

## 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 2,8 / 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 A, D, M, B, F, V, J, O



## Standard Data

Climatic class	wide-spread according to DIN IEC 60721-2-1
Ambient temperature operation	°C -15...+55
Ambient temperature storage	°C -20...+100
Thermal resistance at f=0 R <sub>therm</sub>	11 K/W (UFR1), 7 K/W (UFR4)
Thermal class	A according to DIN EN 60085 (B on request)
Approval	standard (UL/CSA on request)
Mounting	any position
Electrical connection	cable
Protection	IP 30 according to DIN EN 60529
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

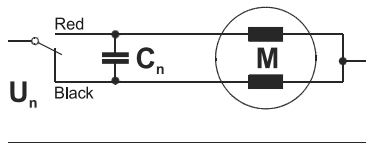
Type	Synchronous Motor	UFR	1	0	N	24 V/50 Hz	R	N
Configuration	1 Two coils 3 Three coils 4 Four coils							
Rotor shaft, mounting	0 centring 8 mm, shaft 3,0 mm, clip 1 centring 8 mm, shaft 2,0 mm, clip 2 centring 8 mm, shaft 1,5 mm, clip 3 centring 8 mm, shaft 3,0 mm, screw plate* 4 centring 8 mm, shaft 2,0 mm, screw plate* 5 centring 8 mm, shaft 1,5 mm, screw plate*	A 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

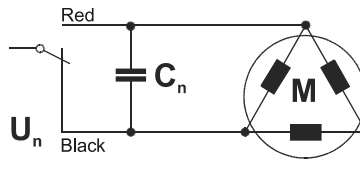
## Technical Data

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 <sup>2</sup>	14,2			
	Capacitors at Rated voltage $U_N$	V	24	48	110	230
	Operation capacitor $C_{50}$	$\mu F/VAC$	10/45	2,7/90	0,47/200	0,12/400
Operation capacitor $C_{60}$	$\mu F/VAC$	8,2/45	2,2/90	0,39/200	0,10/400	
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 <sup>2</sup>	17			
	Capacitors at Rated voltage $U_N$	V	24	48	110	230
	Operation capacitor $C_{50}$	$\mu F/VAC$	39/24	10/50	1,8/110	0,39/240
Operation capacitor $C_{60}$	$\mu F/VAC$	27/24	6,8/50	1,2/110	0,27/240	
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 <sup>2</sup>	24,2			
	Capacitors at Rated voltage $U_N$	V	24	48	110	230
	Operation capacitor $C_{50}$	$\mu F/VAC$	18/45	4,7/90	0,82/200	0,22/440
Operation capacitor $C_{60}$	$\mu F/VAC$	15/45	3,9/90	0,68/200	0,18/440	
Tolerance of voltage	standard power supply system + 10% ... - 10%					
Winding temperature $T_{max}$	105°C					
Duty cycle	100%					
Direction of rotation	reversible					

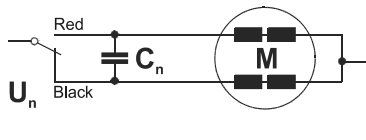
Circuit diagram UFR1 Parallel circuit



UFR3 Parallel circuit



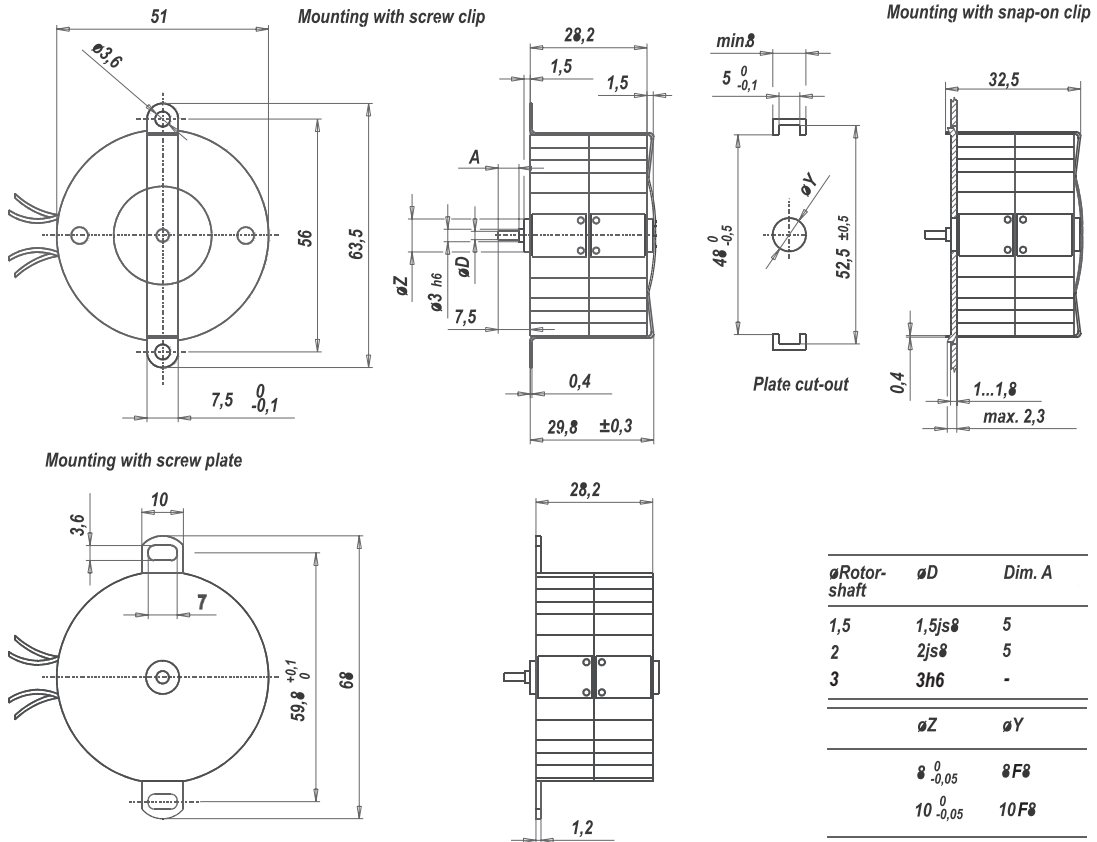
UFR4 Parallel circuit



Red = clockwise rotation  
Black = counter clockwise rotation

Dimensions

UFR1



UFR3

