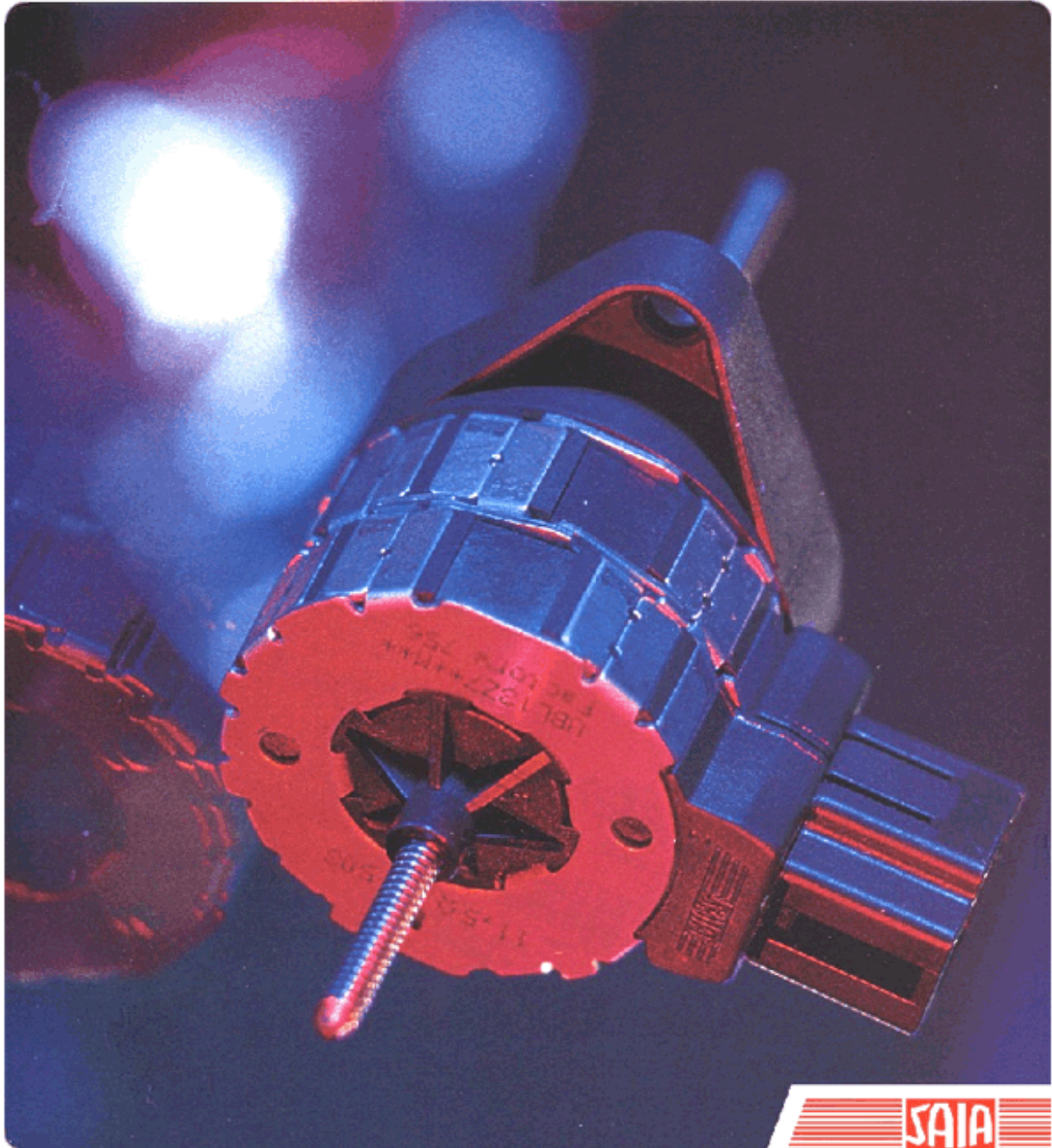


SAIA-Burgess Electronics

SWITCHES - MOTORS - CONTROLLERS

Motor Products



Motor Series - UA

General values

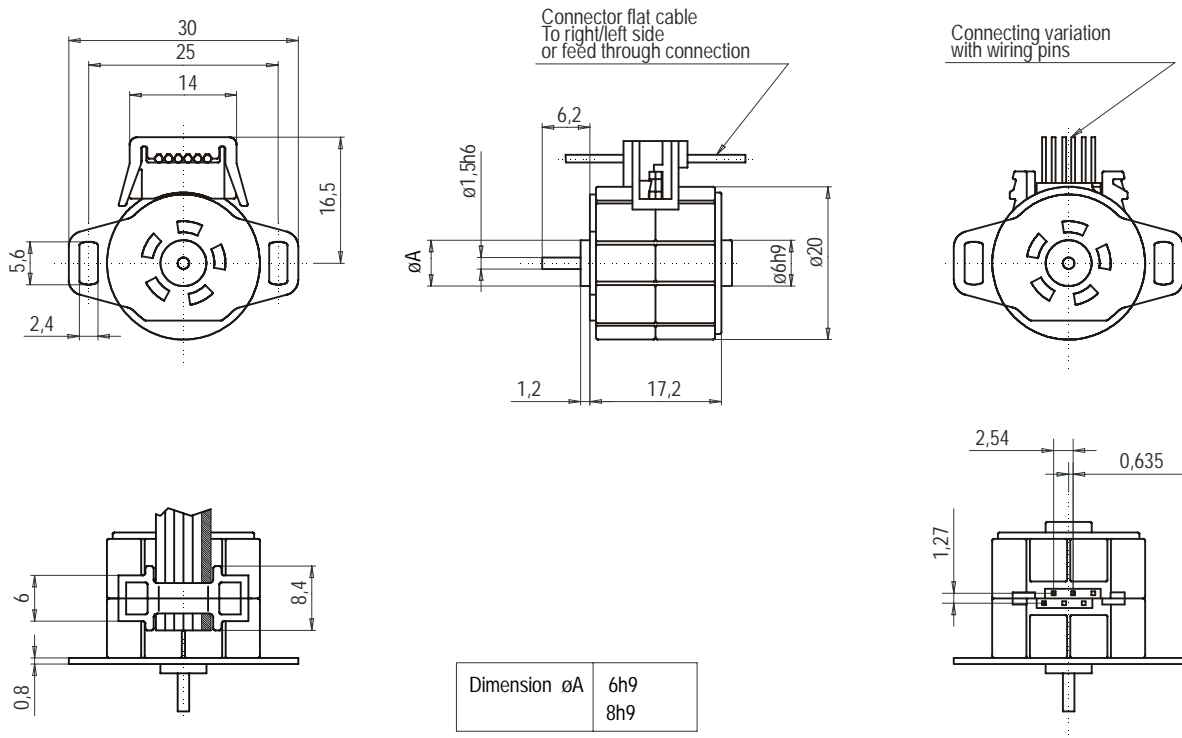
20

Standard data

| | | |
|---------------------------------------|-----|--|
| Climatic class | | "wide-spread" according IEC 721, part 2-1 |
| Ambient temperature operation | °C | -40...+80 |
| Ambient temperature storage | °C | -40...+100 |
| Thermal resistance at f=0 R_{therm} | K/W | 32 |
| Thermal class | | "B" according IEC 85 |
| Approval | | Standard |
| Life expectancy | | 3 years in continuous operation |
| Mounting | | any position |
| Electrical connection | | insulation displacement connection, pins, ribbon cable |
| Protection | | IP 40 according DIN 40 050 / DIN EN 60034-5 |
| Weight | g | 25 |
| Rotor stalling | | motor can be stopped when voltage is applied, without being overheated |
| Rotor shaft | | hardened steel, grinded, polished |
| Bearings | | sintered bronze, self-lubricating |
| Surge voltage strenght | | according EN 60 034-1 / EN 60-335-1 |

Drawing

Mounting with screw plate



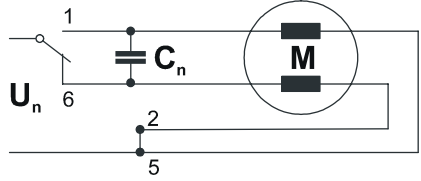
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SAIA - UAT 1

Synchronous motor - 600/720 rpm

20

Technical data

| | | | | | | | | |
|------------------------------------|-----------|--------------------|--|---------|--|------|--|--|
| Rated voltage | U_N | V | 24 | 48 | | | | |
| | C_{50} | $\mu\text{F/VAC}$ | 2,2/40 | 0,68/80 | | | | |
| Operation capacitor | C_{60} | $\mu\text{F/VAC}$ | 2,2/40 | 0,68/80 | | | | |
| Tolerance of voltage | | % | Standard power supply system + 10% / - 10% | | | | | |
| Duty cycle | | % | 100 | | | | | |
| Winding temperature | T_{max} | $^{\circ}\text{C}$ | 130 | | | | | |
| Rated frequency | | Hz | 50 | | | 60 | | |
| Power output at rated voltage | | W | 0,19 | | | 0,23 | | |
| Speed | n | rpm | 600 | | | 720 | | |
| Running torque at rated voltage | | cNm | 0,31 | | | 0,3 | | |
| Power consumption at rated voltage | | W | 0,9 | | | 0,9 | | |
| Direction of rotation | | | Reversible | | | | | |
| Motor inertia | J_R | gcm^2 | 0,31 | | | | | |
| Detent torque | M_S | cNm | 0,14 | | | | | |
| Connection sheet | | |  <p>Switch on 1 = counterclockwise rot. / Switch on 6 = clockwise rot.</p> | | | | | |

SAIA - UAG 1/2

Stepper motor - 18°

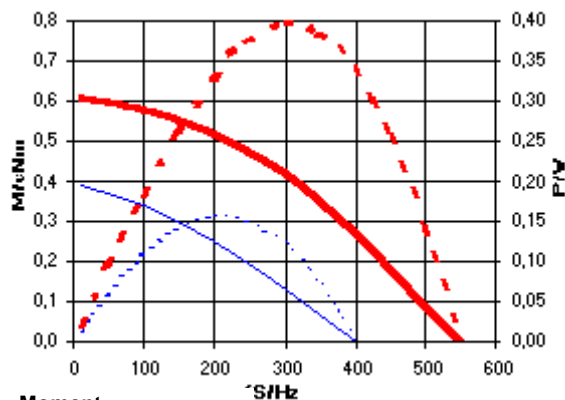
20

Technical data

| | | | | | | |
|---------------------------|-----------|------------------|------------------|-----|-------------|--|
| Steps per revolution | | | 20 | | | |
| Winding type | | | bipolar (UAG 1) | | | |
| Rated voltage | U_N | V | 6 | 12 | 24 | |
| Resistance per winding | R_{20} | Ω | 27 | 150 | 675 | |
| Winding type | | | unipolar (UAG 2) | | | |
| Rated voltage | U_N | V | 6 | 12 | 24 | |
| Resistance per winding | R_{20} | Ω | 35 | 170 | 700 | |
| Maximum power consumption | | W | 0,4 | | | |
| Winding temperature | T_{max} | °C | 130 | | | |
| Duty cycle | | % | 100 | | | |
| Holding torque | M_H | cNm | 0,7 (UAG 1) | | 0,5 (UAG 2) | |
| Detent torque | M_S | cNm | 0,14 | | | |
| Direction of rotation | | | reversible | | | |
| Rotor inertia | J_R | gcm ² | 0,31 | | | |

UAG1 Start/Stop-Range (pull in)

(constant voltage)



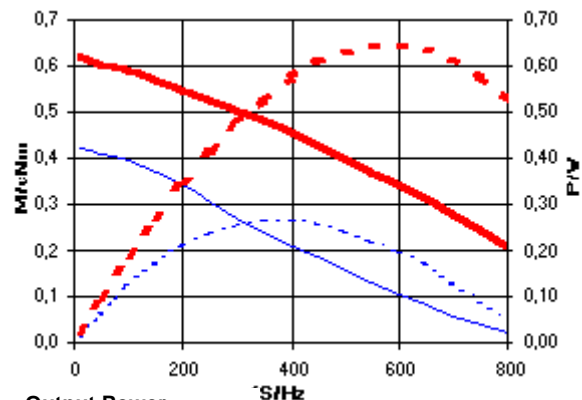
Moment

Duty cycle 100%

Duty cycle 30%

UAG1 Slew Range (pull out)

(constant voltage)



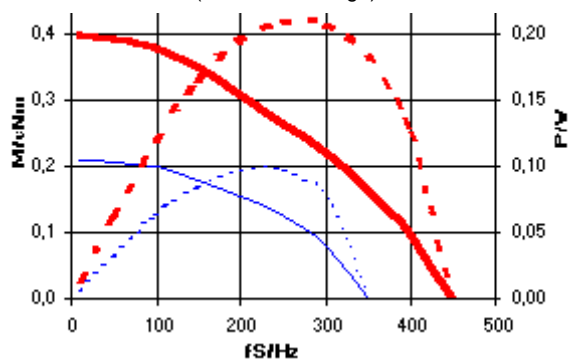
Output Power

Duty cycle 100%

Duty cycle 30%

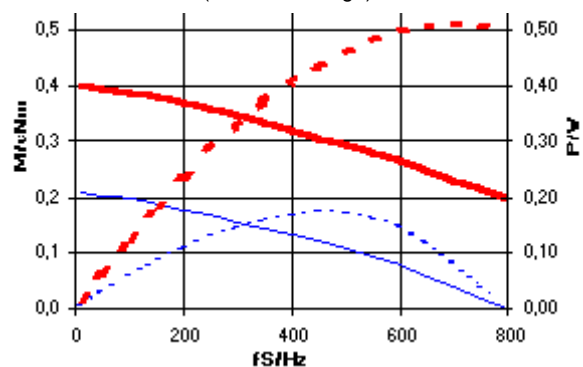
UAG2 Start/Stop Range (pull in)

(constant voltage)



UAG2 Slew-Range (pull out)

(constant voltage)



Motor Series - UAF

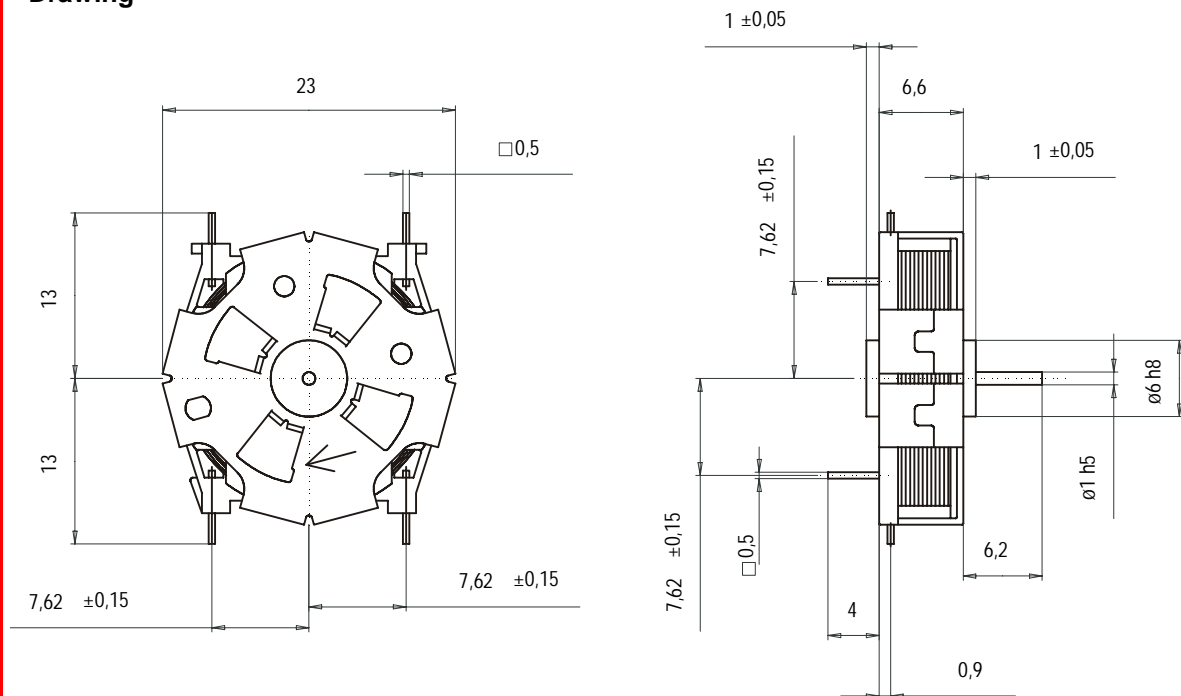
Stepper motor

23

Standard data

| | | |
|---------------------------------------|-----|--|
| Climatic class | | "wide-spread" according IEC 721, part 2-1 |
| Ambient temperature operation | °C | -25...+85 |
| Ambient temperature storage | °C | -25...+100 |
| Thermal resistance at f=0 R_{therm} | K/W | 125 |
| Thermal class | | "A" according IEC 85 |
| Approval | | Standard |
| Life expectancy | | 10 years in continuous operation |
| Mounting | | any position |
| Electrical connection | | pins |
| Protection | | IP 00 according DIN 40 050 / DIN EN 60034-5 |
| Weight | g | 8,2 |
| Rotor stalling | | motor can be stopped when voltage is applied, without being overheated |
| Rotor shaft | | hardened steel, grinded, polished |
| Bearings | | sintered bronze, self-lubricating |
| Surge voltage strenght | | according EN 60 034-1 / EN 60-335-1 |

Drawing



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SAIA - UAF 1**Stepper motor - 45°**

23

Technical data

| | | | | | | |
|---------------------------|----------|----------------|-----------------|------|------|--|
| Steps per revolution | | | 8 | | | |
| Winding type | | | bipolar (UAF 1) | | | |
| Rated voltage | U_N | V | 6 | 12 | 24 | |
| Resistance per winding | R_{20} | Ω | 250 | 1000 | 4000 | |
| Maximum power consumption | | W | 0,15 | | | |
| Winding temperature | | °C | 105 | | | |
| Duty cycle | | % | 100 | | | |
| Holding torque | M_H | μNm | 30 | | | |
| Detent torque | M_S | μNm | 10 | | | |
| Direction of rotation | | | right or left | | | |
| Rotor inertia | J_R | gcm^2 | 0,07 | | | |

Motor Series - UB

General values

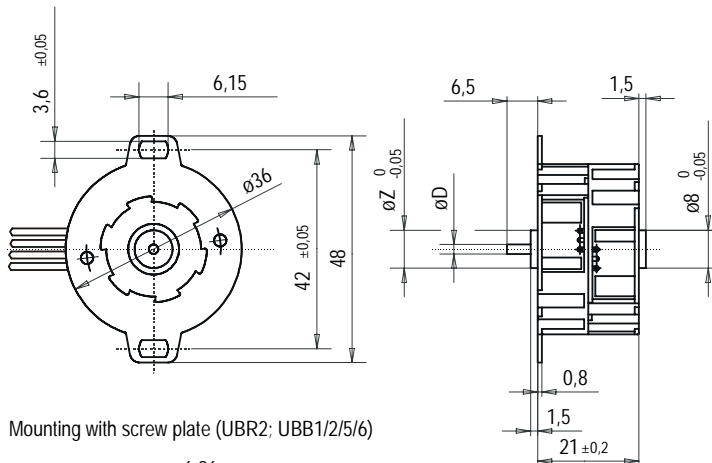
36

Standard data

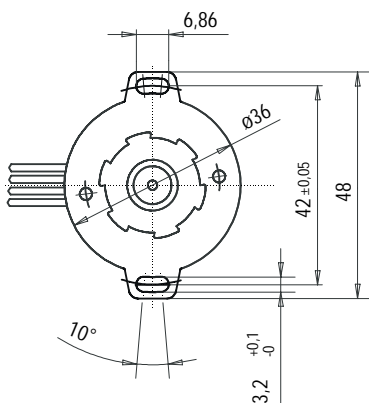
| | | |
|---------------------------------------|-----|--|
| Climatic class | | "wide-spread" according IEC 721, part 2-1 |
| Ambient temperature operation | °C | -15...+55 |
| Ambient temperature storage | °C | -20...+100 |
| Thermal resistance at f=0 R_{therm} | K/W | 27 |
| Thermal class | | "A" according IEC 85 |
| Approval | | Standard / UL / CSA |
| Life expectancy | | 3 years in continuous operation |
| Mounting | | any position |
| Electrical connection | | ribbon cable |
| Protection | | IP 40 according DIN 40 050 / DIN EN 60034-5 |
| Weight | g | 61 |
| Rotor stalling | | motor can be stopped when voltage is applied, without being overheated |
| Rotor shaft | | hardened steel, grinded, polished |
| Bearings | | sintered bronze, self-lubricating |
| Surge voltage strenght | | according EN 60 034-1 / EN 60-335-1 |

Drawing

Mounting with screw plate (UBR1; UBD 1/2/5/6)

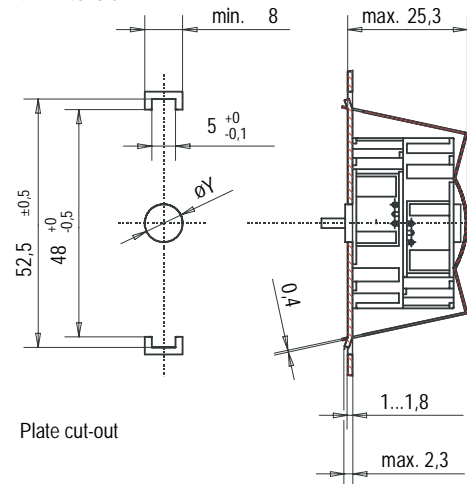


Mounting with screw plate (UBR2; UBB1/2/5/6)



Mounting with snap on clip

Order number for clip
4 199 4823 0



øD Rotor shaft

ø 2 h6
ø 1,5 js8

| øZ | øY |
|----|------|
| 8 | 8H8 |
| 10 | 10H8 |

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SAIA - UBR 1

Synchronous motor - 250/300 rpm

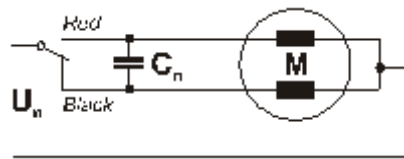
36

Technical data

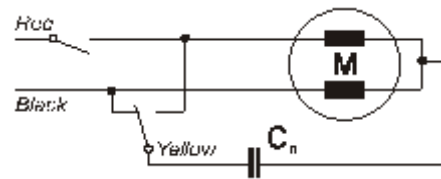
| | | | | | | | | | |
|------------------------------------|------------------|--------------------|--|--------|----------|----------|----------|--|--|
| Rated voltage | U_N | V | 12 | 24 | 48 | 110 | 230 | | |
| | C_{50} | $\mu\text{F/VAC}$ | 12/20 | 3,3/40 | 0,82/200 | 0,15/200 | 0,22/200 | | |
| Operation capacitor | C_{80} | $\mu\text{F/VAC}$ | 12/20 | 3,3/40 | 0,82/120 | 0,15/200 | 0,12/200 | | |
| Tolerance of voltage | | % | Standard power supply system + 10% / - 10% | | | | | | |
| Duty cycle | | % | 100 | | | | | | |
| Winding temperature | T_{max} | $^{\circ}\text{C}$ | 105 | | | | | | |
| Rated frequency | | Hz | 50 | | | | 60 | | |
| Power output at rated voltage | | W | 0,24 | | | | 0,28 | | |
| Speed | n | rpm | 250 | | | | 300 | | |
| Running torque at rated voltage | | cNm | 0,9 | | | | 0,9 | | |
| Power consumption at rated voltage | | W | 1,3 | | | | 1,3 | | |
| Direction of rotation | | | Reversible | | | | | | |
| Motor inertia | J_R | gcm^2 | 2,8 | | | | | | |
| Detent torque | M_S | cNm | 0,22 | | | | | | |

Connection sheet
red = right direction
black = left direction

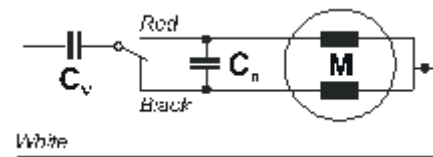
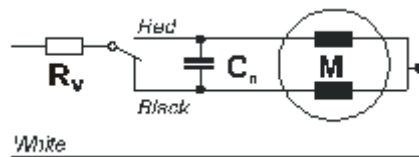
parallel circuit 12V, 24V, 48V, 110V



series circuit 230V



parallel circuit with dropping elements $R(v)$ or $C(v)$ 230 V ($U(N)$ motor 110V)



SAIA - UBR 2

Synchronous motor - 500/600 rpm

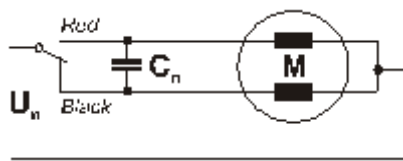
36

Technical data

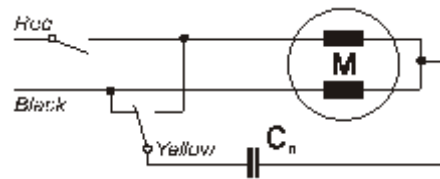
| | | | | | | | | | |
|------------------------------------|-----------|--------------------|--|--------|--------|----------|----------|--|--|
| Rated voltage | U_N | V | 12 | 24 | 48 | 110 | 230 | | |
| | C_{50} | $\mu\text{F/VAC}$ | 15/20 | 3,9/40 | 1,0/70 | 0,18/170 | 0,27/170 | | |
| Operation capacitor | C_{60} | $\mu\text{F/VAC}$ | 15/20 | 3,9/40 | 1,0/70 | 0,18/170 | 0,22/170 | | |
| Tolerance of voltage | | % | Standard power supply system + 10% / - 10% | | | | | | |
| Duty cycle | | % | 100 | | | | | | |
| Winding temperature | T_{max} | $^{\circ}\text{C}$ | 105 | | | | | | |
| Rated frequency | | Hz | 50 | | | | 60 | | |
| Power output at rated voltage | | W | 0,39 | | | | 0,45 | | |
| Speed | n | rpm | 500 | | | | 600 | | |
| Running torque at rated voltage | | cNm | 0,75 | | | | 0,72 | | |
| Power consumption at rated voltage | | W | 1,6 | | | | 1,6 | | |
| Direction of rotation | | | Reversible | | | | | | |
| Motor inertia | J_R | gcm^2 | 2,8 | | | | | | |
| Detent torque | M_S | cNm | 0,25 | | | | | | |

Connection sheet
red = right direction
black = left direction

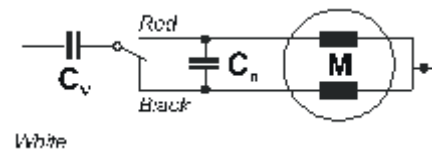
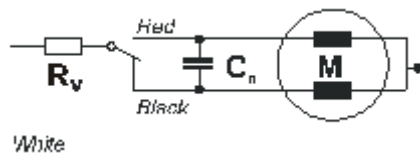
parallel circuit 12V, 24V, 48V, 110V



series circuit 230V



parallel circuit with dropping elements $R(v)$ or $C(v)$ 230 V ($U(N)$ motor 110V)



SAIA - UBR 6

Synchronous motor - 500/600 rpm

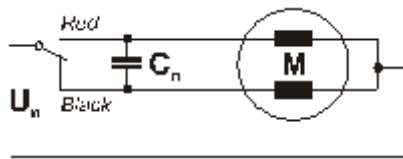
36

Technical data

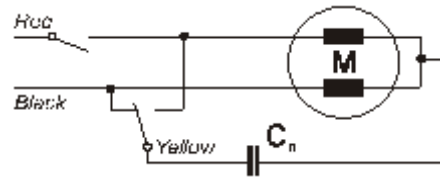
| | | | | | | | | |
|------------------------------------|------------------|--------------------|--|--|--|----|--|--|
| Rated voltage | U_N | V | 110 | | | | | |
| | C_{50} | $\mu\text{F/VAC}$ | 0,18/170 | | | | | |
| Operation capacitor | C_{60} | $\mu\text{F/VAC}$ | | | | | | |
| Tolerance of voltage | | % | Standard power supply system + 10% / - 10% | | | | | |
| Duty cycle | | % | 100 | | | | | |
| Winding temperature | T_{max} | $^{\circ}\text{C}$ | 105 | | | | | |
| Rated frequency | | Hz | 50 | | | 60 | | |
| Power output at rated voltage | | W | 0,43 | | | | | |
| Speed | n | rpm | 500 | | | | | |
| Running torque at rated voltage | | cNm | 0,81 | | | | | |
| Power consumption at rated voltage | | W | 1,6 | | | | | |
| Direction of rotation | | | Reversible | | | | | |
| Motor inertia | J_R | gcm^2 | 2,8 | | | | | |
| Detent torque | M_S | cNm | 0,28 | | | | | |

Connection sheet
 red = right direction
 black = left direction

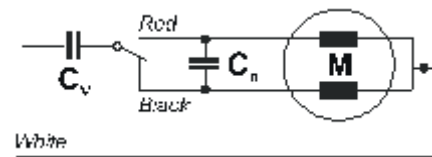
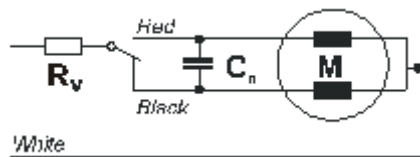
parallel circuit 12V, 24V, 48V, 110V



series circuit 230V



parallel circuit with dropping elements $R(v)$ or $C(v)$ 230 V ($U(N)$ motor 110V)



SAIA - UBD 1/2

Stepper motor - 7,5°

36

Technical data

| | | | | | | |
|---------------------------|-----------|------------------|------------------|------|-------------|-----|
| Steps per revolution | | | 48 | | | |
| Winding type | | | bipolar (UBD 1) | | | |
| Rated voltage | U_N | V | 3 | 6 | 12 | 24 |
| Resistance per winding | R_{20} | Ω | 11,5 | 18,5 | 100 | 460 |
| Winding type | | | unipolar (UBD 2) | | | |
| Rated voltage | U_N | V | 3 | 6 | 12 | 24 |
| Resistance per winding | R_{20} | Ω | 12 | 28 | 120 | 500 |
| Maximum power consumption | | W | 1,8 | | | |
| Winding temperature | T_{max} | °C | 105 | | | |
| Duty cycle | | % | 100 | | | |
| Holding torque | M_H | cNm | 1,8 (UBD 1) | | 1,3 (UBD 2) | |
| Detent torque | M_S | cNm | 0,22 | | | |
| Direction of rotation | | | reversible | | | |
| Rotor inertia | J_R | gcm ² | 2,8 | | | |

Characteristic curve (chopper)

Slew range (pull-in) and start range (pull-out) with constant current power stage

Torque and output at $I=0,25$ A per winding and 30% duty cycle (cycle time max. 10min).

Measured in slew range with electronic stabilizing circuit (SMIK).

Measured in start range with a load inertia $J(L)$ of 2.6 gcm².

Torque

Start range



Slew range

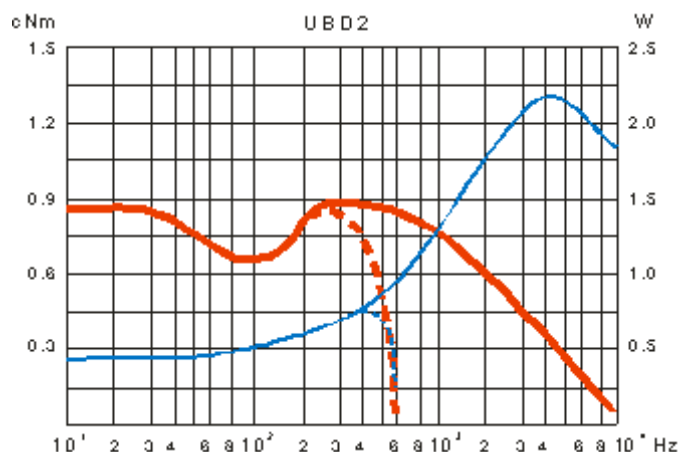
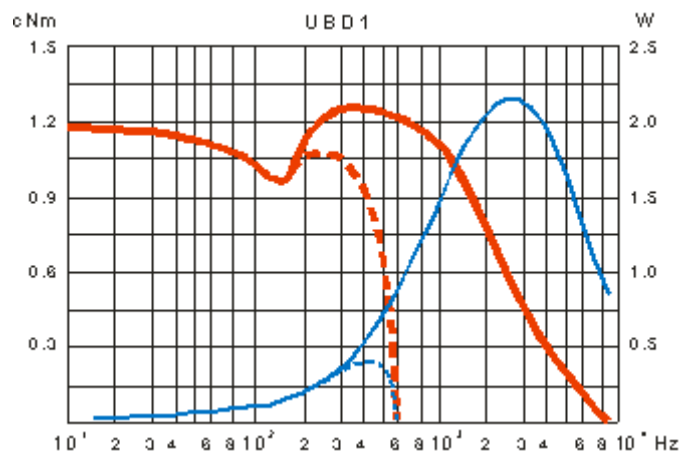


Output power

Start range



Slew range



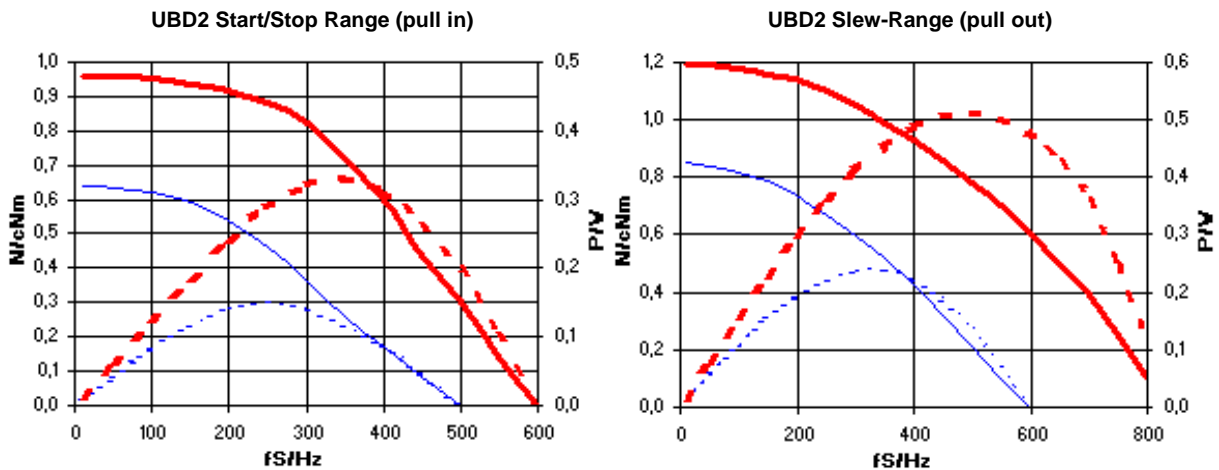
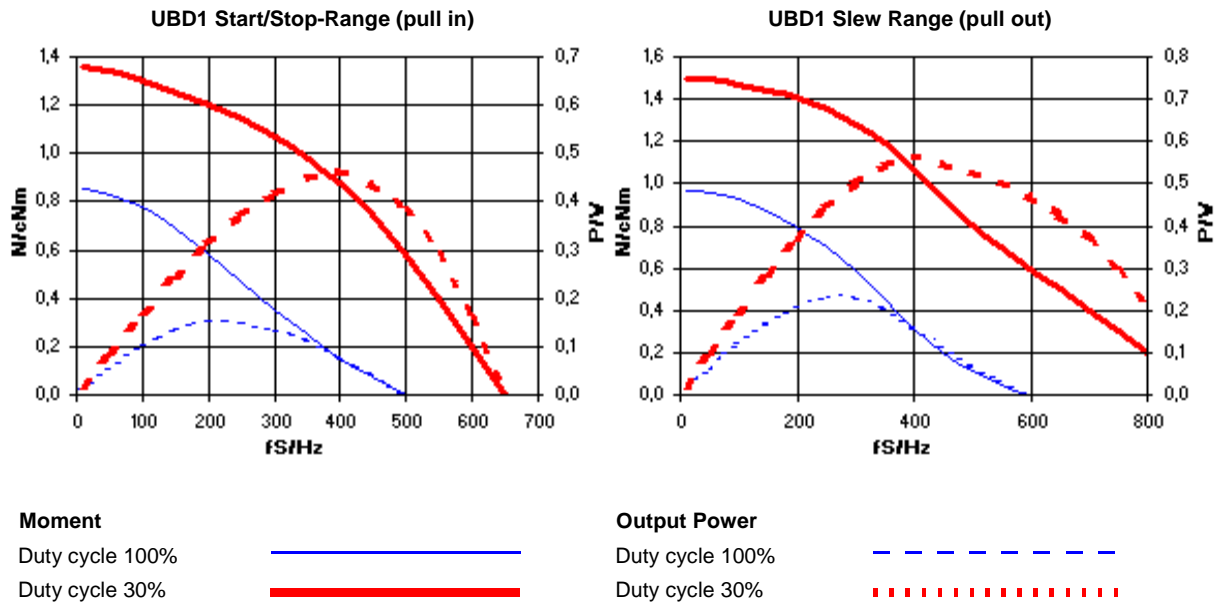
SAIA - UBD 1/2

Stepper motor - 7,5°

36

Chart 2 - Characteristic curve

Slew range (pull-in) and start range (pull-out) with constant voltage power stage



SAIA - UBD 5/6

Stepper motor - 7,5°

36

Technical data

| | | | | | | |
|---------------------------|-----------|------------------|------------------|------|-------------|-----|
| Steps per revolution | | | 48 | | | |
| Winding type | | | bipolar (UBD 5) | | | |
| Rated voltage | U_N | V | 3 | 6 | 12 | 24 |
| Resistance per winding | R_{20} | Ω | 11,5 | 18,5 | 100 | 460 |
| Winding type | | | unipolar (UBD 6) | | | |
| Rated voltage | U_N | V | 3 | 6 | 12 | 24 |
| Resistance per winding | R_{20} | Ω | 12 | 28 | 120 | 500 |
| Maximum power consumption | | W | 1,8 | | | |
| Winding temperature | T_{max} | °C | 105 | | | |
| Duty cycle | | % | 100 | | | |
| Holding torque | M_H | cNm | 1,9 (UBD 5) | | 1,6 (UBD 6) | |
| Detent torque | M_S | cNm | 0,27 | | | |
| Direction of rotation | | | reversible | | | |
| Rotor inertia | J_R | gcm ² | 2,9 | | | |

Characteristic curve (chopper)

Slew range (pull-in) and start range (pull-out) with constant current power stage

Torque and output at $I=0,25$ A per winding and 30% duty cycle (cycle time max. 10min).

Measured in slew range with electronic stabilizing circuit (SMIK).

Measured in start range with a load inertia $J(L)$ of 2.6 gcm².

Torque

Start range



Slew range

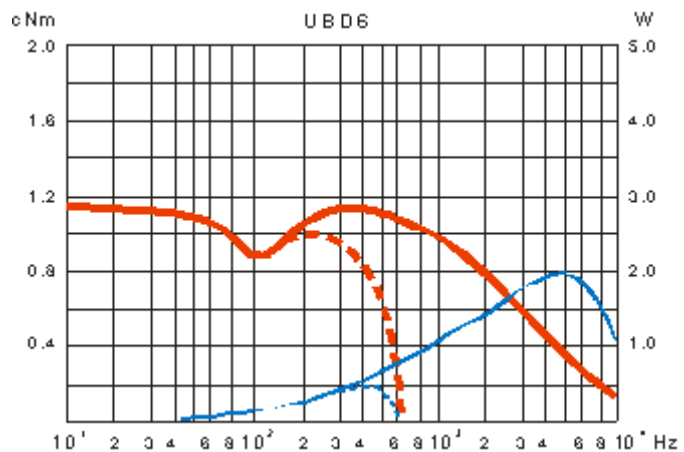
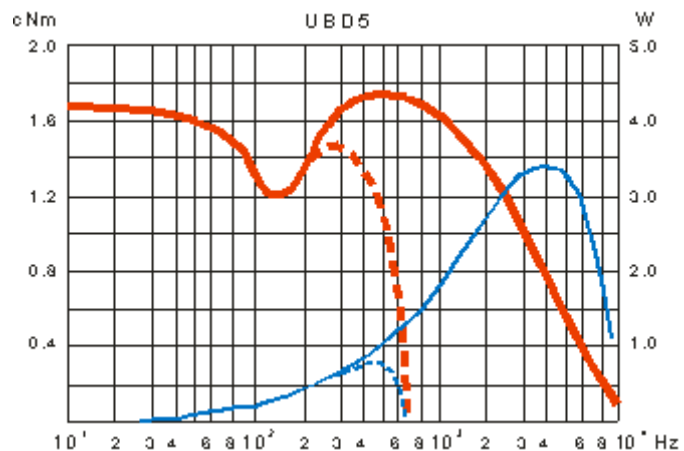


Output power

Start range



Slew range



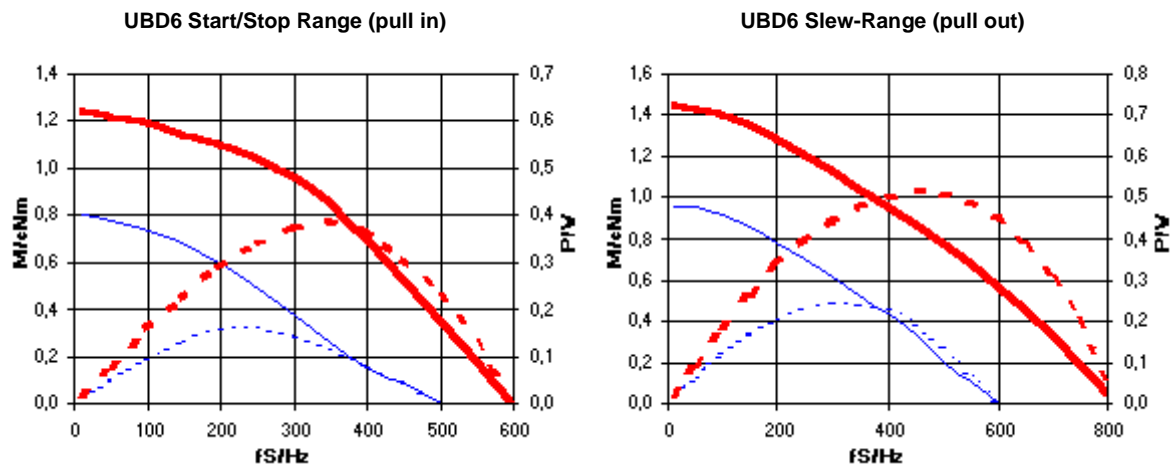
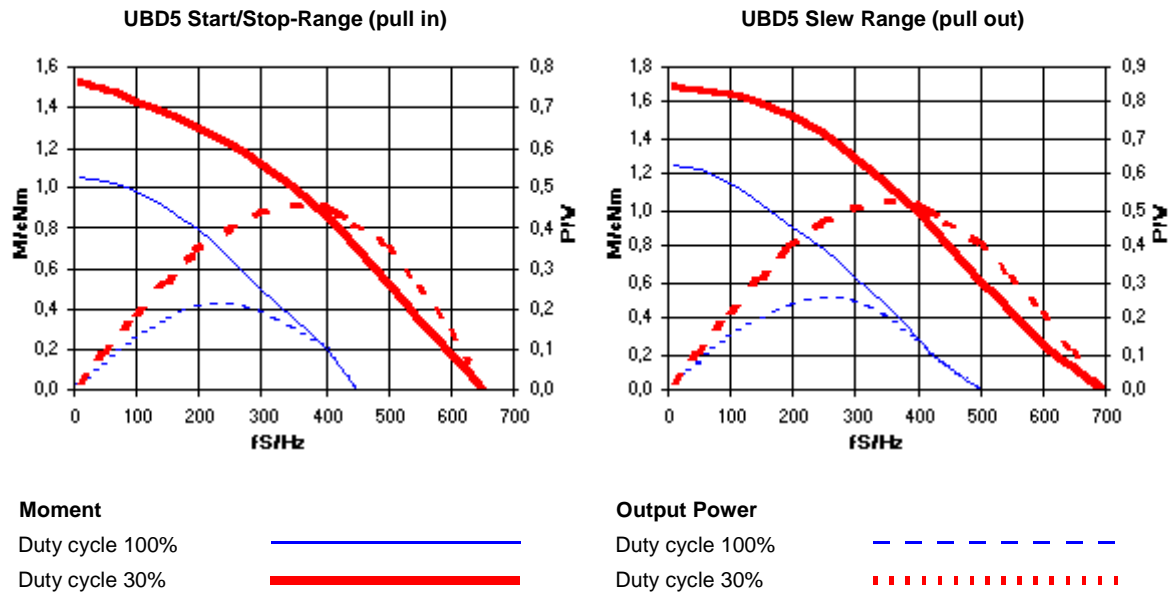
SAIA - UBD 5/6

Stepper motor - 7,5°

36

Chart 2 - Characteristic curve

Slew range (pull-in) and start range (pull-out) with constant voltage power stage



SAIA - UBB 1/2

Stepper motor - 15°

36

Technical data

| | | | | | | |
|---------------------------|-----------|------------------|------------------|------|-------------|-----|
| Steps per revolution | | | 24 | | | |
| Winding type | | | bipolar (UBB 1) | | | |
| Rated voltage | U_N | V | 3 | 6 | 12 | 24 |
| Resistance per winding | R_{20} | Ω | 11,5 | 18,5 | 100 | 460 |
| Winding type | | | unipolar (UBB 2) | | | |
| Rated voltage | U_N | V | 3 | 6 | 12 | 24 |
| Resistance per winding | R_{20} | Ω | 12 | 28 | 120 | 500 |
| Maximum power consumption | | W | 1,8 | | | |
| Winding temperature | T_{max} | °C | 105 | | | |
| Duty cycle | | % | 100 | | | |
| Holding torque | M_H | cNm | 1,5 (UBB 1) | | 1,0 (UBB 2) | |
| Detent torque | M_S | cNm | 0,25 | | | |
| Direction of rotation | | | reversible | | | |
| Rotor inertia | J_R | gcm ² | 2,8 | | | |

Characteristic curve (chopper)

Slew range (pull-in) and start range (pull-out) with constant current power stage

Torque and output at $I=0,25$ A per winding and 30% duty cycle (cycle time max. 10min).

Measured in slew range with electronic stabilizing circuit (SMIK).

Measured in start range with a load inertia $J(L)$ of 2.6 gcm².

Torque

Start range



Slew range

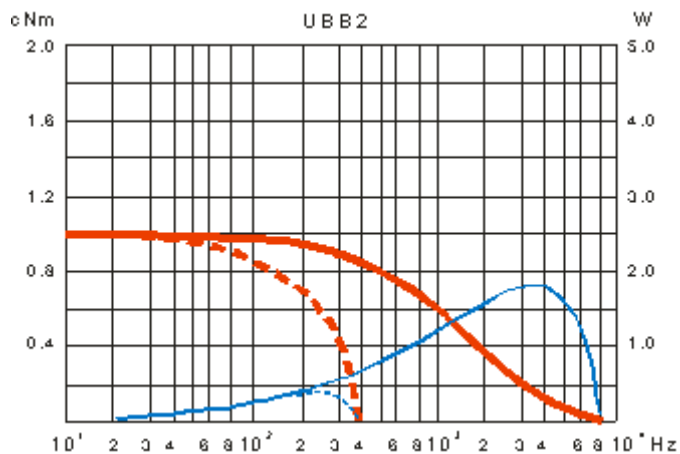
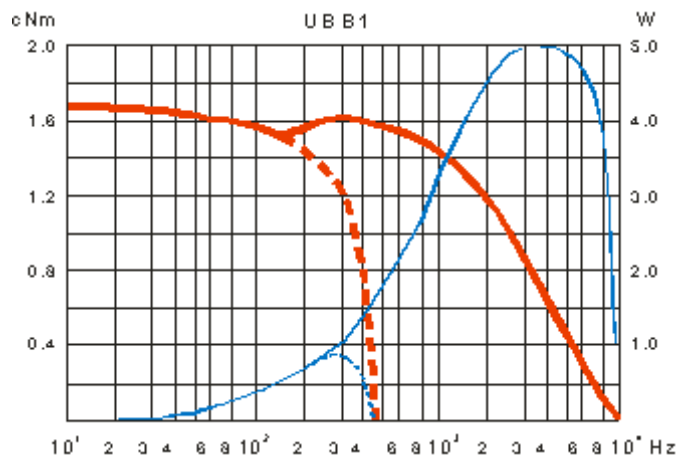


Output power

Start range



Slew range



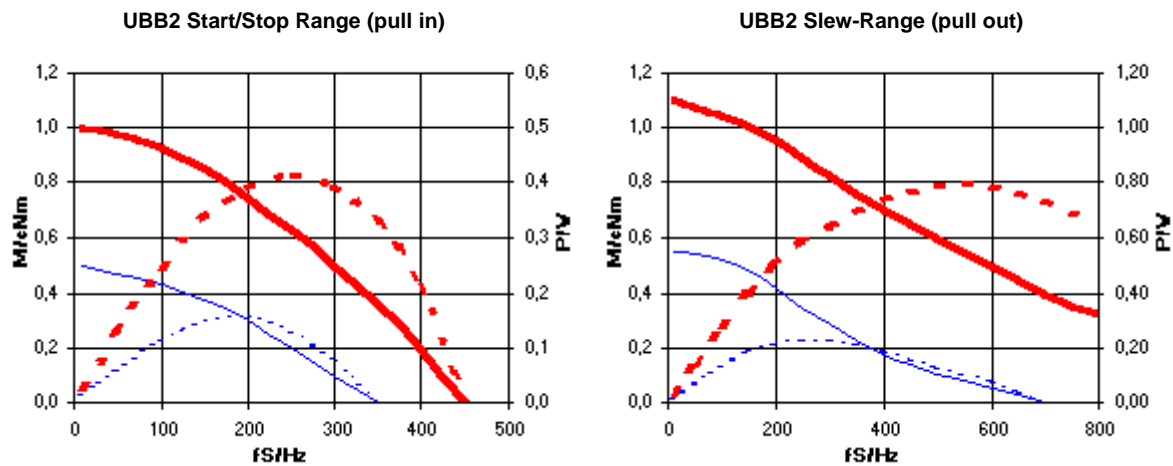
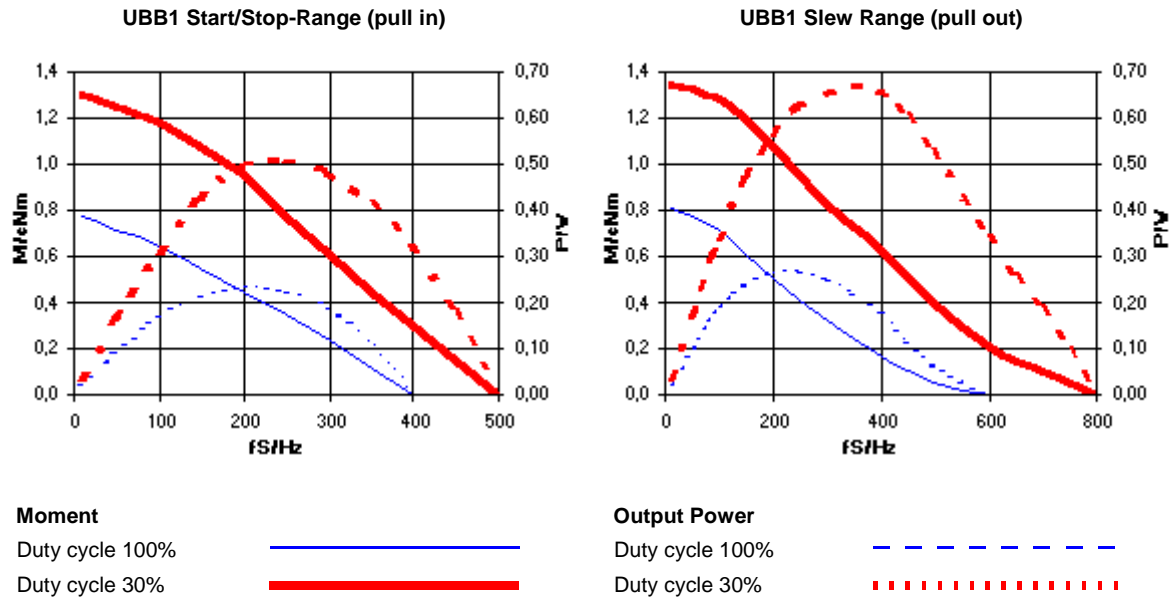
SAIA - UBB 1/2

Stepper motor - 15°

36

Chart 2 - Characteristic curve

Slew range (pull-in) and start range (pull-out) with constant voltage power stage



SAIA - UBB 5/6

Stepper motor - 15°

36

Technical data

| | | | | | | |
|---------------------------|-----------|----------|------------------|------|-------------|-----|
| Steps per revolution | | | 24 | | | |
| Winding type | | | bipolar (UBB 5) | | | |
| Rated voltage | U_N | V | 3 | 6 | 12 | 24 |
| Resistance per winding | R_{20} | Ω | 11,5 | 18,5 | 100 | 460 |
| Winding type | | | unipolar (UBB 6) | | | |
| Rated voltage | U_N | V | 3 | 6 | 12 | 24 |
| Resistance per winding | R_{20} | Ω | 12 | 28 | 120 | 500 |
| Maximum power consumption | | W | 1,8 | | | |
| Winding temperature | T_{max} | °C | 105 | | | |
| Duty cycle | | % | 100 | | | |
| Holding torque | M_H | cNm | 1,9 (UBB 5) | | 1,4 (UBB 6) | |
| Detent torque | M_S | cNm | 0,36 | | | |
| Direction of rotation | | | reversible | | | |
| Rotor inertia | J_R | gcm^2 | 3,9 | | | |

Characteristic curve (chopper)

Slew range (pull-in) and start range (pull-out) with constant current power stage

Torque and output at $I=0,25$ A per winding and 30% duty cycle (cycle time max. 10min).

Measured in slew range with electronic stabilizing circuit (SMIK).

Measured in start range with a load inertia $J(L)$ of 4.0 gcm^2 .

Torque

Start range



Slew range

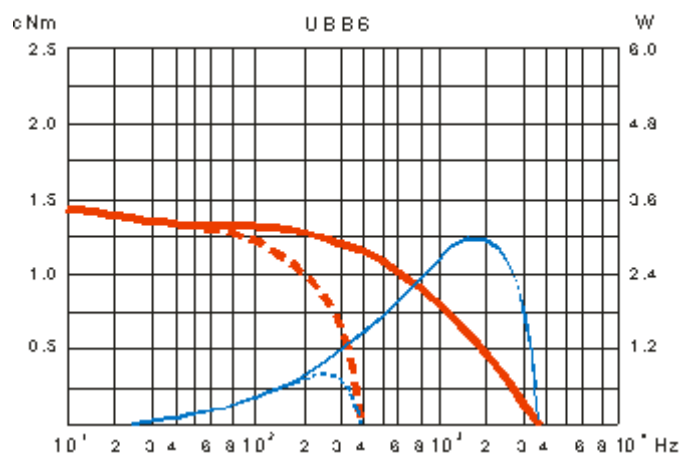
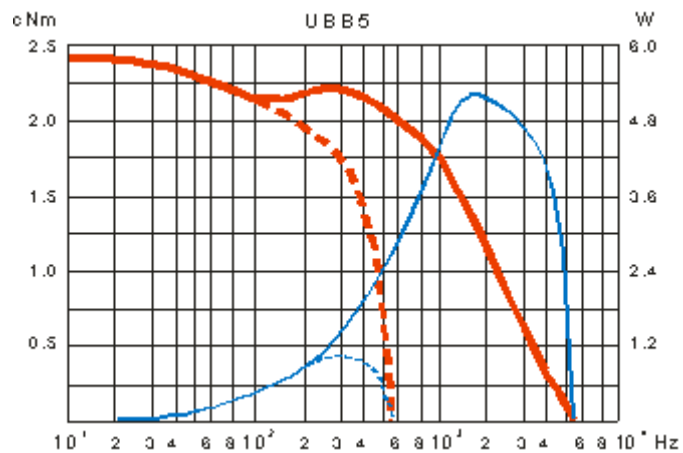


Output power

Start range



Slew range



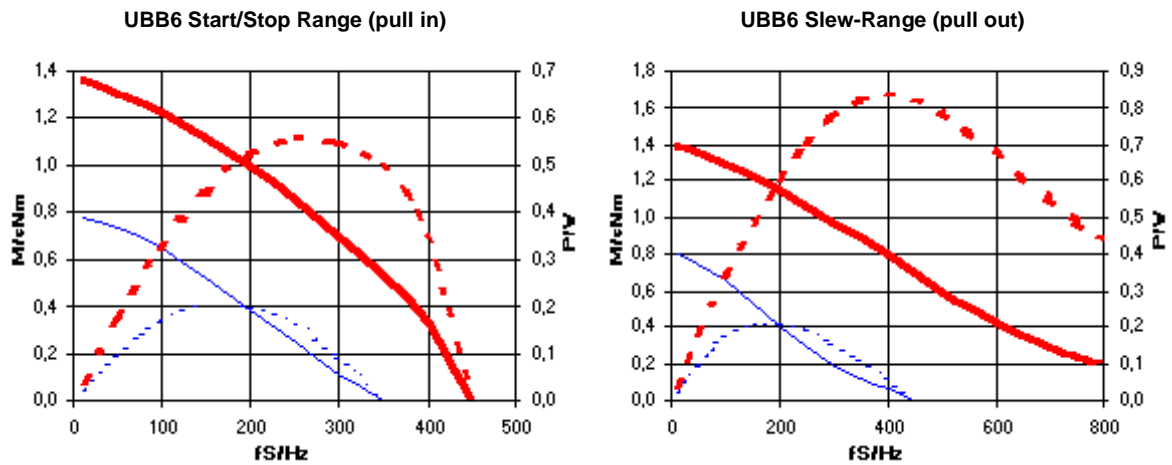
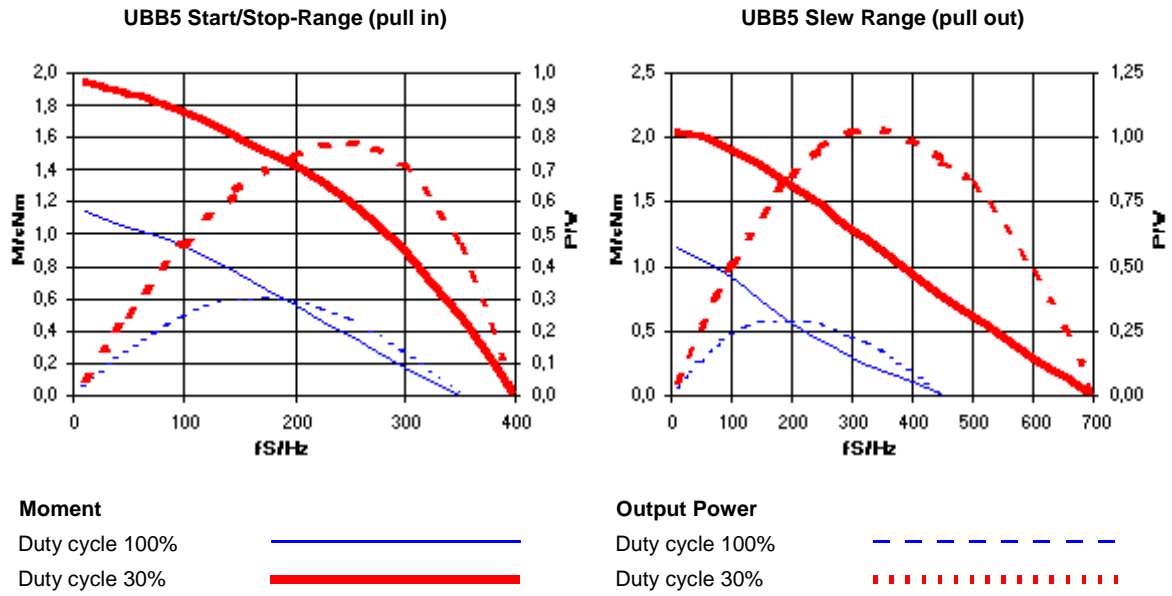
SAIA - UBB 5/6

Stepper motor - 15°

36

Chart 2 - Characteristic curve

Slew range (pull-in) and start range (pull-out) with constant voltage power stage



Motor Series - UD

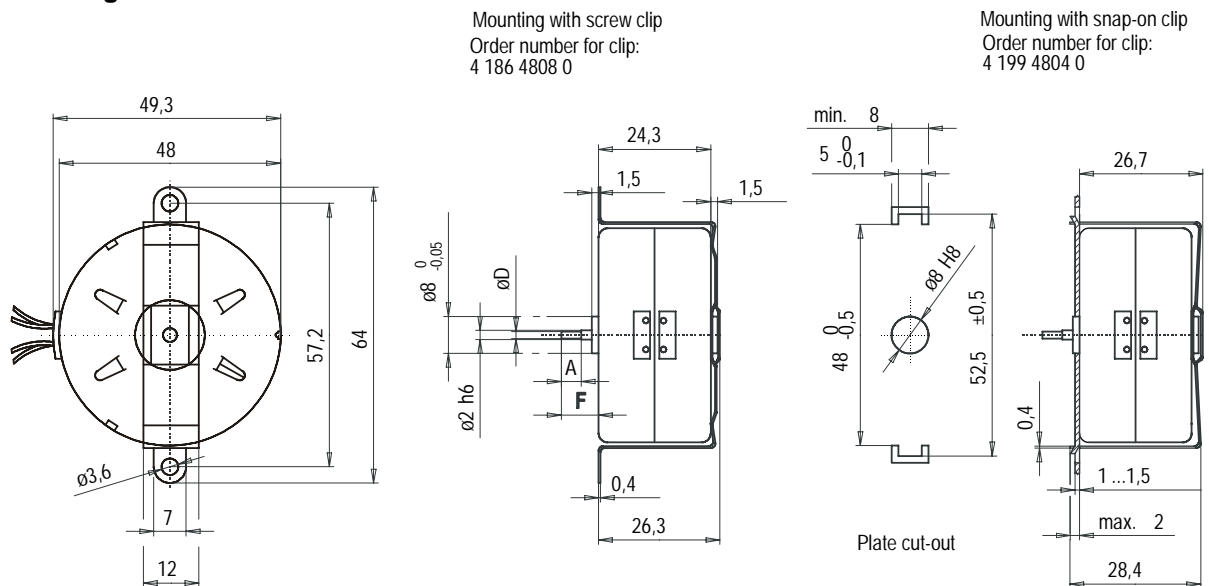
General values (without UDS)

48

Standard data

| | | |
|-------------------------------|-----------------|--|
| Climatic class | | "wide-spread" according IEC 721, part 2-1 |
| Ambient temperature operation | °C | -15...+60 |
| Ambient temperature storage | °C | -20...+100 |
| Thermal resistance at f=0 | R_{therm} K/W | 18 |
| Thermal class | | "A" according IEC 85 |
| Approval | | Standard / UL / CSA |
| Life expectancy | | 3 years in continuous operation |
| Mounting | | any position |
| Electrical connection | | ribbon cable |
| Protection | | IP 40 according DIN 40 050 / DIN EN 60034-5 |
| Weight | g | 132 |
| Rotor stalling | | motor can be stopped when voltage is applied, without being overheated |
| Rotor shaft | | hardened steel, grinded, polished |
| Bearings | | sintered bronze, self-lubricating |
| Surge voltage strenght | | according EN 60 034-1 / EN 60-335-1 |

Drawing



| $\varnothing D$ Rotor shaft | Dimension A | Dimension F |
|-----------------------------|-------------|-------------|
| 1,5js8 | 4,3 | 6,5 |
| 2h6 | is omitted | 8,2 |

SAIA - UDR 1

Synchronous motor - 500/600 rpm

48



Technical data

| | | | | | | | | | |
|------------------------------------|-----------|--------------------|--|--------|---------|----------|-----------|--|--|
| Rated voltage | U_N | V | 12 | 24 | 48 | 110 | 230 | | |
| | C_{50} | $\mu\text{F/VAC}$ | 27/20 | 6,8/40 | 1,5/100 | 0,27/200 | 0,068/350 | | |
| Operation capacitor | C_{60} | $\mu\text{F/VAC}$ | 22/20 | 4,7/40 | 1,5/100 | 0,27/200 | 0,068/350 | | |
| Tolerance of voltage | | % | Standard power supply system + 10% / - 10% | | | | | | |
| Duty cycle | | % | 100 | | | | | | |
| Winding temperature | T_{max} | $^{\circ}\text{C}$ | 105 | | | | | | |
| Rated frequency | | Hz | 50 | | | | 60 | | |
| Power output at rated voltage | | W | 0,77 | | | | 0,87 | | |
| Speed | n | rpm | 500 | | | | 600 | | |
| Running torque at rated voltage | | cNm | 1,5 | | | | 1,4 | | |
| Power consumption at rated voltage | | W | 2,1 | | | | 2,2 | | |
| Direction of rotation | | | Reversible | | | | | | |
| Motor inertia | J_R | gcm^2 | 6,3 | | | | | | |
| Detent torque | M_S | cNm | 0,35 | | | | | | |
| Connection sheet | | | <p><i>red = right direction / black = left direction</i></p> | | | | | | |

SAIA - UDB 1/2

Stepper motor - 15°

48

Technical data

| | | | | | | |
|---------------------------|-----------|------------------|------------------|----|-------------|--|
| Steps per revolution | | | 24 | | | |
| Winding type | | | bipolar (UDB 1) | | | |
| Rated voltage | U_N | V | 6 | 12 | 24 | |
| Resistance per winding | R_{20} | Ω | 15 | 78 | 350 | |
| Winding type | | | unipolar (UDB 2) | | | |
| Rated voltage | U_N | V | 6 | 12 | 24 | |
| Resistance per winding | R_{20} | Ω | 19 | 75 | 300 | |
| Maximum power consumption | | W | 1,5 | | | |
| Winding temperature | T_{max} | °C | 105 | | | |
| Duty cycle | | % | 100 | | | |
| Holding torque | M_H | cNm | 2,7 (UDB 1) | | 2,2 (UDB 2) | |
| Detent torque | M_S | cNm | 0,35 | | | |
| Direction of rotation | | | reversible | | | |
| Rotor inertia | J_R | gcm ² | 6,3 | | | |

Characteristic curve (chopper)

Slew range (pull-in) and start range (pull-out) with constant current power stage

Torque and output at $I=0,25$ A per winding and 30% duty cycle (cycle time max. 10min).

Measured in slew range with electronic stabilizing circuit (SMIK).

Measured in start range with a load inertia $J(L)$ of 4.0 gcm².

Torque

Start range



Slew range

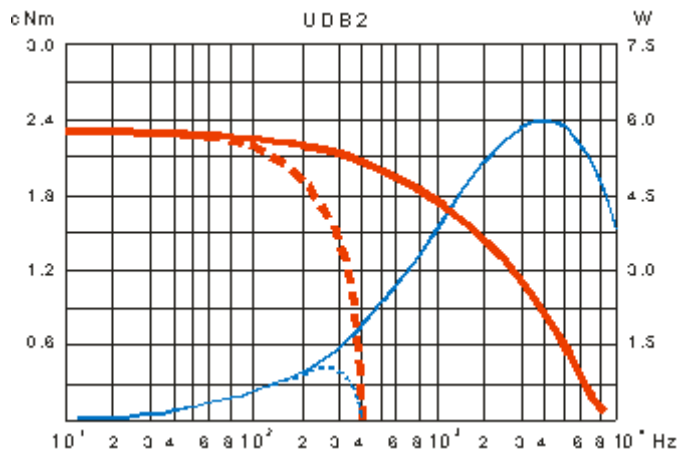
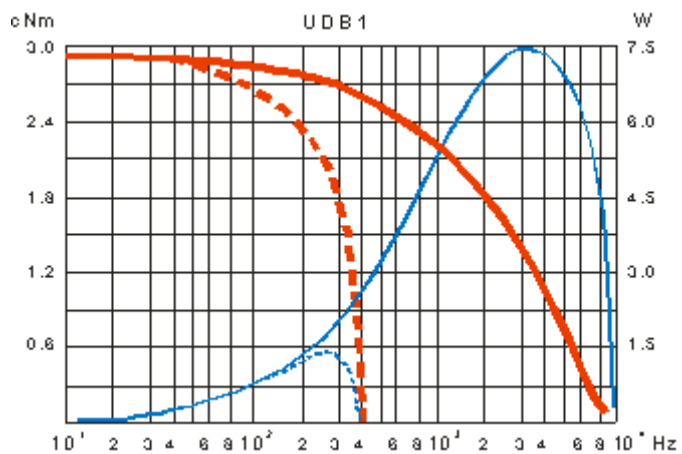


Output power

Start range



Slew range



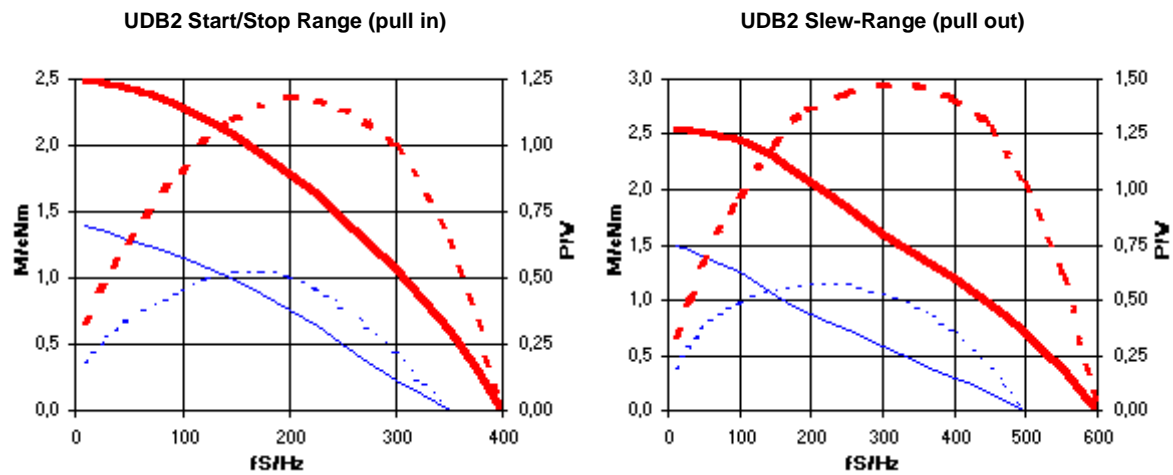
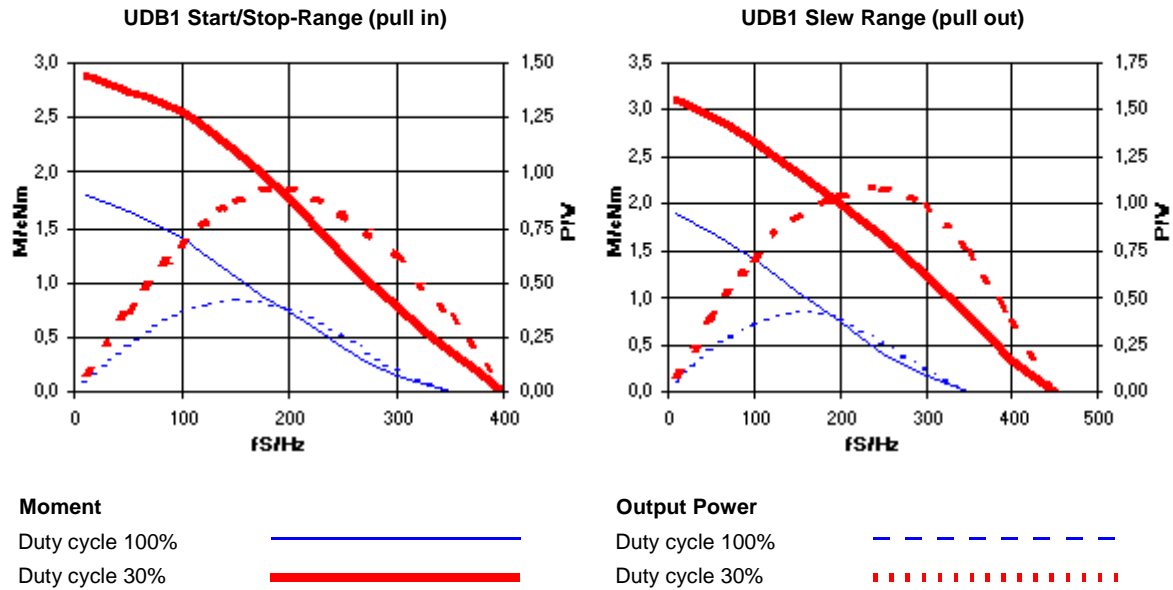
SAIA - UDB 1/2

Stepper motor - 15°

48

Chart 2 - Characteristic curve

Slew range (pull-in) and start range (pull-out) with constant voltage power stage



Motor Series - UD

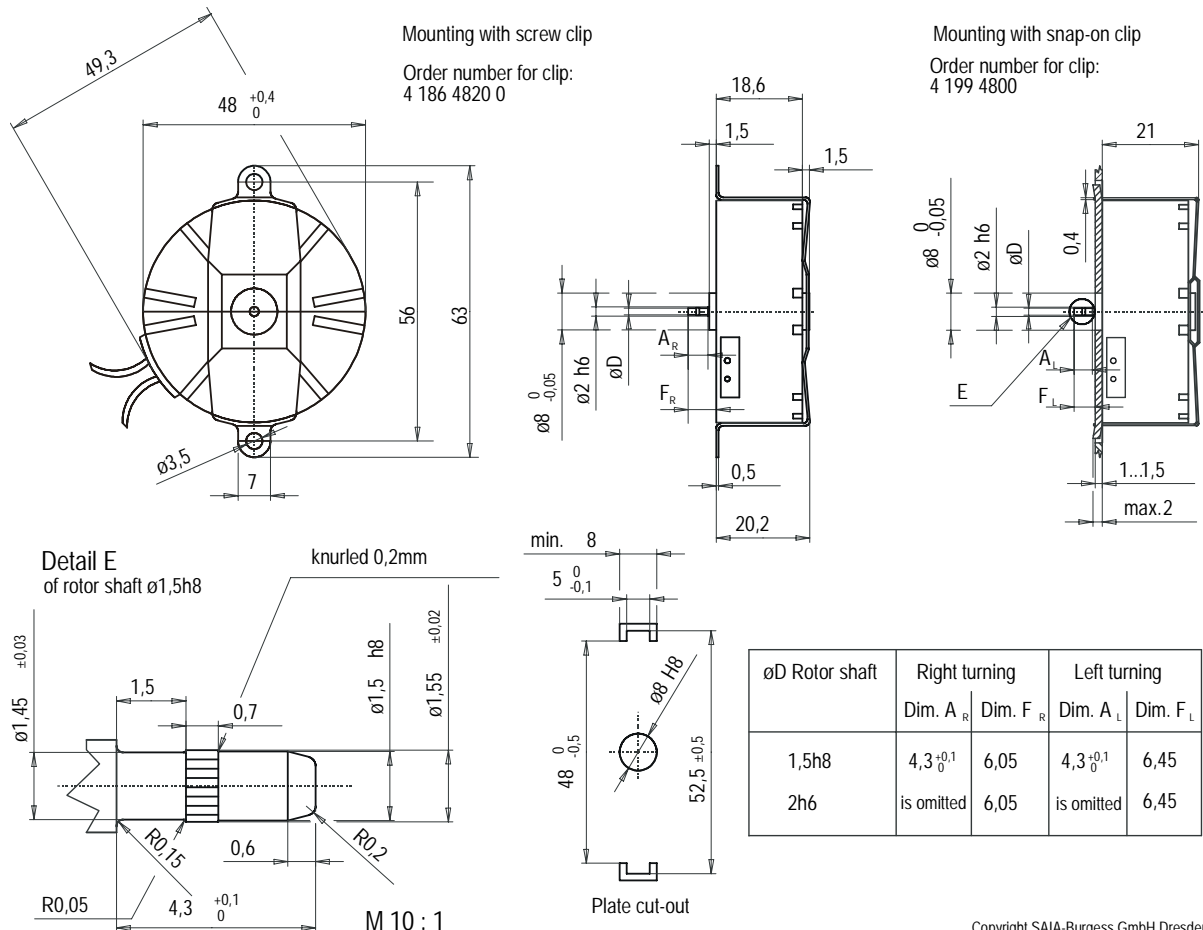
General values

48

Standard data

| | | |
|-------------------------------|------------------------|--|
| Climatic class | | "wide-spread" according IEC 721, part 2-1 |
| Ambient temperature operation | °C | -15...+60 |
| Ambient temperature storage | °C | -20...+100 |
| Thermal resistance at f=0 | R _{therm} K/W | 17 |
| Thermal class | | "A" according IEC 85 |
| Approval | | Standard / UL / CSA |
| Life expectancy | | 3 years in continuous operation |
| Mounting | | any position |
| Electrical connection | | ribbon cable |
| Protection | | IP 40 according DIN 40 050 / DIN EN 60034-5 |
| Weight | g | 102 |
| Rotor stalling | | motor can be stopped when voltage is applied, without being overheated |
| Rotor shaft | | hardened steel, grinded, polished |
| Bearings | | plastic, self-lubricating |
| Surge voltage strenght | | according EN 60 034-1 / EN 60-335-1 |

Drawing



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SAIA - UDS 1**Synchronous motor - 500/600 rpm**

48

**Technical data**

| | | | | | | | | | | |
|------------------------------------|-----------|------------------|--|----|----|----|-----|-----|-----|--|
| Rated voltage | U_N | V | 6 | 12 | 24 | 36 | 48 | 110 | 230 | |
| Tolerance of voltage | | % | Standard power supply system + 10% / - 10% | | | | | | | |
| Duty cycle | | % | 100 | | | | | | | |
| Winding temperature | T_{max} | °C | 105 | | | | | | | |
| Rated frequency | | Hz | 50 | | | | 60 | | | |
| Power output at rated voltage | | W | 0,5 | | | | 0,5 | | | |
| Speed | n | rpm | 500 | | | | 600 | | | |
| Running torque at rated voltage | | cNm | 0,95 | | | | 0,8 | | | |
| Power consumption at rated voltage | | W | 2,4 | | | | 1,8 | | | |
| Direction of rotation | | | Right or left | | | | | | | |
| Motor inertia | J_R | gcm ² | 10,2 | | | | | | | |
| Detent torque | M_S | cNm | 0,27 (in direction of rotation) | | | | | | | |

Motor Series - UF

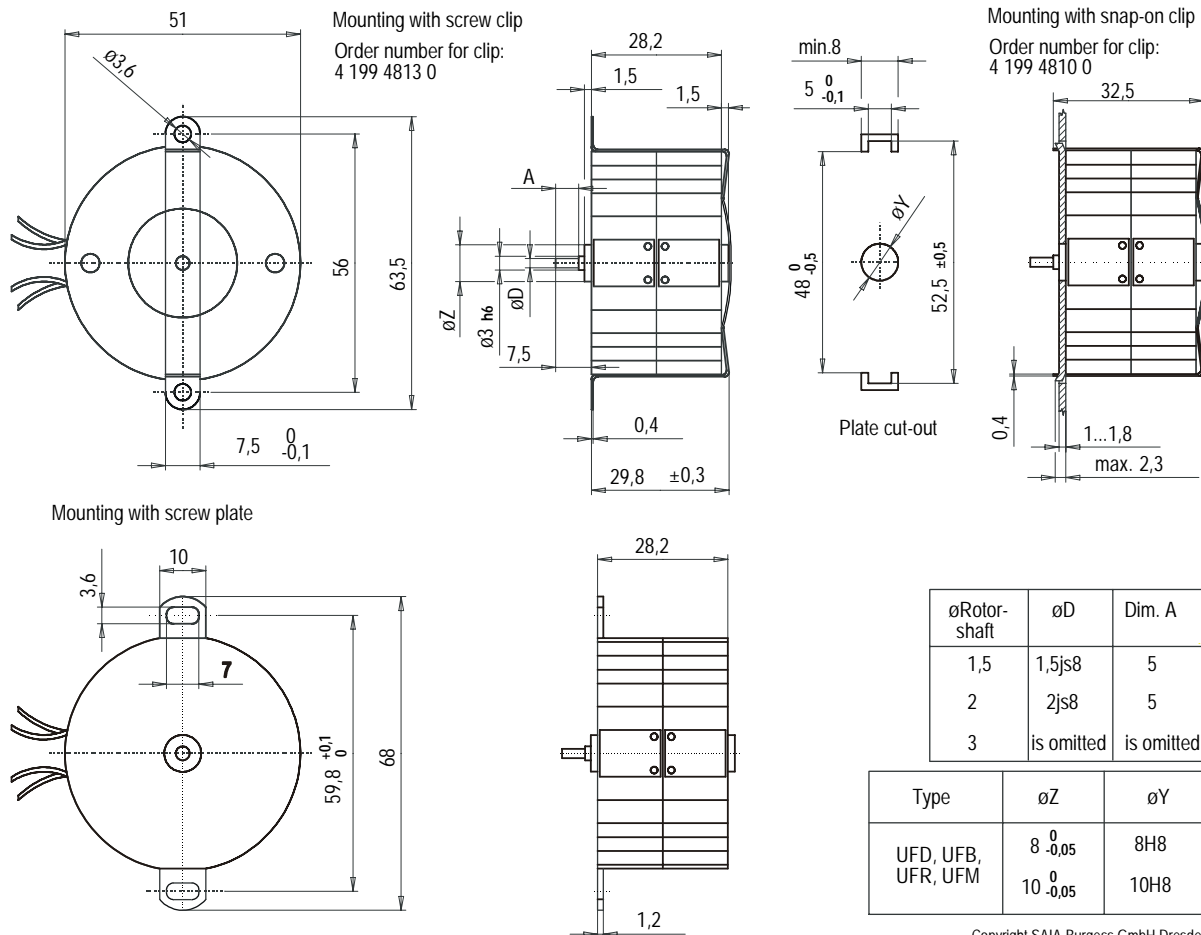
General values

52

Standard data

| | | |
|-------------------------------|-----------------|--|
| Climatic class | | "wide-spread" according IEC 721, part 2-1 |
| Ambient temperature operation | °C | -15...+55 |
| Ambient temperature storage | °C | -20...+100 |
| Thermal resistance at f=0 | R_{therm} K/W | 13 |
| Thermal class | | "A" according IEC 85 |
| Approval | | Standard / UL / CSA |
| Life expectancy | | 3 years in continuous operation |
| Mounting | | any position |
| Electrical connection | | ribbon cable |
| Protection | | IP 40 according DIN 40 050 / DIN EN 60034-5 |
| Weight | g | 185 (without UFR 3/4) |
| Rotor stalling | | motor can be stopped when voltage is applied, without being overheated |
| Rotor shaft | | hardened steel, grinded, polished |
| Bearings | | sintered bronze, self-lubricating |
| Surge voltage strenght | | according EN 60 034-1 / EN 60-335-1 |

Drawing



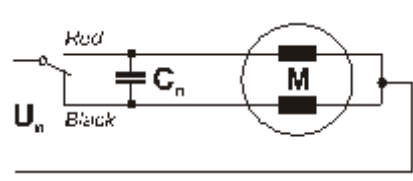
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SAIA - UFR 1

Synchronous motor - 500/600 rpm

52

Technical data

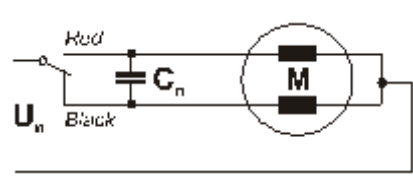
| | | | | | | | | | |
|------------------------------------|-----------|--------------------|---|--------|----------|-----------|-----|--|--|
| Rated voltage | U_N | V | 24 | 48 | 110 | 230 | | | |
| | C_{50} | $\mu\text{F/VAC}$ | 10/45 | 2,7/90 | 0,47/200 | 0,1/400 | | | |
| Operation capacitor | C_{60} | $\mu\text{F/VAC}$ | 8,2/45 | 2,2/90 | 0,39/200 | 0,082/440 | | | |
| Tolerance of voltage | | % | Standard power supply system + 10% / - 10% | | | | | | |
| Duty cycle | | % | 100 | | | | | | |
| Winding temperature | T_{max} | $^{\circ}\text{C}$ | 105 | | | | | | |
| Rated frequency | | Hz | 50 | | | | 60 | | |
| Power output at rated voltage | | W | 1,5 | | | | 1,6 | | |
| Speed | n | rpm | 500 | | | | 600 | | |
| Running torque at rated voltage | | cNm | 2,8 | | | | 2,6 | | |
| Power consumption at rated voltage | | W | 3,3 | | | | 3,6 | | |
| Direction of rotation | | | Reversible | | | | | | |
| Motor inertia | J_R | gcm^2 | 14,2 | | | | | | |
| Detent torque | M_S | cNm | 0,46 | | | | | | |
| Connection sheet | | |  <p style="text-align: center;"><i>red = right direction / black = left direction</i></p> | | | | | | |

SAIA - UFM 1

Synchronous motor - 500/600 rpm

52

Technical data

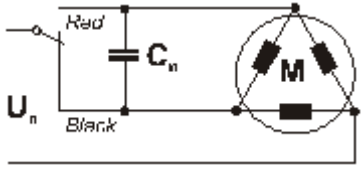
| | | | | | | | | | |
|------------------------------------|-----------|--------------------|--|--------|--------|----------|-----------|--|--|
| Rated voltage | U_N | V | 12 | 24 | 48 | 110 | 230 | | |
| | C_{50} | $\mu\text{F/VAC}$ | 39/24 | 10/45 | 2,2/90 | 0,39/240 | 0,1/440 | | |
| Operation capacitor | C_{60} | $\mu\text{F/VAC}$ | 33/24 | 8,2/45 | 1,8/90 | 0,33/240 | 0,082/440 | | |
| Tolerance of voltage | | % | Standard power supply system + 10% / - 10% | | | | | | |
| Duty cycle | | % | 100 | | | | | | |
| Winding temperature | T_{max} | $^{\circ}\text{C}$ | 105 | | | | | | |
| Rated frequency | | Hz | 50 | | | | 60 | | |
| Power output at rated voltage | | W | 1 | | | | 1,1 | | |
| Speed | n | rpm | 250 | | | | 300 | | |
| Running torque at rated voltage | | cNm | 3,8 | | | | 3,5 | | |
| Power consumption at rated voltage | | W | 4 | | | | 3,1 | | |
| Direction of rotation | | | Reversible | | | | | | |
| Motor inertia | J_R | gcm^2 | 14,4 | | | | | | |
| Detent torque | M_S | cNm | 0,45 | | | | | | |
| Connection sheet | | |  <p>red = right direction / black = left direction</p> | | | | | | |

SAIA - UFR 3

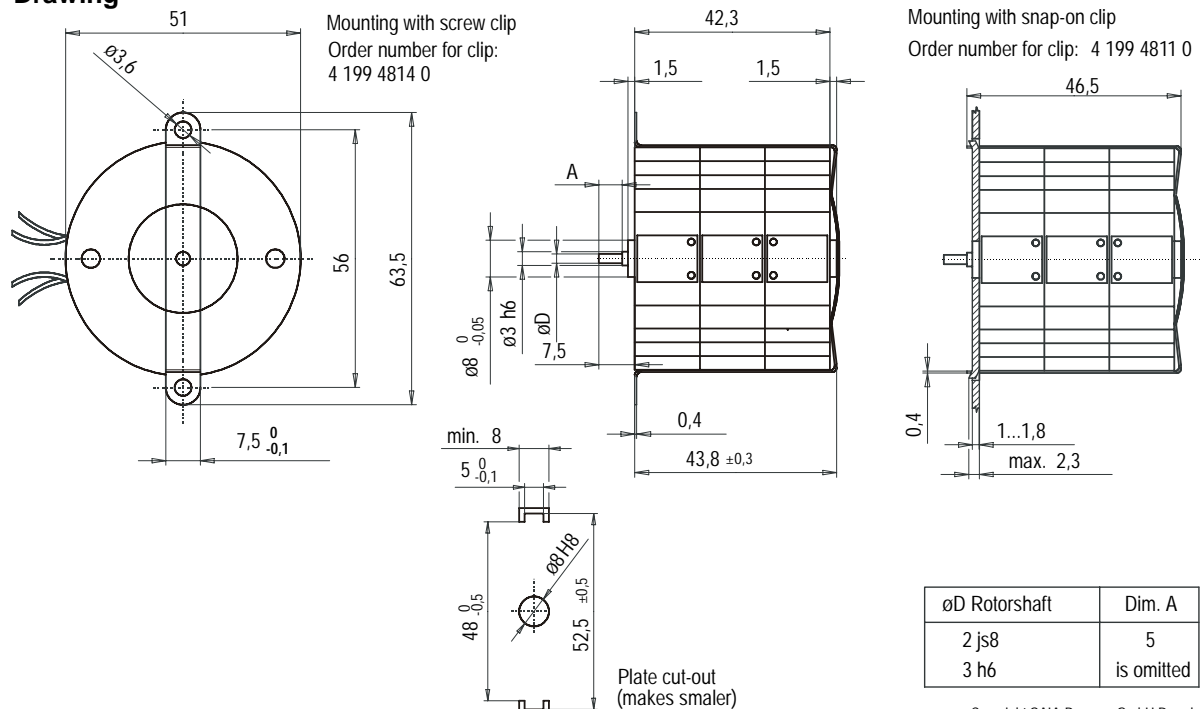
Synchronous motor - 500/600 rpm

52

Technical data

| | | | | | | | | | |
|------------------------------------|-----------|--------------------|--|--------|---------|----------|--|--|--|
| Rated voltage | U_N | V | 24 | 48 | 110 | 230 | | | |
| | C_{50} | $\mu\text{F/VAC}$ | 39/24 | 10/50 | 1,8/110 | 0,39/240 | | | |
| Operation capacitor | C_{60} | $\mu\text{F/VAC}$ | 27/24 | 6,8/50 | 1,2/110 | 0,27/240 | | | |
| Tolerance of voltage | | % | Standard power supply system + 10% / - 10% | | | | | | |
| Duty cycle | | % | 100 | | | | | | |
| Winding temperature | T_{max} | $^{\circ}\text{C}$ | 105 | | | | | | |
| Rated frequency | | Hz | 50 | | | 60 | | | |
| Power output at rated voltage | | W | 1,9 | | | 2 | | | |
| Speed | n | rpm | 500 | | | 600 | | | |
| Running torque at rated voltage | | cNm | 3,7 | | | 3,1 | | | |
| Power consumption at rated voltage | | W | 6,1 | | | 5,1 | | | |
| Direction of rotation | | | Reversible | | | | | | |
| Motor inertia | J_R | gcm^2 | 17 | | | | | | |
| Detent torque | M_S | cNm | 0,45 | | | | | | |
| Connection sheet | | |  <p>red = right direction / black = left direction</p> | | | | | | |

Drawing



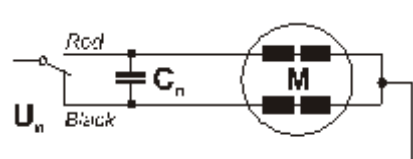
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SAIA - UFR 4

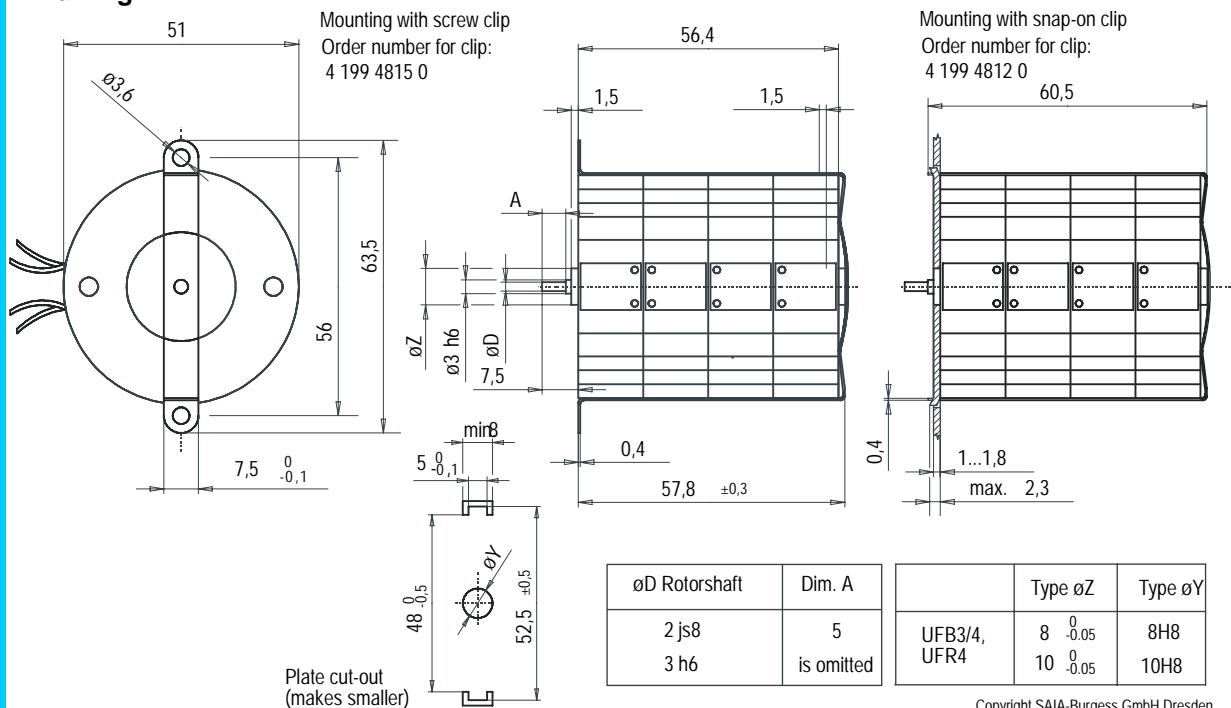
Synchronous motor - 500/600 rpm

52

Technical data

| | | | | | | | | |
|------------------------------------|------------------|--------------------|--|--------|----------|----------|--|--|
| Rated voltage | U_N | V | 24 | 48 | 110 | 230 | | |
| | C_{50} | $\mu\text{F/VAC}$ | 18/45 | 4,7/90 | 0,82/200 | 0,22/440 | | |
| Operation capacitor | C_{60} | $\mu\text{F/VAC}$ | 15/45 | 3,9/90 | 0,68/200 | 0,18/440 | | |
| Tolerance of voltage | | % | Standard power supply system + 10% / - 10% | | | | | |
| Duty cycle | | % | 100 | | | | | |
| Winding temperature | T_{max} | $^{\circ}\text{C}$ | 105 | | | | | |
| Rated frequency | | Hz | 50 | | | 60 | | |
| Power output at rated voltage | | W | 2,8 | | | 3 | | |
| Speed | n | rpm | 500 | | | 600 | | |
| Running torque at rated voltage | | cNm | 5,3 | | | 4,7 | | |
| Power consumption at rated voltage | | W | 6,4 | | | 6,9 | | |
| Direction of rotation | | | Reversible | | | | | |
| Motor inertia | J_R | gcm^2 | 24,2 | | | | | |
| Detent torque | M_S | cNm | 0,8 | | | | | |
| Connection sheet | | |  <p>red = right direction / black = left direction</p> | | | | | |

Drawing



SAIA - UFB 1/2

Stepper motor - 15°



Technical data

| | | | | | | |
|---------------------------|-----------|----------|------------------|----|-------------|--|
| Steps per revolution | | | 24 | | | |
| Winding type | | | bipolar (UFB 1) | | | |
| Rated voltage | U_N | V | 6 | 12 | 24 | |
| Resistance per winding | R_{20} | Ω | 9,5 | 52 | 250 | |
| Winding type | | | unipolar (UFB 2) | | | |
| Rated voltage | U_N | V | 6 | 12 | 24 | |
| Resistance per winding | R_{20} | Ω | 15 | 61 | 251 | |
| Maximum power consumption | | W | 4,2 | | | |
| Winding temperature | T_{max} | °C | 105 | | | |
| Duty cycle | | % | 100 | | | |
| Holding torque | M_H | cNm | 5,5 (UFB 1) | | 4,3 (UFB 2) | |
| Detent torque | M_S | cNm | 0,46 | | | |
| Direction of rotation | | | reversible | | | |
| Rotor inertia | J_R | gcm^2 | 14,2 | | | |

Characteristic curve (chopper)

Slew range (pull-in) and start range (pull-out) with constant current power stage

Torque and output at $I=0,4$ A per winding and 30% duty cycle (cycle time max. 10min).

Measured in slew range with electronic stabilizing circuit (SMIK).

Measured in start range with a load inertia $J(L)$ of $3,0 gcm^2$.

Torque

Start range



Slew range

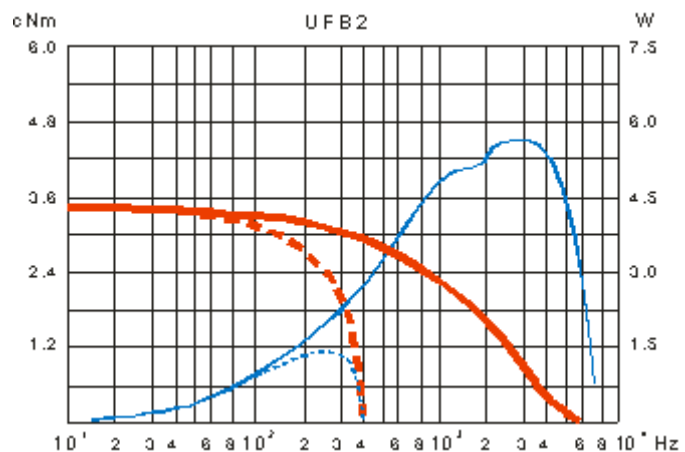
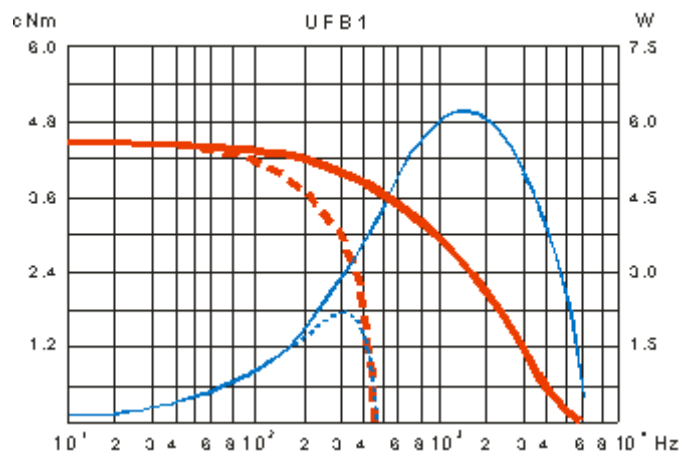


Output power

Start range



Slew range



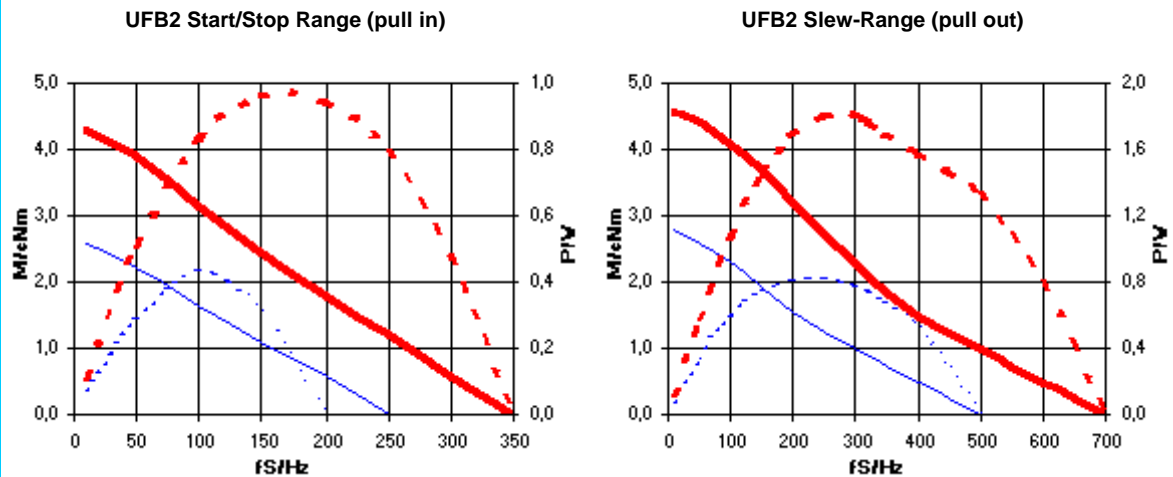
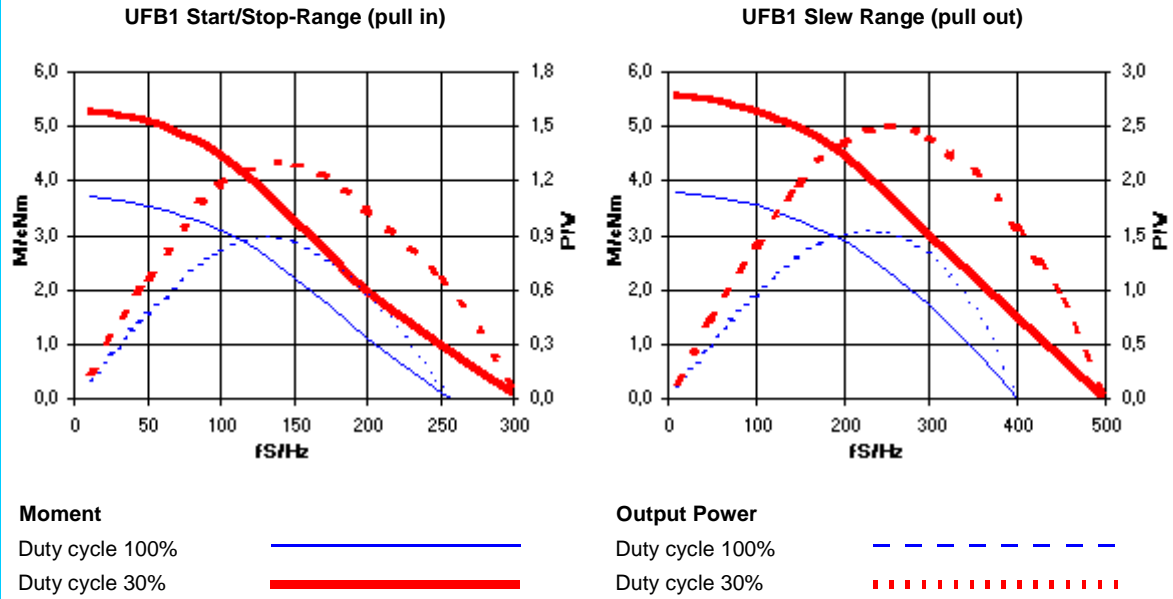
SAIA - UFB 1/2

Stepper motor - 15°

52

Chart 2 - Characteristic curve

Slew range (pull-in) and start range (pull-out) with constant voltage power stage



SAIA - UFD 1/2

Stepper motor - 7,5°

52

Technical data

| | | | | | | |
|---------------------------|-----------|----------|------------------|----|-------------|--|
| Steps per revolution | | | 48 | | | |
| Winding type | | | bipolar (UFD 1) | | | |
| Rated voltage | U_N | V | 6 | 12 | 24 | |
| Resistance per winding | R_{20} | Ω | 9,5 | 52 | 250 | |
| Winding type | | | unipolar (UFD 2) | | | |
| Rated voltage | U_N | V | 6 | 12 | 24 | |
| Resistance per winding | R_{20} | Ω | 15 | 61 | 251 | |
| Maximum power consumption | | W | 4,2 | | | |
| Winding temperature | T_{max} | °C | 105 | | | |
| Duty cycle | | % | 100 | | | |
| Holding torque | M_H | cNm | 6,4 (UFD 1) | | 4,6 (UFD 2) | |
| Detent torque | M_S | cNm | 0,45 | | | |
| Direction of rotation | | | reversible | | | |
| Rotor inertia | J_R | gcm^2 | 14,4 | | | |

Characteristic curve (chopper)

Slew range (pull-in) and start range (pull-out) with constant current power stage

Torque and output at $I=0,4$ A per winding and 30% duty cycle (cycle time max. 10min).

Measured in slew range with electronic stabilizing circuit (SMIK).

Measured in start range with a load inertia $J(L)$ of 4.0 gcm^2 .

Torque

Start range



Slew range

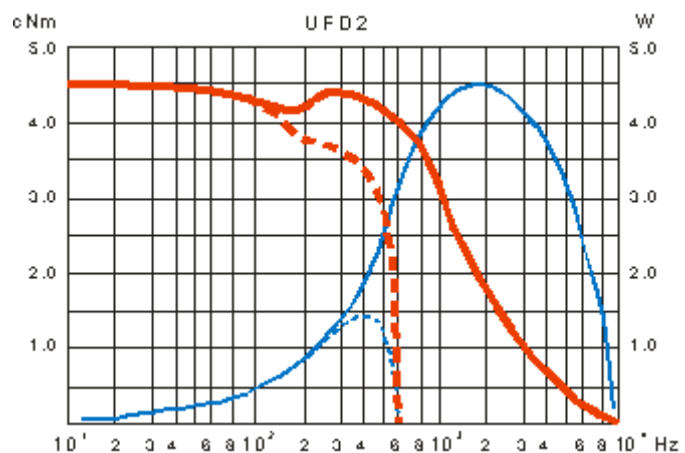
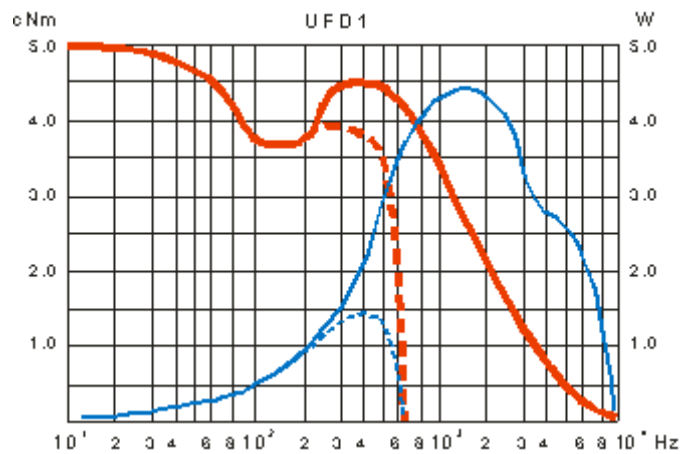


Output power

Start range



Slew range



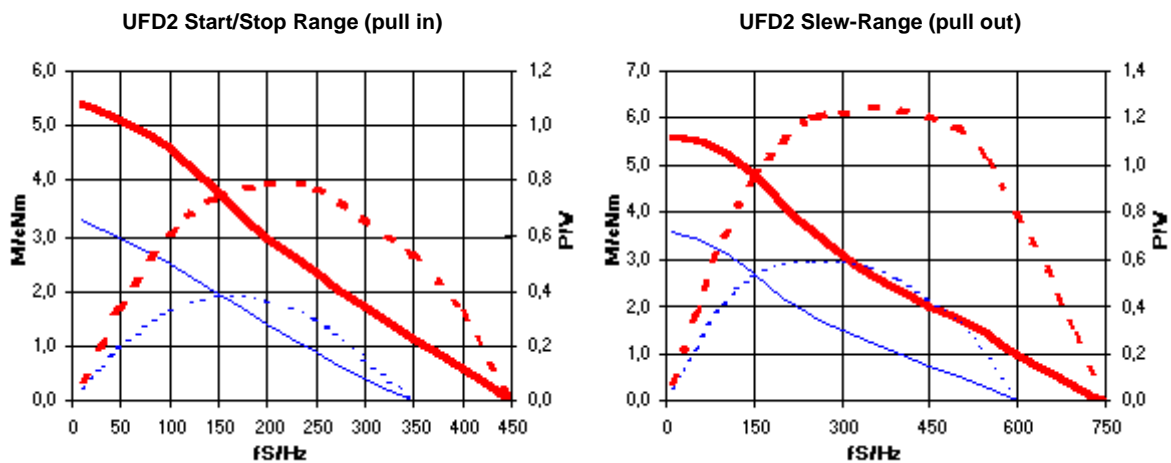
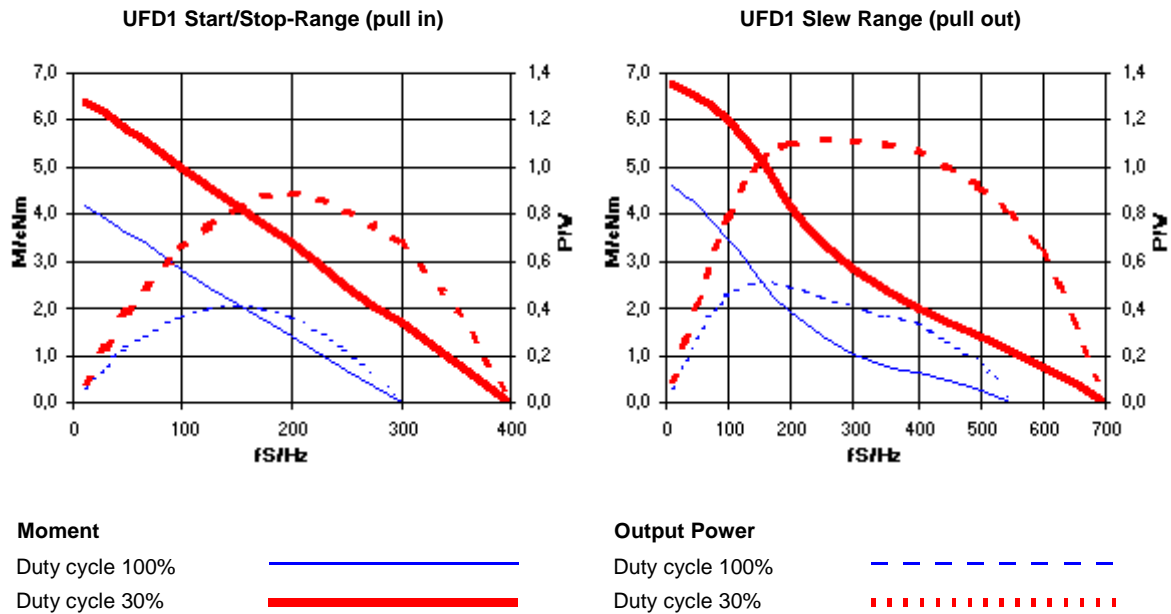
SAIA - UFD 1/2

Stepper motor - 7,5°

52

Chart 2 - Characteristic curve

Slew range (pull-in) and start range (pull-out) with constant voltage power stage



SAIA - UFB 3/4

Stepper motor - 15°

52

Technical data

| | | | | | | |
|---------------------------|-----------|----------|------------------|------|-------------|--|
| Steps per revolution | | | 24 | | | |
| Winding type | | | bipolar (UFB 3) | | | |
| Rated voltage | U_N | V | 6 | 12 | 24 | |
| Resistance per winding | R_{20} | Ω | 5 | 25,5 | 125 | |
| Winding type | | | unipolar (UFB 4) | | | |
| Rated voltage | U_N | V | 6 | 12 | 24 | |
| Resistance per winding | R_{20} | Ω | 7,5 | 30,5 | 125 | |
| Maximum power consumption | | W | 4,1 | | | |
| Winding temperature | T_{max} | °C | 105 | | | |
| Duty cycle | | % | 100 | | | |
| Holding torque | M_H | cNm | 10,4 (UFB 3) | | 7,6 (UFB 4) | |
| Detent torque | M_S | cNm | 0,8 | | | |
| Direction of rotation | | | reversible | | | |
| Rotor inertia | J_R | gcm^2 | 24,2 | | | |

Characteristic curve (chopper)

Slew range (pull-in) and start range (pull-out) with constant current power stage

Torque and output at $I=0,4$ A per winding and 30% duty cycle (cycle time max. 10min).

Measured in slew range with electronic stabilizing circuit (SMIK).

Measured in start range with a load inertia $J(L)$ of $4,0 gcm^2$.

Torque

Start range



Slew range

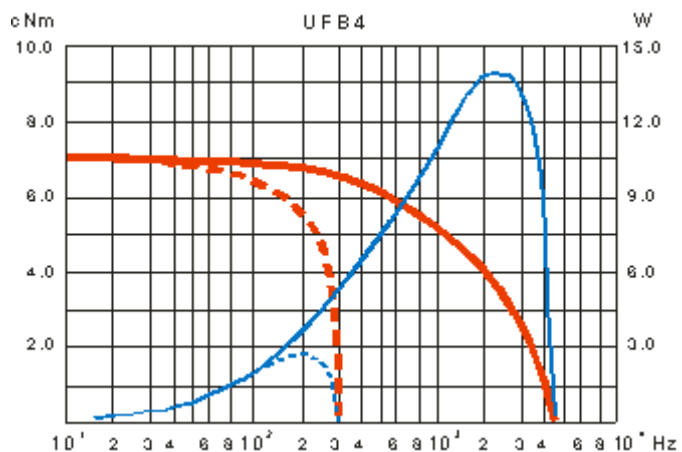
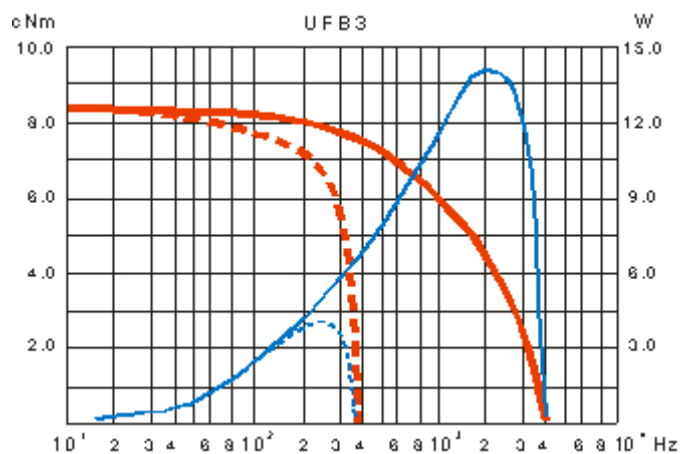


Output power

Start range



Slew range



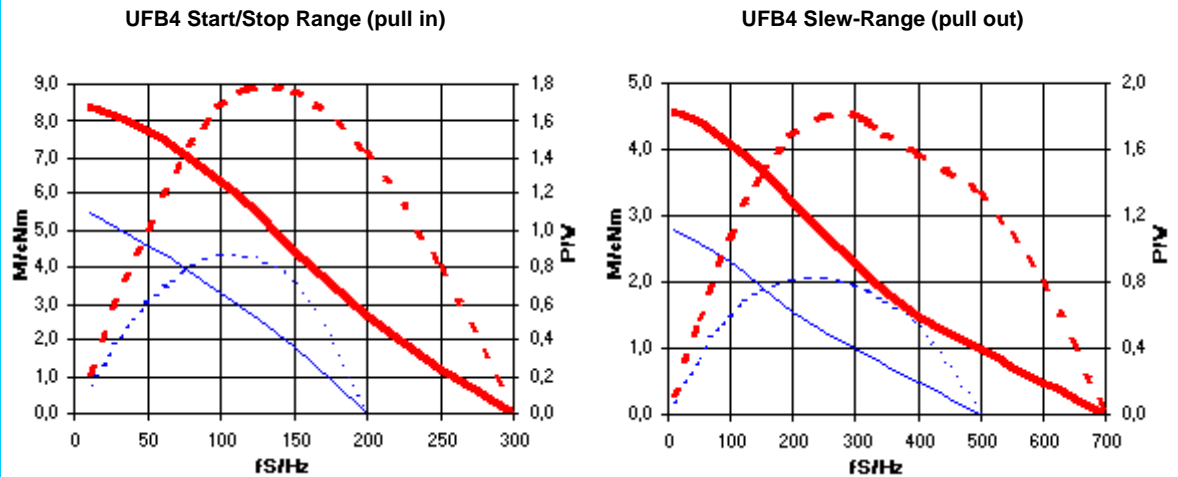
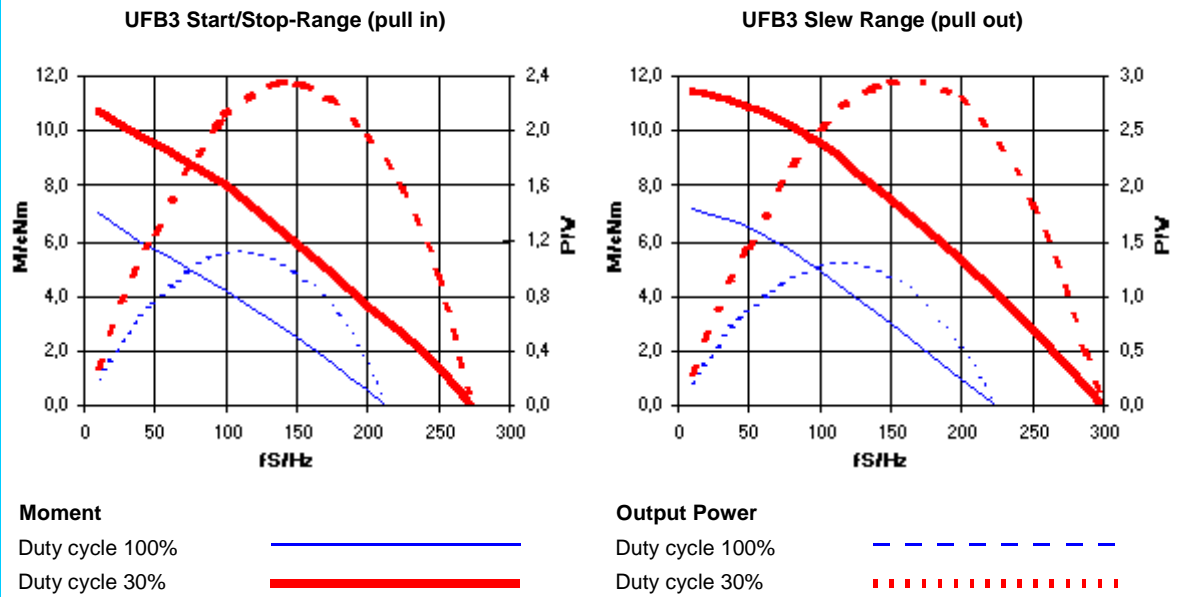
SAIA - UFB 3/4

Stepper motor - 15°

52

Chart 2 - Characteristic curve

Slew range (pull-in) and start range (pull-out) with constant voltage power stage



Motor Series - UH

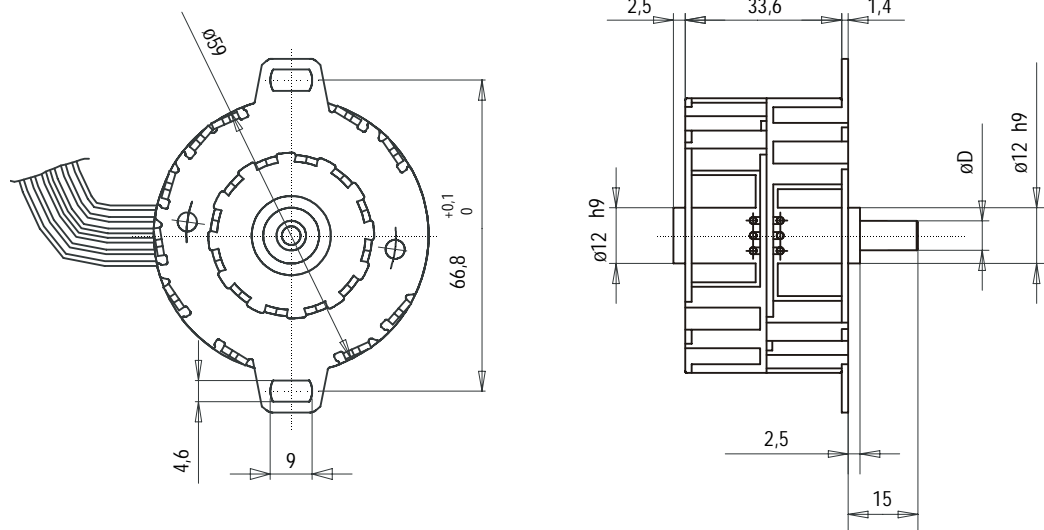
General values

59

Standard data

| | | |
|-------------------------------|-----------------|--|
| Climatic class | | "wide-spread" according IEC 721, part 2-1 |
| Ambient temperature operation | °C | -15...+55 |
| Ambient temperature storage | °C | -20...+100 |
| Thermal resistance at f=0 | R_{therm} K/W | 9 |
| Thermal class | | "A" according IEC 85 |
| Approval | | Standard / UL / CSA |
| Life expectancy | | 3 years in continuous operation |
| Mounting | | any position |
| Electrical connection | | ribbon cable |
| Protection | | IP 40 according DIN 40 050 / DIN EN 60034-5 |
| Weight | g | 300 |
| Rotor stalling | | motor can be stopped when voltage is applied, without being overheated |
| Rotor shaft | | hardened steel, grinded, polished |
| Bearings | | sintered bronze, self-lubricating |
| Surge voltage strenght | | according EN 60 034-1 / EN 60-335-1 |

Drawing



| |
|---------------|
| øD Rotorshaft |
| 6,35 h6 |
| 4,00 h8 |

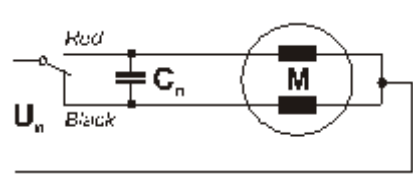
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SAIA - UHM 1

Synchronous motor - 500/600 rpm

59

Technical data

| | | | | | | | | | |
|------------------------------------|-----------|--------------------|---|-------|---------|----------|----------|--|--|
| Rated voltage | U_N | V | 12 | 24 | 48 | 110 | 230 | | |
| | C_{50} | $\mu\text{F/VAC}$ | 56/24 | 15/50 | 3,9/100 | 0,68/220 | 0,18/440 | | |
| Operation capacitor | C_{60} | $\mu\text{F/VAC}$ | 39/24 | 10/50 | 2,7/100 | 0,47/220 | 0,12/440 | | |
| Tolerance of voltage | | % | Standard power supply system + 10% / - 10% | | | | | | |
| Duty cycle | | % | 100 | | | | | | |
| Winding temperature | T_{max} | $^{\circ}\text{C}$ | 105 | | | | | | |
| Rated frequency | | Hz | 50 | | | | 60 | | |
| Power output at rated voltage | | W | 2,2 | | | | 2,1 | | |
| Speed | n | rpm | 250 | | | | 300 | | |
| Running torque at rated voltage | | cNm | 8,5 | | | | 6,6 | | |
| Power consumption at rated voltage | | W | 5 | | | | 4,5 | | |
| Direction of rotation | | | Reversible | | | | | | |
| Motor inertia | J_R | gcm^2 | 65 | | | | | | |
| Detent torque | M_S | cNm | 1,3 | | | | | | |
| Connection sheet | | |  <p style="text-align: center;"><i>red = right direction / black = left direction</i></p> | | | | | | |

SAIA - UHD 1/2

Stepper motor - 7,5°



Technical data

| | | | | | | |
|---------------------------|-----------|------------------|------------------|----|--------------|--|
| Steps per revolution | | | 48 | | | |
| Winding type | | | bipolar (UHD 1) | | | |
| Rated voltage | U_N | V | 6 | 12 | 24 | |
| Resistance per winding | R_{20} | Ω | 6,8 | 36 | 168 | |
| Winding type | | | unipolar (UHD 2) | | | |
| Rated voltage | U_N | V | 6 | 12 | 24 | |
| Resistance per winding | R_{20} | Ω | 10 | 45 | 190 | |
| Maximum power consumption | | W | 6 | | | |
| Winding temperature | T_{max} | °C | 105 | | | |
| Duty cycle | | % | 100 | | | |
| Holding torque | M_H | cNm | 17,1 (UHD 1) | | 13,0 (UHD 2) | |
| Detent torque | M_S | cNm | 1,3 | | | |
| Direction of rotation | | | reversible | | | |
| Rotor inertia | J_R | gcm ² | 65 | | | |

Characteristic curve (chopper)

Slew range (pull-in) and start range (pull-out) with constant current power stage

Torque and output at $I=0,6$ A (UHD 1) respectively $I=0,4$ A (UHD 2) per winding and 30% duty cycle (cycle time max. 10min).

Measured in slew range with electronic stabilizing circuit (SMIK).

Measured in start range with a load inertia $J(L)$ of 3.0 gcm².

Torque

Start range



Slew range

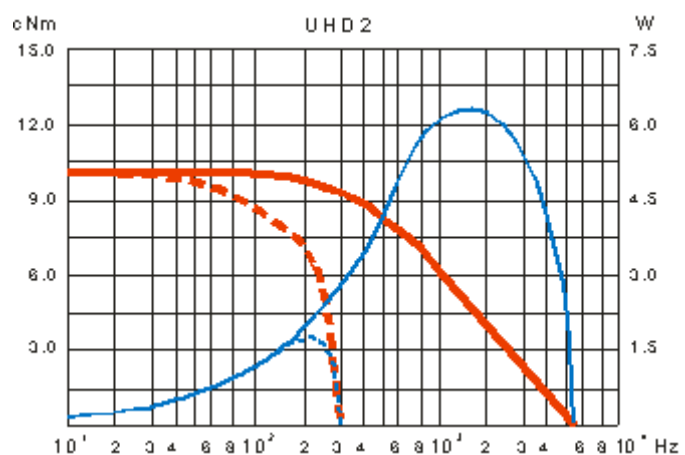
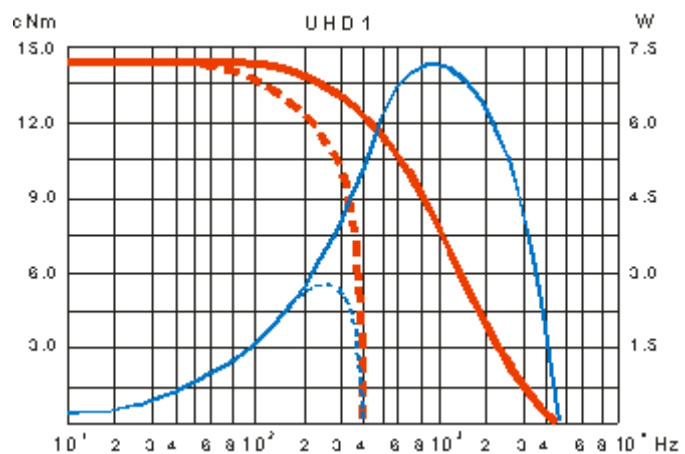


Output power

Start range



Slew range



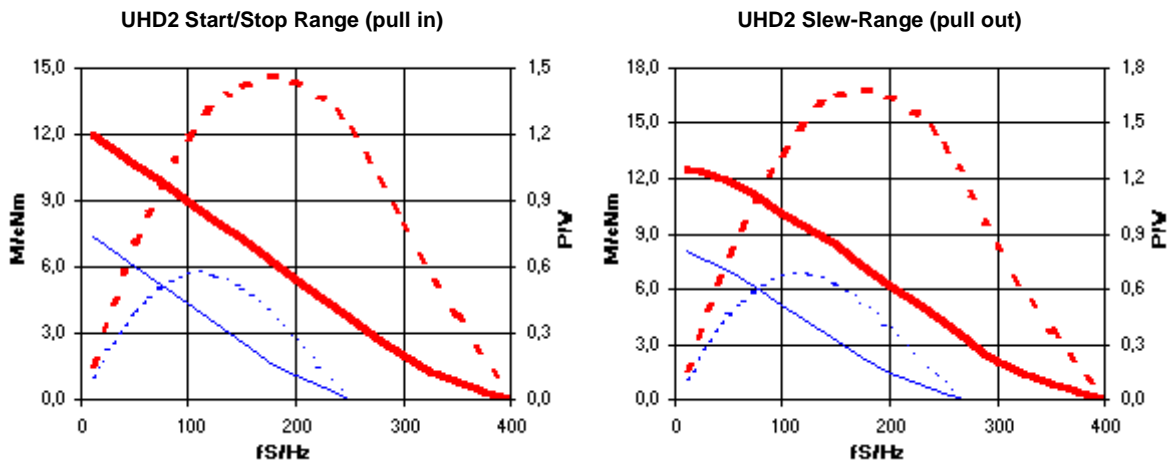
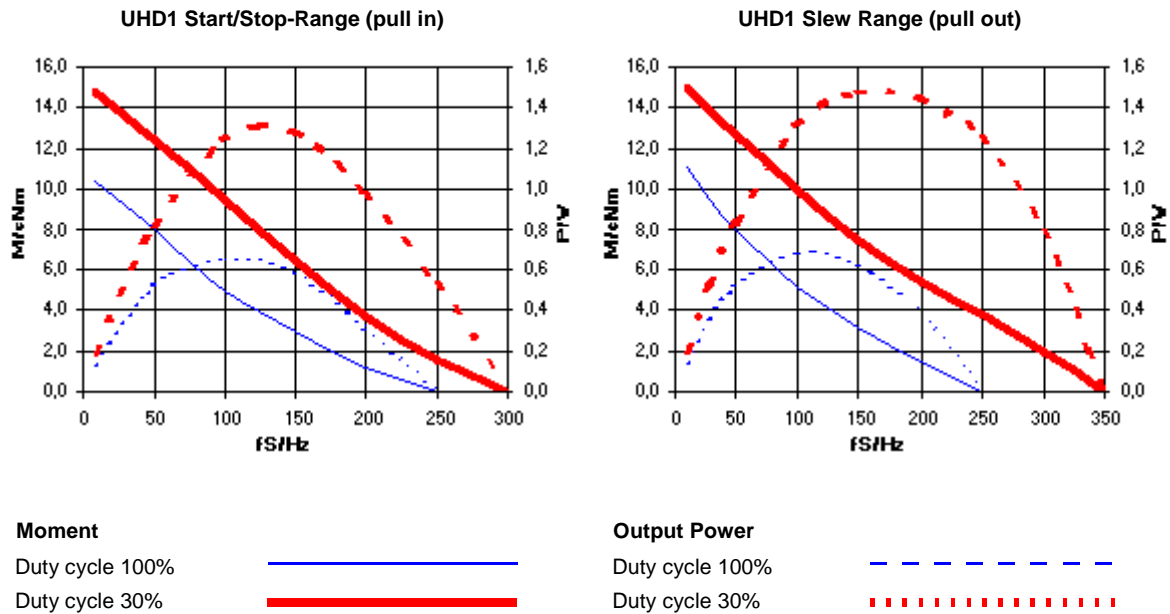
SAIA - UHD 1/2

Stepper motor - 7,5°

59

Chart 2 - Characteristic curve

Slew range (pull-in) and start range (pull-out) with constant voltage power stage



SAIA - UHD 5/6

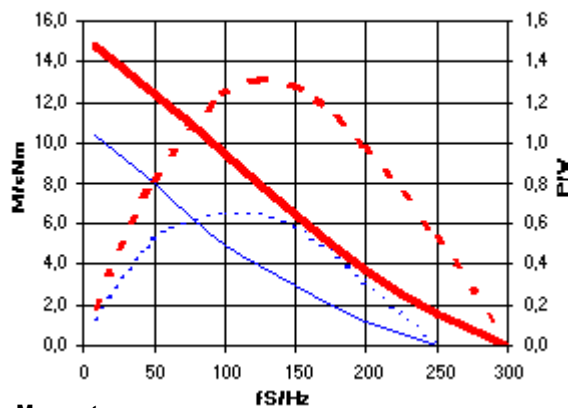
Stepper motor - 7,5°



Technical data

| | | | | | | |
|---------------------------|-----------|------------------|------------------|----|--------------|--|
| Steps per revolution | | | 48 | | | |
| Winding type | | | bipolar (UHD 5) | | | |
| Rated voltage | U_N | V | 6 | 12 | 24 | |
| Resistance per winding | R_{20} | Ω | 6,8 | 36 | 168 | |
| Winding type | | | unipolar (UHD 6) | | | |
| Rated voltage | U_N | V | 6 | 12 | 24 | |
| Resistance per winding | R_{20} | Ω | 10 | 45 | 190 | |
| Maximum power consumption | | W | 3 | | | |
| Winding temperature | T_{max} | °C | 105 | | | |
| Duty cycle | | % | 100 | | | |
| Holding torque | M_H | cNm | 24,0 (UHD 5) | | 17,3 (UHD 6) | |
| Detent torque | M_S | cNm | 2,1 | | | |
| Direction of rotation | | | reversible | | | |
| Rotor inertia | J_R | gcm ² | 56 | | | |

UHD5 Start/Stop-Range (pull in)

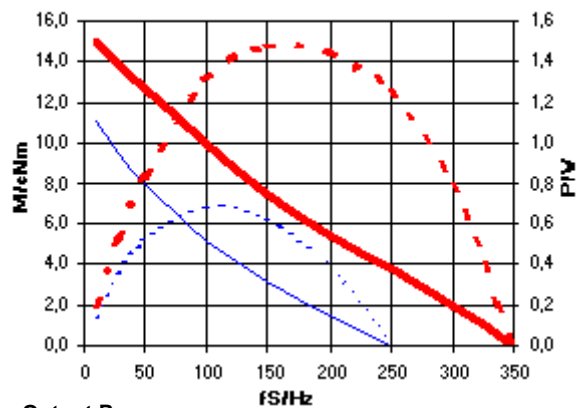


Moment

Duty cycle 100% ————

Duty cycle 30% ————

UHD5 Slew Range (pull out)



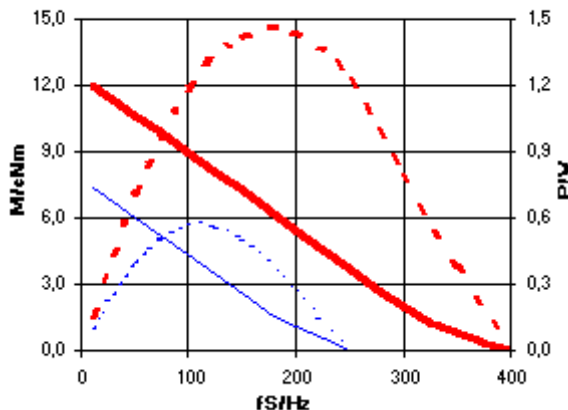
Output Power

Duty cycle 100% - - - - -

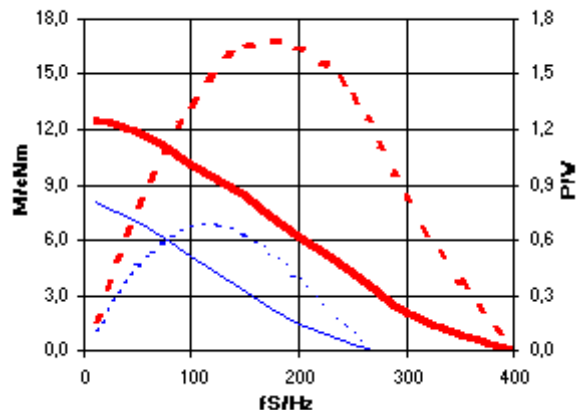
Duty cycle 30% ······

Slew range (pull-in) and start range (pull-out) with constant voltage power stage

UHD6 Start/Stop Range (pull in)



UHD6 Slew-Range (pull out)



Motor Series - UBL

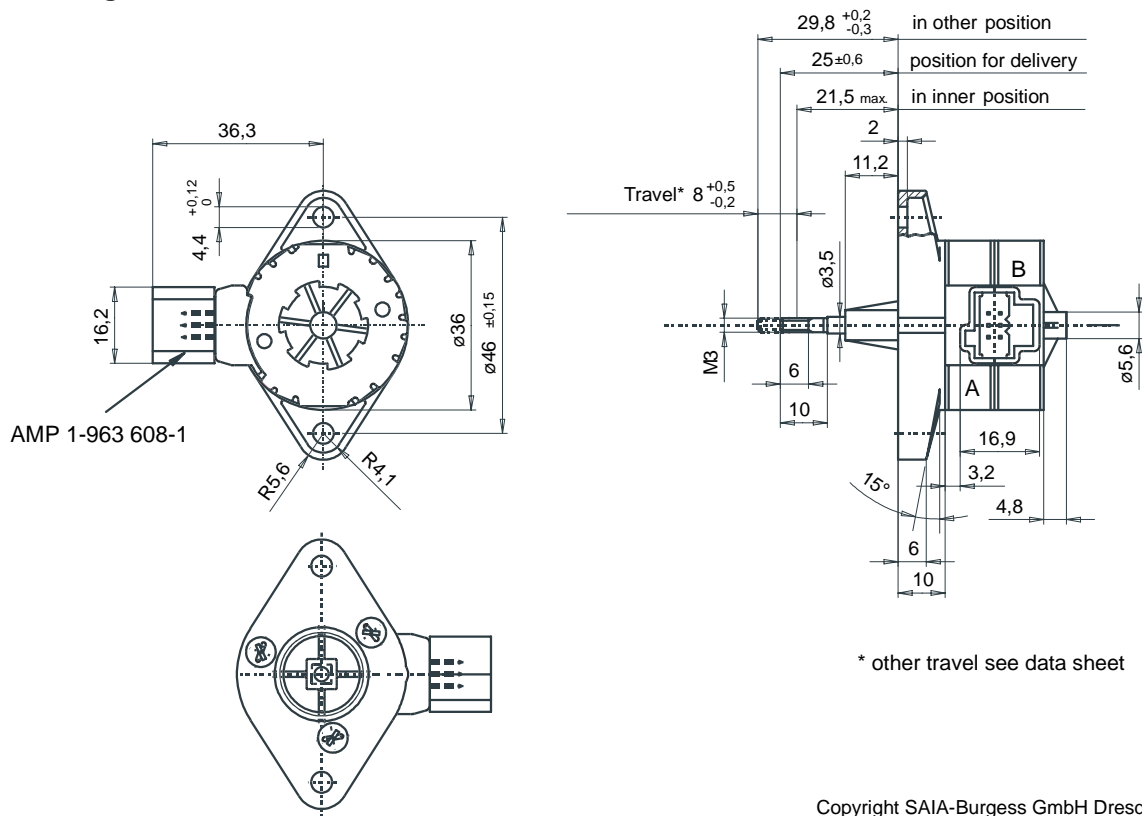
General values

36

Standard data

| | | |
|-------------------------------|-----------------|--|
| Climatic class | | "wide-spread" according IEC 721, part 2-1 |
| Ambient temperature operation | °C | -40...+90 |
| Ambient temperature storage | °C | -40...+120 |
| Thermal resistance at f=0 | R_{therm} K/W | 27 |
| Thermal class | | "F" according IEC 85 |
| Approval | | Standard / UL / CSA |
| Life expectancy | | 500.000 cycle with 10N / 200.000 cycle with 20N |
| Mounting | | any position |
| Electrical connection | | connector |
| Protection | | IP 40 according DIN 40 050 / DIN EN 60034-5 |
| Weight | g | 61 |
| Rotor stalling | | motor can be stopped when voltage is applied, without being overheated |
| Shaft | | CuNi12Zn30Pb1 (DIN 17663) |
| Bearings | | ball bearing, lubricated |
| Surge voltage strenght | | according EN 60 034-1 / EN 60-335-1 |

Drawing



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SAIA - UBK 1

Synchronous motor - linear

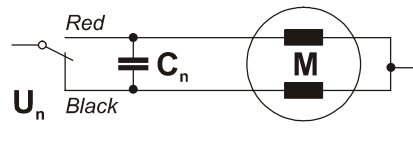
36

Technical data

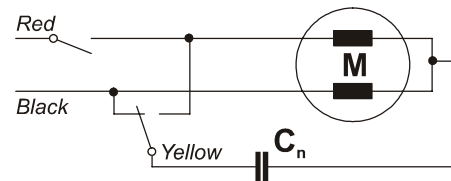
| | | | | | | | | |
|-----------------------------|------------------|--------------------|--|--------|--------|----------|----------|--|
| Rated voltage | U_N | V | 12 | 24 | 48 | 110 | 230 | |
| | C_{50} | $\mu\text{F/VAC}$ | 15/20 | 3,9/40 | 1,0/70 | 0,18/170 | 0,27/170 | |
| Rated frequency | | Hz | 50 | | | | | |
| Tolerance of voltage | | % | Standard power supply system + 10% / - 10% | | | | | |
| Winding temperature | T_{max} | $^{\circ}\text{C}$ | 155 | | | | | |
| Linear travel max. | | mm | 4,8,12 | | | | | |
| Axial play at 20 N force | | mm | < 0,20 | | | | | |
| Axial speed | | mm/sec | 6,67 | | | | | |
| Axial force 100% duty cycle | J_R | N | 15 | | | | | |
| Axial force 30% duty cycle | M_S | N | 25 | | | | | |

Connection sheet

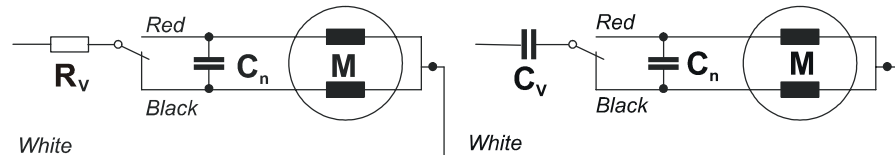
parallel circuit 12V, 24V, 48V, 110V



series circuit 230V



parallel circuit with dropping elements $R(v)$ or $C(v)$ 230 V ($U(N)$ motor 110V)



SAIA - UBL 1/2

Stepper motor - linear

36

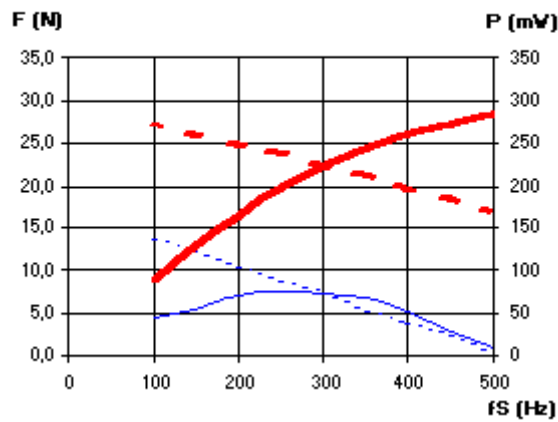
Technical data

| | | | | | | |
|--------------------------|-----------|-------------|------------------|-----|-----|--|
| Steps per revolution | | | 24 | | | |
| Winding type | | | bipolar (UBL 1) | | | |
| Rated voltage | U_N | V | 6 | 12 | 24 | |
| Resistance per winding | R_{20} | Ω | 18,5 | 100 | 460 | |
| Winding type | | | unipolar (UBL 2) | | | |
| Rated voltage | U_N | V | 6 | 12 | 24 | |
| Resistance per winding | R_{20} | Ω | 28 | 120 | 500 | |
| Travel per step | | mm | 0,033 | | | |
| Winding temperature | T_{max} | $^{\circ}C$ | 150 | | | |
| Linear travel max | | mm | 4,8,12 | | | |
| Axial play at 20 N force | | mm | < 0,20 | | | |

Chart 2 - Characteristic curve

Slew range (pull-in) with constant power stage (cycle time max. 9 min)

UBL1 Start/Stop-Range (pull in)



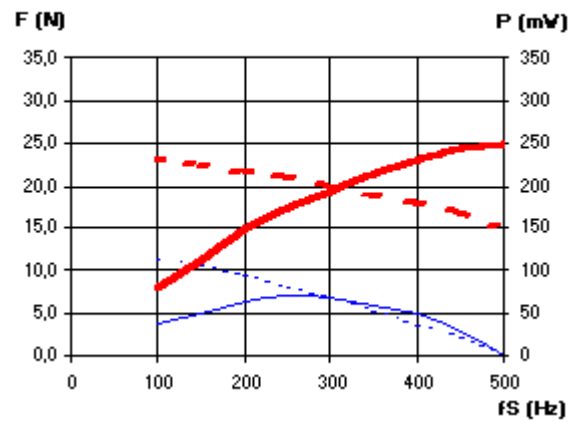
Moment

Duty cycle 100%

Duty cycle 30%



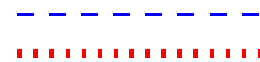
UBL1 Start/Stop-Range (pull out)



Output Power

Duty cycle 100%

Duty cycle 30%



Gear Series - UGA

General values



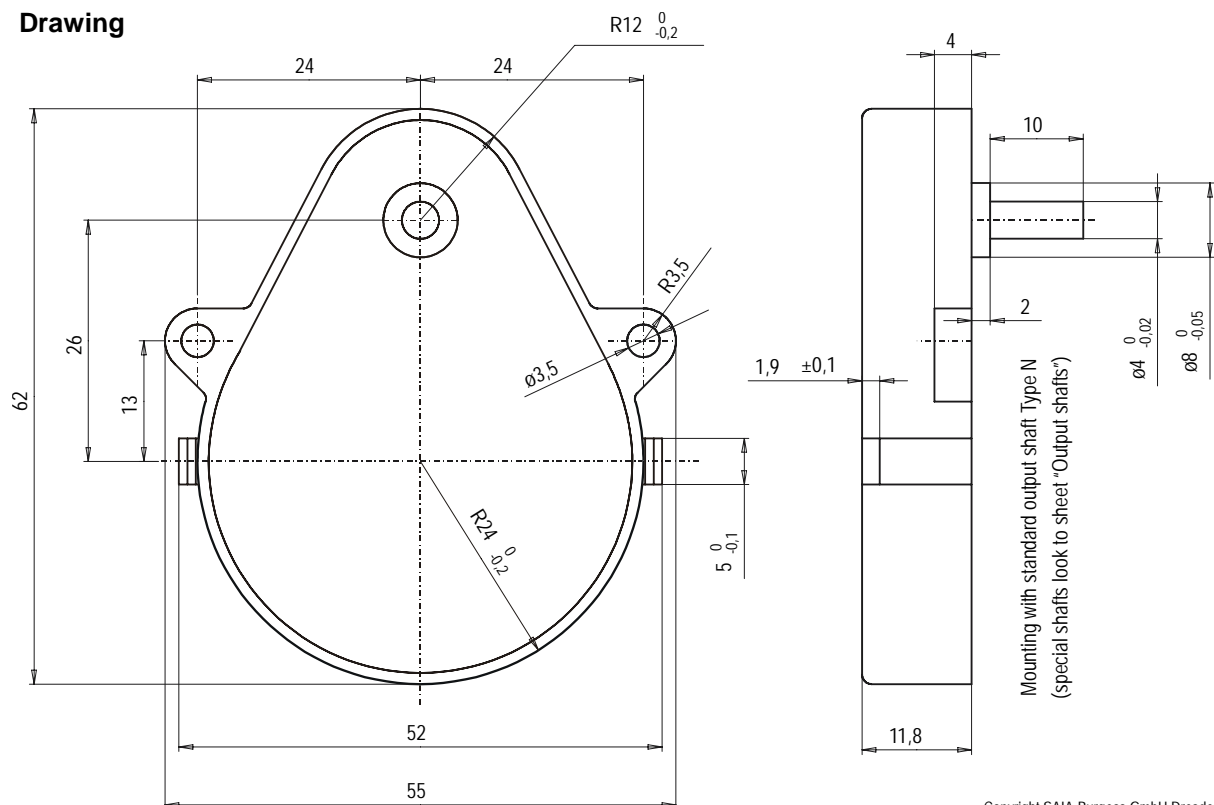
Standard data

| | | | |
|--------------------------------|-------|-----|---|
| Gear torque | M_n | cNm | 32 |
| Combination with SAIA motors | | | Series UB and UD; Series UF without UFR 3/4 and UFB 3/4 |
| Mounting | | | any position |
| Weight | | g | 55 |
| Axial thrust | F_A | N | 20 |
| Lateral force | F_R | N | 60 |
| Lateral torque | M_R | cNm | 60 |
| Slipping clutches / free wheel | | | Single-way right/left function and two way |
| Slipping- / free wheel torque | | cNm | 0,5 ... 40 |
| Output shafts | | | see drawings |
| Climatic class | | | "wide-spread" according IEC 721, part 2-1 |
| Ambient temperature operation | | °C | -15 ... +55 |
| Ambient temperature storage | | °C | -40 ... +80 |

Transmission ratios

| | | | | | | | | | | | | |
|--------|---------|-------|------|------|---|--------|--------|---------|------|--------|--------|---------|
| 1 | 5 | 8 1/3 | 10 | 12,5 | 15 | 16 2/3 | 20 5/6 | 25 | 30 | 31 1/4 | 33 1/3 | 37,5 |
| 41 2/3 | 45 | 50 | 60 | 62,5 | 75 | 83 1/3 | 100 | 112,5 | 120 | 125 | 135 | 140 5/8 |
| 150 | 166 2/3 | 187,5 | 200 | 250 | 277 7/9 | 300 | 375 | 416 2/3 | 450 | 500 | 600 | 625 |
| 750 | 900 | 937,5 | 1000 | 1125 | 1200 | 1250 | 1500 | 1800 | 1875 | 2250 | 2500 | 3000 |
| 3600 | 3750 | 4500 | 5000 | 5400 | ... higher transmission see document type coding key H 4 715 5200 0 | | | | | | | |

Drawing



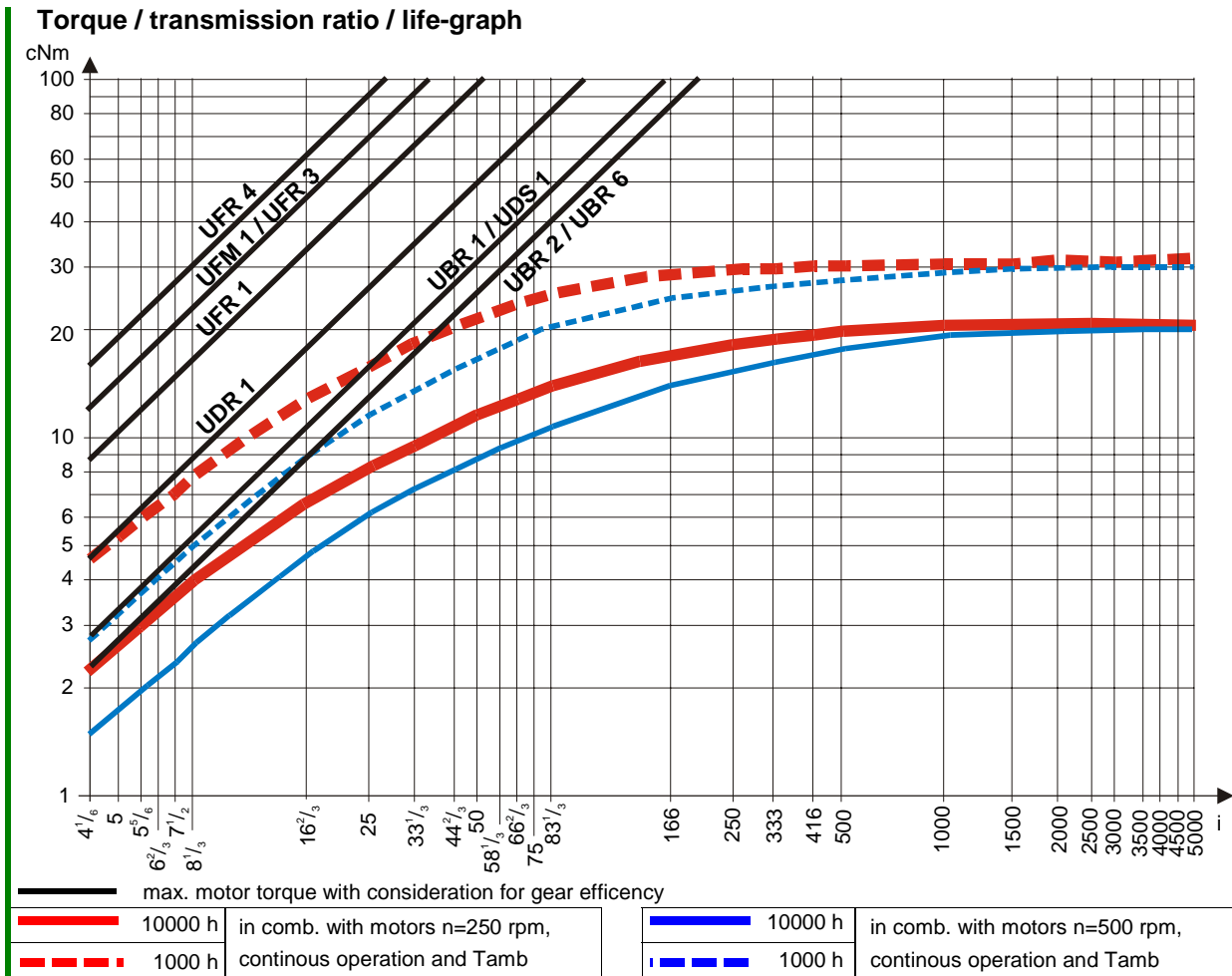
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Gear Series - UGA

Technical datas



| Slipping Clutches | | | 4 1/6; 5; 6; 16 2/3; ...45; 60...75; 112,5...120; 135; 187,5; 625; 937,5; 1125; 1875 | |
|------------------------------|---|----------------------------------|--|-----------------------------------|
| Type | max. torque available at output shaft (cNm) | free wheel- /clutch torque (cNm) | max. torque available at output shaft (cNm) | free wheel- / clutch torque (cNm) |
| Roller-type free wheel | | | | |
| A | 32 | 1 | 15 | 0,5 |
| Single-way slipping clutches | | | | |
| B | 32 | <4 | 32 | <2 |
| D | 32 | 4...12 | 15 | 2...6 |
| E | 32 | 6...18 | 20 | 3...9 |
| H | 32 | 10...30 | 32 | 5...15 |
| K | 32 | 15...40 | 32 | 7,5...20 |
| Two-way slipping clutches | | | | |
| P | 3 | 4...12 | 1,5 | 2...6 |
| R | 5 | 7...20 | 2,5 | 3,5...10 |
| S | 7 | 10...28 | 3,5 | 5...14 |
| T | 10 | 12...36 | 5 | 6...18 |



Gear Series - UGA

Output Shafts



Drawing

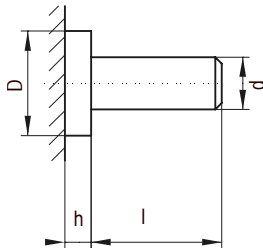


Fig. 1

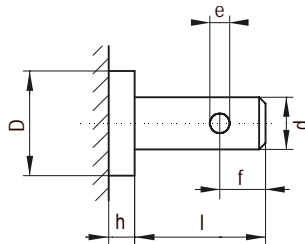


Fig. 2

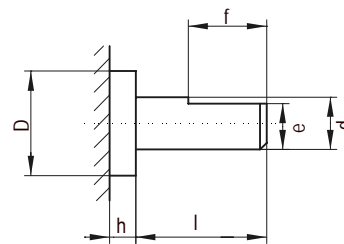


Fig. 3

Datas

| Shaft Type | Figure | Dimension | | | | | | |
|------------|--------|-----------|----------|---------|---------|---------|---|----------------------|
| | | d | l | D | h | f | e | |
| N | 1 | 4 | 0/-0,02 | 10 | 8 | 0/-0,05 | 2 | |
| A | 1 | 3,175 | 0/-0,02 | 9,5 | 6,35 | 0/-0,05 | 2 | |
| B | 1 | 4 | 0/-0,02 | 15 | 8 | 0/-0,05 | 2 | |
| C | 1 | 4 | 0/-0,02 | 20 | 8 | 0/-0,05 | 2 | |
| G | 1 | 3,175 | 0/-0,02 | 15 | 6,35 | 0/-0,05 | 2 | |
| 3C | 1 | 4 | 0/-0,02 | 36 | 8 | 0/-0,05 | 2 | |
| H | 1 | 5 | 0/-0,02 | 18 | 8 | 0/-0,05 | 2 | |
| 3F | 2 | 3,175 | 0/-0,02 | 9,5 | 6,35 | 0/-0,05 | 2 | 4,75 |
| 3H | 2 | 4 | 0/-0,02 | 8 | 0/-0,05 | 2 | 5 | 1,25 +0,02/0 |
| K | 2 | 4 | 0/-0,02 | 6+/-0,3 | 8 | 0/-0,05 | 2 | 1,5 +0,05/0 |
| 3J | 2 | 4 | 0/-0,02 | 10 | 8 | 0/-0,05 | 2 | 1,4 +0,09/0 |
| 3K | 2 | 4 | 0/-0,018 | 15 | 8 | 0/-0,05 | 2 | 7,5 +0,09/0 |
| 2B | 2 | 3,175 | 0/-0,02 | 10 | 8 | 0/-0,05 | 2 | 6 +0,09/0 |
| L | 3 | 4 | 0/-0,02 | 10 | 8 | 0/-0,05 | 2 | 2 +0,09/0 |
| 2D | 3 | 4 | 0/-0,018 | 10 | 8 | 0/-0,05 | 2 | 2 1,5 +0,075/+0,025 |
| M | 3 | 4 | 0/-0,02 | 10 | 8 | 0/-0,05 | 2 | 9 3,5 +/-0,04 |
| O | 3 | 4,75 | 0/-0,05 | 7 | 6,35 | 0/-0,05 | 2 | 4 +0,1/0 3,5 0/-0,02 |
| 2E | 3 | 3,175 | 0/-0,02 | 9,5 | 6,35 | 0/-0,05 | 2 | 6,35 3,43 +/-0,13 |
| P | 3 | 4 | 0/-0,02 | 10 | 8 | 0/-0,05 | 2 | 6,35 3,96 +/-0,05 |
| Q | 3 | 4 | 0/-0,018 | 12 | 8 | 0/-0,05 | 2 | 8,7 2,38 0/-0,05 |
| R | 3 | 3 | 0/-0,02 | 10 | 8 | 0/-0,05 | 2 | 9 3 +/-0,04 |
| 4D | 3 | 4,75 | 0/-0,05 | 9,35 | 6,35 | 0/-0,05 | 2 | 10 3,5 |

Gear Series - UGD

General values



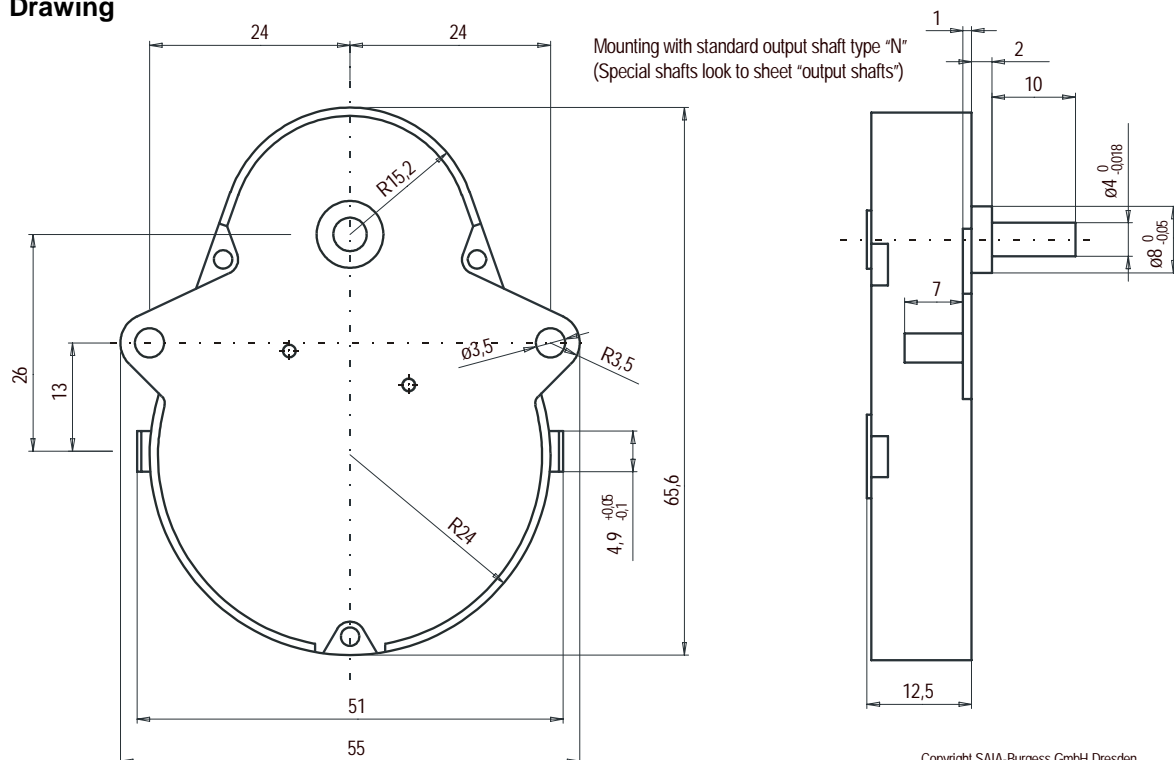
Standard data

| | | | |
|--------------------------------|-------|-----|---|
| Gear torque | M_n | cNm | 32 |
| Combination with SAIA motors | | | Series UB and UD; Series UF without UFR 3/4 and UFB 3/4 |
| Mounting | | | any position |
| Weight | | g | 35 |
| Axial thrust | F_A | N | 10 |
| Lateral force | F_R | N | 50 |
| Lateral torque | M_R | cNm | 50 |
| Slipping clutches / free wheel | | | Single-way right/left function and two way |
| Slipping- / free wheel torque | | cNm | 1,0 ... 40 |
| Output shafts | | | see drawings |
| Climatic class | | | "wide-spread" according IEC 721, part 2-1 |
| Ambient temperature operation | | °C | -15 ... +55 |
| Ambient temperature storage | | °C | -40 ... +80 |

Transmission ratios

| | | | | | | | | | | | | |
|--------|--------|--------|--------|--------|---|--------|--------|--------|---------|--------|--------|--------|
| 4 1/6 | 5 | 8 1/3 | 10 | 12,5 | 15 | 16 2/3 | 20 5/6 | 25 | 30 | 33 1/3 | 40 | 41 2/3 |
| 45 | 50 | 60 | 62,5 | 83 1/3 | 100 | 120 | 125 | 150 | 166 2/3 | 200 | 250 | 300 |
| 375 | 500 | 600 | 625 | 750 | 900 | 1000 | 1200 | 1500 | 1800 | 2000 | 2400 | 2500 |
| 3000 | 3600 | 3750 | 4500 | 5000 | 6000 | 7500 | 9000 | 10.000 | 15.000 | 18.000 | 21.600 | 22.500 |
| 30.000 | 36.000 | 45.000 | 54.000 | 60.000 | ... higher transmission see document type coding key H 4 715 5202 0 | | | | | | | |

Drawing



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Gear Series - UGD

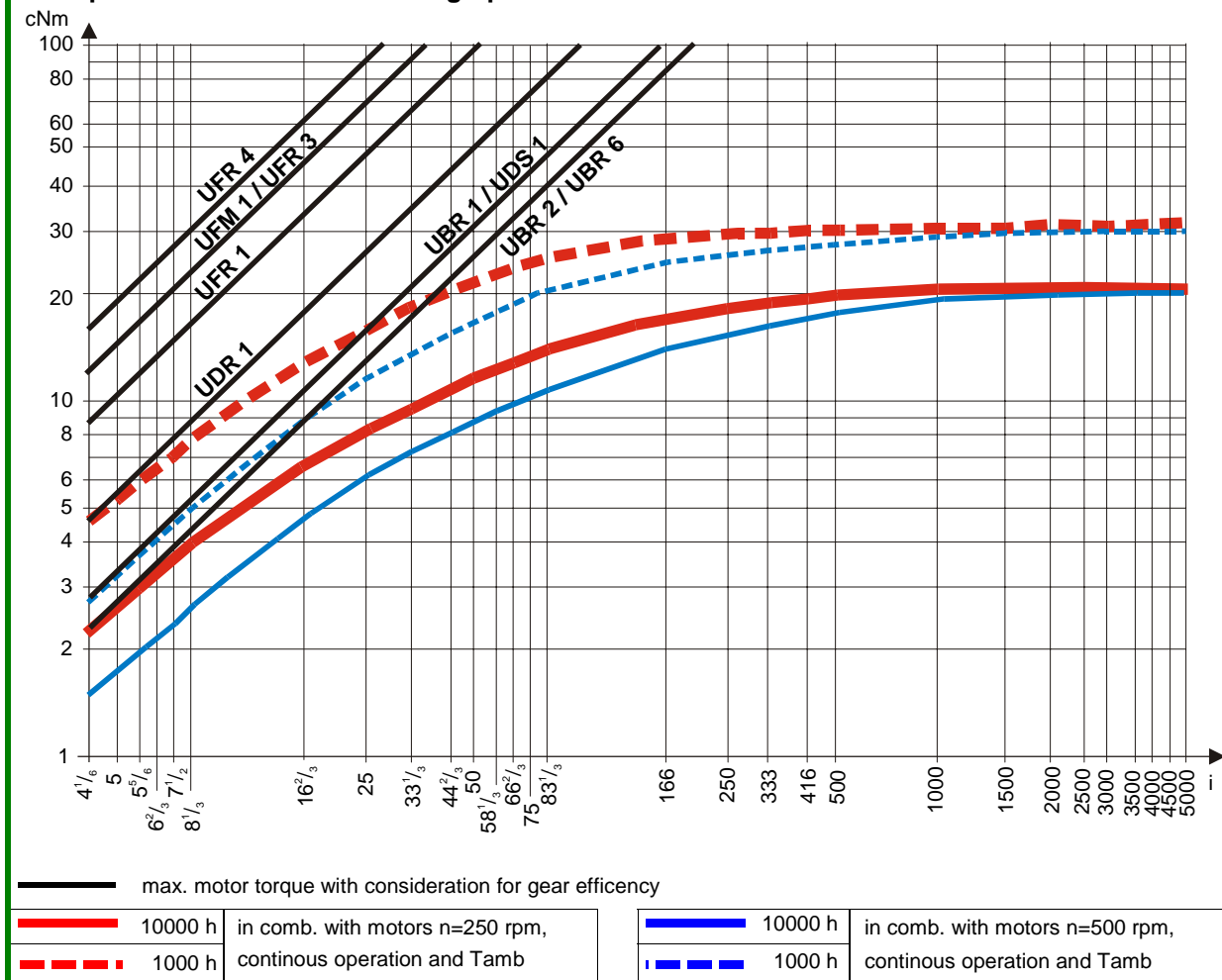
Technical datas



Slipping Clutches

| Type | max. torque available at output shaft (cNm) | free wheel- /clutch torque (cNm) | | |
|------------------------------|---|----------------------------------|--|--|
| Roller-type free wheel | | | | |
| A | 32 | 1 | | |
| Single-way slipping clutches | | | | |
| C | 32 | <4 | | |
| D | 32 | 4...12 | | |
| H | 32 | 10...30 | | |
| Two-way slipping clutches | | | | |
| P | 3 | 4...12 | | |
| S | 8 | 10...28 | | |
| U | 15 | 18...50 | | |
| W | 15 | 25...40 | | |

Torque / transmission ratio / life-graph



Gear Series - UGD

Output Shafts



Drawing

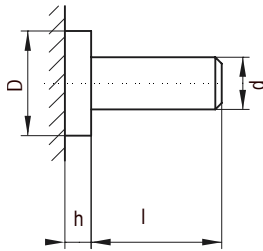


Fig. 1

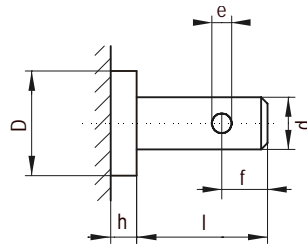


Fig. 2

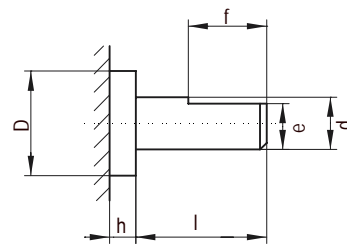


Fig. 3

Datas

| Shaft Type | Figure | Dimension | | | | | | |
|------------|--------|----------------|------|----------------|---|-----------|---------------|--|
| | | d | l | D | h | f | e | |
| N | 1 | 4 0/-0,018 | 10 | 8 0/-0,05 | 2 | | | |
| A | 1 | 3,175 0/-0,02 | 9,5 | 6,325 0/-0,025 | 2 | | | |
| B | 1 | 4 0/-0,018 | 15 | 8 0/-0,05 | 2 | | | |
| C | 1 | 4 0/-0,018 | 20 | 8 0/-0,05 | 2 | | | |
| E | 1 | 4 0/-0,018 | 6 | 8 0/-0,05 | 2 | | | |
| F | 1 | 4 0/-0,018 | 24 | 8 0/-0,05 | 2 | | | |
| G | 1 | 3,175 0/-0,02 | 15 | 6,325 0/-0,025 | 2 | | | |
| H | 1 | 4 0/-0,018 | 11,5 | 8 0/-0,05 | 2 | | | |
| 3E | 2 | 5 0/-0,018 | 8 | 0/-0,05 | 2 | 7 +0,02/0 | 2 +0,05/0 | |
| 3H | 2 | 4 0/-0,018 | 10 | 8 0/-0,05 | 2 | 5 | 1,5 0/-0,01 | |
| J | 2 | 4 0/-0,018 | 10 | 8 0/-0,05 | 2 | 7,5 | 1,5 +0,09/0 | |
| K | 2 | 4 0/-0,018 | 10 | 8 0/-0,05 | 2 | 3,5 | 2 +0,1/0 | |
| 3T | 2 | 4 0/-0,018 | 10 | 8 0/-0,05 | 2 | 3,175 | 1,55 +0,05/0 | |
| 3U | 2 | 4 0/-0,018 | 10 | 8 0/-0,05 | 2 | 5,8 | 1,5 +0,09/0 | |
| 2A | 3 | 4,75 +/-0,012 | 12 | 8 0/-0,05 | 2 | 8,6 | 4 +0,1/0 | |
| 4H | 3 | 3,175 +/-0,012 | 9,5 | 6,325 0/-0,025 | 2 | 8,7 | 2,38 0/-0,05 | |
| P | 3 | 4 0/-0,018 | 10 | 8 0/-0,05 | 2 | 9 | 3 +/-0,04 | |
| Q | 3 | 4 0/-0,018 | 12 | 8 0/-0,05 | 2 | 10 | 3,5 +/-0,015 | |
| 4K | 3 | 3 0/-0,02 | 10 | 8 0/-0,05 | 2 | 9 | 2,5 | |
| R | 3 | 3,175 +/-0,012 | 33,3 | 8 0/-0,05 | 2 | 12,7 | 2,79 +/-0,076 | |
| 2C | 3 | 3,175 +/-0,012 | 12,3 | 6,325 0/-0,025 | 2 | 6 | 2,8 +/-0,1 | |
| L | 3 | 4 0/-0,018 | 10 | 8 0/-0,05 | 2 | 8 | 3,6 | |
| M | 3 | 4 0/-0,018 | 15 | 8 0/-0,05 | 2 | 13 | 3,5 | |
| T | 3 | 4 0/-0,018 | 16 | 8 0/-0,05 | 2 | 15 | 3 +/-0,042 | |

Gear Series - UGM

General values



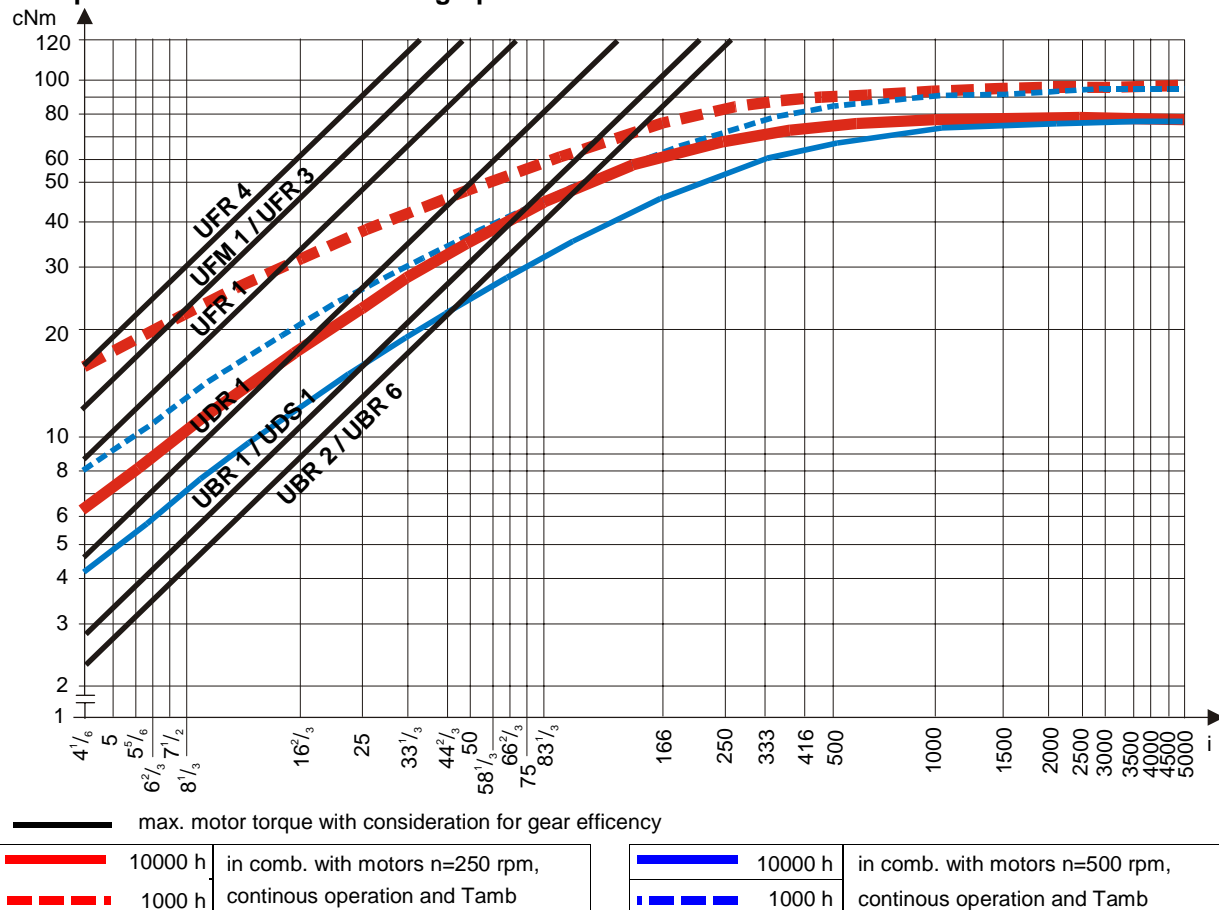
Standard data

| | | | |
|--------------------------------|-------|-----|---|
| Gear torque | M_n | cNm | 100 |
| Combination with SAIA motors | | | Series UB and UD; Series UF without UFR 3/4 and UFB 3/4 |
| Mounting | | | any position |
| Weight | | g | 45 |
| Axial thrust | F_A | N | 20 |
| Lateral force | F_R | N | 100 |
| Lateral torque | M_R | cNm | 150 |
| Slipping clutches / free wheel | | | not available |
| Slipping- / free wheel torque | | cNm | no |
| Output shafts | | | see drawings |
| Climatic class | | | "wide-spread" according IEC 721, part 2-1 |
| Ambient temperature operation | | °C | -15 ... +60 |
| Ambient temperature storage | | °C | -40 ... +80 |

Transmission ratios

| | | | | | | | | | | | | |
|------|--------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| 12,5 | 16 2/3 | 25 | 50 | 100 | 120 | 150 | 200 | 240 | 300 | 400 | 500 | 600 |
| 750 | 1000 | 1200 | 1500 | 4800 | | | | | | | | |

Torque / transmission ratio / life-graph

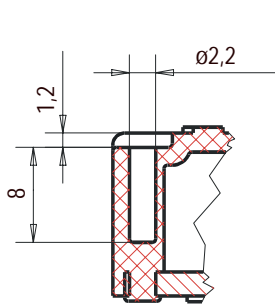


Gear Series - UGM

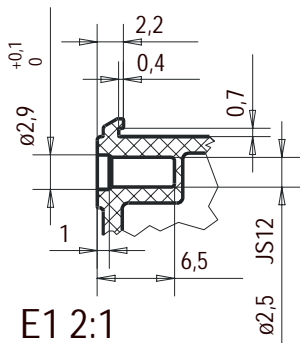
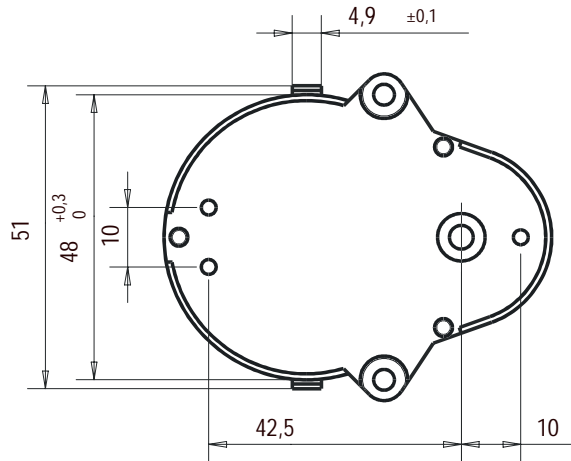
Technical datas



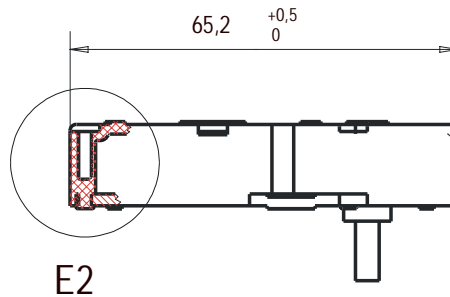
Drawing



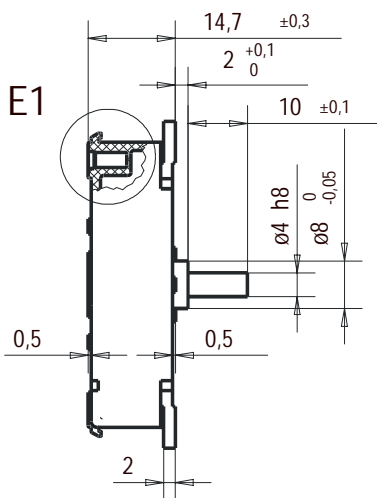
E2 2:1



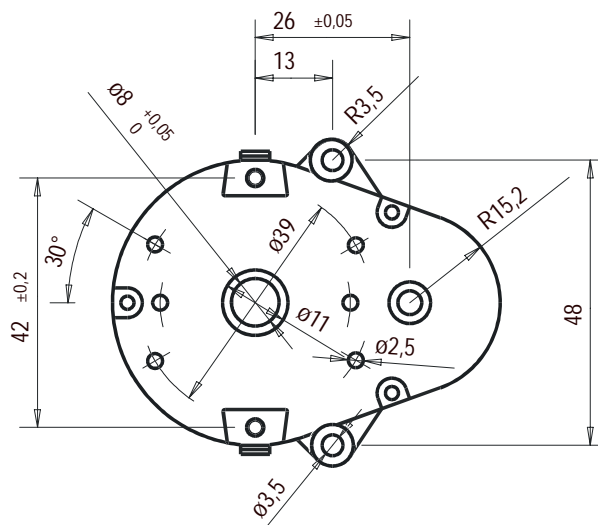
E1 2:1



E2



E1



Gear Series - UGM

Output Shafts



Drawing

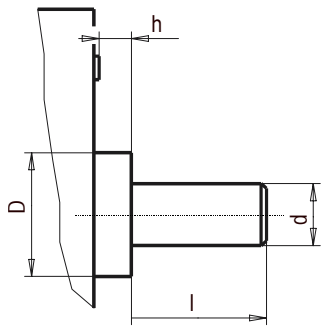


Fig. 1

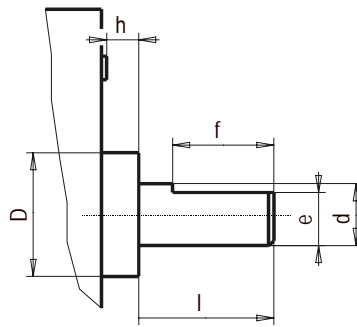


Fig. 2

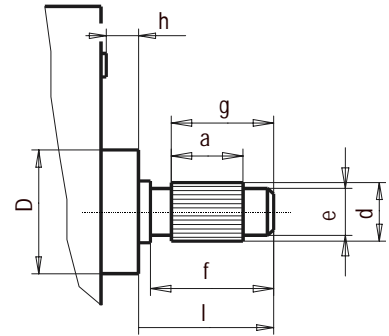


Fig. 3

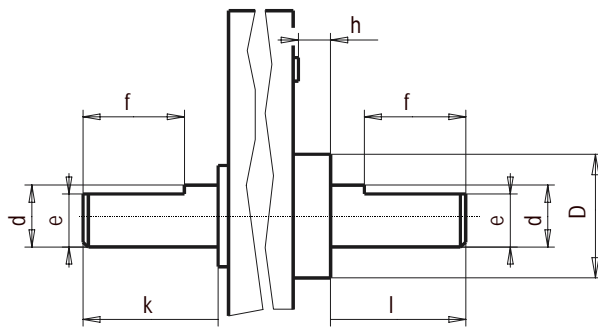


Fig. 5

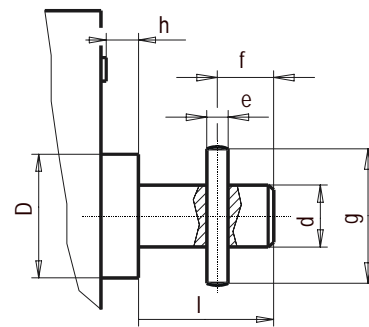


Fig. 6

Datas

| Shaft Type | Figure | Dimension | | | | | | | | |
|------------|--------|-----------|----------|------|------|---------|-----|------|-------------|------|
| | | d | l | D | h | f | e | g | a | k |
| N | 1 | 4 | 0/-0,008 | 10 | 8 | 0/-0,05 | 2 | | | |
| C | 2 | 4 | 0/-0,018 | 15 | 8 | 0/-0,05 | 2 | 13 | 3,5 +/-0,04 | |
| D | 3 | 3,9 | 0/-0,05 | 10 | 8 | 0/-0,05 | 2 | 9 | 3,6 | 8 |
| J | 2 | 4,75 | +0,02/0 | 19,7 | 12,7 | 0/-0,05 | 3,2 | 18,5 | 4 +0,1/0 | |
| M | 5 | 4 | 0/-0,018 | 10,8 | 8 | 0/-0,05 | 2 | 9 | 3,3 0/-0,1 | 14,5 |
| R | 6 | 4 | 0/-0,008 | 10 | 8 | 0/-0,05 | 2 | 4,25 | d:1,5 | 8 |
| T | 2 | 8 | 0/-0,022 | 12 | 12 | 0/-0,05 | 4,2 | 8 | 6 0/-0,1 | |

Gear Series - UGB

General values



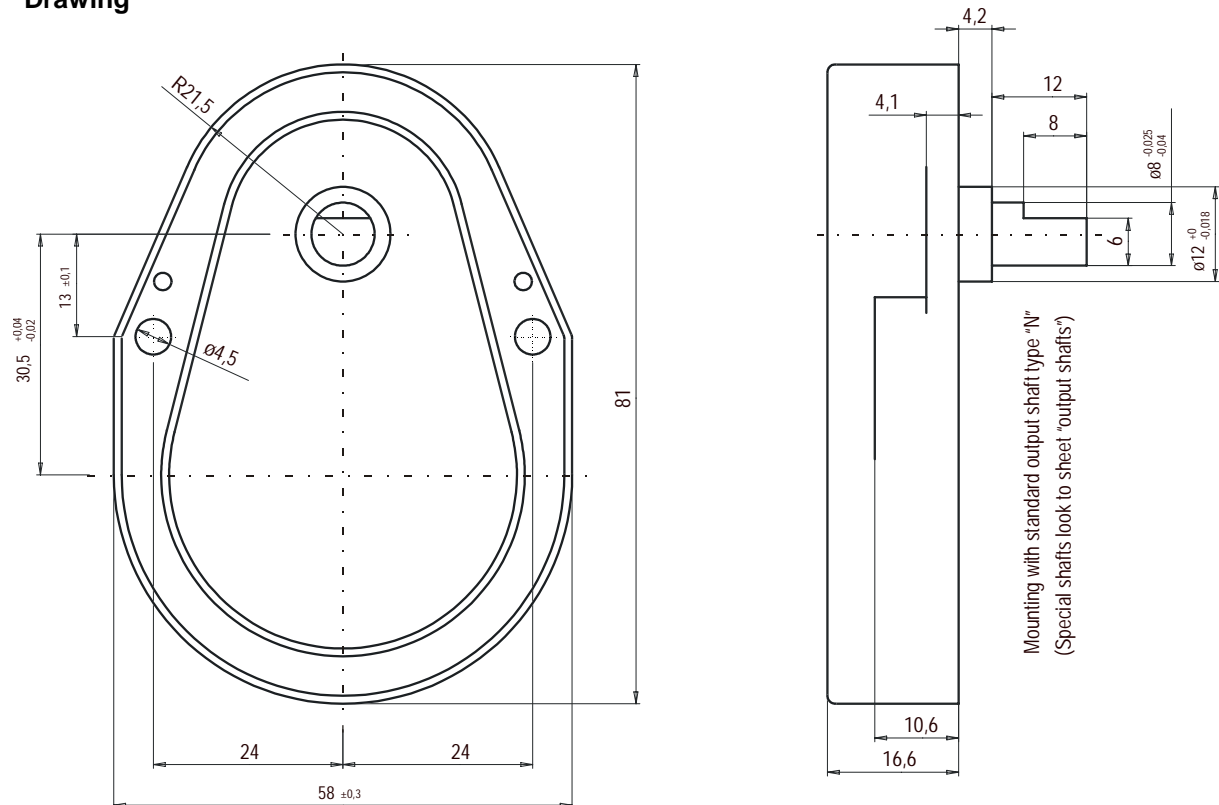
Standard data

| | | | |
|--------------------------------|-------|-----|---|
| Gear torque | M_n | cNm | 250 |
| Combination with SAIA motors | | | Series UB and UD; Series UF without UFR 3/4 and UFB 3/4 |
| Mounting | | | any position |
| Weight | | g | 130 |
| Axial thrust | F_A | N | 100 |
| Lateral force | F_R | N | 300 |
| Lateral torque | M_R | cNm | 300 |
| Slipping clutches / free wheel | | | Single-way right/left function and two way |
| Slipping- / free wheel torque | | cNm | 4,0 ... 250 |
| Output shafts | | | see drawings |
| Climatic class | | | "wide-spread" according IEC 721, part 2-1 |
| Ambient temperature operation | | °C | -15 ... +55 |
| Ambient temperature storage | | °C | -40 ... +80 |

Transmission ratios

| | | | | | | | | | | | | |
|--------|--------|--------|--------|---------|-------------|---------|---------|---------|------|------|--------|--------|
| 41 2/3 | 83 1/3 | 100 | 125 | 150 | 166 2/3 | 200 | 250 | 300 | 500 | 600 | 750 | 900 |
| 1000 | 1200 | 1500 | 1800 | 2000 | 2500 | 3000 | 3750 | 5000 | 6000 | 7500 | 12.000 | 15.000 |
| 18.000 | 30.000 | 36.000 | 60.000 | 120.000 | 266.000 2/3 | 288.000 | 320.000 | 345.600 | | | | |

Drawing



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Gear Series - UGB

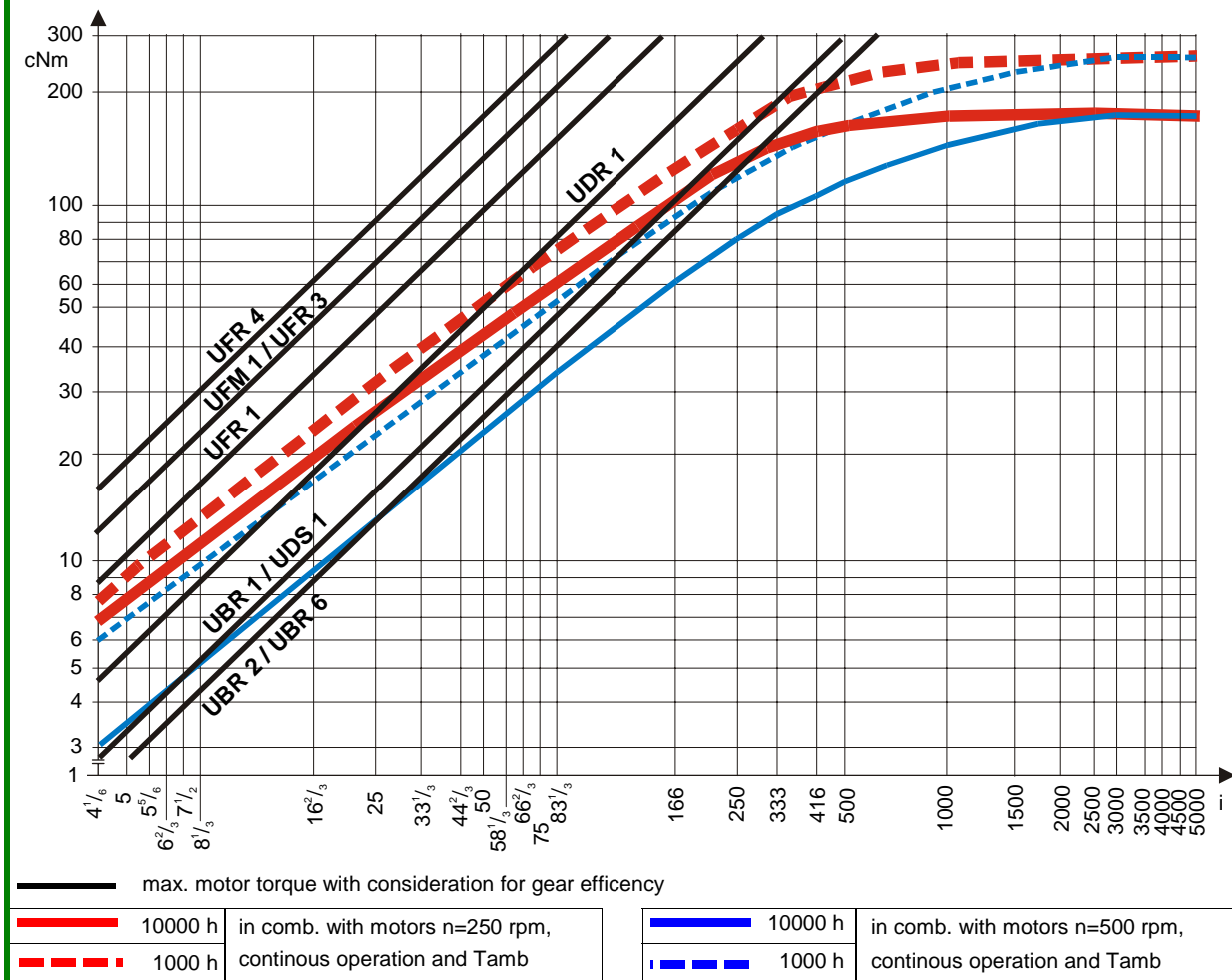
Technical datas



Slipping Clutches

| Type | max. torque available at output shaft (cNm) | free wheel- /clutch torque (cNm) | | |
|------------------------------|---|----------------------------------|--|--|
| Single-way slipping clutches | | | | |
| D | 150 | 4...10 | | |
| F | 150 | 25...50 | | |
| Two-way slipping clutches | | | | |
| W | 40 | 60...130 | | |
| S | 70 | 100...175 | | |

Torque / transmission ratio / life-graph



Gear Series - UGB

Output Shafts



Drawing

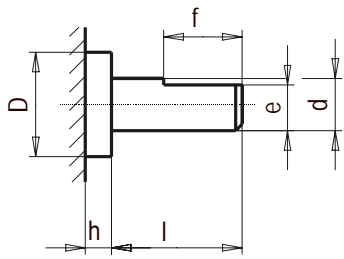


Fig. 1

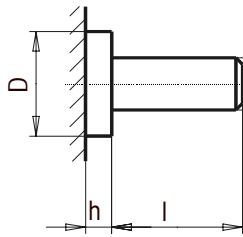


Fig. 2

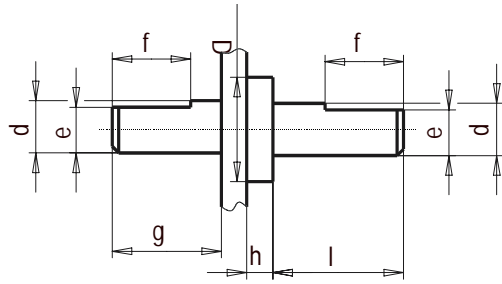


Fig. 3

Datas

| Shaft Type | Figure | Dimension | | | | | | | | |
|------------|--------|-----------|--------------|------|----------|----------|-----|------|-----|---------|
| | | d | l | D | h | f | e | g | | |
| N | 1 | 8 | -0,025/-0,04 | 12 | 12 | 0/-0,018 | 4,2 | 8 | 6 | |
| A | 1 | 8 | -0,025/-0,04 | 20 | 12 | 0/-0,018 | 4,2 | 16 | 6 | |
| C | 1 | 8 | -0,025/-0,04 | 47,6 | 12 | 0/-0,018 | 4,2 | 11,5 | 6 | |
| D | 1 | 6 | 0/-0,012 | 14,2 | 12 | 0/-0,018 | 2 | 13,7 | 5 | |
| E | 1 | 4 | 0/-0,02 | 10 | 12 | 0/-0,018 | 4,2 | 10 | 3,5 | |
| F | 1 | 6 | 0/-0,02 | 25,4 | 12 | 0/-0,018 | 4,2 | 25,4 | 5 | |
| G | 1 | 8 | -0,025/-0,04 | 6 | 12 | 0/-0,018 | 2 | 5 | 6 | |
| O | 1 | 6 | 0/-0,018 | 20,8 | 12 | 0/-0,018 | 4,2 | 14,8 | 5 | 0/-0,05 |
| 2E | 1 | 8 | -0,025/-0,04 | 12 | 0/-0,018 | | 4,2 | 10 | 6 | |
| B | 2 | 8 | -0,025/-0,04 | 12 | 12 | 0/-0,018 | 4,2 | | | |
| U | 3 | 8 | -0,025/-0,04 | 12 | 12 | 0/-0,018 | 4,2 | 8 | 6 | 35 |

Gear Series - UGV

General values



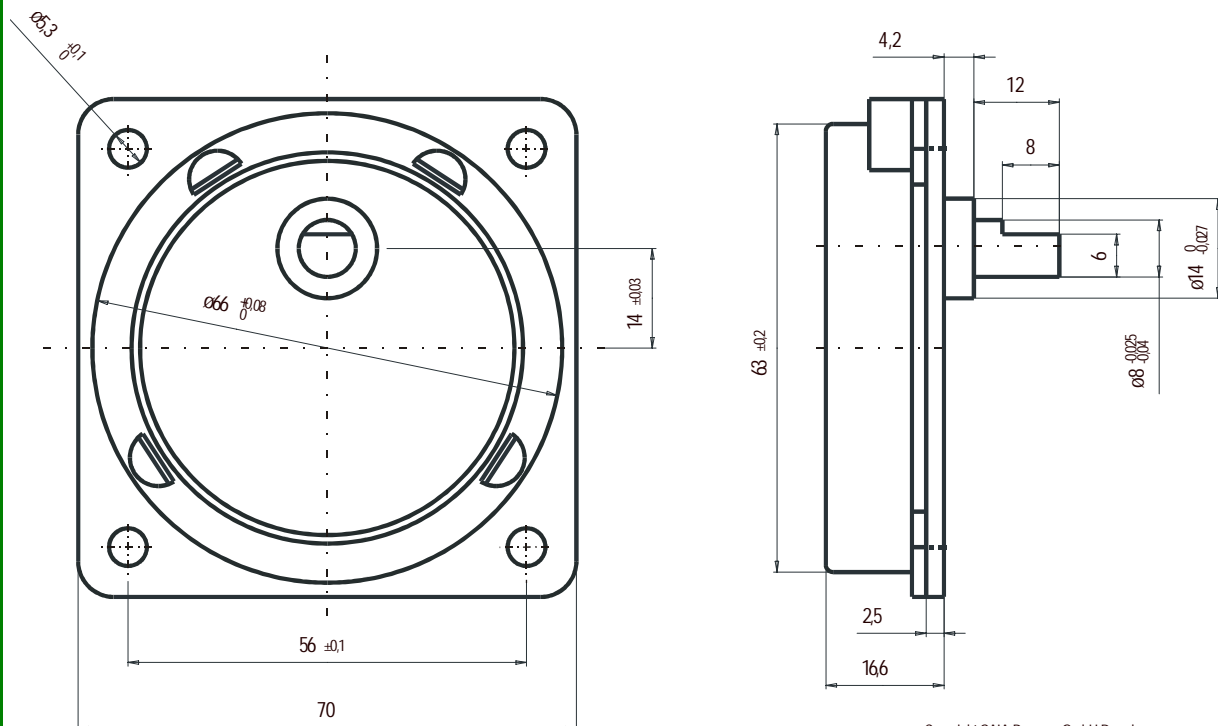
Standard data

| | | | |
|--------------------------------|-------|-----|---|
| Gear torque | M_n | cNm | 500 |
| Combination with SAIA motors | | | Series UB and UD; Series UF without UFR 3/4 and UFB 3/4 |
| Mounting | | | any position |
| Weight | | g | 130 |
| Axial thrust | F_A | N | 100 |
| Lateral force | F_R | N | 400 |
| Lateral torque | M_R | cNm | 40 |
| Slipping clutches / free wheel | | | not available |
| Slipping- / free wheel torque | | cNm | no |
| Output shafts | | | standard shaft "N" |
| Climatic class | | | "wide-spread" according IEC 721, part 2-1 |
| Ambient temperature operation | | °C | -15 ... +55 |
| Ambient temperature storage | | °C | -40 ... +80 |

Transmission ratios

| | | | | | | | | | | |
|-------|--------|----|--------|--------|-----|-----|-----|-----|------|--|
| 8 1/3 | 16 2/3 | 25 | 41 2/3 | 83 1/3 | 100 | 125 | 250 | 500 | 2000 | |
|-------|--------|----|--------|--------|-----|-----|-----|-----|------|--|

Drawing



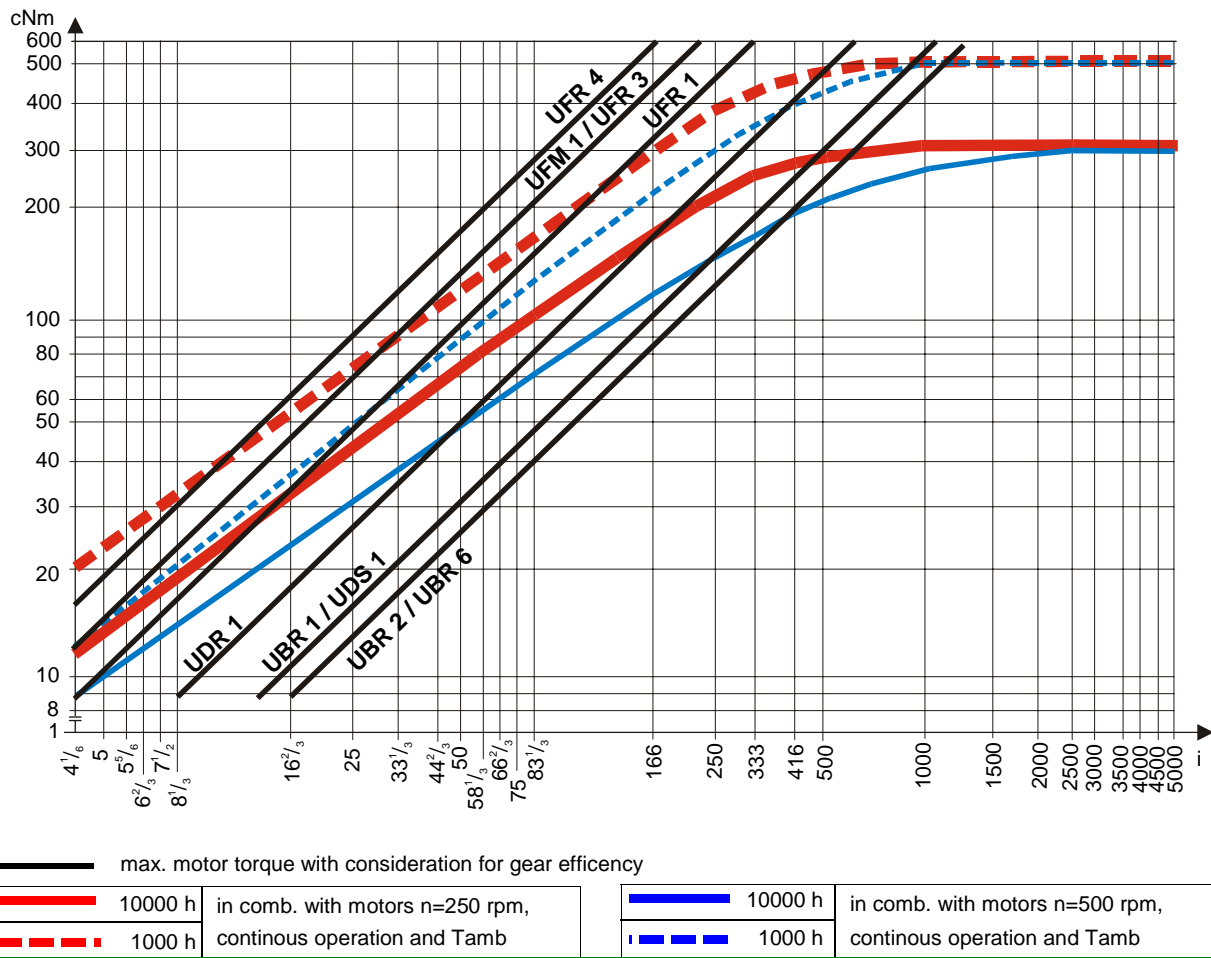
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Gear Series - UGV

Technical datas



Torque / transmission ratio / life-graph



Gear Series - UGF

General values



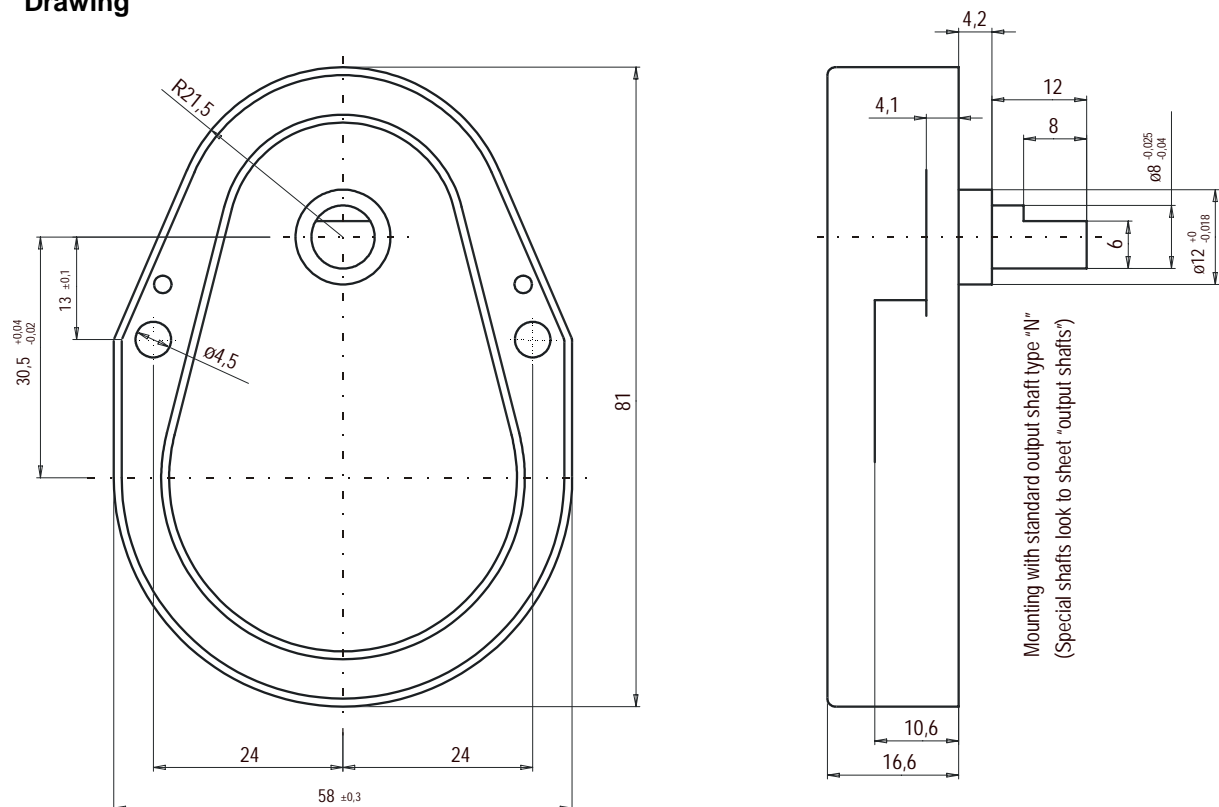
Standard data

| | | | |
|--------------------------------|-------|-----|---|
| Gear torque | M_n | cNm | 500 |
| Combination with SAIA motors | | | Series UB and UD; Series UF without UFR 3/4 and UFB 3/4 |
| Mounting | | | any position |
| Weight | | g | 130 |
| Axial thrust | F_A | N | 100 |
| Lateral force | F_R | N | 400 |
| Lateral torque | M_R | cNm | 400 |
| Slipping clutches / free wheel | | | not available |
| Slipping- / free wheel torque | | cNm | no |
| Output shafts | | | see drawings |
| Climatic class | | | "wide-spread" according IEC 721, part 2-1 |
| Ambient temperature operation | | °C | -15 ... +55 |
| Ambient temperature storage | | °C | -40 ... +80 |

Transmission ratios

| | | | | | | | | | | | | |
|-------|---------|--------|--------|-----|------|--------|------|------|--------|-----|-----|---------|
| 4 1/2 | 8 1/3 | 16 2/3 | 20 5/6 | 25 | 30 | 41 2/3 | 50 | 62,5 | 83 1/3 | 100 | 125 | 166 2/3 |
| 250 | 333 1/3 | 500 | 600 | 750 | 1000 | 1200 | 1500 | 4000 | 5000 | | | |

Drawing



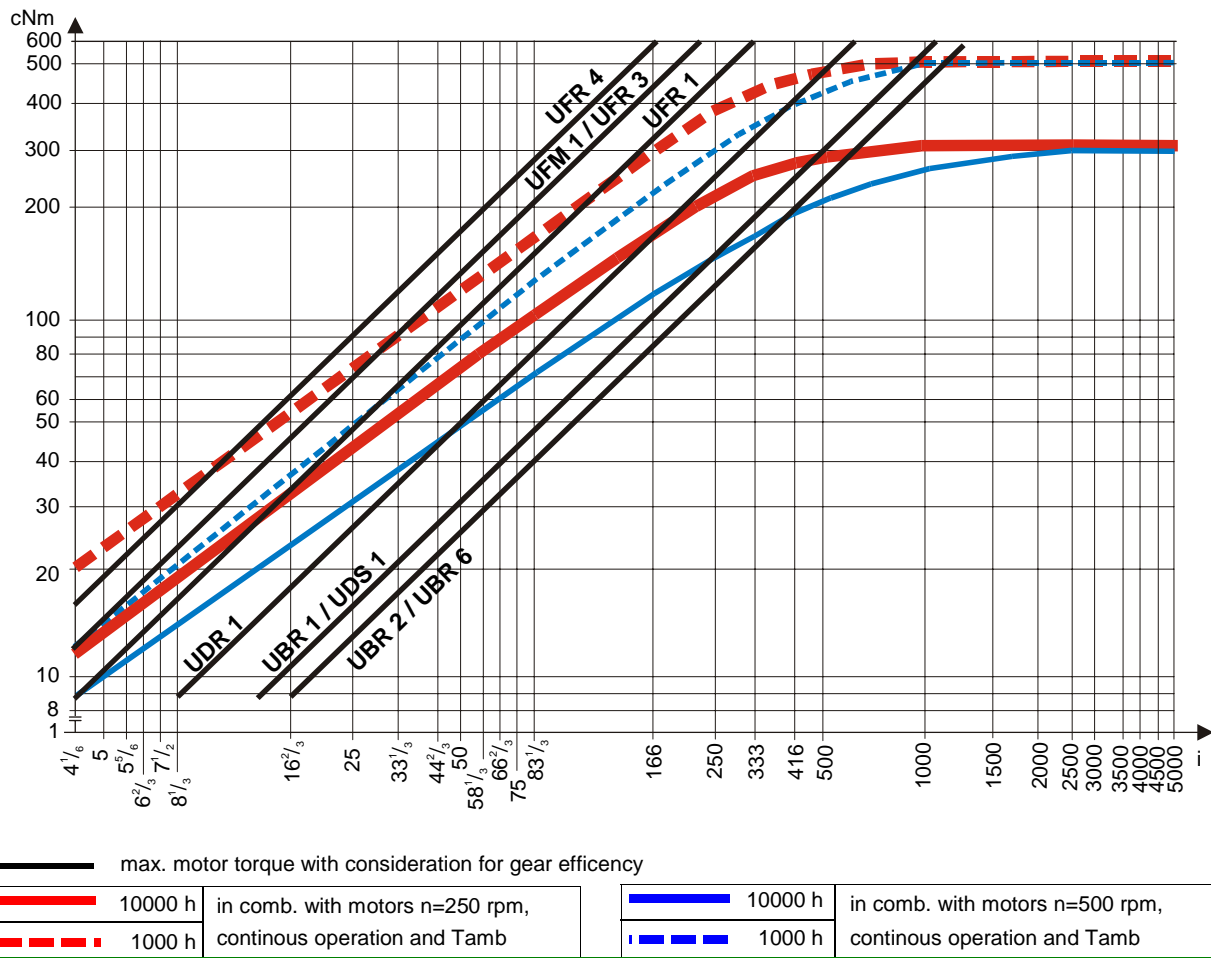
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Gear Series - UGF

Technical datas



Torque / transmission ratio / life-graph



Gear Series - UGF

Output Shafts

Drawing

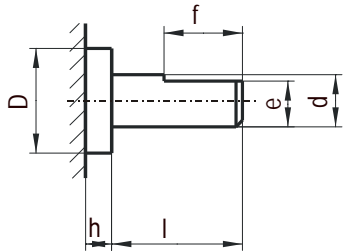


Fig. 1

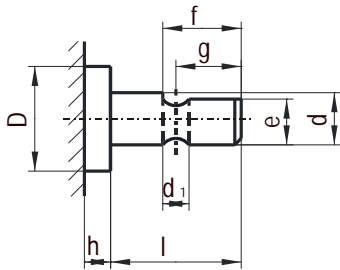


Fig. 2

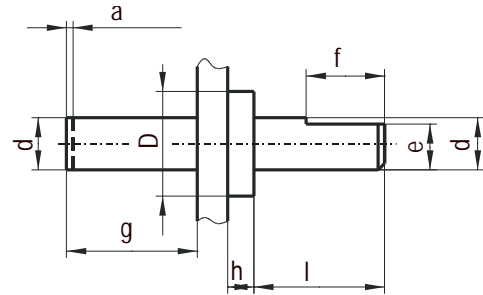


Fig. 3

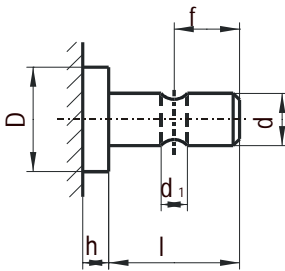


Fig. 4

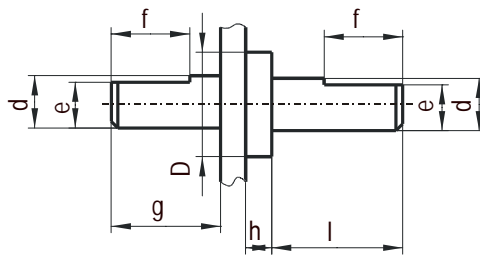


Fig. 5

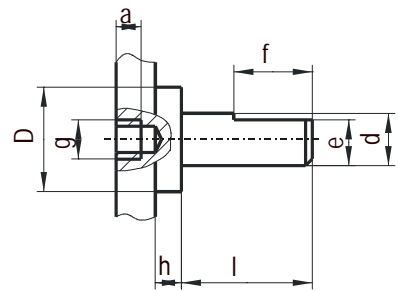


Fig. 6

Datas

| Shaft Type | Figure | Dimension | | | | | | | | | |
|------------|--------|-----------|--------------|----|----------|----------|-----|----|----------|----------|------|
| | | d | l | D | h | f | e | d1 | g | a | |
| N | 1 | 8 | -0,025/-0,04 | 12 | 12 | 0/-0,018 | 4,2 | 8 | 6 | | |
| A | 1 | 8 | -0,025/-0,04 | 35 | 12 | 0/-0,018 | 4,2 | 8 | 6 | | |
| D | 3 | 8 | -0,025/-0,04 | 12 | 12 | 0/-0,018 | 4,2 | 8 | 6 0/-0,1 | | 52,3 |
| E | 1 | 6 | 0/-0,012 | 21 | 12 | 0/-0,018 | 2 | 11 | 5 0/-0,1 | | |
| G | 4 | 6 | 0/-0,012 | 19 | 12 | 0/-0,018 | 2 | 11 | | 3 +0,1/0 | |
| J | 2 | 8 | -0,025/-0,04 | 12 | 12 | 0/-0,018 | 4,2 | 8 | 6 | 4 +0,1/0 | 5,5 |
| M | 3 | 8 | -0,025/-0,04 | 16 | 12 | 0/-0,018 | 4,2 | 13 | 6 | | 12 |
| S | 3 | 8 | -0,025/-0,04 | 62 | 12 | 0/-0,018 | 4,2 | 17 | 7 | | 35 |
| U | 5 | 8 | -0,025/-0,04 | 12 | 0/-0,018 | | 4,2 | 8 | 6 | | 35 |
| 2A | 6 | 8 | -0,025/-0,04 | 12 | 12 | 0/-0,018 | 4,2 | 8 | 6 | | M4 |

Gear Series - UGJ

General values



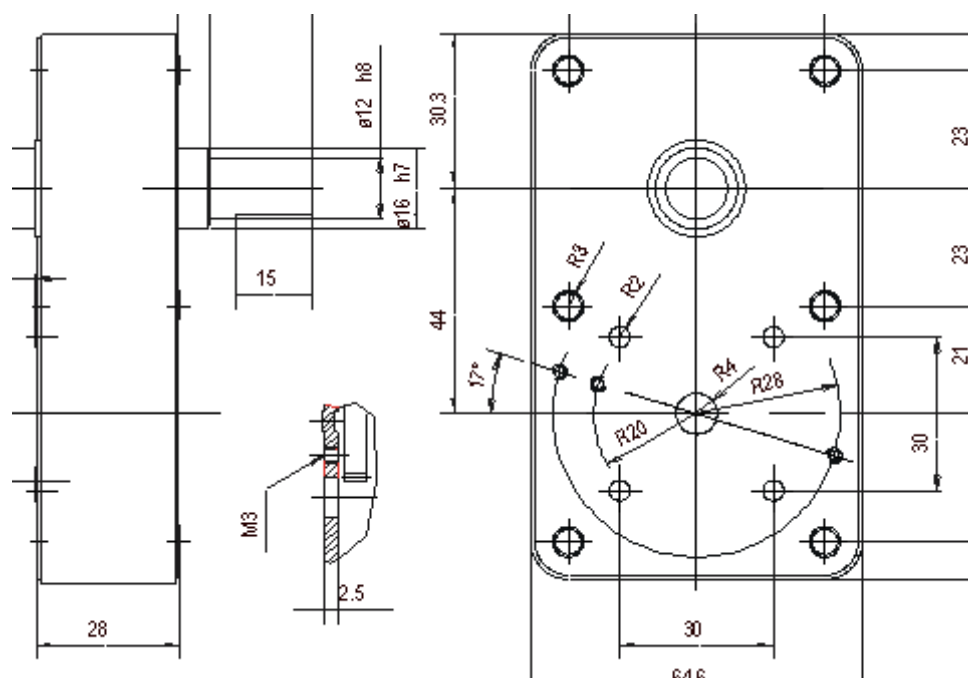
Standard data

| | | | |
|--------------------------------|-------|-----|---|
| Gear torque | M_n | cNm | 1500 |
| Combination with SAIA motors | | | Series UD and UF |
| Mounting | | | any position |
| Weight | | g | 480 |
| Axial thrust | F_A | N | 400 |
| Lateral force | F_R | N | 600 |
| Lateral torque | M_R | cNm | 600 |
| Slipping clutches / free wheel | | | not available |
| Slipping- / free wheel torque | | cNm | no |
| Output shafts | | | see drawings |
| Climatic class | | | "wide-spread" according IEC 721, part 2-1 |
| Ambient temperature operation | | °C | -15 ... +55 |
| Ambient temperature storage | | °C | -40 ... +80 |

Transmission ratios

| | | | | | | | | | | | | |
|----------|---------|---------|---------|---------|---------|-----------|----------|----------|----------|---------|---------|---------|
| 4 1/6 | 8 1/3 | 16 2/3 | 33 1/3 | 41 2/3 | 50 | 66 2/3 | 83 1/3 | 100 | 125 | 150 | 166 2/3 | 200 |
| 250 | 500 | 1000 | 2000 | 2500 | 3000 | 4000 | 5000 | 6250 | 8333 1/3 | 10.000 | 12.500 | 15.000 |
| 20.000 | 25.000 | 30.000 | 37.500 | 60.000 | 75.000 | 120.000 | 150.000 | 300.000 | 375.000 | 750.000 | 1,5 Mio | 1,8 Mio |
| 2,25 Mio | 3,0 Mio | 3,6 Mio | 4,5 Mio | 6,0 Mio | 9,0 Mio | 11,25 Mio | 12,0 Mio | 18,0 Mio | 36,0 Mio | | | |

Drawing

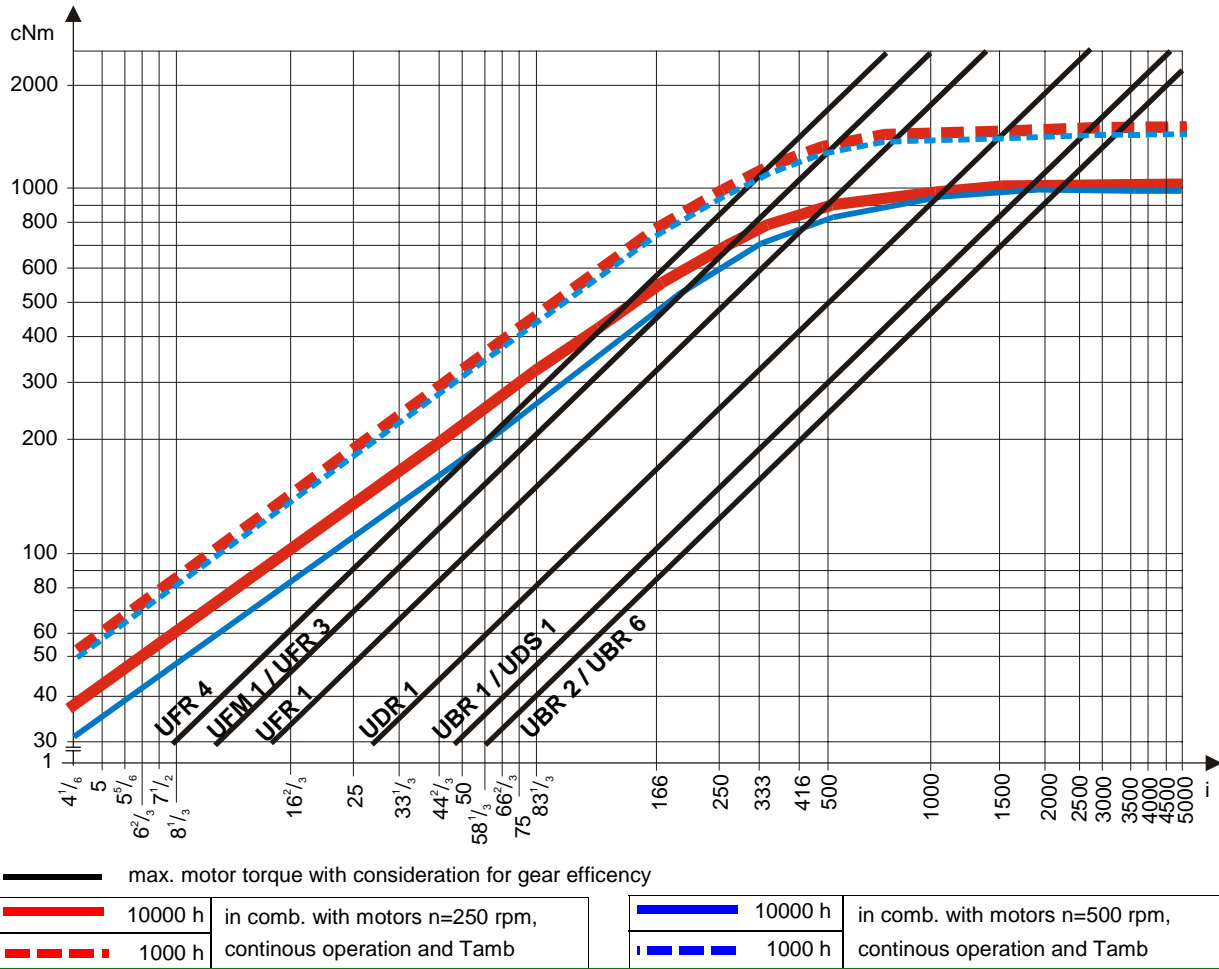


Gear Series - UGJ

Technical datas



Torque / transmission ratio / life-graph



Gear Series - UGJ

Output Shafts



Drawing

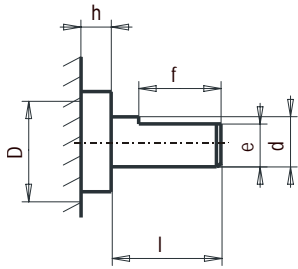


Fig.1

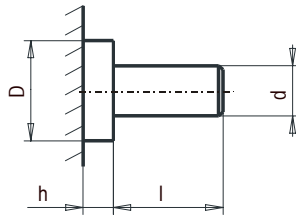


Fig.3

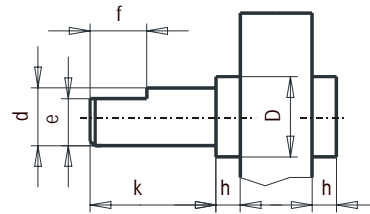


Fig.6

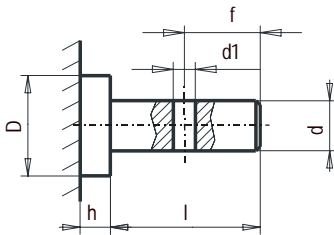


Fig.8

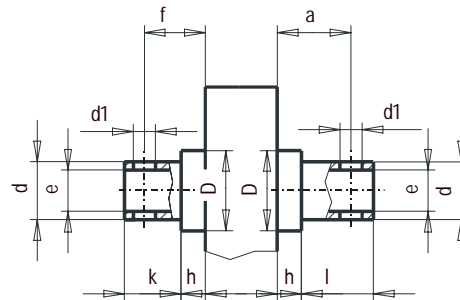


Fig.11

Datas

| Shaft Type | Figure | Dimension | | | | | | | | | | |
|------------|--------|-----------|----------|----|----|----------|-----|------|--------------|------------|------|-----|
| | | d | l | D | h | f | e | d1 | a | k | | |
| N | 1 | 12 | 0/-0,027 | 20 | 16 | 0/-0,018 | 6 | 15 | 11 | | | |
| B | 3 | 8 | 0/-0,022 | 20 | 16 | 0/-0,018 | 6 | | | | | |
| G | 6 | 12 | 0/-0,027 | | 16 | 0/-0,018 | 6 | 15 | 11 | | | 20 |
| H | 8 | 8 | 0/-0,022 | 20 | 16 | 0/-0,018 | 6 | 15,3 | | 3 +0,025/0 | | |
| P | 11 | 14 | 0/-0,027 | 10 | 18 | 0/-0,018 | 6,5 | 12,5 | 10 +0,2/+0,1 | 4 +0,12/0 | 11,1 | 8,6 |