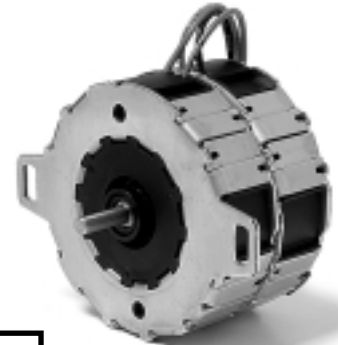


# Stepper Motors – Rotational UHD

## UHD1/2/5/6; UHD3/4/7/8

Dimensions (mm)	Ø 59 x 35 / Ø 59 x 70
Step angle (grad)	7.5
Holding torque (cNm)	13–24 (UHD1/2/5/6); 27.5–45.5 (UHD3/4/7/8)
Detent torque (cNm)	1.3–2.1 (UHD1/2/5/6); 3.4–5.3 (UHD3/4/7/8)
Resistance per winding	
6 V (Ω)	6.8–10 (UHD1/2/5/6); 6.75 (UHD4/8)
12 V (Ω)	36–61 (UHD1/2/5/6); 20–28.5 (UHD3/4/7/8)
24 V (Ω)	168–251 (UHD1/2/5/6); 108–120 (UHD3/4/7/8)
46 V (Ω)	460 (UHD3/7)
Approval	Standard/UL/CSA
Weight (g)	300 (UHM 1/2/5/6) 580 (UHM 3/4/7/8)
Gear combination	J



**RoHS  
Compliant**

## Standard Data

Climatic class	"wide-spread" according to IEC 721, part 2-1
Ambient temperature operation	-15 ... +55° C
Ambient temperature storage	-20 ... +100° C
Thermal resistance at f=0 (R <sub>therm</sub> )	9 K/W (UHM 1/2/5/6); 6.7 K/W (UHM 3/4/7/8)
Thermal class	B according to IEC 85
Approval	Standard/UL/CSA
Mounting	any position
Electrical connection	wire
Protection	IP 40 according to DIN 40 050/DIN EN 60034-5
Weight (g)	300 (UHM 1/2/5/6), 580 (UHM 3/4/7/8)
Rotor stalling	motor can be stopped when voltage is applied, without being overheated
Bearings	sintered bronze, self-lubricating
Surge voltage strength	according to EN 60 034-1/EN 60-335-1

## Order Reference – How to Build a Part Number

Type	Stepper Motor									
Configuration	1	bipolar, two coils, standard magnet	3	bipolar, four coils, standard magnet	4	unipolar, four coils, standard magnet				
	2	unipolar, two coils, standard magnet	4	unipolar, four coils, standard magnet						
	5	bipolar, two coils, stronger magnet	7	bipolar, four coils, stronger magnet						
	6	unipolar, two coils, stronger magnet	8	unipolar, four coils, stronger magnet						
Rotor shaft, mounting	0	center bolt 12 mm, shaft 6.35 mm, clip	3	center bolt 12 mm, shaft 6.35 mm, screw plate*						
	1	center bolt 12 mm, shaft 4.0 mm, clip	4	center bolt 12 mm, shaft 4.0 mm, screw plate*						
	2	center bolt 12 mm, shaft 3.0 mm, clip	5	center bolt 12 mm, shaft 3.0 mm, screw plate*						
Approval	N	Standard								
	UL	UL								
	CSA	CSA								
Resistance		See page 52								
Direction		reversible								
Cable	N	wire 150 mm (other on request)								

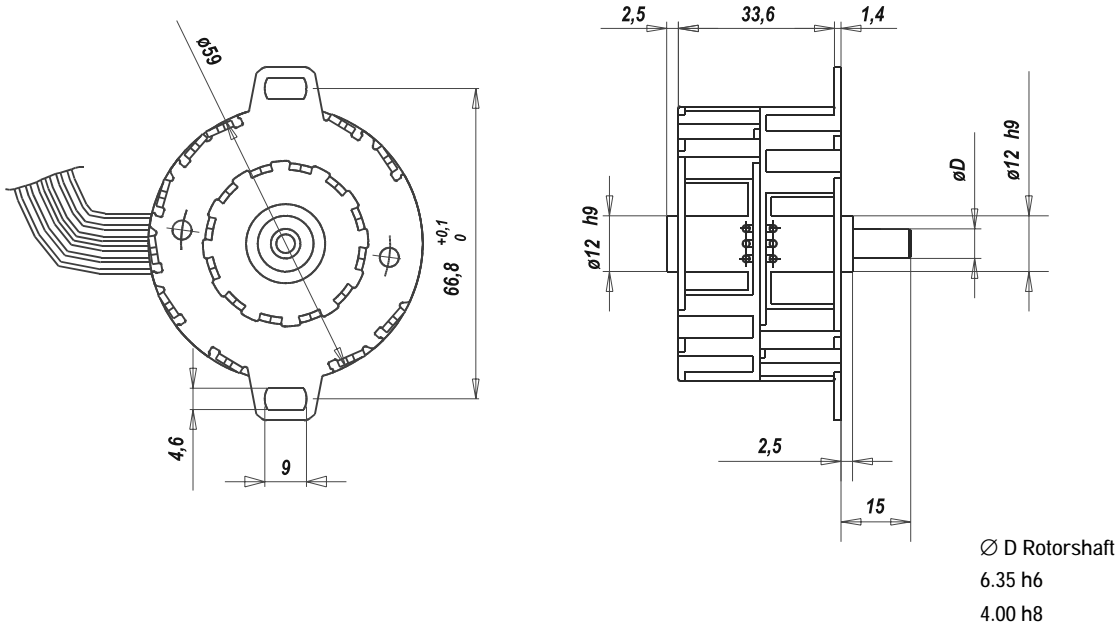
\* not for UHD3/4/7/8)

# Stepper Motors – Rotational UHD

## Technical Data UHD1/2/5/6

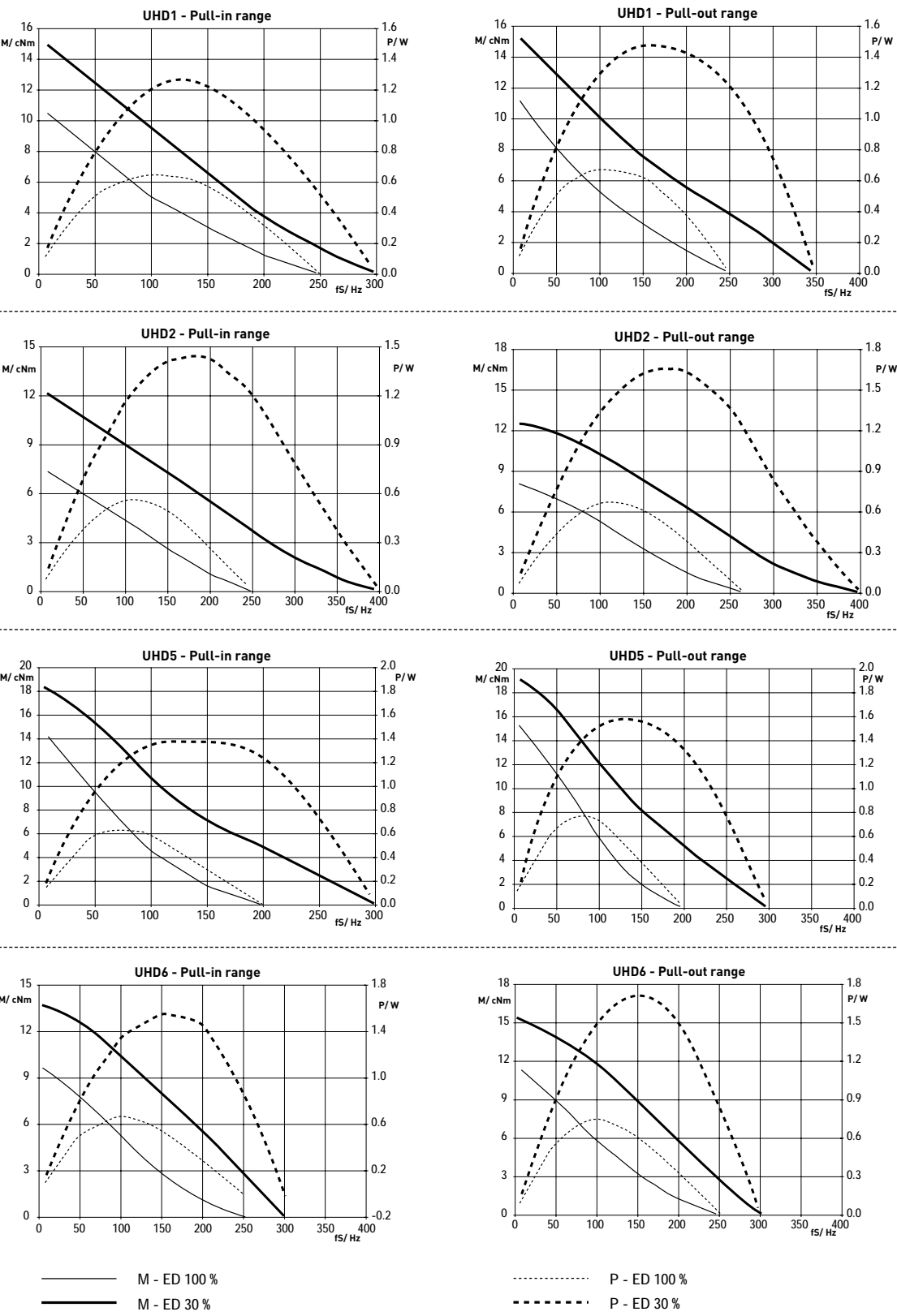
Bipolar (UHD1/5)	Rated voltage $U_N$	V	6	12	24
	Resistance per winding $R_{20}$	$\Omega$	6.8	36	168
	Holding torque	cNm	17.1 (UHD1); 24 (UHD5)		
	Detent torque $M_S$	cNm	1.3 (UHD1/2); 2.1 (UHD5/6)		
	Rotor inertia $J_R$	gcm <sup>2</sup>	49 (UHD1/2); 56 (UHD5/6)		
Unipolar (UHD2/6)	Rated voltage $U_N$	V	6	12	24
	Resistance per winding $R_{20}$	$\Omega$	10	45	190
	Holding torque	cNm	13 (UHD2); 17.3 (UHD6)		
	Detent torque $M_S$	cNm	1.3 (UHD1/2); 2.1 (UHD5/6)		
	Rotor inertia $J_R$	gcm <sup>2</sup>	49 (UHD1/2); 56 (UHD5/6)		
	Steps per revolution		48		
	Duty cycle		100%		
	Winding temperature $T_{max}$		130° C		
	Direction of rotation		reversible		

Dimensions (mm)



# Stepper Motors – Rotational UHD

## Performance Chart

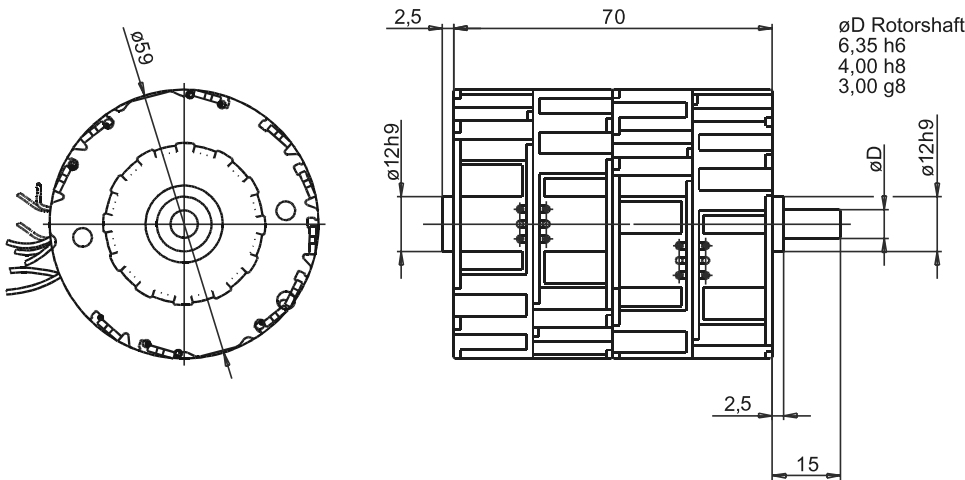


# Stepper Motors – Rotational UHD

## Technical Data UHD3/4/7/8

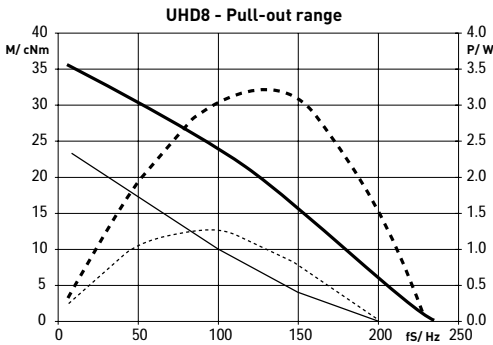
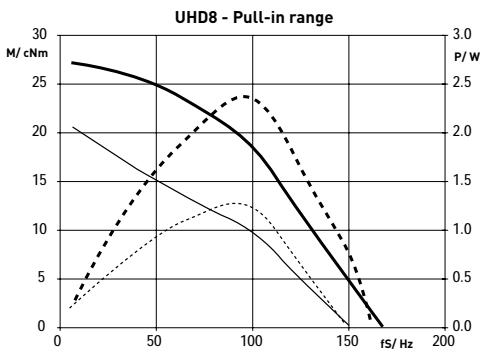
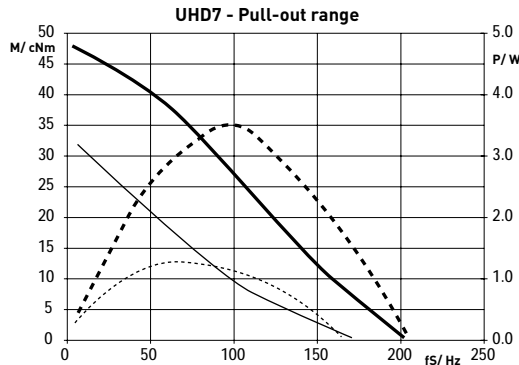
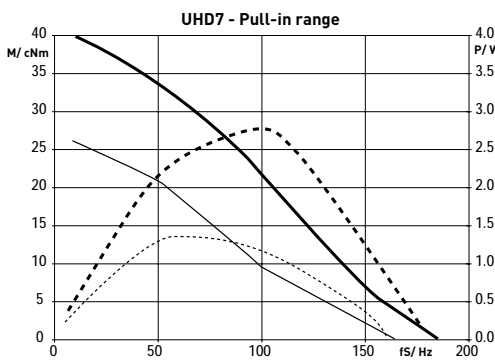
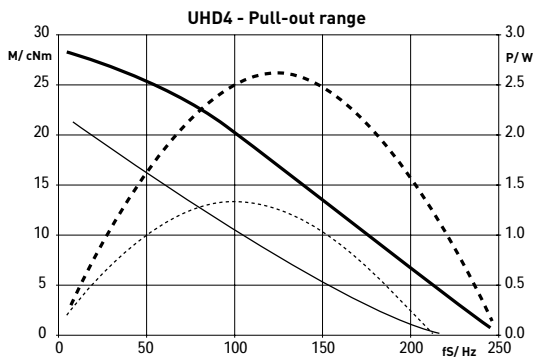
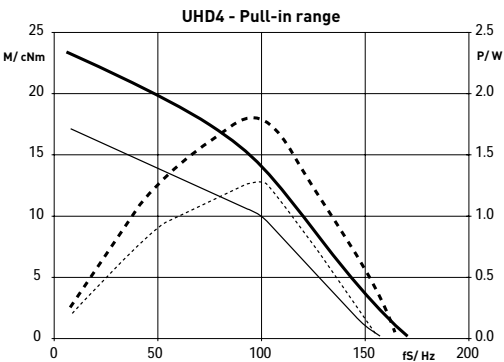
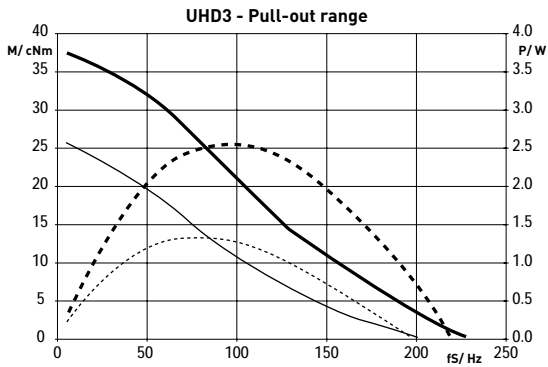
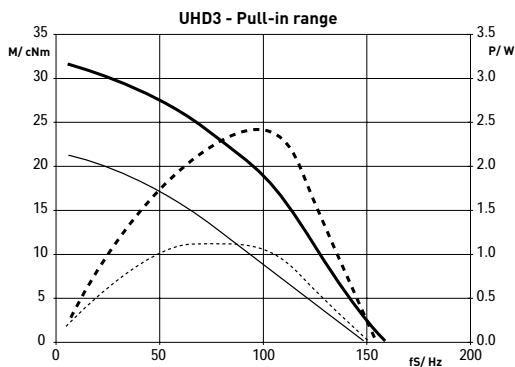
Bipolar (UHD3/7)	Rated voltage $U_N$	V	12	24	48
	Resistance per winding $R_{20}$	$\Omega$	20	108	460
	Holding torque	cNm	37.5 (UHD3); 45.5 (UHD7)		
	Detent torque $M_S$	cNm	3.4 (UHD3/4); 5.3 (UHD7/8)		
	Rotor inertia $J_R$	gcm <sup>2</sup>	135 (UHD3/4); 141 (UHD7/8)		
Unipolar (UHD4/8)	Rated voltage $U_N$	V	6	12	24
	Resistance per winding $R_{20}$	$\Omega$	6.75	28.5	120
	Holding torque	cNm	27.5 (UHD4); 33.5 (UHD8)		
	Detent torque $M_S$	cNm	3.4 (UHD3/4); 5.3 (UHD7/8)		
	Rotor inertia $J_R$	gcm <sup>2</sup>	135 (UHD3/4); 141 (UHD7/8)		
Steps per revolution			48		
Duty cycle			100%		
Winding temperature $T_{max}$			130° C		
Direction of rotation			reversible		

Dimensions (mm)



# Stepper Motors – Rotational UHD

## Performance Chart



— M - ED 100 %  
- - - M - ED 30 %

..... P - ED 100 %  
- . - . P - ED 30 %