



## **BRUSHED DC WORM GEAR MOTORS** | Ø 43 - 123 mm 5.6 - 280 W

### **W SERIES**

We offer a broad range of high quality brushed DC worm gear motors in standard and customized configurations. Our customer-centric approach makes us the ideal supplier for your project, especially to instrument and apparatus builders. In addition, we offer immediate delivery, thanks to always having a high number of motors in stock.

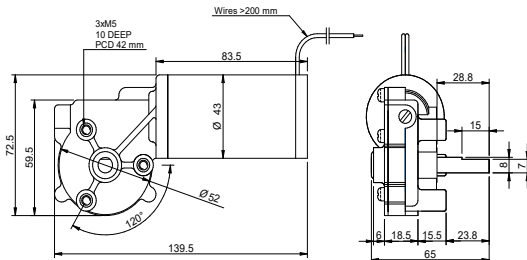
#### **Customizations include:**

- ✓ Customized harness
- ✓ Winding configuration
- ✓ Shaft configuration
- ✓ And more...

# TABLE OF CONTENTS

MODEL	VOLTAGE V	DIAMETER mm	NOMINAL TORQUE Nm	NOMINAL POWER W	PAGE
WLD4383	12   24	43	0.75 to 1.7	6.6 to 8.1	<a href="#">1</a>
WRD6093	12   24	60	2.9	15	<a href="#">3</a>
WRD63118	12   24	63	1.1 to 1.5	14 to 32	<a href="#">5</a>
WLD70107	12   24	70	7.4	41	<a href="#">7</a>
WRD8089	12   24	80	11	81	<a href="#">9</a>
WHD80141	12   24	80	2.5 to 7.3	37 to 64	<a href="#">11</a>
WHD80175	12   24	80	4.9 to 15	97 to 160	<a href="#">13</a>
WLD89152	12   24	89	3.4 to 8.5	72 to 150	<a href="#">15</a>
WHD123224	12   24	123	13 to 41	210 to 280	<a href="#">17</a>

## DRAWING (mm)



## PHOTO



## MODEL NO. DESIGNATION

WLD4383 - VOLTAGE - GEAR RATIO - FEATURE

Example: WLD4383-12-31-ME

ME = Magnetic encoder  
OE = Optical encoder

## ACCESSORIES



● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

## GEAR MOTOR DATA

C

Gear ratio		31:1	61:1	86:1
Nominal speed	rpm	87	44	31
Nominal torque	Nm	0.75	1.3	1.7
Peak torque	Nm	1.7	1.9	2.0
Nominal power	W	6.8	6.2	5.6
Gearbox efficiency	%	55	50	45
Weight	kg	0.63	0.63	0.63

## OTHER GEAR MOTOR DATA

C

Service life	h	3000
Performance tolerances	%	± 15
Operating temperature	°C	-10 to 60
IP rating <sup>1</sup>		IP40   IP51
Manufacturing standard		ISO 9001
CE label   UL label		No   No

## BRUSHED DC MOTOR DATA

C

Nominal voltage	V	12
Nominal current	A	2.0
Nominal speed	rpm	2700
Nominal torque	Ncm	4.4
Nominal power	W	13
No load current	A	1.0
No load speed	rpm	3600
Start/stall current	A	7
Start/stall torque	Ncm	17
Motor commutation		Carbon brush
Motor rotor		Iron
Motor cable		AWG14
Motor cable length	mm	200
Weight	kg	0.36

## NOTES

1. IP51 without encoder, IP40 with encoder.

## GEARBOX DATA

C

Gearbox type		Worm gearbox
Gear angle		Left
Material gear		Plastic ●
Bearing type		Sleeve bearing
Shaft material		Hardened stainless steel ●

## ENCODER OPTIONS

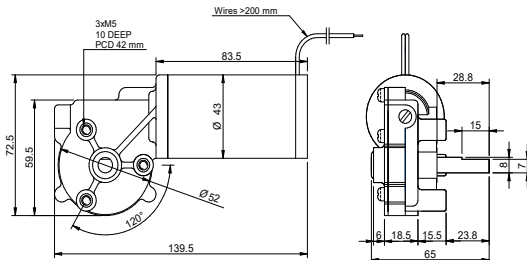
### MAGNETIC

### OPTICAL

C

Pulses per revolution		18x2	1000
Channels		2	2
Phase shift	°	90 ± (1/8)T	90
Encoder rear cover material		Plastic	-
Size	mm	Width 47   Length 37   Depth 62.5	-
Harness cable		AWG28	-
Harness length	mm	420	350
Connection		OR Vcc   GRN GND   YLW SIG A   BLU SIG B	RED +5 VDC   RED+WT 0 VDC   BLU A+   BLU+WT A-   BLK B+   BLK+WT B-
Supply voltage	V	Min. 5   Max. 20	Min. 5   Max. 20
Supply current	mA	-	< 80
Output wave		-	Line driver
Open collector output		Requires external output resistors	-
Frequency response	kHz	-	Max. 25
Weight	g	100	100

## DRAWING (mm)



## PHOTO



## MODEL NO. DESIGNATION

WLD4383 - VOLTAGE - GEAR RATIO - FEATURE

Example: WLD4383-24-31-ME

ME = Magnetic encoder  
OE = Optical encoder

## ACCESSORIES



● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

## GEAR MOTOR DATA

C

Gear ratio		31:1	61:1	86:1
Nominal speed	rpm	100	52	37
Nominal torque	Nm	0.75	1.3	1.7
Peak torque	Nm	1.7	1.9	2.0
Nominal power	W	8.1	7.3	6.6
Gearbox efficiency	%	55	50	45
Weight	kg	0.63	0.63	0.63

## OTHER GEAR MOTOR DATA

C

Service life	h	3000
Performance tolerances	%	± 15
Operating temperature	°C	-10 to 60
IP rating <sup>1</sup>		IP40   IP51
Manufacturing standard		ISO 9001
CE label   UL label		No   No

## BRUSHED DC MOTOR DATA

C

Nominal voltage	V	24
Nominal current	A	1.1
Nominal speed	rpm	3200
Nominal torque	Ncm	4.4
Nominal power	W	15
No load current	A	0.5
No load speed	rpm	4000
Start/stall current	A	4
Start/stall torque	Ncm	18
Motor commutation		Carbon brush
Motor rotor		Iron
Motor cable		AWG14
Motor cable length	mm	200
Weight	kg	0.36

## NOTES

1. IP51 without encoder, IP40 with encoder.

## GEARBOX DATA

C

Gearbox type		Worm gearbox
Gear angle		Left
Material gear		Plastic ●
Bearing type		Sleeve bearing
Shaft material		Hardened stainless steel ●

## ENCODER OPTIONS

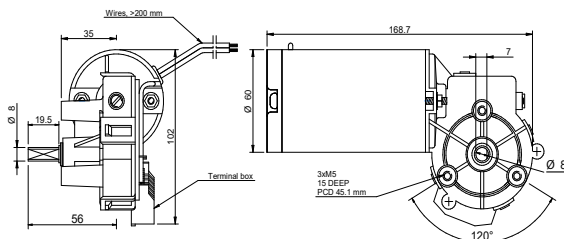
### MAGNETIC

### OPTICAL

C

Pulses per revolution		18x2	1000
Channels		2	2
Phase shift	°	90 ± (1/8)T	90
Encoder rear cover material		Plastic	-
Size	mm	Width 47   Length 37   Depth 62.5	-
Harness cable		AWG28	-
Harness length	mm	420	350
Connection		OR Vcc   GRN GND   YLW SIG A   BLU SIG B	RED +5 VDC   RED+WT 0 VDC   BLU A+   BLU+WT A-   BLK B+   BLK+WT B-
Supply voltage	V	Min. 5   Max. 20	Min. 5   Max. 20
Supply current	mA	-	< 80
Output wave		-	Line driver
Open collector output		Requires external output resistors	-
Frequency response	kHz	-	Max. 25
Weight	g	100	100

## DRAWING (mm)



## PHOTO



## MODEL NO. DESIGNATION

WRD6093 - VOLTAGE - GEAR RATIO - FEATURE

Example: WRD6093-12-55-ME

ME = Magnetic encoder  
OE = Optical encoder  
B = Brake

## ACCESSORIES



● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

## GEAR MOTOR DATA

Gear ratio		55:1
Nominal speed	rpm	51
Nominal torque	Nm	2.9
Peak torque	Nm	5.9
Nominal power	W	15
Gearbox efficiency	%	67
Weight	kg	1.1

## OTHER GEAR MOTOR DATA

Service life	h	3000
Performance tolerances	%	± 15
Operating temperature	°C	-10 to 60
IP rating <sup>1</sup>		IP40   IP51
Manufacturing standard		ISO 9001
CE label   UL label		No   No

## BRUSHED DC MOTOR DATA

Nominal voltage	V	12
Nominal current	A	2.8
Nominal speed	rpm	2800
Nominal torque	Ncm	7.8
Nominal power	W	23
No load current	A	0.8
No load speed	rpm	3300
Start/stall current	A	15
Start/stall torque	Ncm	37
Motor commutation		Carbon brush
Motor rotor		Iron
Motor cable		AWG14
Motor cable length	mm	200
Weight	kg	0.7

## NOTES

1. IP51 without encoder, IP40 with encoder.

## GEARBOX DATA

Gearbox type	Worm gearbox
Gear angle	Left
Material gear	Plastic ●
Bearing type	Sleeve bearing
Shaft material	Hardened stainless steel ●

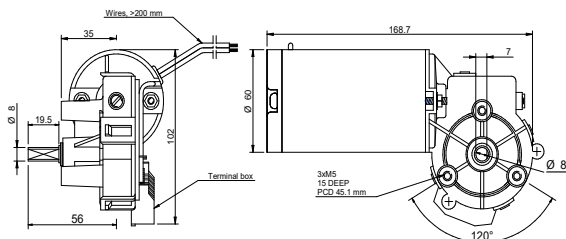
## BRAKE DATA

Type	Brake activation unenergized	
Voltage	V	12   24
Power	W	7
Static friction torque	Nm	0.5
Cable length	mm	250
Diameter	mm	50
Length	mm	29.6
Weight	kg	0.35

## ENCODER OPTIONS

	MAGNETIC	OPTICAL
Pulses per revolution	18x2	1000
Channels	2	2
Phase shift	90 ± (1/8)T	90
Encoder rear cover material	Plastic	-
Size	mm	Width 47   Length 37   Depth 62.5
Harness cable		AWG28
Harness length	mm	420
Connection	OR Vcc   GRN GND   YLW SIG A   BLU SIG B	RED +5 VDC   RED+WT 0 VDC   BLU A+   BLU+WT A-   BLK B+   BLK+WT B-
Supply voltage	V	Min. 5   Max. 20
Supply current	mA	< 80
Output wave	-	Line driver
Open collector output	Requires external output resistors	-
Frequency response	kHz	Max. 25
Weight	g	100

DRAWING (mm)



PHOTO



MODEL NO. DESIGNATION



Example: WRD6093-24-55-ME

ME = Magnetic encoder  
OE = Optical encoder  
B = Brake

ACCESSORIES



● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

GEAR MOTOR DATA C

Gear ratio		55:1
Nominal speed	rpm	51
Nominal torque	Nm	2.9
Peak torque	Nm	5.9
Nominal power	W	15
Gearbox efficiency	%	67
Weight	kg	1.1

OTHER GEAR MOTOR DATA C      BRUSHED DC MOTOR DATA C      NOTES

Service life	h	3000	Nominal voltage	V	24	1. IP51 without encoder, IP40 with encoder.																								
Performance tolerances	%	± 15	Nominal current	A	1.4																									
Operating temperature	°C	-10 to 60	Nominal speed	rpm	2800	<p><b>BRAKE DATA</b> <span style="float: right;">C</span></p> <table border="1"> <tr> <td>Type</td> <td colspan="2">Brake activation unenergized</td> </tr> <tr> <td>Voltage</td> <td>V</td> <td>12   24</td> </tr> <tr> <td>Power</td> <td>W</td> <td>7</td> </tr> <tr> <td>Static friction torque</td> <td>Nm</td> <td>0.5</td> </tr> <tr> <td>Cable length</td> <td>mm</td> <td>250</td> </tr> <tr> <td>Diameter</td> <td>mm</td> <td>50</td> </tr> <tr> <td>Length</td> <td>mm</td> <td>29.6</td> </tr> <tr> <td>Weight</td> <td>kg</td> <td>0.35</td> </tr> </table>	Type	Brake activation unenergized		Voltage	V	12   24	Power	W	7	Static friction torque	Nm	0.5	Cable length	mm	250	Diameter	mm	50	Length	mm	29.6	Weight	kg	0.35
Type	Brake activation unenergized																													
Voltage	V	12   24																												
Power	W	7																												
Static friction torque	Nm	0.5																												
Cable length	mm	250																												
Diameter	mm	50																												
Length	mm	29.6																												
Weight	kg	0.35																												
IP rating <sup>1</sup>		IP40   IP51	Nominal torque	Ncm	7.8																									
Manufacturing standard		ISO 9001	Nominal power	W	23																									
CE label   UL label		No   No	No load current	A	0.4																									

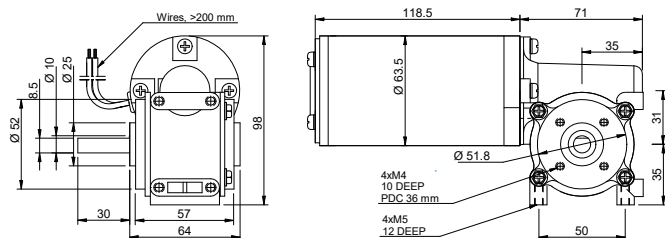
GEARBOX DATA C

Gearbox type	Worm gearbox	
Gear angle	Left	
Material gear	Plastic	●
Bearing type	Sleeve bearing	
Shaft material	Hardened stainless steel	●

ENCODER OPTIONS      MAGNETIC      OPTICAL C

Pulses per revolution		18x2	1000
Channels		2	2
Phase shift	°	90 ± (1/8)T	90
Encoder rear cover material		Plastic	-
Size	mm	Width 47   Length 37   Depth 62.5	-
Harness cable		AWG28	-
Harness length	mm	420	350
Connection		OR Vcc   GRN GND   YLW SIG A   BLU SIG B	RED +5 VDC   RED+WT 0 VDC   BLU A+   BLU+WT A-   BLK B+   BLK+WT B-
Supply voltage	V	Min. 5   Max. 20	Min. 5   Max. 20
Supply current	mA	-	< 80
Output wave		-	Line driver
Open collector output		Requires external output resistors	-
Frequency response	kHz	-	Max. 25
Weight	g	100	100

## DRAWING (mm)



## PHOTO



## MODEL NO. DESIGNATION

WRD63118 - VOLTAGE - GEAR RATIO - FEATURE

Example: WRD63118-12-10-ME

ME = Magnetic encoder  
OE = Optical encoder  
B = Brake

## ACCESSORIES



● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

## GEAR MOTOR DATA

		10:1	15:1	30:1
Gear ratio		10:1	15:1	30:1
Nominal speed	rpm	250	160	81
Nominal torque	Nm	1.1	1.2	1.5
Peak torque	Nm	1.4	2.0	3.4
Nominal power	W	28	20	13
Gearbox efficiency	%	70	50	32
Weight	kg	2.6	2.6	2.6

## OTHER GEAR MOTOR DATA

Service life	h	3000
Performance tolerances	%	± 15
Operating temperature	°C	-10 to 60
IP rating <sup>1</sup>		IP40   IP51
Manufacturing standard		ISO 9001
CE label   UL label		No   No

## BRUSHED DC MOTOR DATA

Nominal voltage	V	12
Nominal current	A	4.3
Nominal speed	rpm	2500
Nominal torque	Ncm	16
Nominal power	W	42
No load current	A	1.2
No load speed	rpm	3000
Start/stall current	A	26
Start/stall torque	Ncm	110
Motor commutation		Carbon brush
Motor rotor		Iron
Motor cable		AWG14
Motor cable length	mm	200
Weight	kg	1.3

## NOTES

1. IP51 without encoder, IP40 with encoder.

## GEARBOX DATA

Gearbox type		Worm gearbox
Gear angle		Left
Material gear		Brass ●
Bearing type		Sleeve bearing
Shaft material		Hardened stainless steel ●

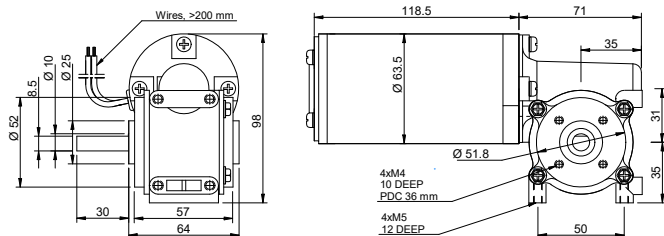
## BRAKE DATA

		Brake activation unenergized
Type		
Voltage	V	12   24
Power	W	10
Static friction torque	Nm	2.0
Cable length	mm	70
Diameter	mm	57
Length	mm	32
Weight	kg	0.45

## ENCODER OPTIONS

		MAGNETIC	OPTICAL
Pulses per revolution		18x2	1000
Channels		2	2
Phase shift	°	90 ± (1/8)T	90
Encoder rear cover material		Plastic	-
Size	mm	Width 47   Length 37   Depth 62.5	-
Harness cable		AWG28	-
Harness length	mm	420	350
Connection		OR Vcc   GRN GND   YLW SIG A   BLU SIG B	RED +5 VDC   RED+WT 0 VDC   BLU A+   BLU+WT A-   BLK B+   BLK+WT B-
Supply voltage	V	Min. 5   Max. 20	Min. 5   Max. 20
Supply current	mA	-	< 80
Output wave		-	Line driver
Open collector output		Requires external output resistors	-
Frequency response	kHz	-	Max. 25
Weight	g	100	100

## DRAWING (mm)



## PHOTO



## MODEL NO. DESIGNATION

WRD63118 - VOLTAGE - GEAR RATIO - FEATURE

Example: WRD63118-24-10-ME

ME = Magnetic encoder  
OE = Optical encoder  
B = Brake

## ACCESSORIES



● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

## GEAR MOTOR DATA

		10:1	15:1	30:1
Gear ratio		10:1	15:1	30:1
Nominal speed	rpm	280	180	92
Nominal torque	Nm	1.1	1.2	1.5
Peak torque	Nm	1.4	2.0	3.4
Nominal power	W	32	23	14
Gearbox efficiency	%	70	50	32
Weight	kg	2.6	2.6	2.6

## OTHER GEAR MOTOR DATA

Service life	h	3000
Performance tolerances	%	± 15
Operating temperature	°C	-10 to 60
IP rating <sup>1</sup>		IP40   IP51
Manufacturing standard		ISO 9001
CE label   UL label		No   No

## BRUSHED DC MOTOR DATA

Nominal voltage	V	24
Nominal current	A	2.4
Nominal speed	rpm	2800
Nominal torque	Ncm	16
Nominal power	W	45
No load current	A	0.65
No load speed	rpm	3300
Start/stall current	A	14
Start/stall torque	Ncm	110
Motor commutation		Carbon brush
Motor rotor		Iron
Motor cable		AWG14
Motor cable length	mm	200
Weight	kg	1.3

## NOTES

1. IP51 without encoder, IP40 with encoder.

## GEARBOX DATA

Gearbox type	Worm gearbox
Gear angle	Left
Material gear	Brass ●
Bearing type	Sleeve bearing
Shaft material	Hardened stainless steel ●

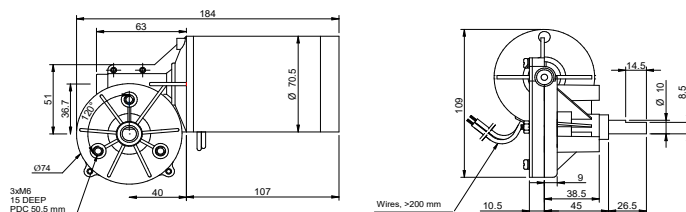
## BRAKE DATA

		Brake activation unenergized
Type		
Voltage	V	12   24
Power	W	10
Static friction torque	Nm	2.0
Cable length	mm	70
Diameter	mm	57
Length	mm	32
Weight	kg	0.45

## ENCODER OPTIONS

		MAGNETIC	OPTICAL
Pulses per revolution		18x2	1000
Channels		2	2
Phase shift	°	90 ± (1/8)T	90
Encoder rear cover material		Plastic	-
Size	mm	Width 47   Length 37   Depth 62.5	-
Harness cable		AWG28	-
Harness length	mm	420	350
Connection		OR Vcc   GRN GND   YLW SIG A   BLU SIG B	RED +5 VDC   RED+WT 0 VDC   BLU A+   BLU+WT A-   BLK B+   BLK+WT B-
Supply voltage	V	Min. 5   Max. 20	Min. 5   Max. 20
Supply current	mA	-	< 80
Output wave		-	Line driver
Open collector output		Requires external output resistors	-
Frequency response	kHz	-	Max. 25
Weight	g	100	100

## DRAWING (mm)



## PHOTO



## MODEL NO. DESIGNATION

WLD70107 - VOLTAGE - GEAR RATIO - FEATURE

Example: WLD70107-12-65-B

B = Brake

## ACCESSORIES



● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

## GEAR MOTOR DATA

Gear ratio		65:1
Nominal speed	rpm	53
Nominal torque	Nm	7.4
Peak torque	Nm	8.3
Nominal power	W	41
Gearbox efficiency	%	64
Weight	kg	2.3

## OTHER GEAR MOTOR DATA

C

Service life	h	3000
Performance tolerances	%	± 15
Operating temperature	°C	-10 to 60
IP rating <sup>1</sup>		IP40   IP51
Manufacturing standard		ISO 9001
CE label   UL label		No   No

## BRUSHED DC MOTOR DATA

C

Nominal voltage	V	12
Nominal current	A	7
Nominal speed	rpm	3500
Nominal torque	Ncm	18
Nominal power	W	64
No load current	A	1.1
No load speed	rpm	3900
Start/stall current	A	42
Start/stall torque	Ncm	180
Motor commutation		Carbon brush
Motor rotor		Iron
Motor cable		AWG14
Motor cable length	mm	200
Weight	kg	1.5

## NOTES

1. IP51 without encoder, IP40 with encoder.

## GEARBOX DATA

C

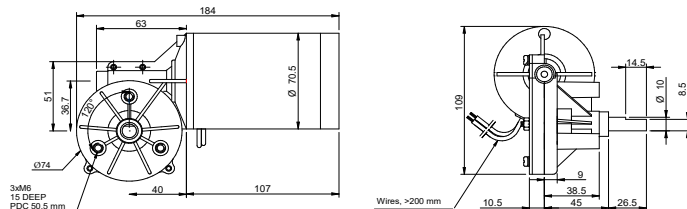
Gearbox type		Worm gearbox
Gear angle		Left
Material gear		Brass and plastic ●
Bearing type		Sleeve bearing
Shaft material		Hardened stainless steel ●

## BRAKE DATA

C

Type		Brake activation unenergized
Voltage	V	12   24
Power	W	12
Static friction torque	Nm	4.5
Cable length	mm	400
Diameter	mm	60.6
Length	mm	34.2
Weight	kg	0.45

## DRAWING (mm)



## PHOTO



## MODEL NO. DESIGNATION

WLD70107 - VOLTAGE - GEAR RATIO - FEATURE

Example: WLD70107-12-65-B

B = Brake

## ACCESSORIES



● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

## GEAR MOTOR DATA

Gear ratio		65:1
Nominal speed	rpm	53
Nominal torque	Nm	7.4
Peak torque	Nm	8.3
Nominal power	W	41
Gearbox efficiency	%	64
Weight	kg	2.3

## OTHER GEAR MOTOR DATA

C

Service life	h	3000
Performance tolerances	%	± 15
Operating temperature	°C	-10 to 60
IP rating <sup>1</sup>		IP40   IP51
Manufacturing standard		ISO 9001
CE label   UL label		No   No

## BRUSHED DC MOTOR DATA

C

Nominal voltage	V	24
Nominal current	A	3.5
Nominal speed	rpm	3500
Nominal torque	Ncm	18
Nominal power	W	64
No load current	A	0.55
No load speed	rpm	3900
Start/stall current	A	21
Start/stall torque	Ncm	180
Motor commutation		Carbon brush
Motor rotor		Iron
Motor cable		AWG14
Motor cable length	mm	200
Weight	kg	1.5

## NOTES

1. IP51 without encoder, IP40 with encoder.

## GEARBOX DATA

C

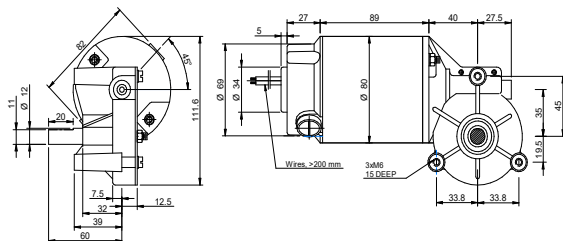
Gearbox type		Worm gearbox
Gear angle		Left
Material gear		Brass and plastic ●
Bearing type		Sleeve bearing
Shaft material		Hardened stainless steel ●

## BRAKE DATA

C

Type	Brake activation unenergized	
Voltage	V	12   24
Power	W	12
Static friction torque	Nm	4.5
Cable length	mm	400
Diameter	mm	60.6
Length	mm	34.2
Weight	kg	0.45

DRAWING (mm)



PHOTO



MODEL NO. DESIGNATION

WRD8089 - VOLTAGE - GEAR RATIO

Example: WRD8089-12-50

ACCESSORIES



● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

GEAR MOTOR DATA

Gear ratio		50:1
Nominal speed	rpm	70
Nominal torque	Nm	11
Peak torque	Nm	18
Nominal power	W	81
Gearbox efficiency	%	65
Weight	kg	2.8

OTHER GEAR MOTOR DATA C

Service life	h	3000
Performance tolerances	%	± 15
Operating temperature	°C	-10 to 60
IP rating <sup>1</sup>		IP40
Manufacturing standard		ISO 9001
CE label   UL label		No   No

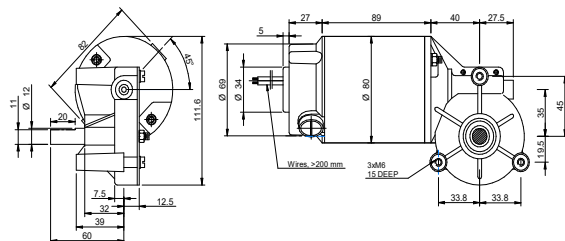
BRUSHED DC MOTOR DATA C

Nominal voltage	V	12
Nominal current	A	13
Nominal speed	rpm	3500
Nominal torque	Ncm	34
Nominal power	W	130
No load current	A	3.0
No load speed	rpm	3800
Start/stall current	A	110
Start/stall torque	Ncm	310
Motor commutation		Carbon brush
Motor rotor		Iron
Motor cable		AWG14
Motor cable length	mm	200
Weight	kg	2

GEARBOX DATA C

Gearbox type	Worm gearbox	
Gear angle	Right	
Material gear	Brass and plastic	●
Bearing type	Ball bearing	
Shaft material	Hardened stainless steel	●

DRAWING (mm)



PHOTO



MODEL NO. DESIGNATION

WRD8089 - VOLTAGE - GEAR RATIO

Example: WRD8089-24-50

ACCESSORIES



● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

GEAR MOTOR DATA

Gear ratio		50:1
Nominal speed	rpm	70
Nominal torque	Nm	11
Peak torque	Nm	18
Nominal power	W	81
Gearbox efficiency	%	65
Weight	kg	2.8

OTHER GEAR MOTOR DATA C

Service life	h	3000
Performance tolerances	%	± 15
Operating temperature	°C	-10 to 60
IP rating <sup>1</sup>		IP40
Manufacturing standard		ISO 9001
CE label   UL label		No   No

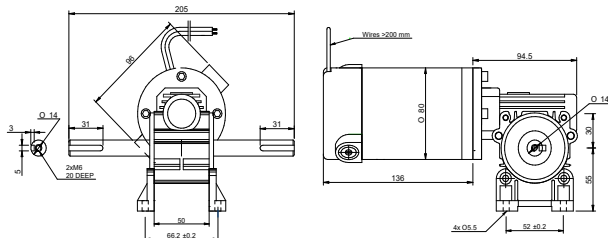
BRUSHED DC MOTOR DATA C

Nominal voltage	V	24
Nominal current	A	3.1
Nominal speed	rpm	3500
Nominal torque	Ncm	34
Nominal power	W	130
No load current	A	1.5
No load speed	rpm	3800
Start/stall current	A	55
Start/stall torque	Ncm	310
Motor commutation		Carbon brush
Motor rotor		Iron
Motor cable		AWG14
Motor cable length	mm	200
Weight	kg	2

GEARBOX DATA C

Gearbox type	Worm gearbox	
Gear angle	Right	
Material gear	Brass and plastic	●
Bearing type	Ball bearing	
Shaft material	Hardened stainless steel	●

## DRAWING (mm)



## PHOTO



## MODEL NO. DESIGNATION

WHD80141 - VOLTAGE - GEAR RATIO - FEATURE

Example: WHD80141-12-10-ME

ME = Magnetic encoder  
OE = Optical encoder  
B = Brake

## ACCESSORIES



● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

## GEAR MOTOR DATA

		10:1	15:1	20:1	25:1	30:1	40:1	50:1
Gear ratio		10:1	15:1	20:1	25:1	30:1	40:1	50:1
Nominal speed	rpm	250	160	120	98	81	61	49
Nominal torque	Nm	2.5	3.3	4.2	5.2	5.7	6.0	7.3
Peak torque	Nm	15	17	19	22	24	24	24
Nominal power	W	64	56	54	53	48	38	37
Gearbox efficiency	%	72	65	62	60	46	44	42
Weight	kg	5.6	5.6	5.6	5.6	5.6	5.6	5.6

## OTHER GEAR MOTOR DATA

Service life	h	3000
Performance tolerances	%	± 15
Operating temperature	°C	-10 to 60
IP rating <sup>1</sup>		IP40   IP51
Manufacturing standard		ISO 9001
CE label   UL label		No   No

## BRUSHED DC MOTOR DATA

Nominal voltage	V	12
Nominal current	A	9.6
Nominal speed	rpm	2500
Nominal torque	Ncm	35
Nominal power	W	90
No load current	A	2.5
No load speed	rpm	2800
Start/stall current	A	74
Start/stall torque	Ncm	220
Motor commutation		Carbon brush
Motor rotor		Iron
Motor cable		AWG14
Motor cable length	mm	200
Weight	kg	4

## NOTES

1. IP51 without encoder, IP40 with encoder.

## GEARBOX DATA

Gearbox type		Worm gearbox
Gear angle		Hollow
Material gear		Brass ●
Bearing type		Ball bearing
Shaft material		Hardened stainless steel ●

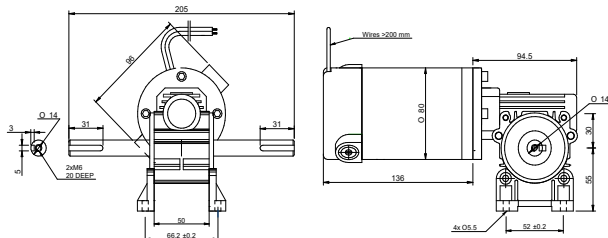
## BRAKE DATA

Type	Brake activation unenergized	
Voltage	V	12   24
Power	W	10
Static friction torque	Nm	4.5
Cable length	mm	400
Diameter	mm	60.6
Length	mm	34.2
Weight	kg	0.45

## ENCODER OPTIONS

	MAGNETIC	OPTICAL
Pulses per revolution	18x2	1000
Channels	2	2
Phase shift	90 ± (1/8)T	90
Encoder rear cover material	Plastic	-
Size	mm	Width 47   Length 37   Depth 62.5
Harness cable		AWG28
Harness length	mm	420
Connection	OR Vcc   GRN GND   YLW SIG A   BLU SIG B	RED +5 VDC   RED+WT 0 VDC   BLU A+   BLU+WT A-   BLK B+   BLK+WT B-
Supply voltage	V	Min. 5   Max. 20
Supply current	mA	< 80
Output wave	-	Line driver
Open collector output	Requires external output resistors	-
Frequency response	kHz	Max. 25
Weight	g	100

## DRAWING (mm)



## PHOTO



## MODEL NO. DESIGNATION

WHD80141 - VOLTAGE - GEAR RATIO - FEATURE

Example: WHD80141-24-10-ME

ME = Magnetic encoder  
OE = Optical encoder  
B = Brake

## ACCESSORIES



● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

## GEAR MOTOR DATA

		10:1	15:1	20:1	25:1	30:1	40:1	50:1
Gear ratio		10:1	15:1	20:1	25:1	30:1	40:1	50:1
Nominal speed	rpm	250	160	120	98	81	61	49
Nominal torque	Nm	2.5	3.3	4.2	5.2	5.7	6.0	7.3
Peak torque	Nm	15	17	19	22	24	24	24
Nominal power	W	64	56	54	53	48	38	37
Gearbox efficiency	%	72	65	62	60	46	44	42
Weight	kg	5.6	5.6	5.6	5.6	5.6	5.6	5.6

## OTHER GEAR MOTOR DATA

Service life	h	3000
Performance tolerances	%	± 15
Operating temperature	°C	-10 to 60
IP rating <sup>1</sup>		IP40   IP51
Manufacturing standard		ISO 9001
CE label   UL label		No   No

## BRUSHED DC MOTOR DATA

Nominal voltage	V	24
Nominal current	A	4.8
Nominal speed	rpm	2500
Nominal torque	Ncm	35
Nominal power	W	90
No load current	A	1.2
No load speed	rpm	2800
Start/stall current	A	37
Start/stall torque	Ncm	220
Motor commutation		Carbon brush
Motor rotor		Iron
Motor cable		AWG14
Motor cable length	mm	200
Weight	kg	4

## NOTES

1. IP51 without encoder, IP40 with encoder.

## GEARBOX DATA

Gearbox type	Worm gearbox
Gear angle	Hollow
Material gear	Brass ●
Bearing type	Ball bearing
Shaft material	Hardened stainless steel ●

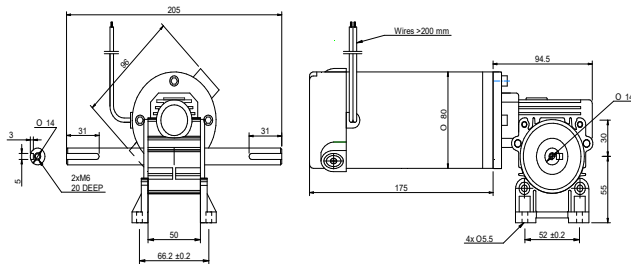
## BRAKE DATA

Type	Brake activation unenergized	
Voltage	V	12   24
Power	W	10
Static friction torque	Nm	4.5
Cable length	mm	400
Diameter	mm	60.6
Length	mm	34.2
Weight	kg	0.45

## ENCODER OPTIONS

	MAGNETIC	OPTICAL
Pulses per revolution	18x2	1000
Channels	2	2
Phase shift	90 ± (1/8)T	90
Encoder rear cover material	Plastic	-
Size	mm	mm
	Width 47   Length 37   Depth 62.5	-
Harness cable	AWG28	-
Harness length	mm	350
Connection	OR Vcc   GRN GND   YLW SIG A   BLU SIG B	RED +5 VDC   RED+WT 0 VDC   BLU A+   BLU+WT A-   BLK B+   BLK+WT B-
Supply voltage	V	Min. 5   Max. 20
Supply current	mA	< 80
Output wave	-	Line driver
Open collector output	Requires external output resistors	-
Frequency response	kHz	Max. 25
Weight	g	100

## DRAWING (mm)



## PHOTO



## MODEL NO. DESIGNATION

WHD80175 - VOLTAGE - GEAR RATIO - FEATURE

Example: WHD80175-12-10-ME

ME = Magnetic encoder  
OE = Optical encoder  
B = Brake

## ACCESSORIES



● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

## GEAR MOTOR DATA

		10:1	15:1	20:1	25:1	30:1	40:1	50:1
Gear ratio		10:1	15:1	20:1	25:1	30:1	40:1	50:1
Nominal speed	rpm	320	210	160	130	110	80	64
Nominal torque	Nm	4.9	6.7	8.5	10	9.5	12	15
Peak torque	Nm	15	17	19	22	24	24	24
Nominal power	W	160	150	140	140	110	100	97
Gearbox efficiency	%	72	65	62	60	46	44	42
Weight	kg	7.1	7.1	7.1	7.1	7.1	7.1	7.1

## OTHER GEAR MOTOR DATA

Service life	h	3000
Performance tolerances	%	± 15
Operating temperature	°C	-10 to 60
IP rating <sup>1</sup>		IP40   IP51
Manufacturing standard		ISO 9001
CE label   UL label		No   No

## BRUSHED DC MOTOR DATA

Nominal voltage	V	12
Nominal current	A	24
Nominal speed	rpm	3200
Nominal torque	Ncm	69
Nominal power	W	230
No load current	A	4.2
No load speed	rpm	3600
Start/stall current	A	110
Start/stall torque	Ncm	380
Motor commutation		Carbon brush
Motor rotor		Iron
Motor cable		AWG14
Motor cable length	mm	200
Weight	kg	5.5

## NOTES

1. IP51 without encoder, IP40 with encoder.

## GEARBOX DATA

Gearbox type		Worm gearbox
Gear angle		Hollow
Material gear		Brass ●
Bearing type		Ball bearing
Shaft material		Hardened stainless steel ●

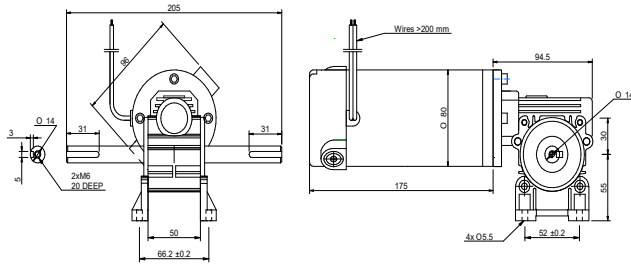
## BRAKE DATA

Type	Brake activation unenergized	
Voltage	V	12   24
Power	W	10
Static friction torque	Nm	4.5
Cable length	mm	400
Diameter	mm	60.6
Length	mm	34.2
Weight	kg	0.45

## ENCODER OPTIONS

	MAGNETIC	OPTICAL
Pulses per revolution	18x2	1000
Channels	2	2
Phase shift	90 ± (1/8)T	90
Encoder rear cover material	Plastic	-
Size	mm	Width 47   Length 37   Depth 62.5
Harness cable		AWG28
Harness length	mm	420
Connection	OR Vcc   GRN GND   YLW SIG A   BLU SIG B	RED +5 VDC   RED+WT 0 VDC   BLU A+   BLU+WT A-   BLK B+   BLK+WT B-
Supply voltage	V	Min. 5   Max. 20
Supply current	mA	< 80
Output wave		Line driver
Open collector output		Requires external output resistors
Frequency response	kHz	Max. 25
Weight	g	100

## DRAWING (mm)



## PHOTO



## MODEL NO. DESIGNATION

WHD80175 - VOLTAGE - GEAR RATIO - FEATURE

Example: WHD80175-24-10-ME

ME = Magnetic encoder  
OE = Optical encoder  
B = Brake

## ACCESSORIES



● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

## GEAR MOTOR DATA

		10:1	15:1	20:1	25:1	30:1	40:1	50:1
Gear ratio		10:1	15:1	20:1	25:1	30:1	40:1	50:1
Nominal speed	rpm	320	210	160	130	110	80	64
Nominal torque	Nm	4.9	6.7	8.5	10	9.5	12	15
Peak torque	Nm	15	17	19	22	24	24	24
Nominal power	W	160	150	140	140	110	100	97
Gearbox efficiency	%	72	65	62	60	46	44	42
Weight	kg	7.1	7.1	7.1	7.1	7.1	7.1	7.1

## OTHER GEAR MOTOR DATA

Service life	h	3000
Performance tolerances	%	± 15
Operating temperature	°C	-10 to 60
IP rating <sup>1</sup>		IP40   IP51
Manufacturing standard		ISO 9001
CE label   UL label		No   No

## BRUSHED DC MOTOR DATA

Nominal voltage	V	24
Nominal current	A	12
Nominal speed	rpm	3200
Nominal torque	Ncm	69
Nominal power	W	230
No load current	A	2.1
No load speed	rpm	3600
Start/stall current	A	58
Start/stall torque	Ncm	380
Motor commutation		Carbon brush
Motor rotor		Iron
Motor cable		AWG14
Motor cable length	mm	200
Weight	kg	5.5

## NOTES

1. IP51 without encoder, IP40 with encoder.

## GEARBOX DATA

Gearbox type	Worm gearbox
Gear angle	Hollow
Material gear	Brass ●
Bearing type	Ball bearing
Shaft material	Hardened stainless steel ●

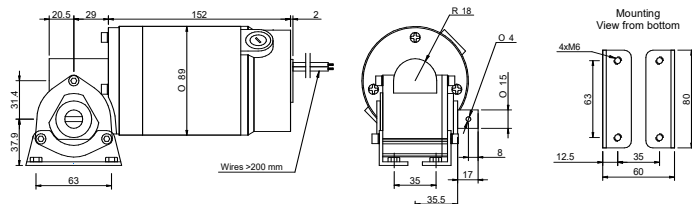
## BRAKE DATA

Type	Brake activation unenergized	
Voltage	V	12   24
Power	W	10
Static friction torque	Nm	4.5
Cable length	mm	400
Diameter	mm	60.6
Length	mm	34.2
Weight	kg	0.45

## ENCODER OPTIONS

	MAGNETIC	OPTICAL
Pulses per revolution	18x2	1000
Channels	2	2
Phase shift	90 ± (1/8)T	90
Encoder rear cover material	Plastic	-
Size	mm	mm
	Width 47   Length 37   Depth 62.5	-
Harness cable	AWG28	-
Harness length	mm	350
Connection	OR Vcc   GRN GND   YLW SIG A   BLU SIG B	RED +5 VDC   RED+WT 0 VDC   BLU A+   BLU+WT A-   BLK B+   BLK+WT B-
Supply voltage	V	Min. 5   Max. 20
Supply current	mA	< 80
Output wave	-	Line driver
Open collector output	Requires external output resistors	-
Frequency response	kHz	Max. 25
Weight	g	100

DRAWING (mm)



PHOTO



MODEL NO. DESIGNATION

WLD89152 - VOLTAGE - GEAR RATIO

Example: WLD89152-12-06

ACCESSORIES

● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

GEAR MOTOR DATA

		6:1	10:1	15:1	30:1
Gear ratio		6:1	10:1	15:1	30:1
Nominal speed	rpm	410	250	160	81
Nominal torque	Nm	3.4	4.9	6.2	8.5
Peak torque	Nm	8	10	14	24
Nominal power	W	150	130	110	72
Gearbox efficiency	%	72	62	53	36
Weight	kg	4.4	4.4	4.4	4.4

OTHER GEAR MOTOR DATA

Service life	h	3000
Performance tolerances	%	± 15
Operating temperature	°C	-10 to 60
IP rating <sup>1</sup>		IP50
Manufacturing standard		ISO 9001
CE label   UL label		No   No

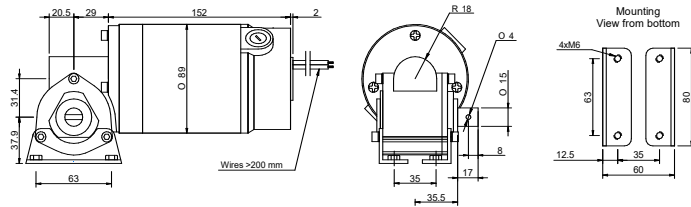
BRUSHED DC MOTOR DATA

Nominal voltage	V	12
Nominal current	A	21
Nominal speed	rpm	2500
Nominal torque	Ncm	78
Nominal power	W	200
No load current	A	3.8
No load speed	rpm	2800
Start/stall current	A	160
Start/stall torque	Ncm	470
Motor commutation		Carbon brush
Motor rotor		Iron
Motor cable		AWG14
Motor cable length	mm	200
Weight	kg	3.4

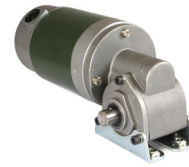
GEARBOX DATA

Gearbox type		Worm gearbox
Gear angle		Left
Material gear		Brass ●
Bearing type		Ball bearing
Shaft material		Hardened stainless steel ●

DRAWING (mm)



PHOTO



MODEL NO. DESIGNATION

WLD89152 - VOLTAGE - GEAR RATIO

Example: WLD89152-24-06

ACCESSORIES

● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

GEAR MOTOR DATA

C

Gear ratio		6:1	10:1	15:1	30:1
Nominal speed	rpm	410	250	160	81
Nominal torque	Nm	3.4	4.9	6.2	8.5
Peak torque	Nm	8	10	14	24
Nominal power	W	150	130	110	72
Gearbox efficiency	%	72	62	53	36
Weight	kg	4.4	4.4	4.4	4.4

OTHER GEAR MOTOR DATA

C

Service life	h	3000
Performance tolerances	%	± 15
Operating temperature	°C	-10 to 60
IP rating <sup>1</sup>		IP50
Manufacturing standard		ISO 9001
CE label   UL label		No   No

BRUSHED DC MOTOR DATA

C

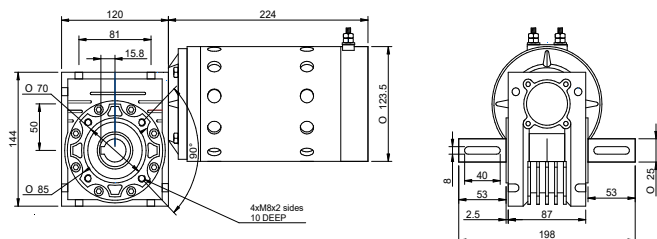
Nominal voltage	V	24
Nominal current	A	10
Nominal speed	rpm	2500
Nominal torque	Ncm	78
Nominal power	W	200
No load current	A	1.9
No load speed	rpm	2800
Start/stall current	A	80
Start/stall torque	Ncm	470
Motor commutation		Carbon brush
Motor rotor		Iron
Motor cable		AWG14
Motor cable length	mm	200
Weight	kg	3.4

GEARBOX DATA

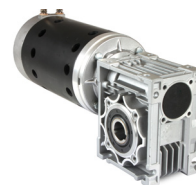
C

Gearbox type		Worm gearbox
Gear angle		Left
Material gear		Brass ●
Bearing type		Ball bearing
Shaft material		Hardened stainless steel ●

DRAWING (mm)



PHOTO



MODEL NO. DESIGNATION

WHD123224 - VOLTAGE - GEAR RATIO

Example: WHD123224-12-10

ACCESSORIES

● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

GEAR MOTOR DATA C

Gear ratio		10:1	15:1	20:1	30:1	40:1
Nominal speed	rpm	200	140	100	67	50
Nominal torque	Nm	13	16	21	32	41
Peak torque	Nm	34	44	49	58	68
Nominal power	W	280	230	220	220	210
Gearbox efficiency	%	66	55	53	52	51
Weight	kg	14	14	14	14	14

OTHER GEAR MOTOR DATA C

Service life	h	3000
Performance tolerances	%	± 15
Operating temperature	°C	-10 to 60
IP rating <sup>1</sup>		IP00
Manufacturing standard		ISO 9001
CE label   UL label		No   No

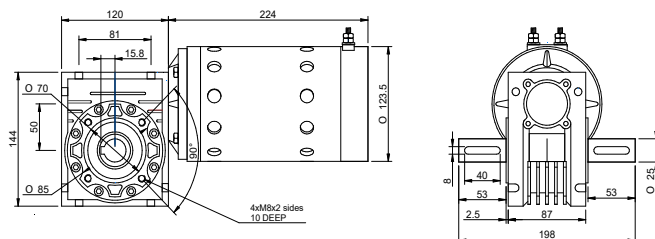
BRUSHED DC MOTOR DATA C

Nominal voltage	V	12
Nominal current	A	43
Nominal speed	rpm	2000
Nominal torque	Ncm	200
Nominal power	W	420
No load current	A	5.5
No load speed	rpm	2400
Start/stall current	A	260
Start/stall torque	Ncm	820
Motor commutation		Carbon brush
Motor rotor		Iron
Motor terminal		Screw terminal
Weight	kg	10.5

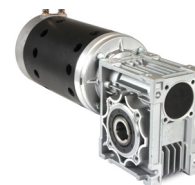
GEARBOX DATA C

Gearbox type		Worm gearbox
Gear angle		Hollow
Material gear		Brass ●
Bearing type		Ball bearing
Shaft material		Hardened stainless steel ●

DRAWING (mm)



PHOTO



MODEL NO. DESIGNATION

WHD123224 - VOLTAGE - GEAR RATIO

Example: WHD123224-24-10

ACCESSORIES

● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

GEAR MOTOR DATA

C

		10:1	15:1	20:1	30:1	40:1
Gear ratio		10:1	15:1	20:1	30:1	40:1
Nominal speed	rpm	200	140	100	67	50
Nominal torque	Nm	13	16	21	31	41
Peak torque	Nm	34	44	49	58	68
Nominal power	W	280	230	220	220	210
Gearbox efficiency	%	66	55	53	52	51
Weight	kg	14	14	14	14	14

OTHER GEAR MOTOR DATA

C

Service life	h	3000
Performance tolerances	%	± 15
Operating temperature	°C	-10 to 60
IP rating <sup>1</sup>		IP00
Manufacturing standard		ISO 9001
CE label   UL label		No   No

BRUSHED DC MOTOR DATA

C

Nominal voltage	V	24
Nominal current	A	22
Nominal speed	rpm	2000
Nominal torque	Ncm	200
Nominal power	W	420
No load current	A	2.5
No load speed	rpm	2400
Start/stall current	A	130
Start/stall torque	Ncm	820
Motor commutation		Carbon brush
Motor rotor		Iron
Motor terminal		Screw terminal
Weight	kg	10.5

GEARBOX DATA

C

Gearbox type		Worm gearbox
Gear angle		Hollow
Material gear		Brass ●
Bearing type		Ball bearing
Shaft material		Hardened stainless steel ●