

UFR1/UFR3/UFR4

Dimensions (mm) Ø 52 x 28 / Ø 52 x 42 / Ø 52 x 56

Voltage (V) 12–230

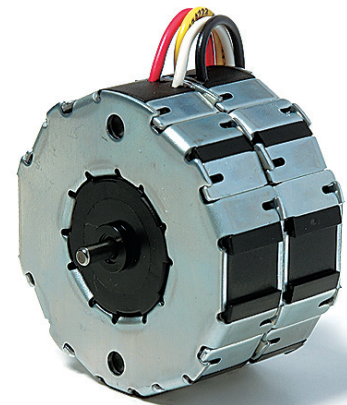
Speed (rpm) 50 Hz 500
60 Hz 600

Pole number 12

Running torque (cNm)
50 Hz 2.4 / 3.1 / 4.5
60 Hz 2.2 / 2.6 / 4.0

Power output (W)
50 Hz 1.3 / 1.6 / 2.4
60 Hz 1.4 / 1.6 / 2.5

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



UFR1

Note: Running torque = Pull-out torque (starting motor at no load, then torque increase)
Running torque and Power output are minimum values, at rated voltage and motor temperature 23°C

Standard Data

Climatic class	wide-spread according to DIN IEC 60721-2-1 : 2015
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 : 2008 (130 / B on request)
Approval	standard (UL/CSA on request)
Mounting	any position
Electrical connection	lead wires AWG22, insulation Ø 1.72 ± 0.08 mm
Protection	IP40 according to DIN EN 60529 : 2014
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	B	centring 10 mm, shaft 3.0 mm, clip					
	1	centring 8 mm, shaft 2.0 mm, clip	A	centring 10 mm, shaft 2.0 mm, clip					
	2	centring 8 mm, shaft 1.5 mm, clip	C	centring 10 mm, shaft 1.5 mm, clip					
	3	centring 8 mm, shaft 3.0 mm, screw plate*	D	centring 12 mm, shaft 3.0 mm, clip					
	4	centring 8 mm, shaft 2.0 mm, screw plate*	E	centring 10 mm, shaft 3.0 mm, screw plate*					
	5	centring 8 mm, shaft 1.5 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)							

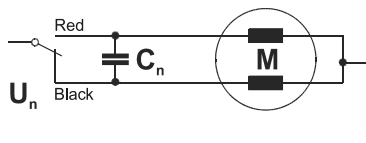
* screw plate not for UFR3 and UFR4

All specifications are representative only and maybe subject to variation. For confirmation of values, please contact Johnson Electric.
Please also read "Saia Motors Important Notes" on catalog or at www.johnsonelectric.com/SaiaMotorsNotes

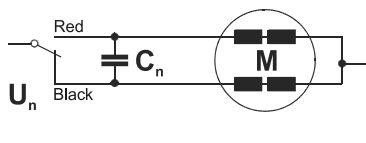
Technical Data

UFR1	Rated frequency	Hz	50	60			
	Speed n	rpm	500	600			
	Power output P _{mech}	W	1.3	1.4			
	Running torque M _n	cNm	2.4	2.2			
	Power consumption P _{el}	W	3.3	3.6			
	Detent torque M _s	cNm	0.39				
	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 _n (50Hz, 60Hz)	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	50Hz/60Hz	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	1.6	1.6			
Running torque M _n		cNm	3.1	2.6			
Power consumption P _{el}		W	6.1	5.1			
Detent torque M _s		cNm	0.46				
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 _n (50Hz, 60Hz)		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		50Hz/60Hz	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	2.4	2.5			
	Running torque M _n	cNm	4.5	4.0			
	Power consumption P _{el}	W	6.4	6.9			
	Detent torque M _s	cNm	0.68				
	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 _n (50Hz, 60Hz)	μF/V ±10%	18;15/45	4.7;3.9/90	0.82;0.68/200	0.22;0.18/400	
	Winding code	50Hz/60Hz	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					

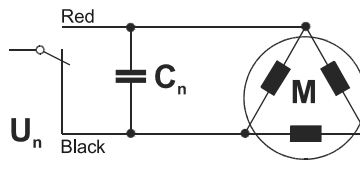
Circuit diagram UFR1 Parallel circuit



UFR4 Parallel circuit



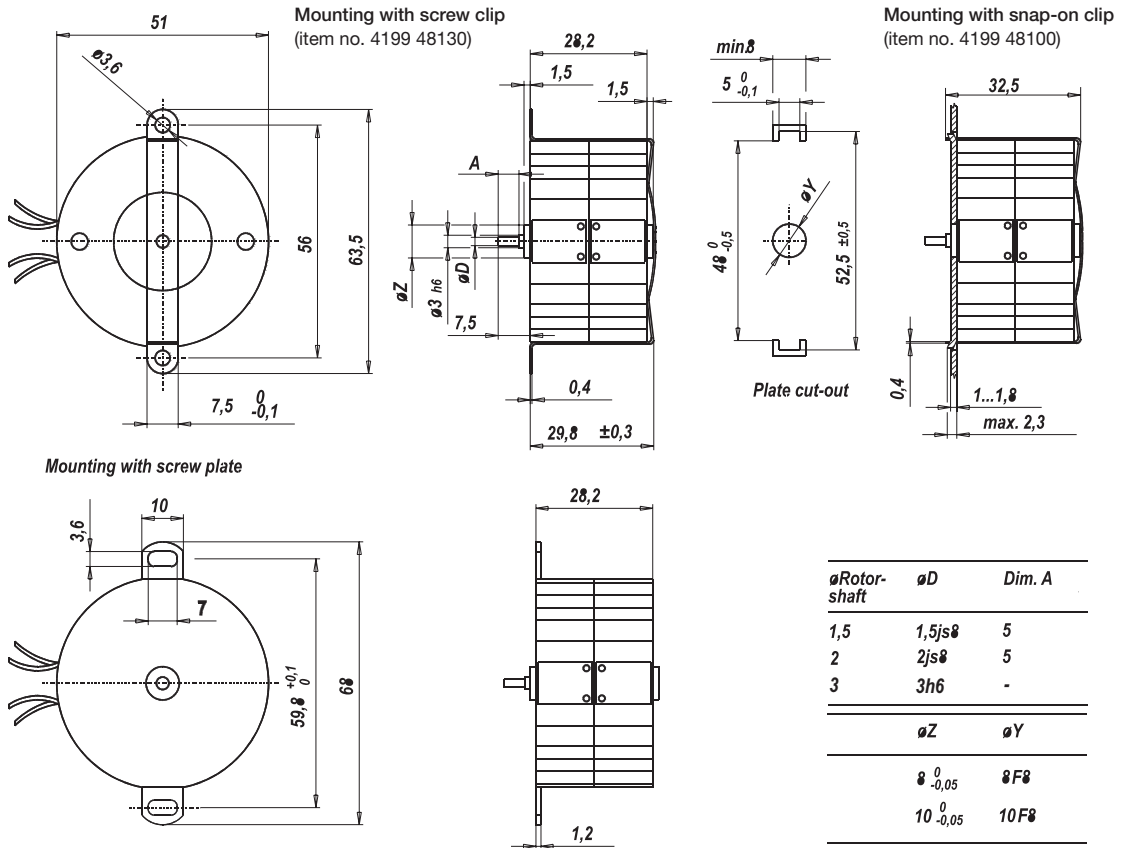
UFR3 Parallel circuit



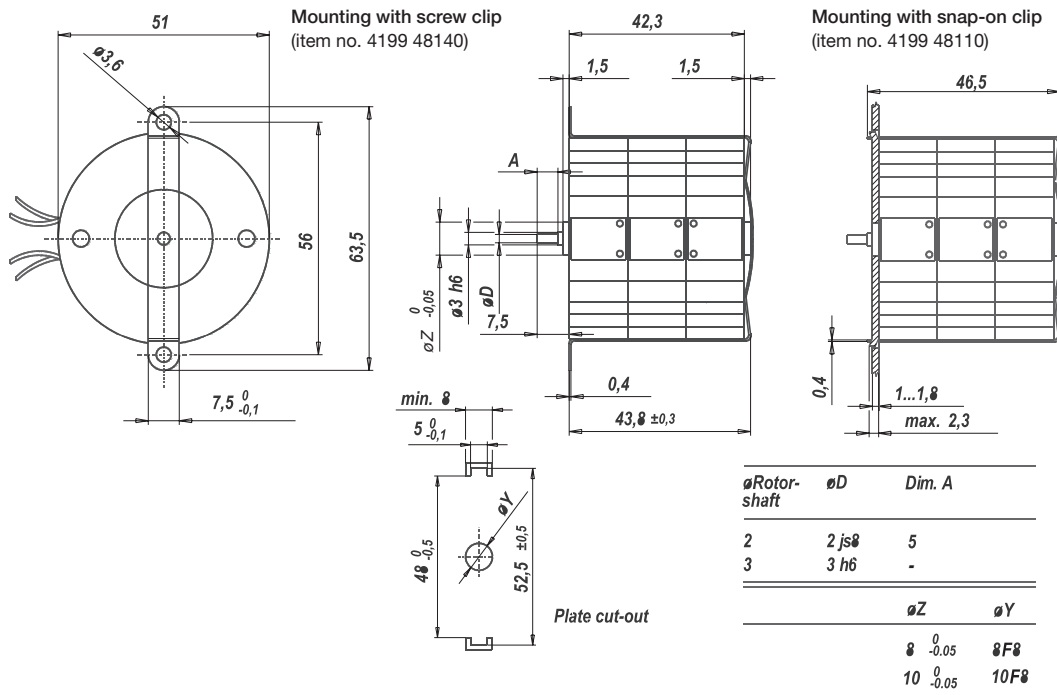
Red = clockwise rotation
Black = counter clockwise rotation

Dimensions

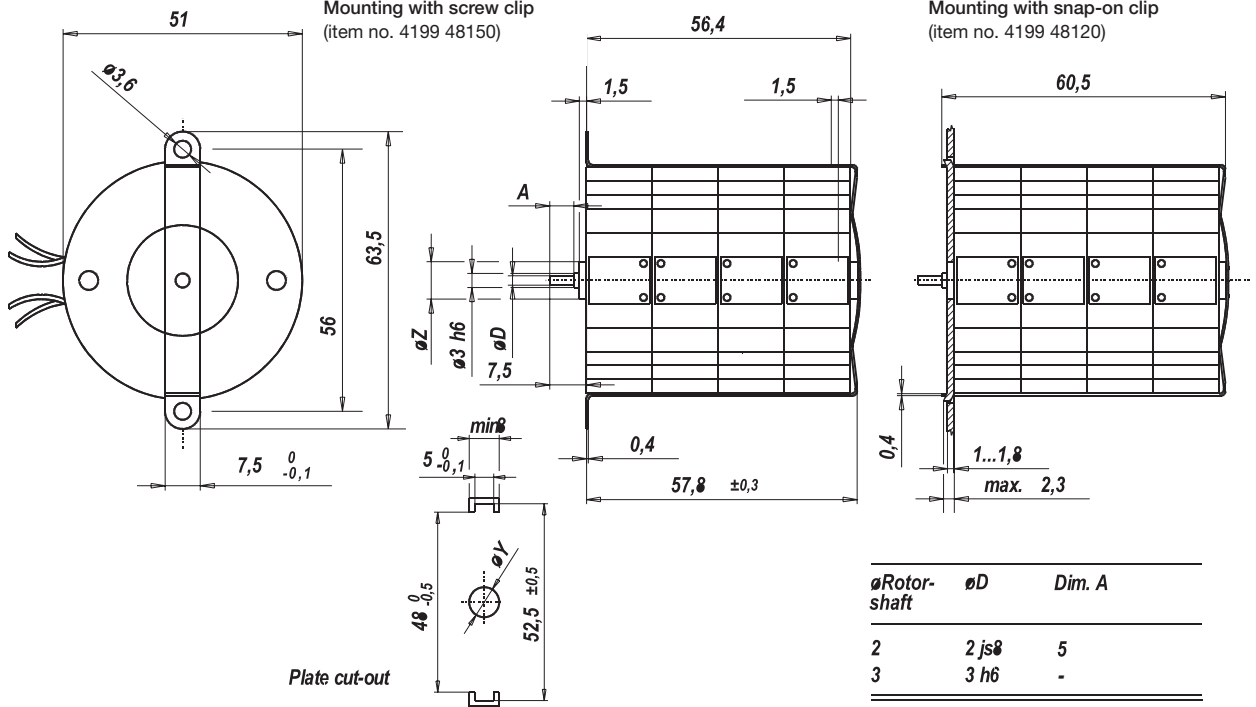
UFR1



UFR3



Dimensions
UFR4



ϕ Rotor-shaft	ϕD	Dim. A
2	2 js8	5
3	3 h6	-

ϕZ	ϕY
8 $\begin{smallmatrix} 0 \\ -0,05 \end{smallmatrix}$	8F8
10 $\begin{smallmatrix} 0 \\ -0,05 \end{smallmatrix}$	10F8