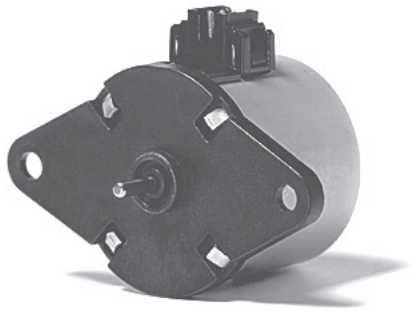
UCD

UCD1/7; UCD2/8

Dimensions (mm)	∅ 28 x 24
Step angle (°)	7.5
Holding torque * (cNm)	1.4–2.3
Detent torque (cNm)	0.15–0.30
Winding	bipolar/unipolar
Gear combination	on request



* values for connector version (connection B or D) / values of lead wire version (connection N) are up to 20 % lower

Note: All torque and power output values 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 ... +60
Ambient temperature storage	°C -20 ... +100
Thermal resistance at f=0 R_{therm}	29 K/W
Thermal class	130 (B) according to DIN EN 60085 : 2008
Approval	standard
Mounting	any position
Electrical connection	connector type D or N
Protection	IP30 according to DIN EN 60529 : 2014
Weight	54 g
Rotor stalling	motor can be stopped when voltage is applied, without being overheated
Bearings	Sintered bronze, self-lubricating

Order Reference

Type	Stepper Motor				UCD	1	0	N	18	R	B
Configuration	1	bipolar, standard magnet	7	bipolar, stronger magnet							
	2	unipolar, standard magnet	8	unipolar, stronger magnet							
Rotor shaft, mounting	3	centring 8 mm, shaft 2.0 mm, screw plate	E	centring 10 mm, shaft 2.0 mm, screw plate							
	4	centring 8 mm, shaft 1.5 mm, screw plate	K	centring 10 mm, shaft 1.5 mm, screw plate							
	0	centring 8 mm, shaft 2.0 mm, clip	A	centring 10 mm, shaft 2.0 mm, clip							
	1	centring 8 mm, shaft 1.5 mm, clip	C	centring 10 mm, shaft 1.5 mm, clip							
Approval	N	Approval Standard									
Resistance		see next pages; Resistance per winding for bipolar or unipolar									
Direction	R	reversible									
Connection	D	see next pages “Connection Types” and page 145 “Connection Types” for B									
	N										

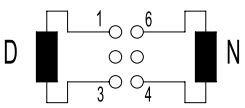
All specifications are representative only and maybe subject to variation. For confirmation of values, please contact Johnson Electric. Please also read “Saia Motors Important Notes” on catalog or at www.johnsonelectric.com/SaiaMotorsNotes

Technical Data

bipolar	Configuration		UCD1	UCD7	
	Holding torque M_H *	cNm	1.6	2.3	
	Detent torque M_S	cNm	0.15	0.3	
	Rotor inertia J_R	gcm²	2.2	2.4	
	Steps per revolution		48		
	Direction of rotation	V	reversible		
	Specific Technical Data Lead Wire Versions (Connection type N)				
	Rated voltage UN	V	6	12	24
	Duty cycle	%	100	100	100
	Resistance R_{20}	Ω	24	90	380
	Winding code		18	03	04
	Specific Technical Data Connector Versions				
	Rated voltage UN	V	6	12	24
	Duty cycle	%	100	100	100
	Resistance R_{20}	Ω	24	90	380
	Winding code		07	01	02
unipolar	Configuration		UCD2	UCD8	
	Holding torque M_H *	cNm	1.4	2.0	
	Detent torque M_S	cNm	0.15	0.3	
	Rotor inertia J_R	gcm²	2,1	2,4	
	Steps per revolution		48		
	Direction of rotation	V	reversible		
	Specific Technical Data Lead Wire Versions				
	Rated voltage UN	V	12	24	6
	Duty cycle	%	100	100	100
	Resistance R_{20}	Ω	90	380	24
	Winding code		10	11	12
	Specific Technical Data Connector Versions				
	Rated voltage UN	V	12	24	
	Duty cycle	%	100	100	
	Resistance R_{20}	Ω	90	380	
	Winding code		01	02	

* values of connector version (connection B or D) / values of lead wire version are up to 20 % lower

Circuit diagram bipolar

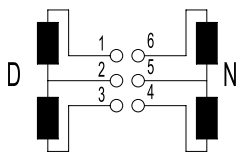


step

connector	I	II	III	IV
1	+	+	-	-
3	-	-	+	+
4	-	+	+	-
6	+	-	-	+

counter clockwise rotation
clockwise rotation

unipolar

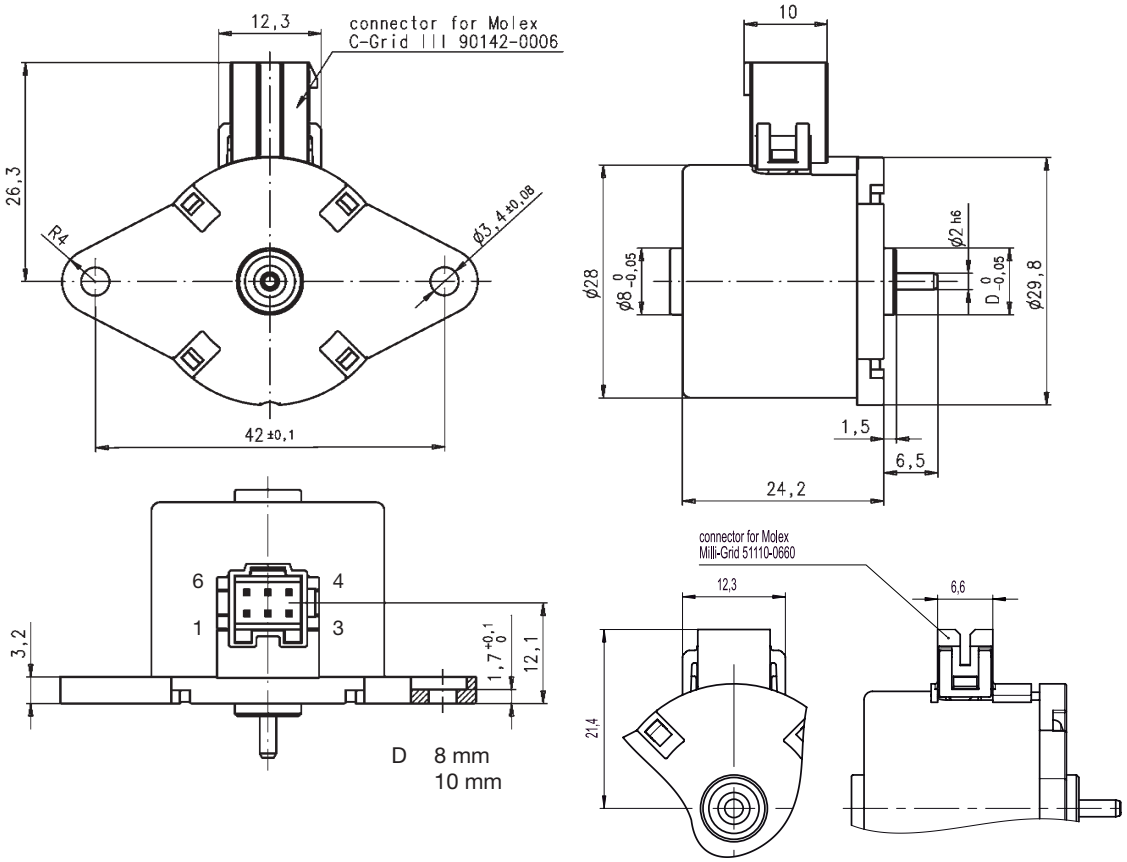


step

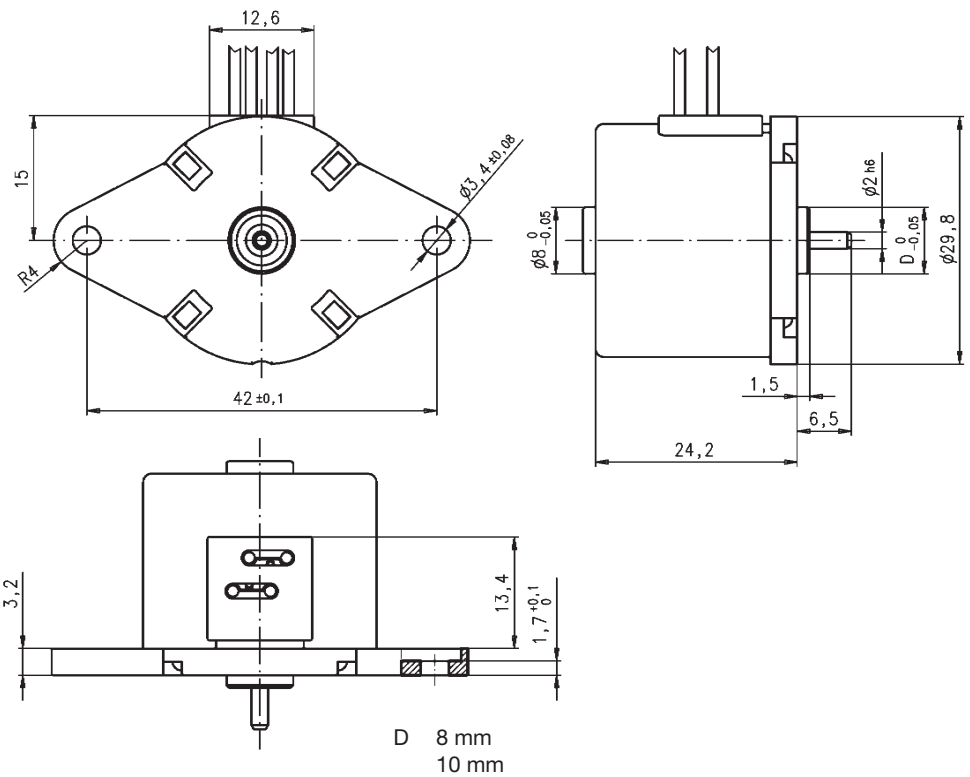
connector	I	II	III	IV
1			-	-
2	+	+	+	+
3	-	-		
4	-			-
5	+	+	+	+
6		-	-	

counter clockwise rotation
clockwise rotation

Dimensions Version with Connector D

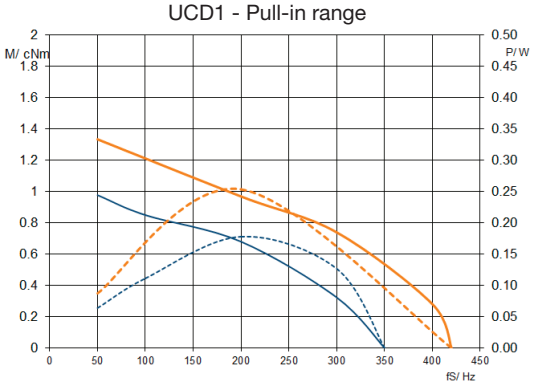


Version with Connector N (Lead wire version)

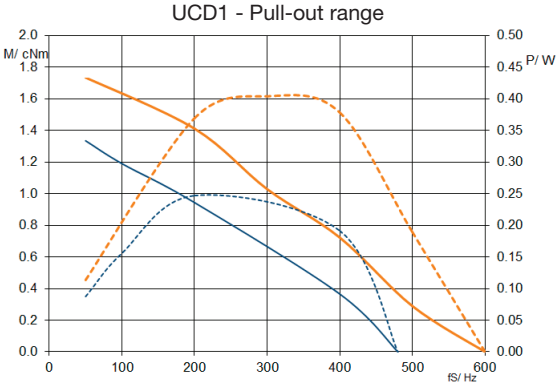


Performance Chart

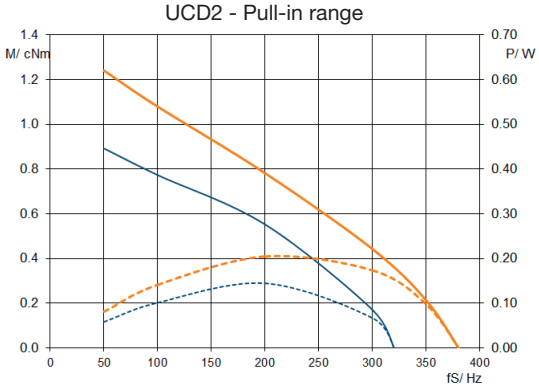
UCD1 - Pull-in range



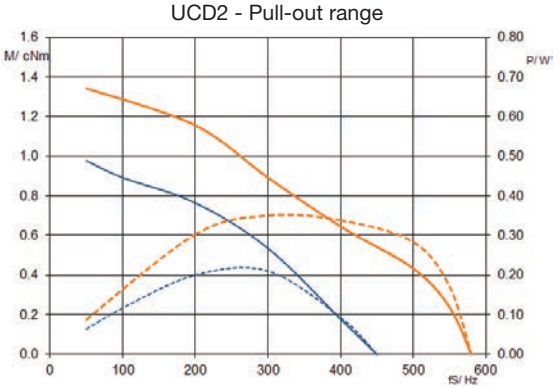
UCD1 - Pull-out range



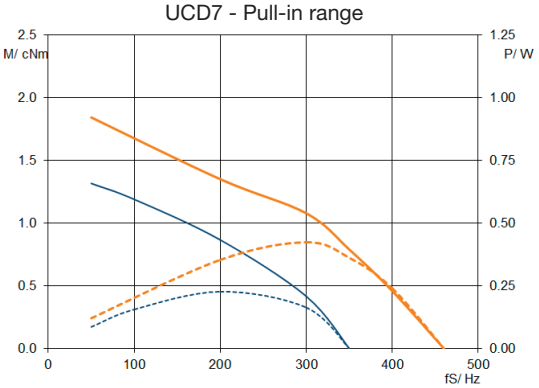
UCD2 - Pull-in range



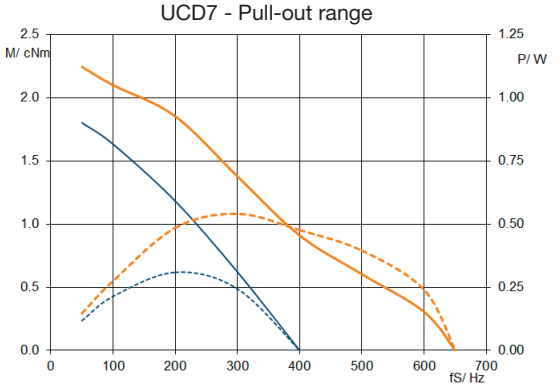
UCD2 - Pull-out range



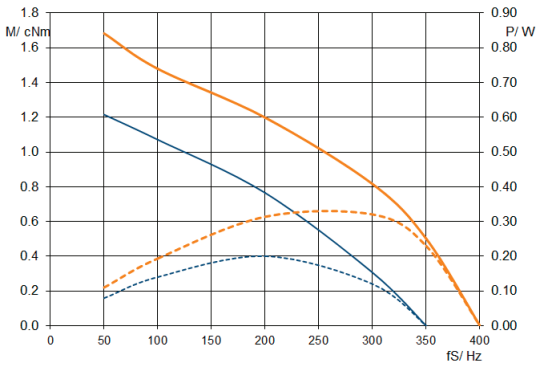
UCD7 - Pull-in range



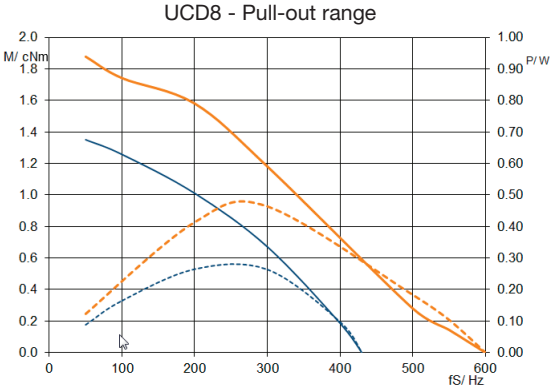
UCD7 - Pull-out range



UCD8 - Pull-in range



UCD8 - Pull-out range



M - Duty cycle 30 %
M - Duty cycle 100%

P - Duty cycle 30 %
P - Duty cycle 100 %