |
| Phase /B               | brown            | 2                          | brown                 | Channel /A                           | brown              | 7                | brown                | /CLK                              | yellow             | 15                 | yellow               |
| PE                     | gn/ye            | 6                          | gn/ye                 | Channel B                            | green              | 3                | green                | S-                                | pink               | 11                 | pink                 |
| Shield                 | bare             | 5                          | bare                  | Channel/B                            | yellow             | 8                | yellow               | S+                                | grey               | 12                 | grey                 |
|                        |                  |                            |                       | Channel N                            | grey               | 4                | grey                 | DAT                               | white              | 4                  | white                |
|                        |                  |                            |                       | Chan. /N                             | pink               | 9                | pink                 | /DAT                              | brown              | 9                  | brown                |
|                        |                  |                            |                       | Shield                               | bare               | Shroud           | bare                 | Shield                            | bare               | Shroud             | bare                 |

| Cable assignment motor/brake |                         |                        |                                   |
|------------------------------|-------------------------|------------------------|-----------------------------------|
| Connection                   | Motor/ brake cable wire | Motor/ brake conn. pin | Cable extension wire MOT34/ MOT45 |
| Phase A                      | black                   | 3                      | 3 / black                         |
| Phase /A                     | orange                  | 1                      | 1 / orange                        |
| Phase B                      | red                     | 4                      | 4 / red                           |
| Phase /B                     | brown                   | 2                      | 2 / brown                         |
| Brake +                      | yellow                  | 5                      | 5 / gn-br                         |
| Brake -                      | yellow                  | 6                      | 6 / gn-bl                         |
| PE                           | gn-ye                   | 9                      | gn-ye                             |
| Shield                       | bare                    | 8                      | bare                              |

Encoder plug D-Sub 9-pin:

Encoder plug HD-Sub 15-pin: