

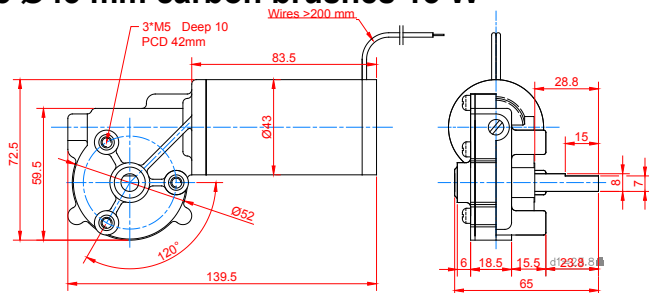
## WORM GEAR DC MOTORS

Ø 43 mm to 123 mm  
13 W to 420 W

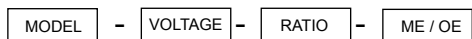


WLD4383	12V-24V	Ø43 mm	carbon brushes	13 W	<a href="#">Page 3</a>
WRD6093	12V-24V	Ø60 mm	carbon brushes	23 W	<a href="#">Page 4</a>
WRD63118	12V-24V	Ø63 mm	carbon brushes	43 W	<a href="#">Page 5</a>
WLD70107	12V-24V	Ø70 mm	carbon brushes	65 W	<a href="#">Page 6</a>
WRD8089	12V-24V	Ø80 mm	carbon brushes	126 W	<a href="#">Page 7</a>
WHD80141	12V-24V	Ø80 mm	carbon brushes	90 W	<a href="#">Page 8</a>
WHD80175	12V-24V	Ø80 mm	carbon brushes	230 W	<a href="#">Page 9</a>
WLD89152	12V-24V	Ø89 mm	carbon brushes	201 W	<a href="#">Page 10</a>
WHD123224	12V-24V	Ø123 mm	carbon brushes	420 W	<a href="#">Page 11</a>
Magnetic encoder 48 counts per revolution 2 channels					<a href="#">Page 12</a>
Optical encoder 2000 counts per revolution 2 channels					<a href="#">Page 12</a>
Brake electro mechanic					<a href="#">Page 12</a>

# WLD4383 Ø43 mm carbon brushes 13 W



## MODEL NO. DESIGNATIONS



Example: WLD4383-12-31-ME

ME = Magnetic encoder  
OP = Optical encoder



## GEAR MOTOR DATA

Reduction	31:1	61:1	86:1		
Nominal torque 12 V (Nm)	0.75	1.34	1.71		
Nominal speed 12 (rpm)	87	44	31		
Nominal torque 24 V (Nm)	0.75	1.34	1.71		
Nominal speed 24 (rpm)	103	52	37		
Length (mm)	139.5	139.5	139.5		
Weight (g)	630	630	630		

## GEAR MOTOR FEATURES AND STANDARD DATA

	STANDARD	CUSTOMIZATION OPTIONS
Type	Worm gear brush dc gear motor	
Gear angle	Left	Double or single right shaft
Motor type	Iron core, brush commutation	Winding parameters
Motor brush type	Carbon brushes	
Motor terminals	Cable wires 200 mm	Wiring harnesses, cables, connectors
EMC filter	No	Yes
Gear	Plastic	Metal
Bearing	Sleeve bearing	
Shaft	Hardened stainless steel	Dimensions
Encoder option	Magnetic or optical (option)	Through shaft dim. and screw holes
Environmental protection	IP55 (with encoder IP50)	
Operating temperature	-10...+60 °C	-40...+60 °C
RoHS compliance	Yes	
CE label	No	Yes
UL approval	No	Yes

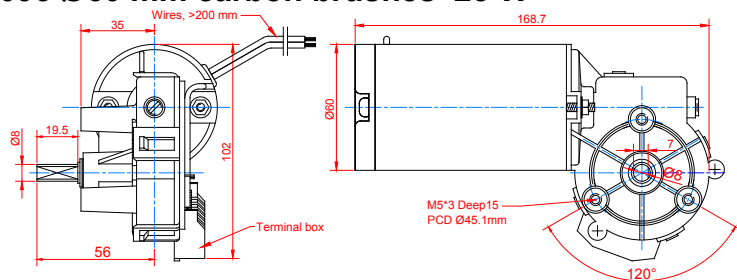
## MOTOR DATA

Nominal voltage (V)	12	24
No load speed (rpm)	3600	4000
No load current (A)	1.0	0.5
Nominal speed (rpm)	2700	3200
Nominal torque (mNm)	44	44
Nominal current (A)	2.0	1.1
Stall torque mNm)	167	176
Starting current (A)	7	4
Output (W)	12.5	14.8
Length (mm)	83.5	83.5
Weight (g)	360	360

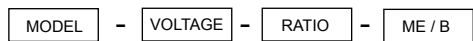
## GEAR HEAD DATA

Reduction	31:1	61:1	86:1		
Max. continuous torque (Nm)	1.5	1.7	1.9		
Intermittently permissible torque (Nm)	1.7	1.9	2.0		
Efficiency %	55	50	45		
Weight (g)	270	270	270		

# WRD6093 Ø60 mm carbon brushes 23 W



## MODEL NO. DESIGNATIONS



Example: WRD6093-12-55-ME

ME = Magnetic encoder  
B = Electric brake



## GEAR MOTOR DATA

Reduction	55:1				
Nominal torque 12 V (Nm)	2.9				
Nominal speed 12 (rpm)	51				
Nominal torque 24 V (Nm)	2.9				
Nominal speed 24 (rpm)	51				
Length (mm)	167.7				
Weight (Kg)	1.4				

## GEAR MOTOR FEATURES AND STANDARD DATA

	STANDARD	CUSTOMIZATION OPTIONS
Type	Worm gear brush dc gear motor	
Gear angle	Right	
Motor type	Iron core, brush commutation	Winding parameters
Motor brush type	Carbon brushes	
Motor terminals	Cable wires 200 mm	Wiring harnesses, cables, connectors
EMC filter	No	Yes
Gear	Plastic	Metal
Bearing	Sleeve bearing	
Shaft	Hardened stainless steel	Dimensions
Encoder option	Magnetic (to order as option)	Through shaft dim. and screw holes
Brake option	Electric brake (to order as option)	
Environmental protection	IP55 (with encoder or brake IP50)	
Operating temperature	-10...+60 °C	-40...+60 °C
RoHS compliance	Yes	
CE label	No	Yes
UL approval	No	Yes

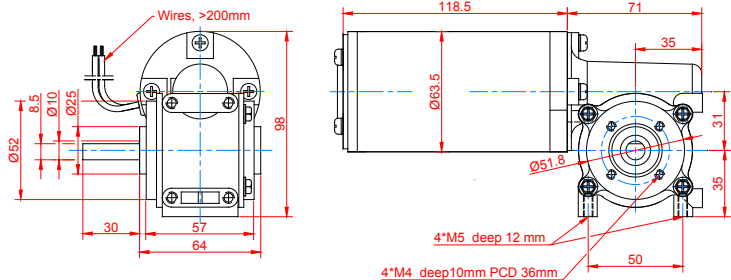
## MOTOR DATA

Nominal voltage (V)	12	24
No load speed (rpm)	3300	3300
No load current (A)	0.8	0.4
Nominal speed (rpm)	2800	2800
Nominal torque (mNm)	78	78
Nominal current (A)	2.8	1.40
Stall torque mNm)	372	372
Starting current (A)	15	7.5
Output (W)	23	23
Length (mm)	93	93
Weight (Kg)	1.0	1.0

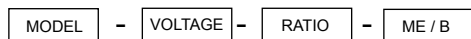
## GEAR HEAD DATA

Reduction	55:1				
Max. continuous torque (Nm)	4.5				
Intermittently permissible torque (Nm)	5.9				
Efficiency %	67				
Weight (Kg)	0.4				

# WRD63118 Ø63 mm carbon brushes 43 W



## MODEL NO. DESIGNATIONS



Example: WRD63118-12-10-B

ME = Magnetic encoder  
B = Electric brake



## GEAR MOTOR DATA

	10:1	15:1	30:1
Reduction	10:1	15:1	30:1
Nominal torque 12 V (Nm)	1.1	1.2	1.5
Nominal speed 12 (rpm)	245	163	81
Nominal torque 24 V (Nm)	1.1	1.2	1.5
Nominal speed 24 (rpm)	275	183	92
Length (mm)	189.5	189.5	189.5
Weight (Kg)	2.6	2.6	2.6

## GEAR MOTOR FEATURES AND STANDARD DATA

	STANDARD	CUSTOMIZATION OPTIONS
Type	Worm gear brush dc gear motor	
Gear angle	Right	Left
Motor type	Iron core, brush commutation	Winding parameters
Motor brush type	Carbon brushes	
Motor terminals	Cable wires 200 mm	Wiring harnesses, cables, connectors
EMC filter	No	Yes
Gear	Metal	
Bearing	Ball bearing	
Shaft	Hardened stainless steel	Dimensions
Encoder option	Magnetic (to order as option)	Through shaft dim. and screw holes
Brake option	Electric brake (to order as option)	
Environmental protection	IP55 (with encoder or brake IP50)	
Operating temperature	-10...+60 °C	-40...+60 °C
RoHS compliance	Yes	
CE label	No	Yes
UL approval	No	Yes

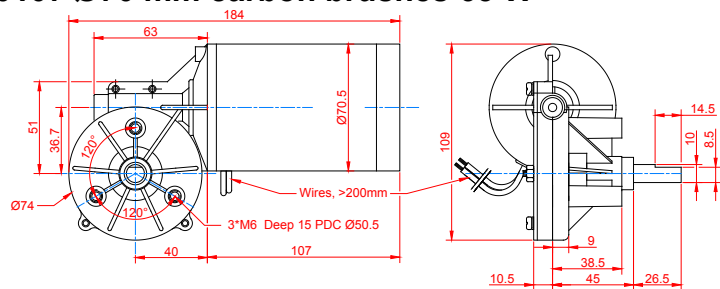
## MOTOR DATA

	12	24
Nominal voltage (V)	12	24
No load speed (rpm)	3000	3300
No load current (A)	1.20	0.65
Nominal speed (rpm)	2450	2750
Nominal torque (mNm)	157	156
Nominal current (A)	4.3	2.4
Stall torque Nm)	1.1	1.1
Starting current (A)	26	13.5
Output (W)	40.2	45.2
Length (mm)	118	118
Weight (Kg)	1.3	1.3

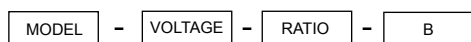
## GEAR HEAD DATA

	10:1	15:1	30:1
Reduction	10:1	15:1	30:1
Max. continuous torque (Nm)	1.2	1.6	2.7
Intermittently permissible torque (Nm)	1.4	2.0	3.4
Efficiency %	70	50	32
Weight (Kg)	1.3	1.3	1.3

# WLD70107 Ø70 mm carbon brushes 65 W



## MODEL NO. DESIGNATIONS



Example: WLD70107-12-65-B

B = Electric brake



Brake option

## GEAR MOTOR DATA

Reduction	65:1				
Nominal torque 12 V (Nm)	7.4				
Nominal speed 12 (rpm)	53				
Nominal torque 24 V (Nm)	7.4				
Nominal speed 24 (rpm)	53				
Length (mm)	184				
Weight (Kg)	2.3				

## GEAR MOTOR FEATURES AND STANDARD DATA

	STANDARD	CUSTOMIZATION OPTIONS
Type	Worm gear brush dc gear motor	
Gear angle	Left	
Motor type	Iron core, brush commutation	Winding parameters
Motor brush type	Carbon brushes	
Motor terminals	Cable wires 200 mm	Wiring harnesses, cables, connectors
EMC filter	No	Yes
Gear	Plastic	Metal
Bearing	Sleeve bearing	
Shaft	Hardened stainless steel	Dimensions
Brake option	Electric brake (to order as option)	
Environmental protection	IP55 (with encoder or brake IP50)	
Operating temperature	-10...+60 °C	-40...+60 °C
RoHS compliance	Yes	
CE label	No	Yes
UL approval	No	Yes

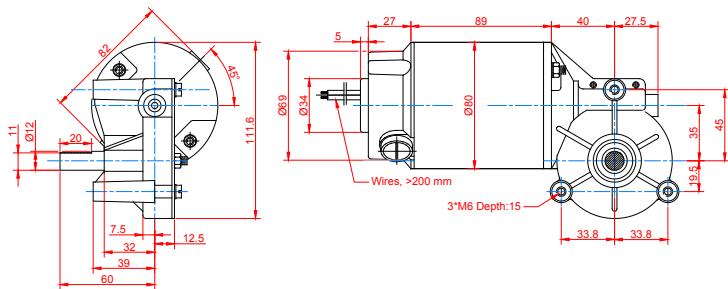
## MOTOR DATA

Nominal voltage (V)	12	24
No load speed (rpm)	3900	3900
No load current (A)	1.10	0.55
Nominal speed (rpm)	3500	3500
Nominal torque (mNm)	176	176
Nominal current (A)	7	3.5
Stall torque Nm)	1.8	1.8
Starting current (A)	42	21
Output (W)	64.7	64.7
Length (mm)	107	107
Weight (Kg)	1.5	1.5

## GEAR HEAD DATA

Reduction	65:1				
Max. continuous torque (Nm)	7.8				
Intermittently permissible torque (Nm)	8.3				
Efficiency %	64				
Weight (Kg)	0.8				

# WRD8089 Ø80 mm carbon brushes 126 W



## MODEL NO. DESIGNATIONS

MODEL - VOLTAGE - RATIO

Example: WLD8089-12-50

## GEAR MOTOR DATA

Reduction	50:1				
Nominal torque 12 V (Nm)	11				
Nominal speed 12 (rpm)	70				
Nominal torque 24 V (Nm)	11				
Nominal speed 24 (rpm)	70				
Length (mm)	195				
Weight (Kg)	2.8				

## GEAR MOTOR FEATURES AND STANDARD DATA

	STANDARD	CUSTOMIZATION OPTIONS
Type	Worm gear brush dc gear motor	
Gear angle	Left	
Motor type	Iron core, brush commutation	Winding parameters
Motor brush type	Carbon brushes	
Motor terminals	Cable wires 200 mm	Wiring harnesses, cables, connectors
EMC filter	No	Yes
Gear	Plastic	Metal
Bearing	Ball bearing	
Shaft	Hardened stainless steel	Dimensions
Environmental protection	IP55 (with encoder or brake IP50)	
Operating temperature	-10...+60 °C	-40...+60 °C
RoHS compliance	Yes	
CE label	No	Yes
UL approval	No	Yes

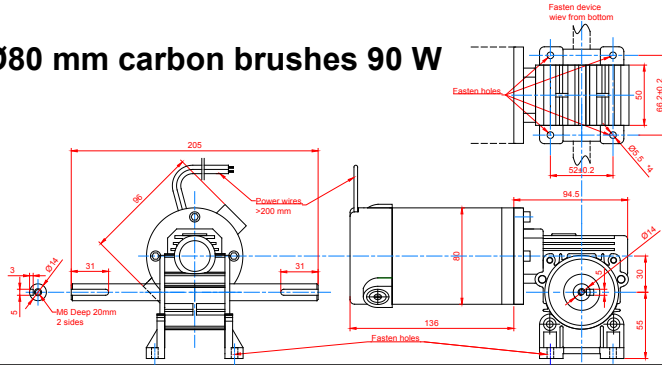
## MOTOR DATA

Nominal voltage (V)	12	24
No load speed (rpm)	3800	3800
No load current (A)	3.0	1.5
Nominal speed (rpm)	3500	3500
Nominal torque (mNm)	343	343
Nominal current (A)	13	6.5
Stall torque (Nm)	3.1	3.1
Starting current (A)	111	56
Output (W)	126	126
Length (mm)	116	116
Weight (Kg)	2	2

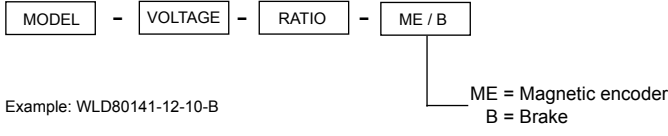
## GEAR HEAD DATA

Reduction	50:1				
Max. continuous torque (Nm)	14				
Intermittently permissible torque (Nm)	18				
Efficiency %	65				
Weight (Kg)	800				

# WHD80141 Ø80 mm carbon brushes 90 W



## MODEL NO. DESIGNATIONS



GEAR MOTOR DATA							
Reduction	10:1	15:1	20:1	25:1	30:1	40:1	50:1
Nominal torque 12 V (Nm)	2.5	3.3	4.2	5.2	5.7	6.0	7.3
Nominal speed 12 (rpm)	245	163	122	98	81	61	49
Nominal torque 24 V (Nm)	2.5	3.3	4.2	5.2	5.7	6.0	7.3
Nominal speed 24 (rpm)	245	163	122	98	81	61	49
Length (mm)	230	230	230	230	230	230	230
Weight (Kg)	5.6	5.6	5.6	5.6	5.6	5.6	5.6

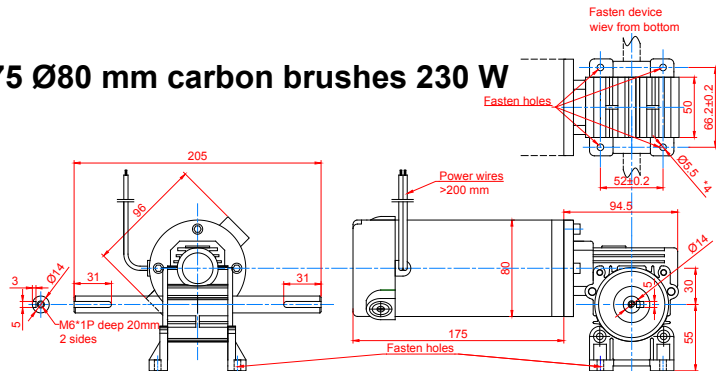
GEAR MOTOR FEATURES AND STANDARD DATA		
	STANDARD	CUSTOMIZATION OPTIONS
Type	Worm gear brush dc gear motor	
Gear angle	Hollow shaft	
Motor type	Iron core, brush commutation	Winding parameters
Motor brush type	Carbon brushes	
Motor terminals	Cable wires 200 mm	Wiring harnesses, cables, connectors
EMC filter	No	Yes
Gear	Metal	
Bearing	Ball bearing	
Shaft	Hardened stainless steel	Dimensions
Encoder option	Magnetic (to order as option)	Through shaft dim. and screw holes
Brake option	Electric brake (to order as option)	
Environmental protection	IP55 (with encoder or brake IP50)	
Operating temperature	-10...+60 °C	-40...+60 °C
RoHS compliance	Yes	
CE label	No	Yes
UL approval	No	Yes

MOTOR DATA		
Nominal voltage (V)	12	24
No load speed (rpm)	2800	2800
No load current (A)	2.5	1.2
Nominal speed (rpm)	2450	2450
Nominal torque (Nm)	3.5	3.5
Nominal current (A)	9.6	4.8
Stall torque (Nm)	2.2	2.2
Starting current (A)	74	37
Output (W)	90	90
Length (mm)	144	144
Weight (Kg)	4	4

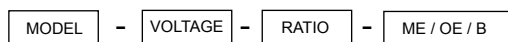
GEAR HEAD DATA							
Reduction	10:1	15:1	20:1	25:1	30:1	40:1	50:1
Max. continuous torque (Nm)	12	14	16	18	20	20	20
Intermittently permissible torque (Nm)	15	17	19	22	24	24	24
Efficiency %	72	65	62	60	46	44	42
Weight (Kg)	1.6	1.6	1.6	1.6	1.6	1.6	1.6



# WHD80175 Ø80 mm carbon brushes 230 W



## MODEL NO. DESIGNATIONS



Example: WLD80175-12-10-B

ME = Magnetic encoder  
OE = Optical encoder  
B = Brake



## GEAR MOTOR DATA

Reduction	10:1	15:1	20:1	25:1	30:1	40:1	50:1
Nominal torque 12 V (Nm)	4.9	6.7	8.5	10.4	9.5	12.0	14.5
Nominal speed 12 (rpm)	320	213	160	128	106	80	64
Nominal torque 24 V (Nm)	4.9	6.7	8.5	10.4	9.5	12.0	14.5
Nominal speed 24 (rpm)	320	213	160	128	106	80	64
Length (mm)	269	269	269	269	269	269	269
Weight (Kg)	7.1	7.1	7.1	7.1	7.1	7.1	7.1

## GEAR MOTOR FEATURES AND STANDARD DATA

	STANDARD	CUSTOMIZATION OPTIONS
Type	Worm gear brush dc gear motor	
Gear angle	Hollow shaft	
Motor type	Iron core, brush commutation	Winding parameters
Motor brush type	Carbon brushes	
Motor terminals	Cable wires 200 mm	Wiring harnesses, cables, connectors
EMC filter	No	Yes
Gear	Metal	
Bearing	Ball bearing	
Shaft	Hardened stainless steel	Dimensions
Encoder option	Magnetic or optical (to order as option)	Through shaft dim. and screw holes
Brake option	Electric brake (to order as option)	
Environmental protection	IP55 (with encoder or brake IP50)	
Operating temperature	-10...+60 °C	-40...+60 °C
RoHS compliance	Yes	
CE label	No	Yes
UL approval	No	Yes

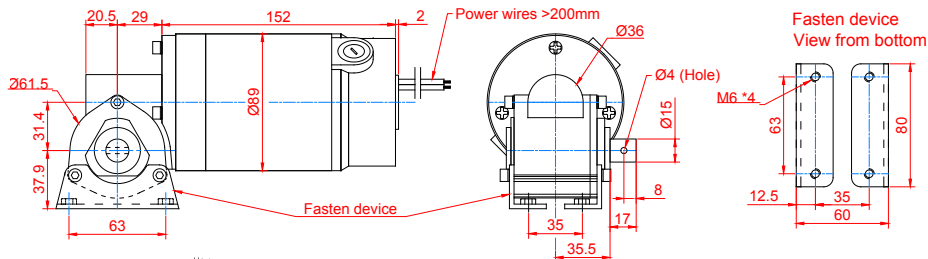
## MOTOR DATA

Nominal voltage (V)	12	24
No load speed (rpm)	3600	3600
No load current (A)	4.2	2.1
Nominal speed (rpm)	3200	3200
Nominal torque (mNm)	686	686
Nominal current (A)	24	12
Stall torque (Nm)	3.8	3.8
Starting current (A)	117	58
Output (W)	230	230
Length (mm)	181	181
Weight (Kg)	5.5	5.5

## GEAR HEAD DATA

Reduction	10:1	15:1	20:1	25:1	30:1	40:1	50:1
Max. continuous torque (Nm)	12	14	16	18	20	20	20
Intermittently permissible torque (Nm)	15	17	19	22	24	24	24
Efficiency %	72	65	62	60	46	44	42
Weight (Kg)	1.6	1.6	1.6	1.6	1.6	1.6	1.6

# WLD89152 Ø89 mm carbon brushes 200 W



## MODEL NO. DESIGNATIONS

MODEL - VOLTAGE - RATIO

Example: WLD89152

## GEAR MOTOR DATA

Reduction	6:1	10:1	15:1	30:1
Nominal torque 12 V (Nm)	3.4	4.9	6.2	8.5
Nominal speed 12 (rpm)	408	245	163	81
Nominal torque 24 V (Nm)	3.4	4.9	6.2	8.5
Nominal speed 24 (rpm)	408	245	163	81
Length (mm)				
Weight (Kg)	4.4	4.4	4.4	4.4

## GEAR MOTOR FEATURES AND STANDARD DATA

	STANDARD	CUSTOMIZATION OPTIONS
Type	Worm gear brush dc gear motor	
Gear shaft	Left	Right
Motor type	Iron core, brush commutation	Winding parameters
Motor brush type	Carbon brushes	
Motor terminals	Cable wires 200 mm	Wiring harnesses, cables, connectors
EMC filter	No	Yes
Gear	Metal	
Bearing	Ball bearing	
Shaft	Hardened stainless steel	Dimensions
Environmental protection	IP55 (with encoder or brake IP50)	
Operating temperature	-10...+60 °C	-40...+60 °C
RoHS compliance	Yes	
CE label	No	Yes
UL approval	No	Yes

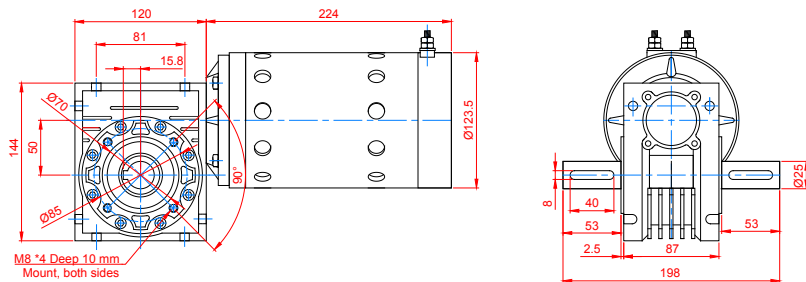
## MOTOR DATA

	12	24
Nominal voltage (V)	12	24
No load speed (rpm)	2800	2800
No load current (A)	3.8	1.9
Nominal speed (rpm)	2450	2450
Nominal torque (mNm)	784	784
Nominal current (A)	21	10
Stall torque (Nm)	4.7	4.7
Starting current (A)	160	80
Output (W)	201	201
Length (mm)	152	152
Weight (Kg)	3.4	3.4

## GEAR HEAD DATA

Reduction	6:1	10:1	15:1	30:1
Max. continuous torque (Nm)	7	8	12	20
Intermittently permissible torque (Nm)	8	10	14	24
Efficiency %	72	62	53	36
Weight (Kg)	1	1	1	1

# WHD123224 Ø123 mm carbon brushes 420 W



## MODEL NO. DESIGNATIONS

MODEL - VOLTAGE - RATIO

Example: WHD123224-12-100

## GEAR MOTOR DATA

Reduction	10:1	15:1	20:1	30:1	40:1		
Nominal torque 12 V (Nm)	13	16	21	32	41		
Nominal speed 12 (rpm)	202	135	101	67	50		
Nominal torque 24 V (Nm)	13	16	21	32	41		
Nominal speed 24 (rpm)	202	135	101	67	50		
Length (mm)	344	344	344	344	344		
Weight (Kg)	14	14	14	14	14		

## GEAR MOTOR FEATURES AND STANDARD DATA

	STANDARD	CUSTOMIZATION OPTIONS
Type	Worm gear brush dc gear motor	
Gear angle	Hollow shaft	
Motor type	Iron core, brush commutation	Winding parameters
Motor brush type	Carbon brushes	
Motor terminals	Screw bolt terminal	Wiring harnesses, cables, connectors
EMC filter	No	Yes
Gear	Metal	
Bearing	Ball bearing	
Shaft	Hardened stainless steel	Dimensions
Environmental protection	IP55 (with encoder or brake IP50)	
Operating temperature	-10...+60 °C	-40...+60 °C
RoHS compliance	Yes	
CE label	No	Yes
UL approval	No	Yes

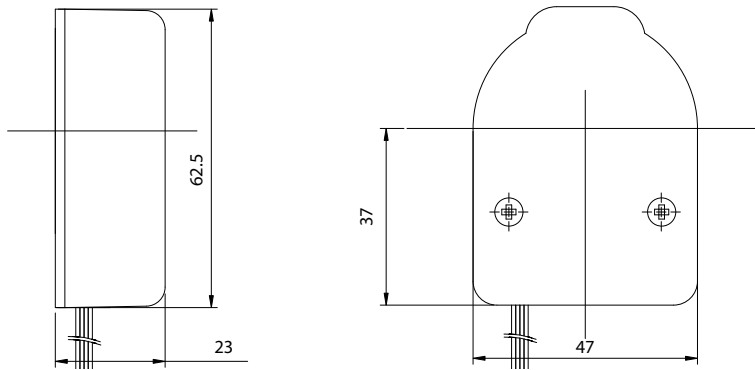
## MOTOR DATA

Nominal voltage (V)	12	24
No load speed (rpm)	2400	2400
No load current (A)	5.5	2.5
Nominal speed (rpm)	2020	2020
Nominal torque (mNm)	1990	1990
Nominal current (A)	43	22
Stall torque (Nm)	8.2	8.2
Starting current (A)	262	131
Output (W)	421	421
Length (mm)	224	224
Weight (Kg)	10.5	10.5

## GEAR HEAD DATA

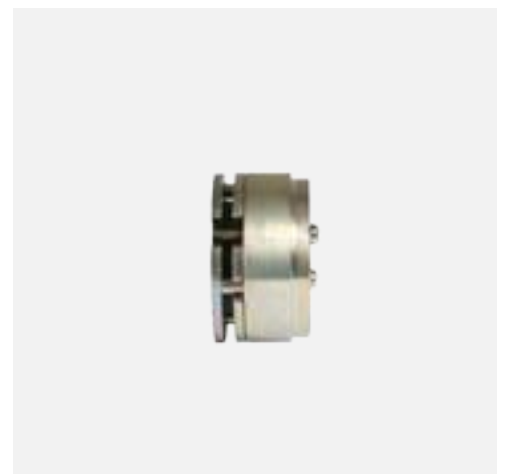
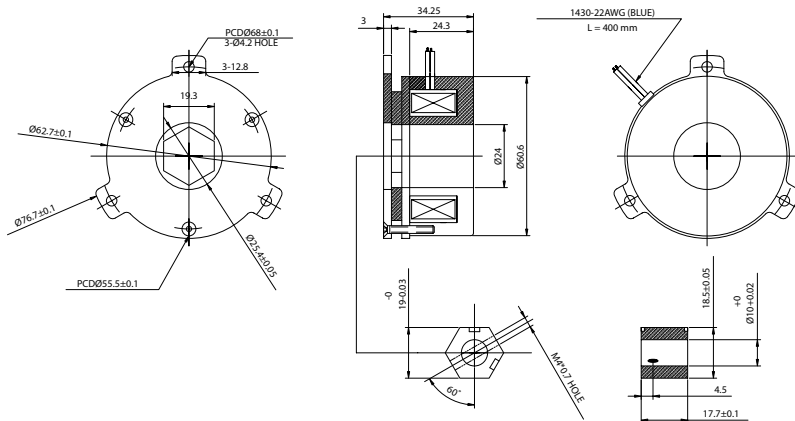
Reduction	10:1	15:1	20:1	30:1	40:1		
Max. continuous torque (Nm)	24	34	39	49	58		
Intermittently permissible torque (Nm)	34	44	49	58	68		
Efficiency %	66	55	53	52	51		
Weight (Kg)	3.5	3.5	3.5	3.5	3.5		

## Magnetic encoder 48 counts per revolution 2 channels Optical encoder 2000 counts per revolution 2 channels



ENCODER DATA				
	MAGNETIC		OPTICAL	
Pulses per revolution PPR two channels together	24		1000	
Counts per revolution CPR two channels together	48		2000	
Phase shift	90 degrees		90 degrees	
VCC	+5 VDC	Orange lead	+5 VDC	Pin 1
GND	0 VDC	Green lead	0 VDC	Pin 5 Pin 8
Signal A		Blue lead		A- Pin 6
Signal B		Yellow lead		B- Pin 7
Current			< 80 mA	
Index		-	Z+ Pin 4	
Output wave			Line driver	
Frequency response			25 KHz max.	
Connection	Flying wire		DB9 female	
Weight		< 100 g		
Wire length	400 mm		110 mm	

## Brake electro mechanic



BRAKE DATA	
Voltage	24VDC
Power	16W
Resistance	35Ω ±5%
Insulation class	F
Dynamic friction	35 Kgcm
Static friction	40 Kgcm
Insulation resistance	500 VDC / 50 MΩ
Insulation capacity	1500 VAC / 1mA / 1SEC
Release time	40 msec
Activation time	140 msec
Operating voltage	12V
Release voltage	5V
Clearance	0.12~0.15 mm
Weight	0.7 kg
Wire length	400 mm