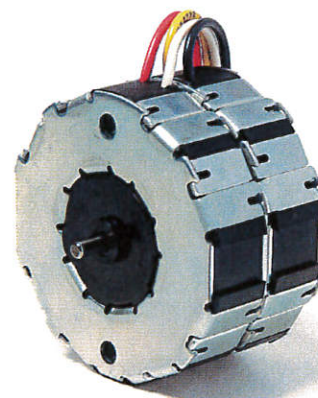


UFR

UFR1/UFR3/UFR4



UFR1

Dimensions (mm) $\varnothing 52 \times 28 / \varnothing 52 \times 42 / \varnothing 52 \times 56$

Voltage (V) 12-230

Speed (rpm) 50 Hz 500
60 Hz 600

Pole number 12

Running torque (cNm)
50 Hz 2.8 / 3.7 / 5.3
60 Hz 2.6 / 3.1 / 4.7

Power output (W)
50 Hz 1.5 / 1.9 / 2.8
60 Hz 1.6 / 2 / 3

Gear combination D, M, B, F, V, J ($i \leq 2k$), O, P

Standard Data

Climatic class	wide-spread according to DIN IEC 60721-2-1 : 1992
Ambient temperature operation	°C -15...+55
Ambient temperature storage	°C -20...+100
Thermal resistance at $f=0$ R_{therm}	11 K/W (UFR1), 7 K/W (UFR4)
Thermal class	105 (A) according to DIN EN 60085 : 2004 (130 / B on request)
Approval	standard (UL/CSA on request)
Mounting	any position
Electrical connection	lead wires AWG22, insulation $\varnothing 1.72 \pm 0.08$ mm
Protection	IP40 according to DIN EN 60529 : 2000
Weight	180 g (UFR1), 370 g (UFR4)
Rotor stalling	motor can be stopped when voltage is applied, without being overheated
Bearings	sintered bronze, self-lubricating
Electric strength	according to DIN EN 60034-1/DIN EN 60335-1

Order Reference

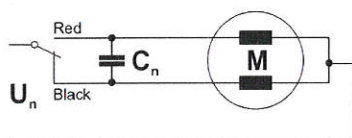
Type	Synchronous Motor	UFR	1	0	N	B4	R	N
Configuration	1 Two coils 3 Three coils 4 Four coils							
Rotor shaft, mounting	0 centring 8 mm, shaft 3.0 mm, clip 1 centring 8 mm, shaft 2.0 mm, clip 2 centring 8 mm, shaft 1.5 mm, clip 3 centring 8 mm, shaft 3.0 mm, screw plate* 4 centring 8 mm, shaft 2.0 mm, screw plate* 5 centring 8 mm, shaft 1.5 mm, screw plate*	B centring 10 mm, shaft 3.0 mm, clip A centring 10 mm, shaft 2.0 mm, clip C centring 10 mm, shaft 1.5 mm, clip D centring 12 mm, shaft 3.0 mm, clip E centring 10 mm, shaft 3.0 mm, screw plate* K centring 10 mm, shaft 2.0 mm, screw plate* M centring 10 mm, shaft 1.5 mm, screw plate*						
Approval	N Approval Standard							
Voltage/Frequency	See next page							
Direction	reversible							
Cable	N cable 150 mm (other on request)							

* screw plate not for UFR3 and UFR4

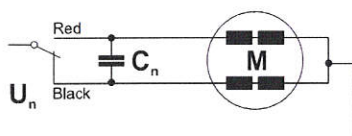
Technical Data

UFR1	Rated frequency	Hz	50	60			
	Speed n	rpm	500	600			
	Power output P _{mech}	W	1.5	1.6			
	Running torque M _n	cNm	2.8	2.6			
	Power consumption P _{el}	W	3.3	3.6			
	Detent torque M _s	cNm	0.46				
	Rotor inertia J _R	gcm ²	14.2				
	Rated voltage U _N	V	12	24	48	110	230
	Duty cycle	%	100	100	100	100	100
	Resistance R ₂₀	Ω	27	105	400	2400	9100
	Capacitor C ₅₀	μF/V ±10%	39;33/24	10;8.2/45	2.7;2.2/90	0.47;0.39/230	0.12;0.10/440
	Winding code		B1/G1	B4/G4	C1/H1	C8/H8	D5/J5
UFR3	Rated frequency	Hz	50	60			
	Speed n	rpm	500	600			
	Power output P _{mech}	W	1.9	2			
	Running torque M _n	cNm	3.7	3.1			
	Power consumption P _{el}	W	6.1	5.1			
	Detent torque M _s	cNm	0.54				
	Rotor inertia J _R	gcm ²	17				
	Rated voltage U _N	V	12	24	48	110	230
	Duty cycle	%	100	100	100	100	100
	Resistance R ₂₀	Ω	19	70	280	1520	5850
	Capacitor C ₅₀	μF/V ±10%	150;100/12	39;27/24	10;6.8/48	1.8;1.2/110	0.47;0.33/230
	Winding code		B1/G1	B4/G4	C1/H1	C8/H8	D5/J5
UFR4	Rated frequency	Hz	50	60			
	Speed n	rpm	500	600			
	Power output P _{mech}	W	2.8	3			
	Running torque M _n	cNm	5.3	4.7			
	Power consumption P _{el}	W	6.4	6.9			
	Detent torque M _s	cNm	0.8				
	Rotor inertia J _R	gcm ²	24.2				
	Rated voltage U _N	V	24	48	110	230	
	Duty cycle	%	100	100	100	100	
	Resistance R ₂₀	Ω	56	210	1200	4800	
	Capacitor C ₅₀	μF/V ±10%	18;15/45	4.7;3.9/90	0.82;0.68/200	0.22;0.18/400	
	Winding code		B4/G4	C1/H1	C8/H8	D5/J5	
Tolerance of voltage			standard power supply system + 10% ... - 10%				
Winding temperature T _{max} °C			105				
Direction of rotation			reversible				

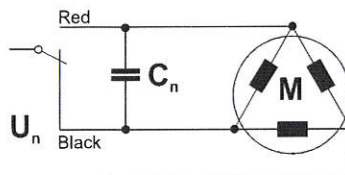
Circuit diagram UFR1 Parallel circuit



UFR4 Parallel circuit



UFR3 Parallel circuit

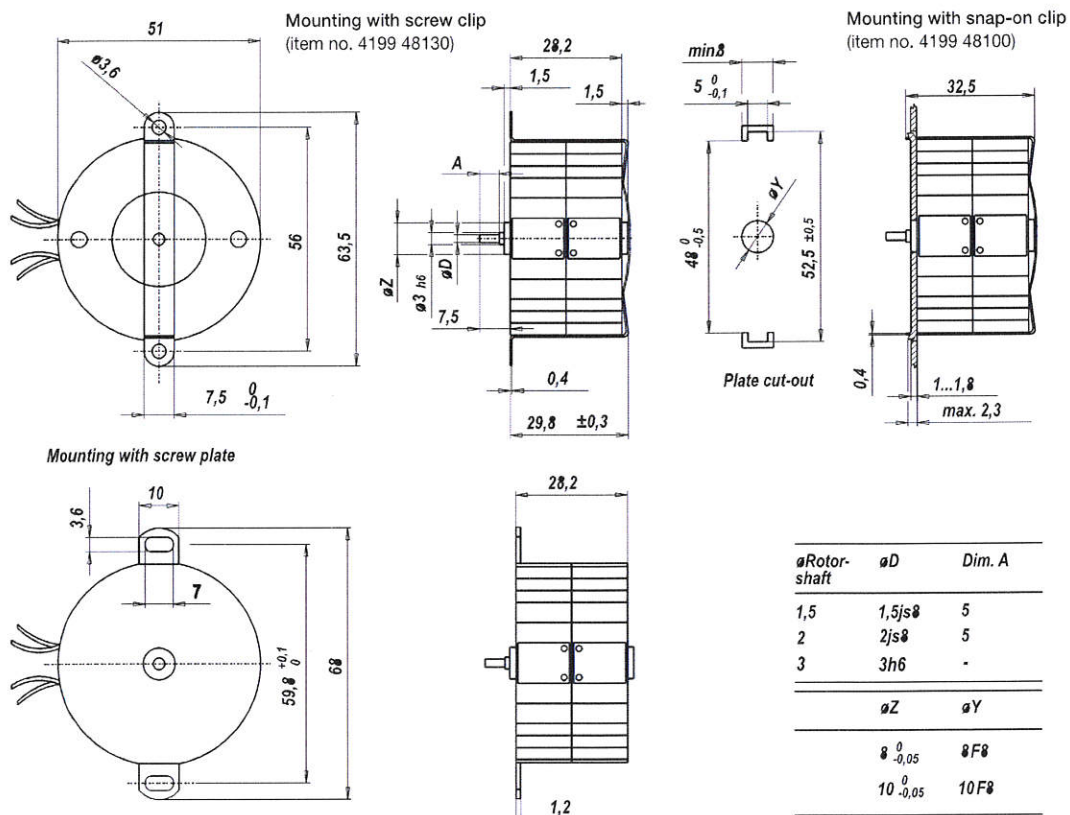


Red = clockwise rotation
Black = counter clockwise rotation

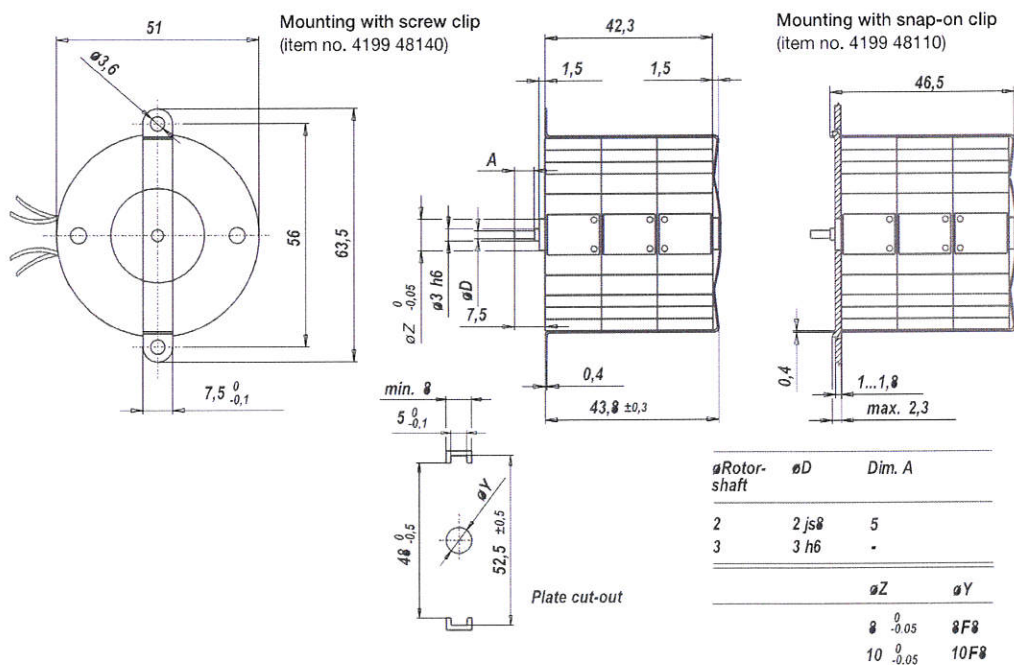
UFR

Dimensions

UFR1

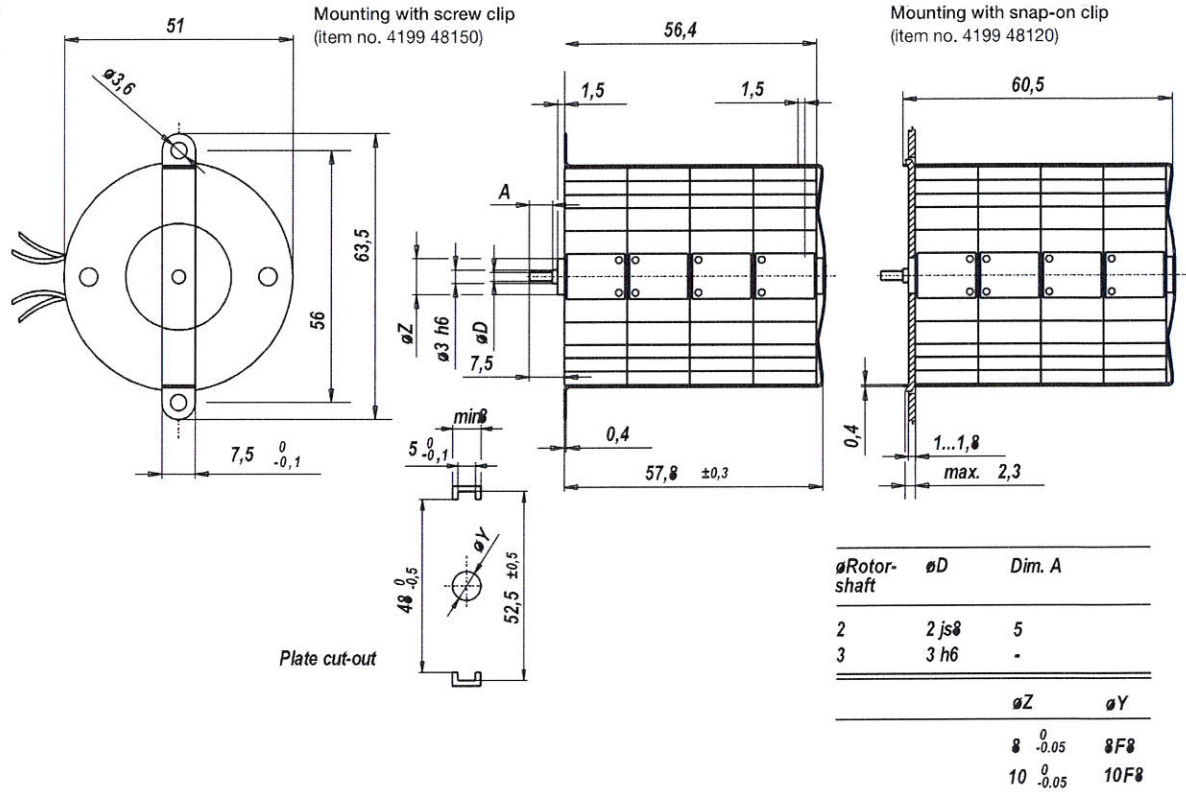


UFR3



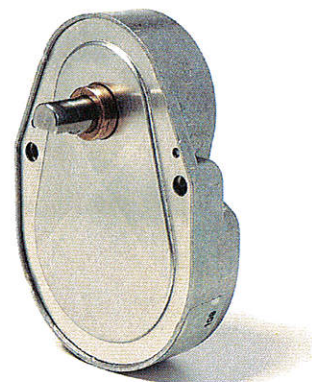
Dimensions

UFR4



UGF

Dimensions (mm)	58 x 81
Height (mm)	17
Max. torque (cNm)	500
Ratios	4 1/6 ... 5000
Internal slipping clutch	none
Standard shaft (mm)	Ø 8 x 12
Weight (g)	130
Motor combination	Series UC, UB, UD, UF



Standard Data

Mounting	any position
Axial thrust F_A	100 N
Lateral force F_R	400 N
Slipping clutches/free wheel	none
Slipping-/free wheel torque	cNm
Output shafts	Ø 8 x 12, other on request
Climatic class	wide-spread according to DIN IEC 60721-2-1
Ambient temperature operation	°C -15 ... +55
Ambient temperature storage	°C -40 ... +80

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

Order Reference

Type	Gearbox	UGF	100	N	N
Ratio	100				
Slipping clutch	N	Without slipping clutch			
Shaft end	N	Ø 8 x 12, other on request			

Torque / ratio / life graph

