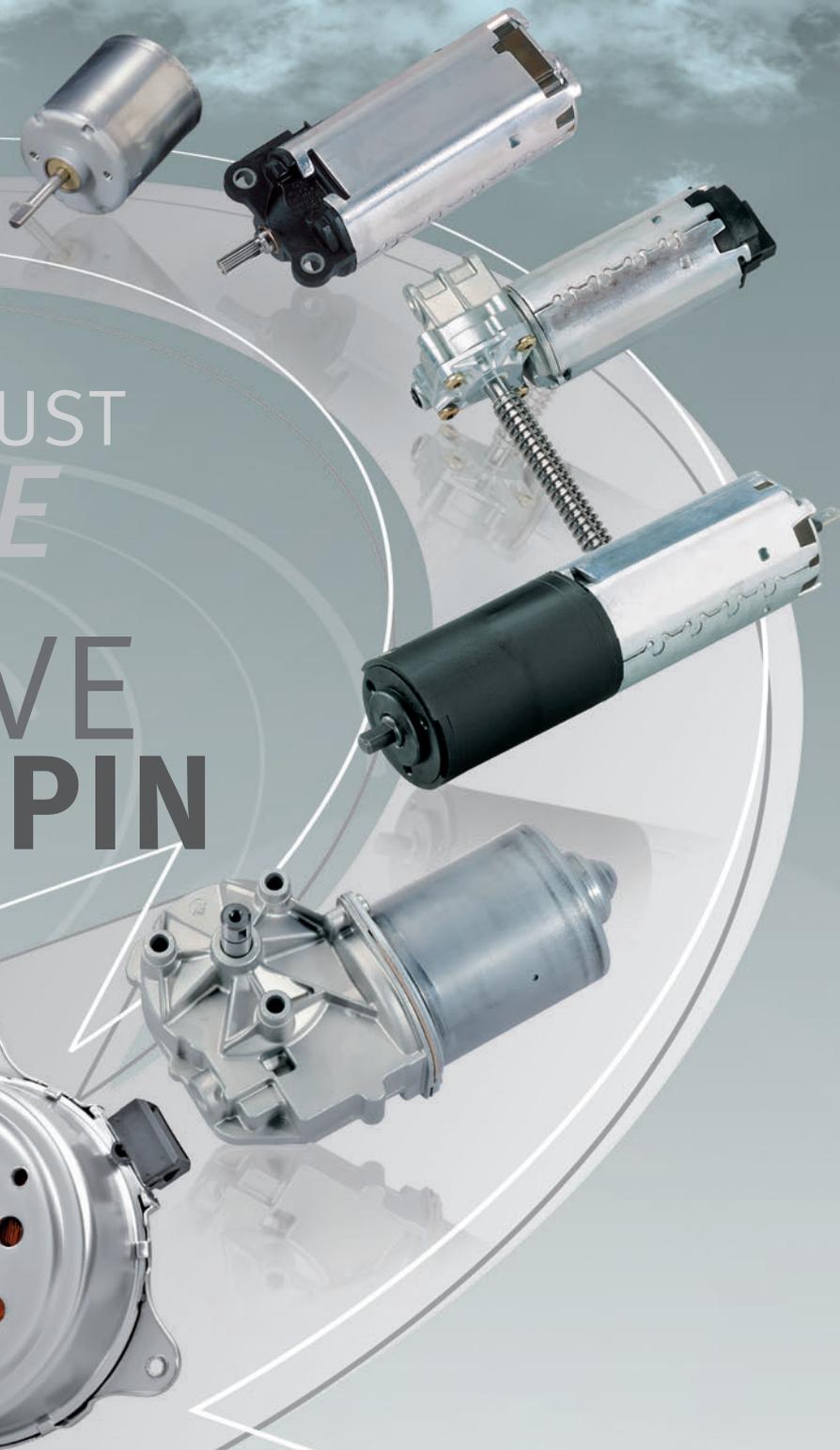


A **Nidec** Group Company

Nidec
Motors & Actuators

All for dreams™

TURN ADJUST
tilt **RAISE**
OPEN ROTATE
MOVE
close **SPIN**



DRIVE TECHNOLOGY 2011/12

THE NIDEC MOTORS & ACTUATORS DC MOTOR RANGE

MOTORS WITHOUT GEARING

GMP



➤ Smaller diameter motors with single & double output shafts

- Nominal torque 0.05 – 0.1 Nm
- No load speed 2700 – 3250 min⁻¹

GMK
GML



➤ Higher torque single output shaft motors

- Nominal torque 0.12 – 0.4 Nm
- No load speed 2200 – 5250 min⁻¹

MOTORS WITH SPUR GEAR

GMAG
GMPI



➤ Motors that can address all your in-line drive requirements where you need higher torque, lower speed rotation

- Nominal torque 0.2 – 4 Nm
- No load speed 17 – 200 min⁻¹

MOTORS WITH WORM GEAR

GMPD
GMPG



➤ Low/medium torque with perpendicular output shafts

- Nominal torque 0.5 – 4 Nm
- No load speed 21 – 540 min⁻¹

GMPS



➤ Actuators fitted with a lead-screw to drive your linear motion needs

- Nominal axial force 1 – 2 kN
- No load speed 6 mm/s

DCK31
DCK35



➤ Cost competitive medium torque range worm drive motors

- Nominal torque 3 – 6 Nm
- No load speed 14 – 270 min⁻¹

SWMK
SW2K
SW2L



➤ Weight optimized medium torque range

- Nominal torque 0.8 – 8 Nm
- No load speed 48 – 350 min⁻¹

SWMV
SWMG

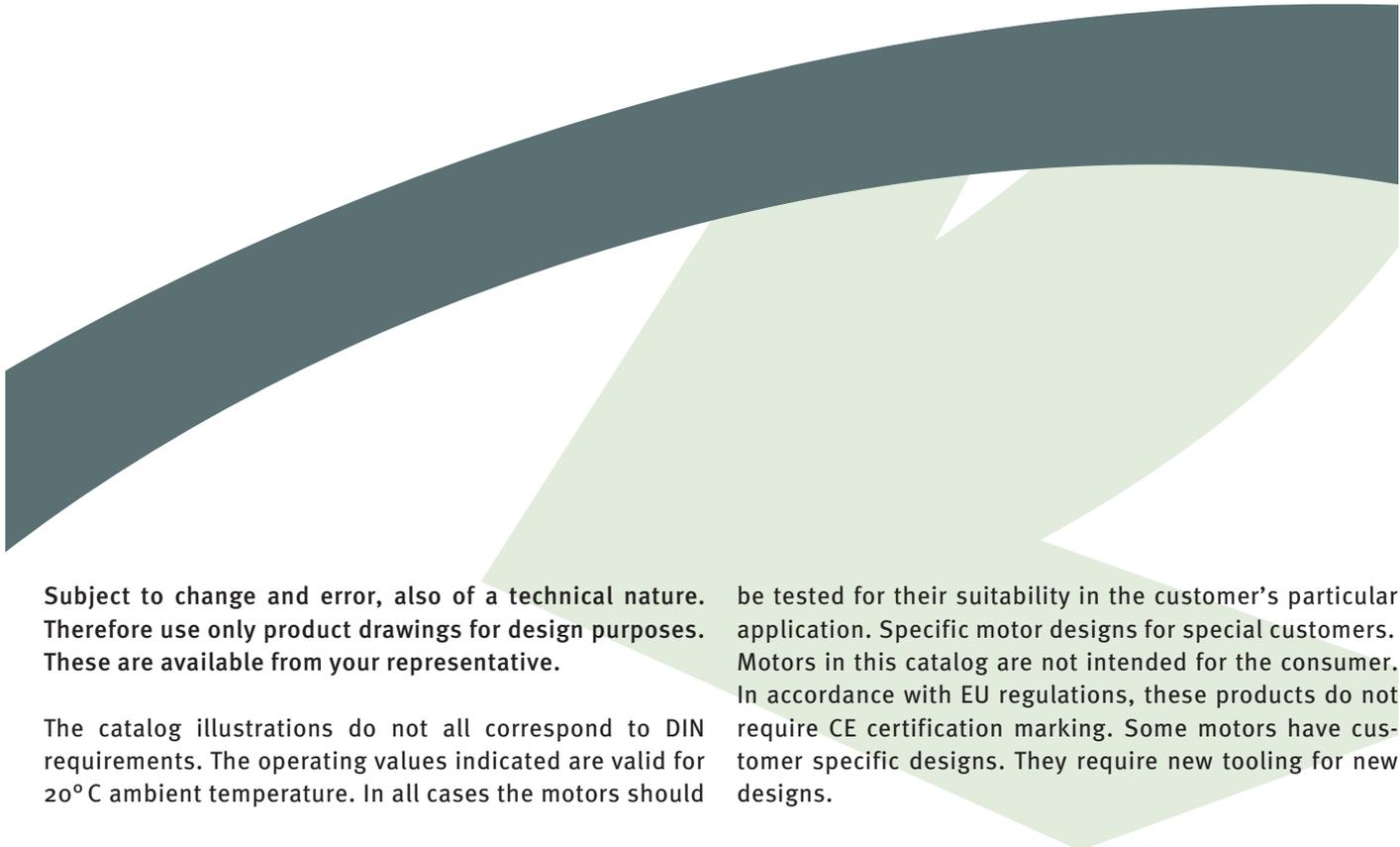


➤ Powerful medium & high torque worm gear motors

- Nominal torque 3 – 20 Nm
- No load speed 27 – 220 min⁻¹



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Subject to change and error, also of a technical nature. Therefore use only product drawings for design purposes. These are available from your representative.

The catalog illustrations do not all correspond to DIN requirements. The operating values indicated are valid for 20° C ambient temperature. In all cases the motors should

be tested for their suitability in the customer's particular application. Specific motor designs for special customers. Motors in this catalog are not intended for the consumer. In accordance with EU regulations, these products do not require CE certification marking. Some motors have customer specific designs. They require new tooling for new designs.

..... **TERMS, SYMBOLS AND UNITS ACCORDING TO DIN**

Symbol	Unit	Term
U_N	[V]	Rated voltage
n_o	[min ⁻¹]	No-load speed ± 10%
M_N	[Nm]	Nominal torque at the output shaft
M_A	[Nm]	Starting torque
i		Gear ratio
J_R	[kgm ²] x 10 ⁻⁶	Armature load inertia
R	[mΩ]	Armature resistance, 2/4 commutator bars
L	[mH]	Armature inductance, 2/4 commutator bars

Drawing	dimensional drawing
Shaft	dimensions of shaft ends
Wiring diagram	motor wiring diagram
Connection	dimensions and positions of motor connections
Materials	BRZ = bronze, KST = plastic, ST = steel, HGW = resinbonded fabric

	Direction of rotation when looking onto motor shaft	The curves show the speed and the current as a function of the torque. These are average values at room temperature. Divergences of ± 10 % are possible in the series.
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	CCW		CW	Preferred direction of rotation: Worm gear motors have a preferred direction of rotation, indicated in the drawings by a larger arrow. If the motor rotates against the preferred rotation direction, power decreases by approx. 10 %.
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❖❖❖ **CONVERSION OF TORQUE VALUES**

(VALUES ROUNDED FOR PRACTICAL USE)

	Nm	Ncm	pcm	kpcm	kpm	oz in	in lbs	ft lbs
Nm	1	100	10.2 x 10 ³	10.2	0.102	141.6	8.85	0.738
Ncm	10 ⁻²	1	102	1.02 x 10 ⁻²	1.02 x 10 ⁻³	1.42	8.85 x 10 ⁻²	7.38 x 10 ⁻³
pcm	9.8 x 10 ⁻⁵	9.8 x 10 ⁻³	1	10 ⁻³	10 ⁻⁵	1.39 x 10 ⁻²	8.68 x 10 ⁻⁴	7.23 x 10 ⁻⁵
kpcm	9.8 x 10 ⁻²	9.8	1000	1	10 ⁻²	13.9	0.868	7.23 x 10 ⁻²
kpm	9.8	980	10 ⁵	100	1	1390	86.8	7.23
oz in	7.06 x 10 ⁻³	0.706	72	7.2 x 10 ⁻²	7.2 x 10 ⁻⁴	1	6.25 x 10 ⁻²	5.2 x 10 ⁻³
in lbs	0.113	11.3	1152	1.15	1.15 x 10 ⁻²	16	1	8.3 x 10 ⁻²
ft lbs	1.36	135.58	13,825	13.8	0.138	192	12	1

❖❖❖ **CONVERSION OF FORCES**

(VALUES ROUNDED FOR PRACTICAL USE)

	N	kp	p	oz	lbf
N	1	0.102	102	3.6	0.225
kp	9.8	1	1000	35.27	2.2
p	9.8 x 10 ⁻³	10 ⁻³	1	3.53 x 10 ⁻²	2.2 x 10 ⁻³
oz	0.278	2.83 x 10 ⁻²	28.35	1	6.25 x 10 ⁻²
lbf	4.45	0.445	453.6	16	1

❖❖❖ **CONVERSION OF POWER**

(VALUES ROUNDED FOR PRACTICAL USE)

	kW	PS	HP	kpm/s	kcal/s
kW	1	1.36	1.34	102	0.239
PS	0.735	1	0.986	75	0.176
HP	0.746	1.01	1	76	0.178
kpm/s	9.8 x 10 ⁻³	1.33 x 10 ⁻²	1.32 x 10 ⁻²	1	2.34 x 10 ⁻²
kcal/s	4.2	5.7	5.6	427	1

❖❖❖ **CONVERSION OF TEMPERATURES**

t_c [°C] Celsius	t_f [°F] Fahrenheit	T_k [K] Kelvin	T_r [°R] Rankine
$t_c = \frac{5}{9} (t_f - 32)$	$t_f = \frac{9}{5} t_c + 32$	$T_k = t_c + 273$	$T_r = \frac{9}{5} (t_c + 273)$
$t_c = \frac{5}{9} T_r - 273$		$T_k = \frac{5}{9} T_r$	
		$T_k = \frac{5}{9} (t_f + 255)$	

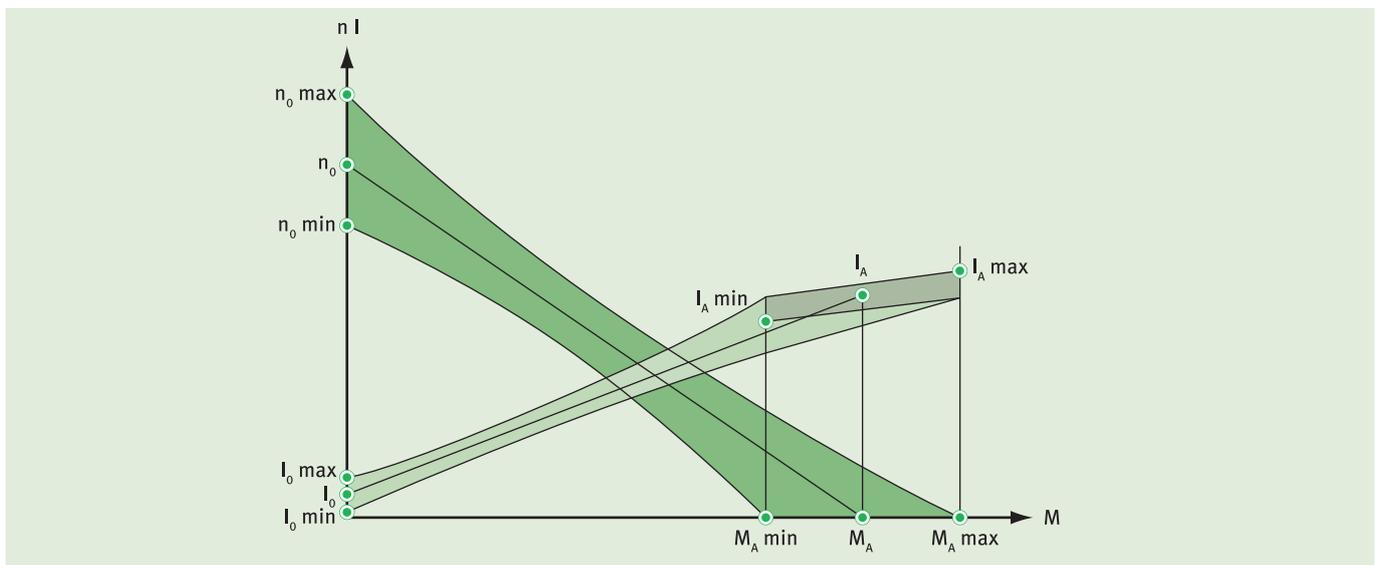


❖❖❖ **TOLERANCE ZONES TO ISO/R 286**

(DIN 7150, 7151, 7152, 7154, 7155)

1,1 H 13:	+0.140 / 0 mm	5,1 H 11:	+0.075 / 0 mm	9 k 5:	+0.007 / +0.001mm
1,6 H 13:	+0.140 / 0 mm	5,1 H 12:	+0.120 / 0 mm	9,4 h 11:	0 / -0.090 mm
2,5 H 12:	+0.100 / 0 mm	5,5 h 11:	0 / -0.075 mm	9,5 js 11:	+0.045 / -0.045 mm
2,7 H 12:	+0.100 / 0 mm	5,5 H 13:	+0.180 / 0 mm	9,6 h 11:	0 / -0.090 mm
3 H 9:	+0.025 / 0 mm	5,8 g 6:	-0.004 / -0.012 mm	9,75 g 5:	-0.006 / -0.014 mm
3 H 12:	+0.100 / 0 mm	5,9 c 9:	-0.070 / -0.100 mm	10 f 6:	-0.013 / -0.022 mm
3 N 9:	-0.004 / -0.029 mm	5,9 h 10:	0 / -0.048 mm	10 f 7:	-0.013 / -0.028 mm
3 P 8:	-0.006 / -0.020 mm	6 f 9:	-0.010 / -0.040 mm	10 f 8:	-0.013 / -0.035 mm
3 P 9:	-0.006 / -0.031 mm	6 fg 9:	-0.006 / -0.014 mm	10 g 5:	-0.005 / -0.011 mm
3 P 10:	-0.006 / -0.046 mm	6 h 6:	0 / -0.008 mm	10 g 6:	-0.005 / -0.014 mm
3,1 JS 10:	+0.024 / -0.024 mm	6 h 8:	0 / -0.018 mm	10 h 5:	0 / -0.006 mm
3,5 H 12:	+0.120 / 0 mm	6 h 9:	0 / -0.030 mm	10 h 7:	0 / -0.015 mm
3,6 H 11:	+0.075 / 0 mm	6 m 6:	+0.012 / +0.004 mm	10 h 9:	0 / -0.036 mm
4 C 10:	+0.118 / -0.070 mm	6,3 H 12:	+0.150 / 0 mm	11 d 10:	-0.050 / -0.120 mm
4 h 6:	0 / -0.008 mm	6,5 H 8:	+0.022 / 0 mm	11,2 e 10:	-0.032 / -0.102 mm
4 h 8:	0 / -0.018 mm	6,8 h 8:	0 / -0.022 mm	11,5 h 11:	0 / -0.110 mm
4 h 9:	0 / -0.030 mm	7 h 8:	0 / -0.022 mm	12 f 7:	-0.016 / -0.034 mm
4 h 10:	0 / -0.048 mm	7,6 h 11:	0 / -0.090 mm	12 g 5:	-0.006 / -0.014 mm
4 h 11:	0 / -0.075 mm	8 f 6:	-0.013 / -0.022 mm	12 h 6:	0 / -0.011 mm
4 H 12:	+0.120 / 0 mm	8 g 6:	-0.005 / -0.014 mm	12 h 7:	0 / -0.018 mm
4 P 9:	-0.012 / -0.042 mm	8 g 7:	-0.005 / -0.020 mm	12 h 9:	0 / -0.036 mm
4,1 h 10:	0 / -0.048 mm	8 g 9:	-0.005 / -0.041 mm	12 h 11:	0 / -0.110 mm
4,1 H 11:	+0.075 / 0 mm	8 h 9:	0 / -0.036 mm	13,4 h 11:	0 / -0.110 mm
4,2 H 7:	+0.012 / 0 mm	8 H 9:	+0.036 / 0 mm	14 f 6:	-0.016 / -0.027 mm
4,2 H 12:	+0.120 / 0 mm	8 h 10:	0 / -0.058 mm	14 f 7:	-0.016 / -0.034 mm
4,5 H 13:	+0.180 / 0 mm	8 h 11:	0 / -0.090 mm	14 H 7:	+0.018 / 0 mm
5 c 11:	-0.070 / -0.145 mm	8 k 5:	+0.007 / +0.001 mm	15 f 7:	-0.016 / -0.034 mm
5 h 6:	0 / -0.008 mm	8,5 h 9:	0 / -0.036 mm	15,2 h 11:	0 / -0.110 mm
5 h 9:	0 / -0.030 mm	8,7 h 11:	0 / -0.090 mm	16 f 6:	-0.016 / -0.027 mm
5 h 10:	0 / -0.048 mm	9 D 9:	+0.076 / +0.040 mm	18 H 8:	+0.027 / 0 mm
5 h 12:	0 / -0.120 mm	9 h 6:	0 / -0.009 mm	20 h 9:	0 / -0.052 mm
5 P 9:	-0.012 / -0.042 mm	9 h 11:	0 / -0.090 mm	26 g 6:	-0.007 / -0.020 mm

❖❖❖ **TOLERANCE ZONES**



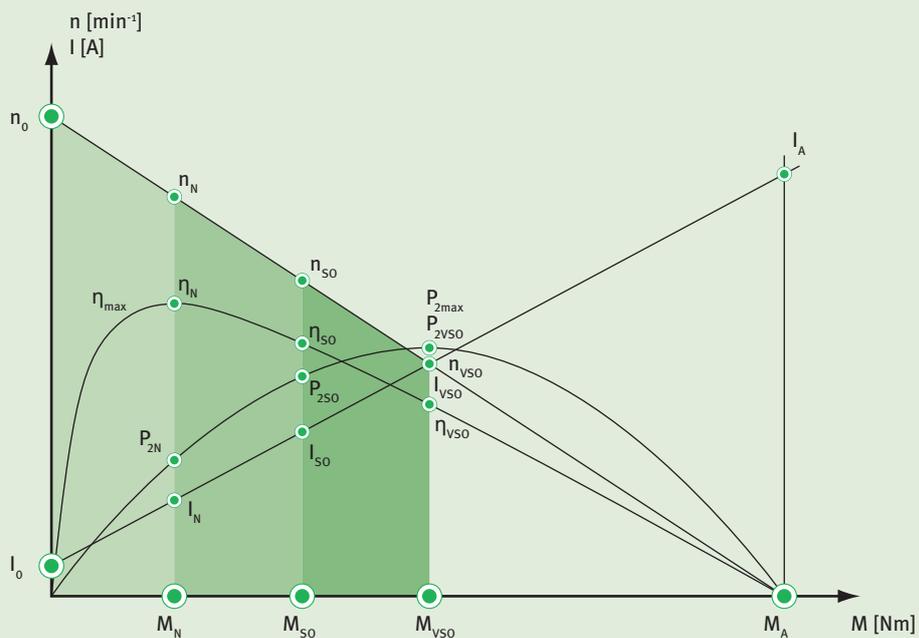


CHARACTERISTIC CURVES

CR	Continuous running	n_0	No-load speed in min^{-1}
SO	Short operation	n_N	Rated speed in min^{-1}
VSO	Very short operation	n_{SO}	Speed for short operation in min^{-1}
P	Power in W	n_{VSO}	Speed for very short operation in min^{-1}
P_{2N}	Nominal output power in W	I	Current in A
P_{2max}	Maximum output power in W	I_0	No-load current in A
P_{2SO}	Output power for short operation in W	I_A	Starting current in A
P_{2VSO}	Output power for very short operation in W	I_N	Rated current in A
M	Torque in Nm	I_{SO}	Current for short operation in A
M_A	Starting torque in Nm	I_{VSO}	Current for very short operation in A
M_N	Nominal output torque in Nm	η	Efficiency in %
M_{SO}	Output torque for short operation in Nm	η_N	Rated efficiency in %
M_{VSO}	Output torque for very short operation in Nm	η_{SO}	Efficiency for short operation in %
n	Rotational speed in min^{-1}	η_{VSO}	Efficiency for very short operation in %

RANGE OF OPERATION

- Continuous running
- Short operation
- Very short operation

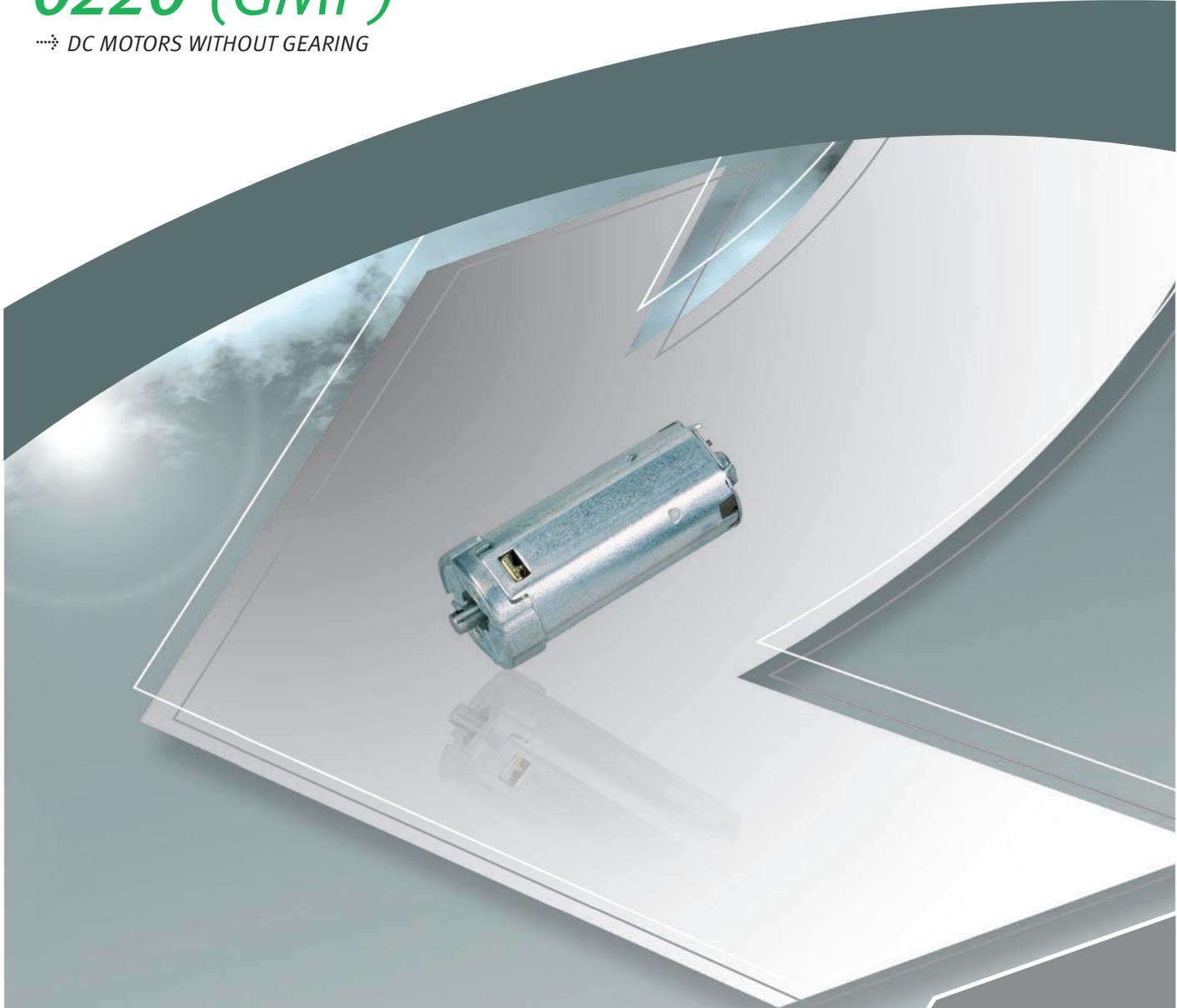




NIDEC MOTORS & ACTUATORS ❖❖❖ MOTOR SERIES

0220 (GMP)

❖❖❖ DC MOTORS WITHOUT GEARING



❖❖❖ TECHNICAL DESCRIPTION

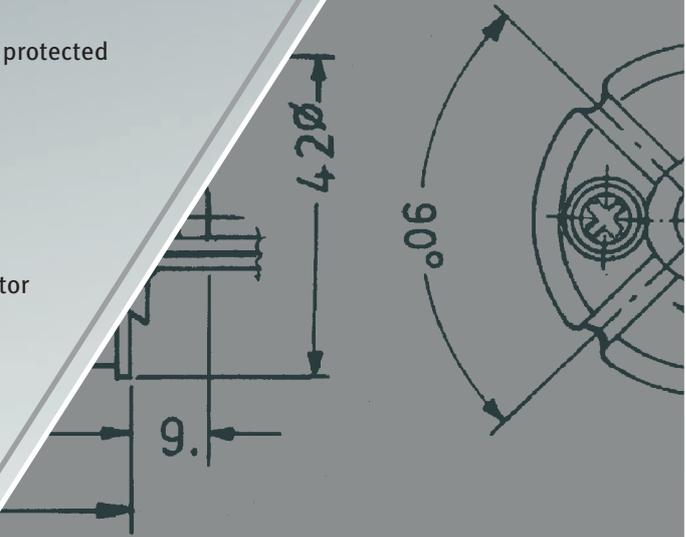
Motorhousing:	sheet metal, rolled & corrosion protected
Excitation field:	permanent magnet
Type of gear mesh:	-
Gear housing:	-
Gear wheel material:	-
Lubrication:	-
Mechanical interface:	steel shaft
Electric interface:	connector or leads with connector
Sensor:	optional
Thermal protection:	optional
EMC suppression:	optional

❖❖❖ INDUSTRIAL APPLICATION

Linear drives, machine construction

❖❖❖ AUTOMOTIVE APPLICATION

Seat track drive



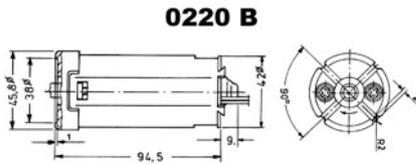
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

Performance data		
Rated voltage [V]	U_N	12
Nominal torque [Nm]	M_N	0.08
No-load speed [min^{-1}]	n_0	2,700.0
Nominal power [W]	P_N	16.2
Nominal current [A]	I_N	2.0
Nominal force [kN]	F_N	0.00
Duty cycle		s3

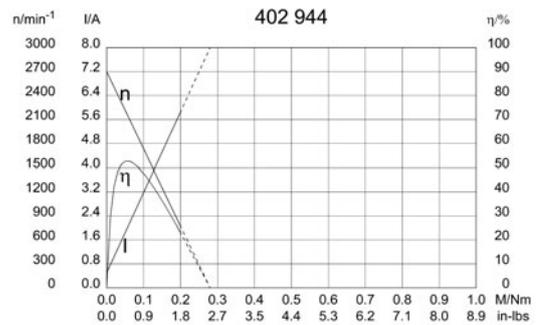
Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	
Gear wheel material	
Suppression components	7,5 μ H
Enclosure class	IP 30
Weight [kg]	0.550

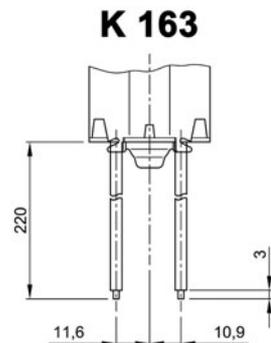
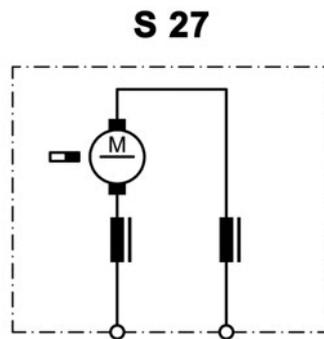
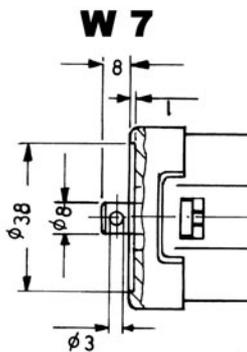
Remarks:



Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



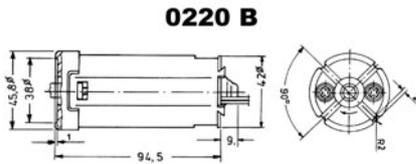
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Ball

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	0.08
No-load speed [min^{-1}]	n_0	2,800.0
Nominal power [W]	P_N	17.6
Nominal current [A]	I_N	1.0
Nominal force [kN]	F_N	0.00
Duty cycle	s3	

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	
Gear wheel material	
Suppression components	7.5 μ H, 47nF
Enclosure class	IP 30
Weight [kg]	0.550

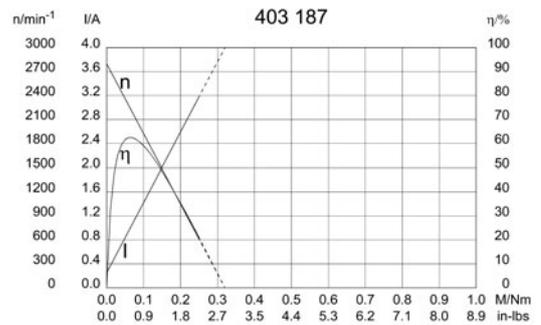
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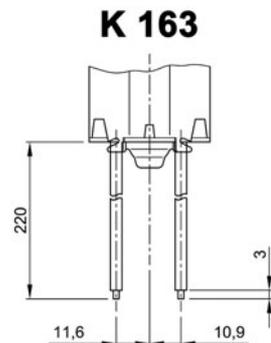
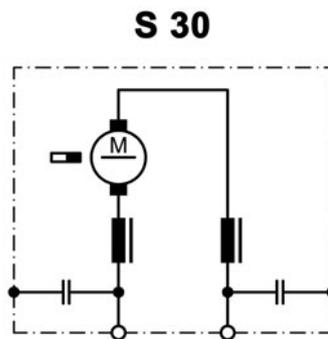
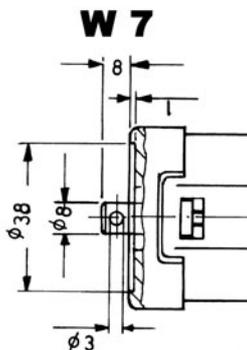
Motor picture



Characteristic curves

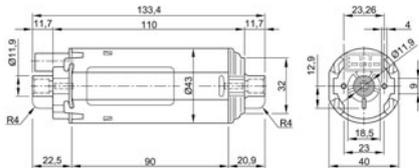


Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Sleeve - B:Sleeve

0220 F



Performance data		
Rated voltage [V]	U_N	12
Nominal torque [Nm]	M_N	0.10
No-load speed [min^{-1}]	n_0	2,700.0
Nominal power [W]	P_N	21.2
Nominal current [A]	I_N	3.0
Nominal force [kN]	F_N	0.00
Duty cycle		s3

Sensor data	
Pulses	0
Output channels	0

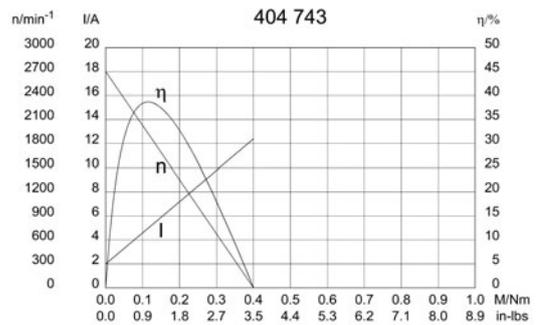
Other data	
Gear ratio	
Gear wheel material	
Suppression components	2,5µH, 47nF ()
Enclosure class	IP 40
Weight [kg]	0.560

Remarks:

Motor picture

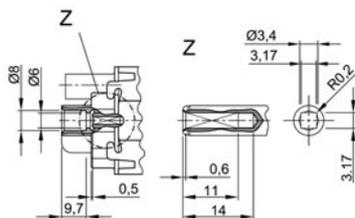


Characteristic curves

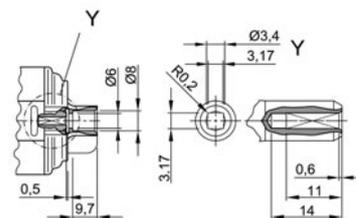


Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

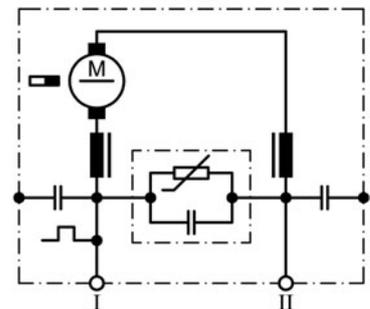
W 266



W 267



S 93

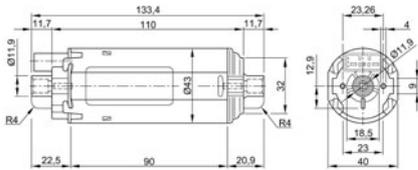


I Terminal 1
 II Terminal 5

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Sleeve - B:Sleeve

Performance data		
Rated voltage [V]	U_N	12
Nominal torque [Nm]	M_N	0.10
No-load speed [min^{-1}]	n_0	2,700.0
Nominal power [W]	P_N	21.2
Nominal current [A]	I_N	4.5
Nominal force [kN]	F_N	0.00
Duty cycle		s3

0220 F



Sensor data	
Pulses	1
Output channels	1

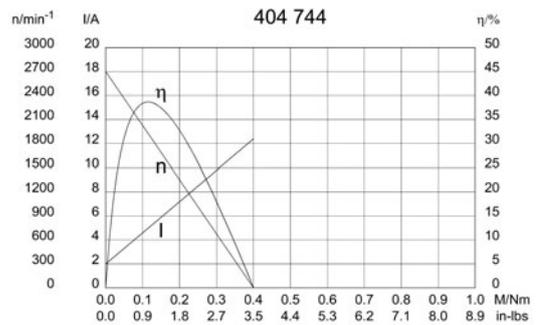
Other data	
Gear ratio	
Gear wheel material	
Suppression components	2,5 μ H, 47nF
Enclosure class	IP 40
Weight [kg]	0.560

Remarks:

Motor picture

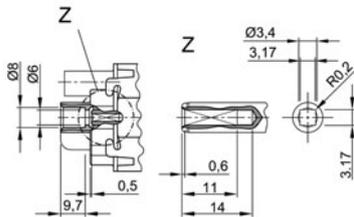


Characteristic curves

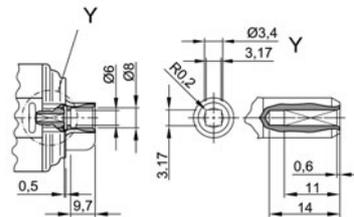


Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

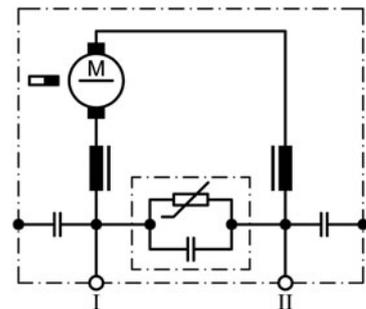
W 266



W 267



S 86



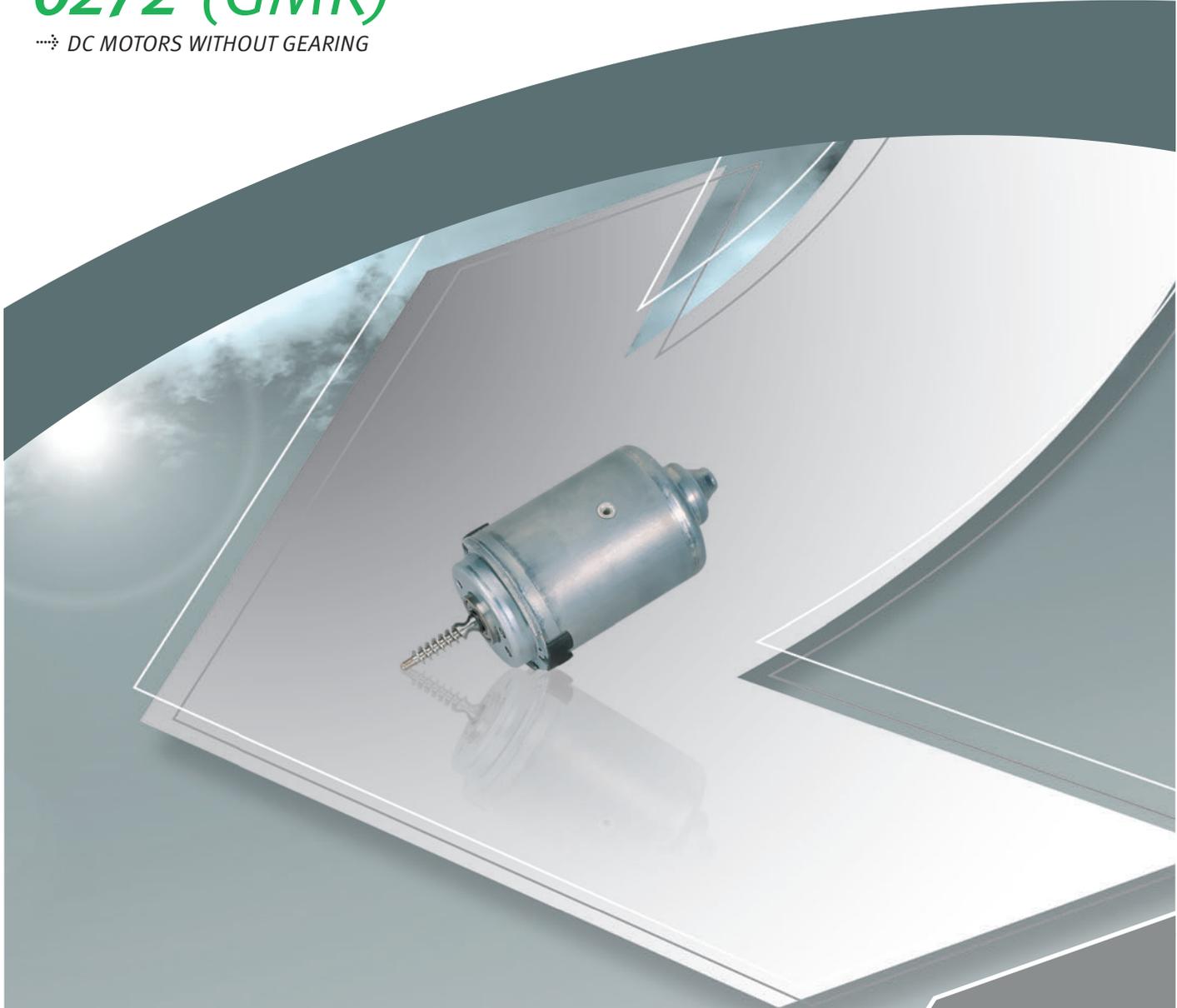
I Terminal 1
 II Terminal 5



NIDEC MOTORS & ACTUATORS ❖❖❖ MOTOR SERIES

0272 (GMK)

❖❖❖ DC MOTORS WITHOUT GEARING



❖❖❖ TECHNICAL DESCRIPTION

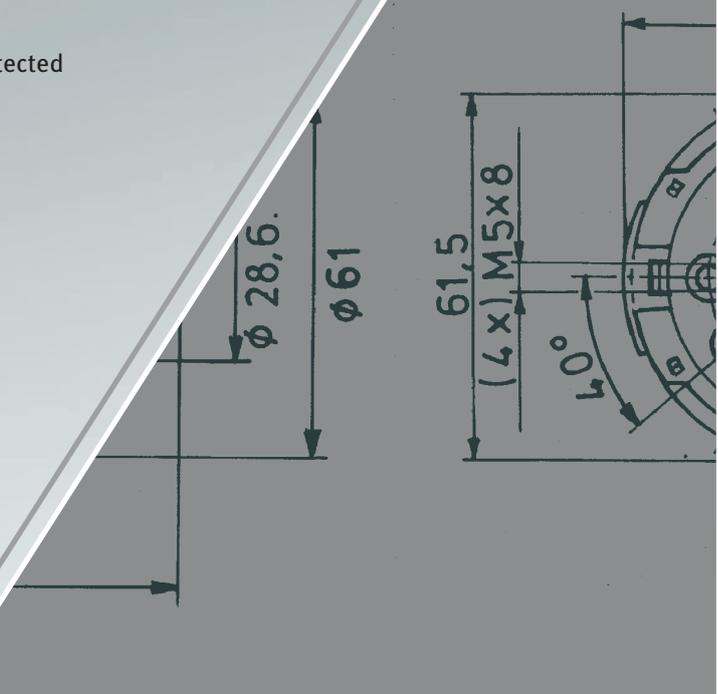
Motorhousing:	deep drawn & corrosion protected
Excitation field:	permanent magnet
Type of gear mesh:	-
Gear housing:	-
Gear wheel material:	-
Lubrication:	grease
Mechanical interface:	steel shaft
Electric interface:	leads with connector
Sensor:	optional
Thermal protection:	optional
EMC suppression:	optional

❖❖❖ INDUSTRIAL APPLICATION

Linear drives

❖❖❖ AUTOMOTIVE APPLICATION

Electric torque management,
Automated manual transmission



Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	0.19
No-load speed [min^{-1}]	n_0	3,100.0
Nominal power [W]	P_N	52.7
Nominal current [A]	I_N	5.0
Nominal force [kN]	F_N	0.00
Duty cycle		s1

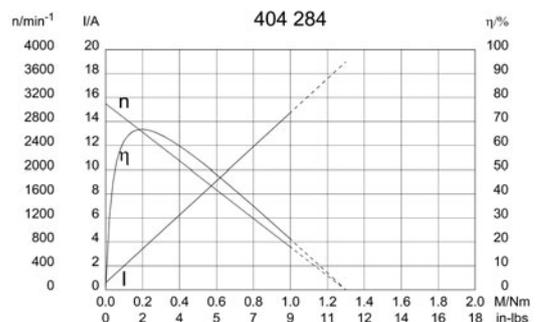
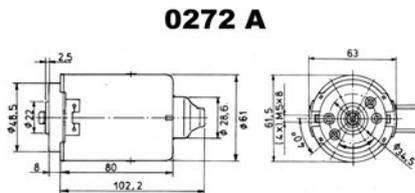
Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	
Gear wheel material	
Suppression components	5 μ H
Enclosure class	IP 30
Weight [kg]	0.900

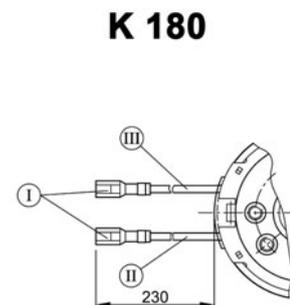
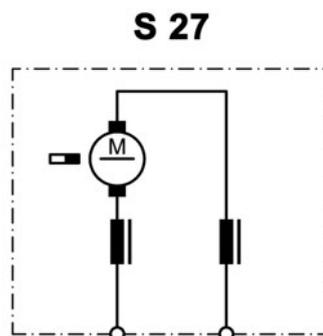
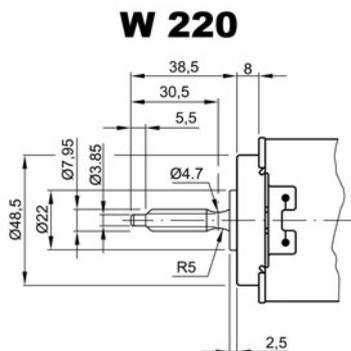
Remarks: 1 start worm

Characteristic curves

Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



no of starts 1, lead angle 9°, pressure angle 10°, module 1, pitch 3,14159 mm (0,124")

I Blade terminal receptacles 2,8 x 0,8 DIN 46 247
 II green
 III red

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

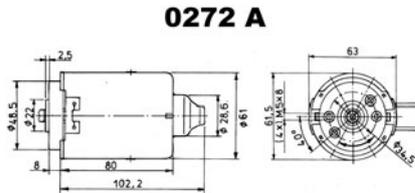
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	0.12
No-load speed [min^{-1}]	n_0	3,800.0
Nominal power [W]	P_N	43.9
Nominal current [A]	I_N	3.0
Nominal force [kN]	F_N	0.00
Duty cycle		s1

Sensor data	
Pulses	0
Output channels	0

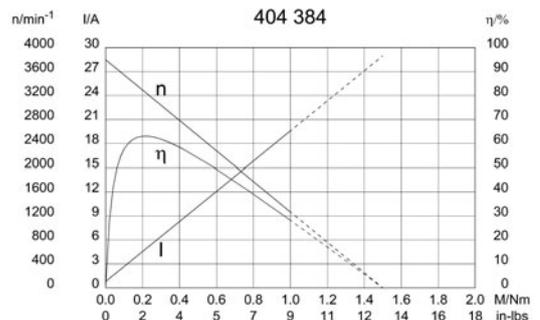
Other data	
Gear ratio	
Gear wheel material	
Suppression components	5 μ H, 1nF
Enclosure class	IP 30
Weight [kg]	0.900

Remarks: 4 start worm

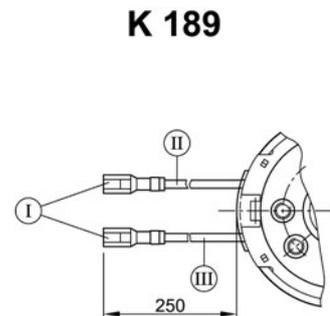
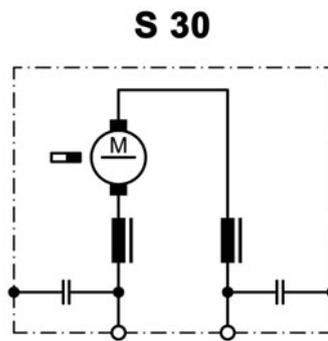
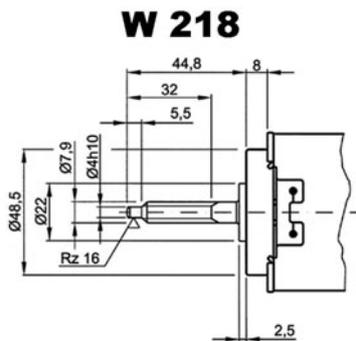
Characteristic curves



Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



no of starts 4 ,lead angle 30°31'35", pressure angle: 15°, pitch 11.6707 mm (0,459"), module 0,8

I Receptacle for tabs 2,8 x 0,8 DIN 46 247
 II red
 III black

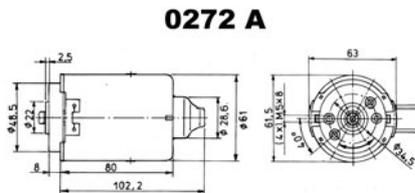
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

Performance data		
Rated voltage [V]	U_N	12
Nominal torque [Nm]	M_N	0.35
No-load speed [min^{-1}]	n_0	3,000.0
Nominal power [W]	P_N	79.2
Nominal current [A]	I_N	9.0
Nominal force [kN]	F_N	0.00
Duty cycle		s3

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	
Gear wheel material	
Suppression components	5 μ H, 10nF
Enclosure class	IP 30
Weight [kg]	0.900

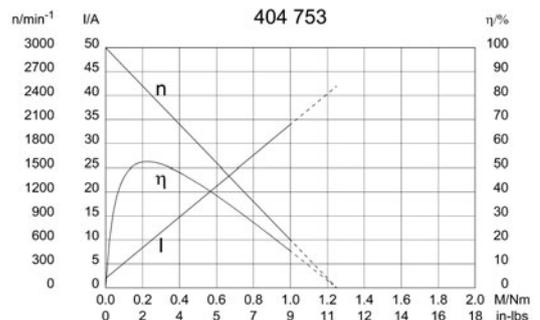
Remarks:



Motor picture

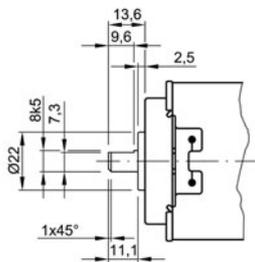


Characteristic curves

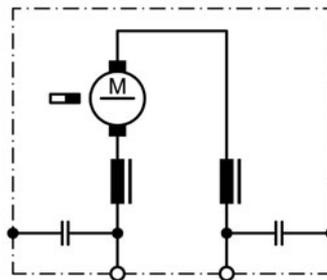


Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

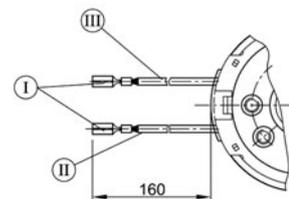
W 280



S 30



K 190



- I Receptacles for tabs 2,8 x 0,8 DIN 46 247
- II black
- III red

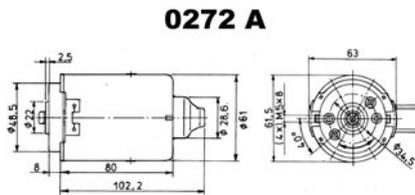
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	0.30
No-load speed [min^{-1}]	n_0	2,200.0
Nominal power [W]	P_N	53.2
Nominal current [A]	I_N	3.0
Nominal force [kN]	F_N	0.00
Duty cycle		s1

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	
Gear wheel material	
Suppression components	5 μ H, 10nF
Enclosure class	IP 30
Weight [kg]	0.890

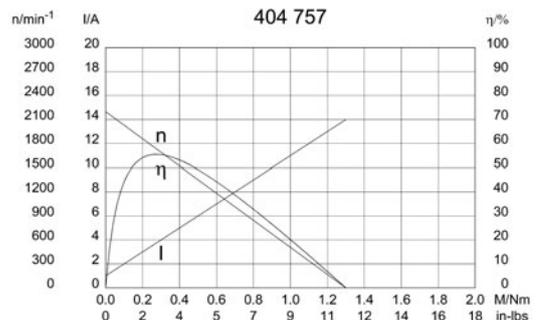
Remarks:



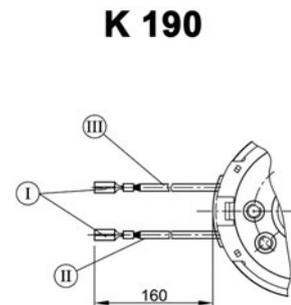
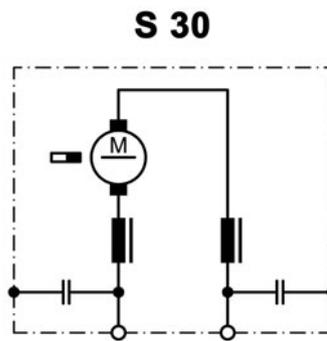
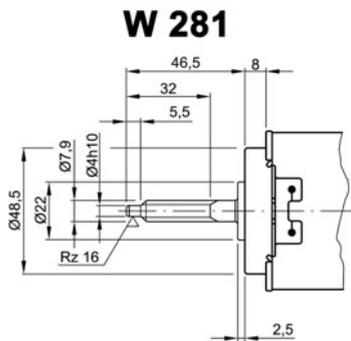
Motor picture



Characteristic curves



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



no of starts 2 , lead angle 19°48'54" , pressure angle 15° , pitch 3,141 mm (0,124") , module 1

I Receptacles for tabs 2,8 x 0,8 DIN 46 247
 II black
 III red

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

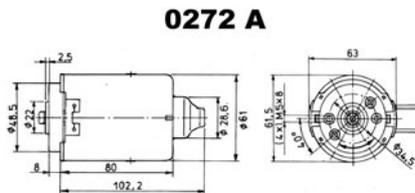
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	0.15
No-load speed [min^{-1}]	n_0	2,200.0
Nominal power [W]	P_N	30.9
Nominal current [A]	I_N	2.5
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	0
Output channels	0

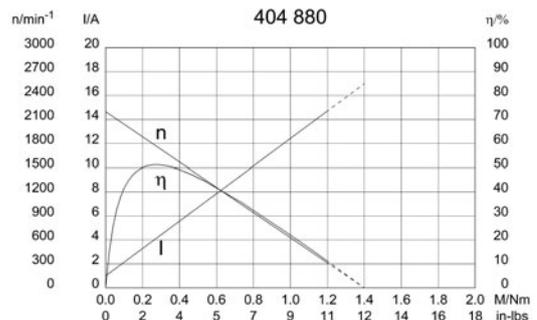
Other data	
Gear ratio	
Gear wheel material	
Suppression components	5 μ H
Enclosure class	IP 30
Weight [kg]	0.900

Remarks: 3 start worm

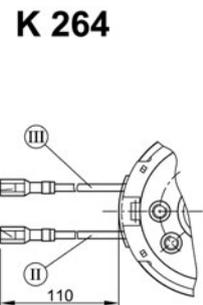
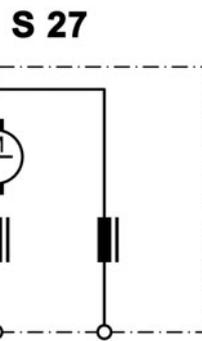
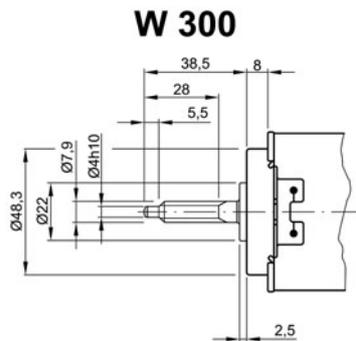
Characteristic curves



Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



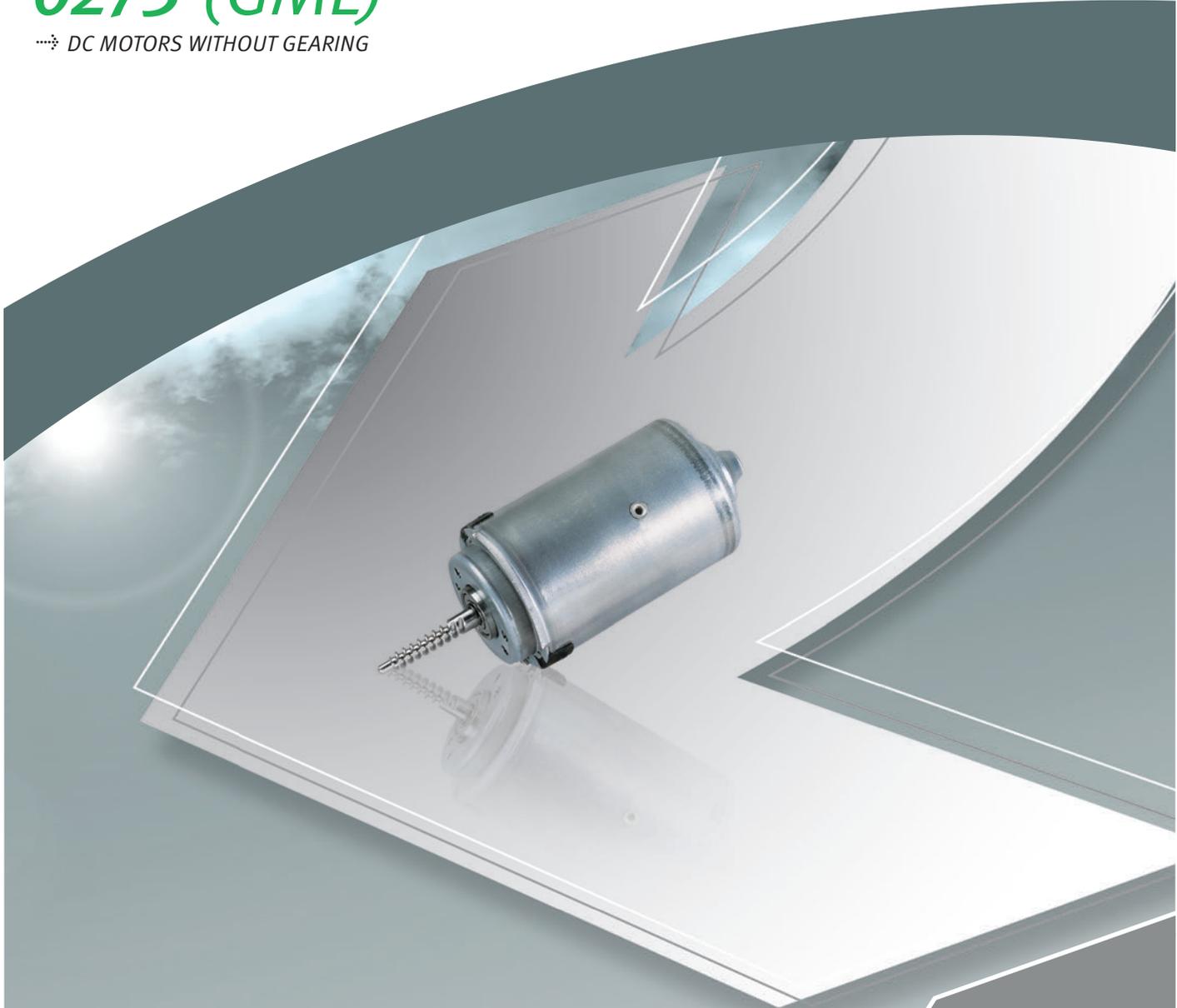
no of starts 3, lead angle 30°33'44", pressure angle 15°, module 1, pitch 3,141 mm (0,124")

I Receptacle for tabs 2,8 x 0,8 DIN 46 247
 II green
 III red



0273 (GML)

❖❖❖ DC MOTORS WITHOUT GEARING



❖❖❖ TECHNICAL DESCRIPTION

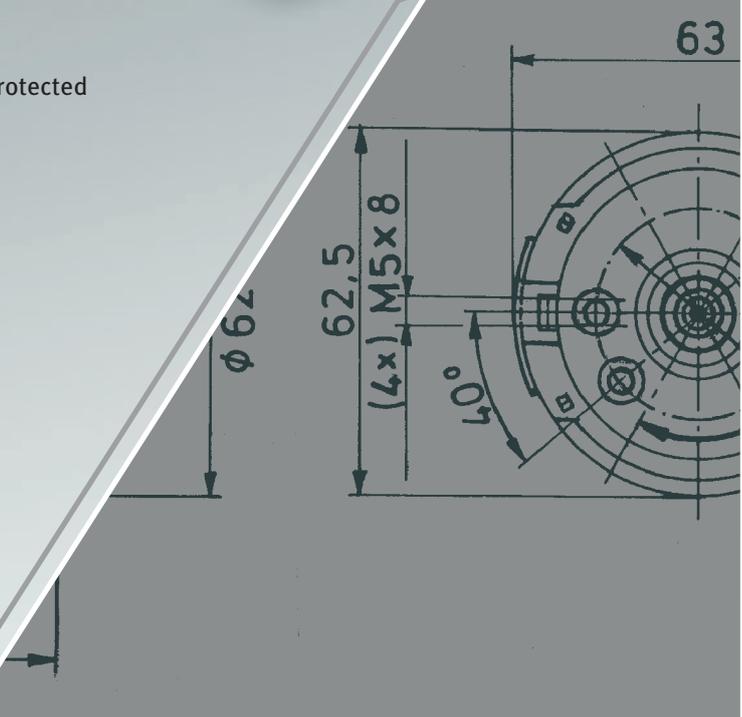
Motorhousing:	deep drawn & corrosion protected
Excitation field:	permanent magnet
Type of gear mesh:	-
Gear housing:	-
Gear wheel material:	-
Lubrication:	grease
Mechanical interface:	steel shaft
Electric interface:	leads with connector
Sensor:	-
Thermal protection:	optional
EMC suppression:	optional

❖❖❖ INDUSTRIAL APPLICATION

Linear drives

❖❖❖ AUTOMOTIVE APPLICATION

Electric torque management,
Automated manual transmission



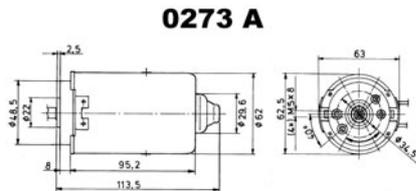
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B-Sleeve

Performance data		
Rated voltage [V]	U_N	36
Nominal torque [Nm]	M_N	0.20
No-load speed [min^{-1}]	n_0	4,100.0
Nominal power [W]	P_N	79.7
Nominal current [A]	I_N	3.0
Nominal force [kN]	F_N	0.00
Duty cycle		s1

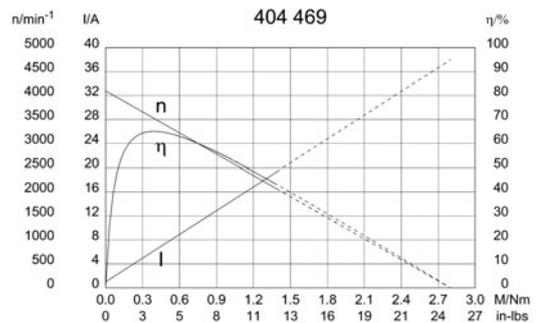
Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	
Gear wheel material	
Suppression components	5 μ H, 10nF
Enclosure class	IP 30
Weight [kg]	1.150

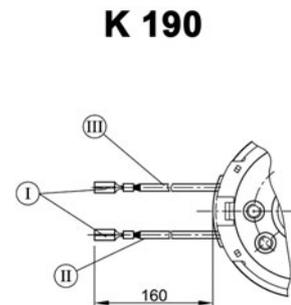
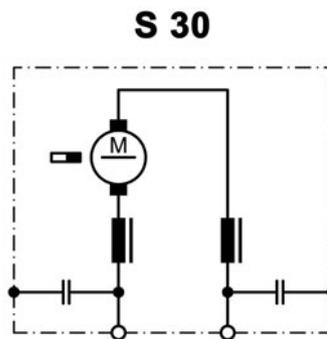
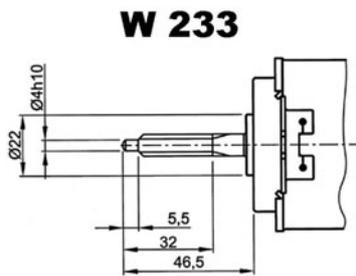
Remarks:



Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



no of starts 2, lead angle 19°48'54", pressure angle 15°, module 1, pitch 3,141 mm (0,124")

I Receptacles for tabs 2,8 x 0,8 DIN 46 247
 II black
 III red

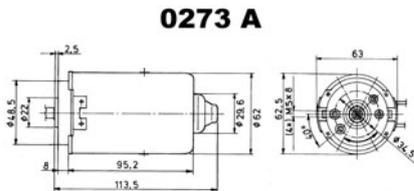
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	0.30
No-load speed [min^{-1}]	n_0	4,000.0
Nominal power [W]	P_N	107
Nominal current [A]	I_N	7.5
Nominal force [kN]	F_N	0.00
Duty cycle		s1

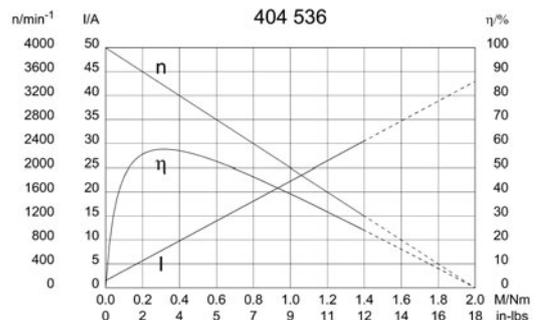
Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	
Gear wheel material	
Suppression components	5 μ H, 10nF
Enclosure class	IP 30
Weight [kg]	1.150

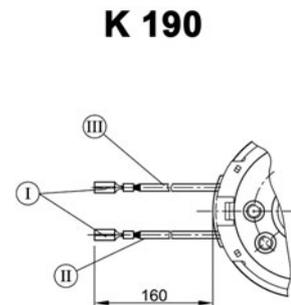
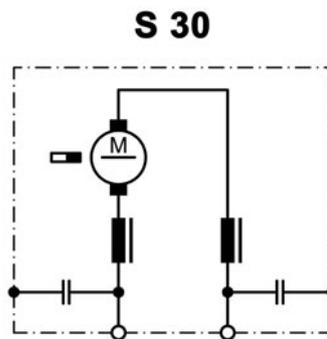
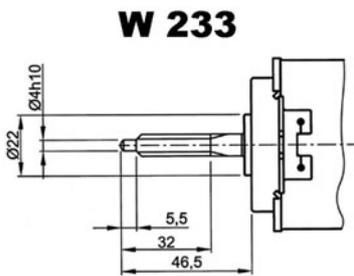
Remarks:



Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



no of starts 2, lead angle 19°48'54", pressure angle 15°, module 1, pitch 3,141 mm (0,124")

I Receptacles for tabs 2,8 x 0,8 DIN 46 247
 II black
 III red

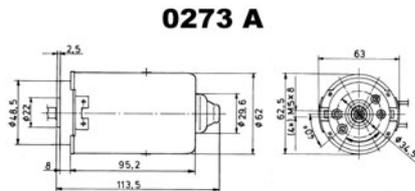
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

Performance data		
Rated voltage [V]	U_N	12
Nominal torque [Nm]	M_N	0.20
No-load speed [min^{-1}]	n_0	3,750.0
Nominal power [W]	P_N	67.3
Nominal current [A]	I_N	7.0
Nominal force [kN]	F_N	0.00
Duty cycle		s1

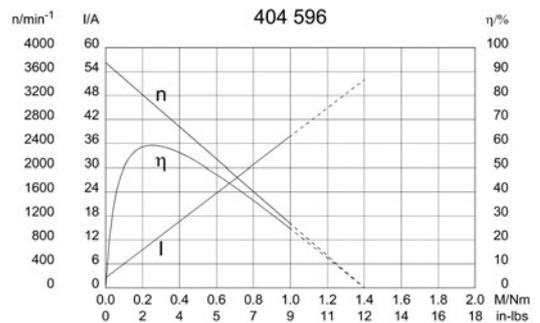
Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	
Gear wheel material	
Suppression components	5 μ H, 10nF
Enclosure class	IP 30
Weight [kg]	1.150

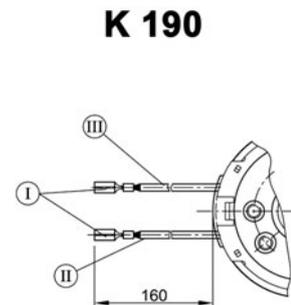
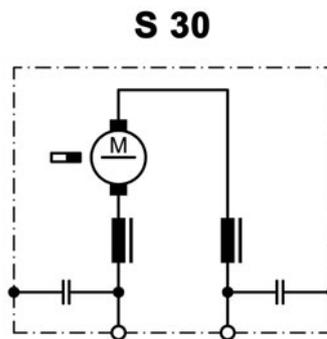
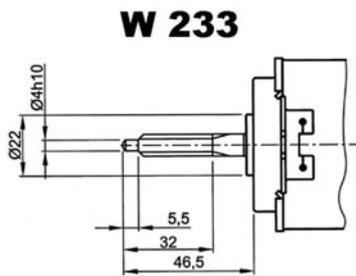
Remarks:



Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



no of starts 2, lead angle 19°48'54", pressure angle 15°, module 1, pitch 3,141 mm (0,124")

I Receptacles for tabs 2,8 x 0,8 DIN 46 247
 II black
 III red

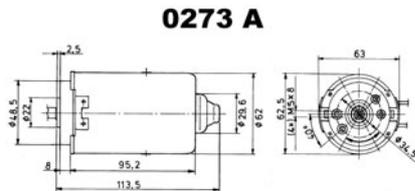
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	0.30
No-load speed [min^{-1}]	n_0	3,800.0
Nominal power [W]	P_N	105
Nominal current [A]	I_N	5.0
Nominal force [kN]	F_N	0.00
Duty cycle		s1

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	
Gear wheel material	
Suppression components	5 μ H, 10nF
Enclosure class	IP 30
Weight [kg]	1.100

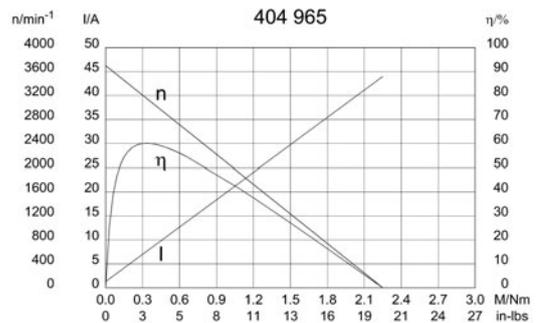
Remarks:



Motor picture

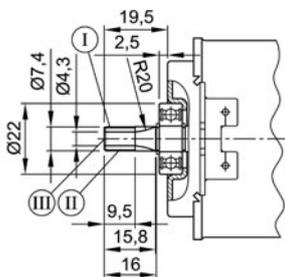


Characteristic curves

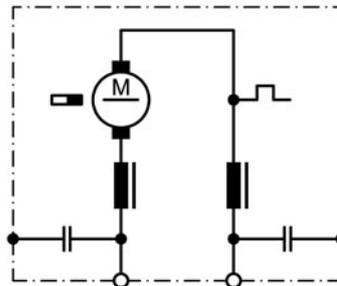


Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

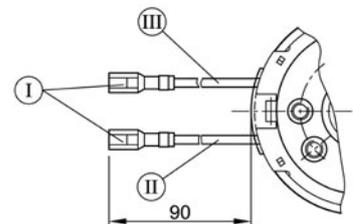
W 325



S 74



K 317



no of starts 7, lead angle 20°, pressure angle 20°, module 0,7, pitch 2,1991 mm (0,087"), induction hardened surface,

- I Receptacle for tabs 6,3 x 0,8
G&H 35040.213.011
- II red
- III green

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

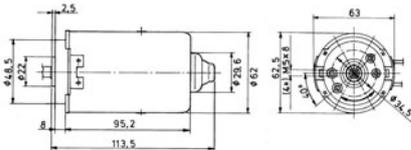
Performance data		
Rated voltage [V]	U_N	36
Nominal torque [Nm]	M_N	0.30
No-load speed [min^{-1}]	n_0	3,900.0
Nominal power [W]	P_N	109
Nominal current [A]	I_N	7.5
Nominal force [kN]	F_N	0.00
Duty cycle		s3

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	
Gear wheel material	
Suppression components	5 μ H, 10nF
Enclosure class	IP 30
Weight [kg]	1.100

Remarks:

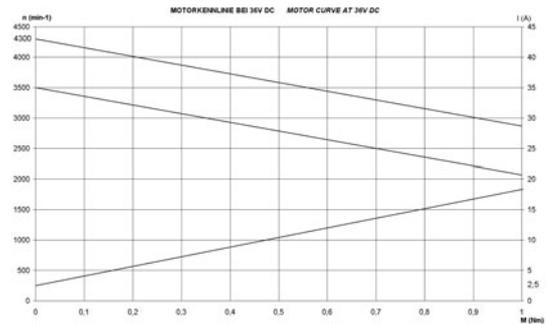
0273 A



Motor picture

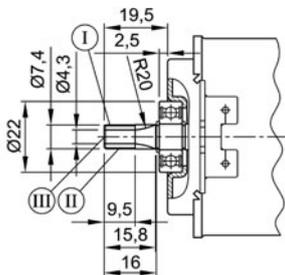


Characteristic curves

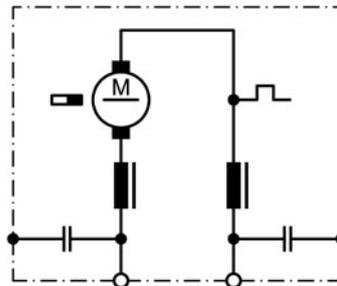


Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

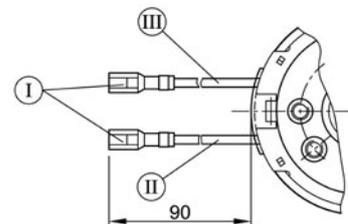
W 325



S 74



K 317



no of starts 7, lead angle 20°, pressure angle 20°, module 0,7, pitch 2,1991 mm (0,087"), induction hardened surface,

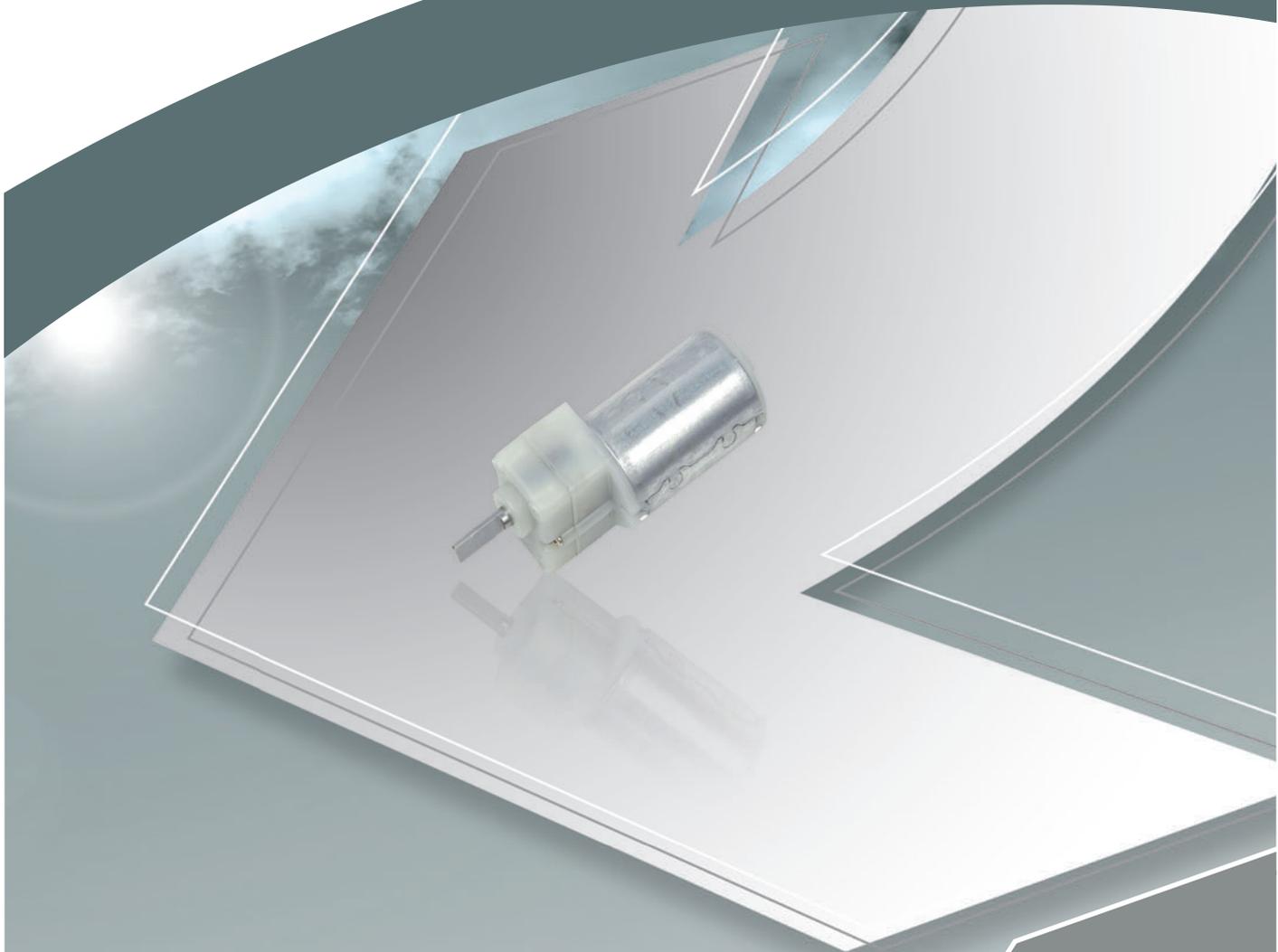
- I Receptacle for tabs 6,3 x 0,8
G&H 35040.213.011
- II red
- III green



NIDEC MOTORS & ACTUATORS ❖❖❖ MOTOR SERIES

0202 (GMAG)

❖❖❖ DC MOTORS WITH SPUR GEAR

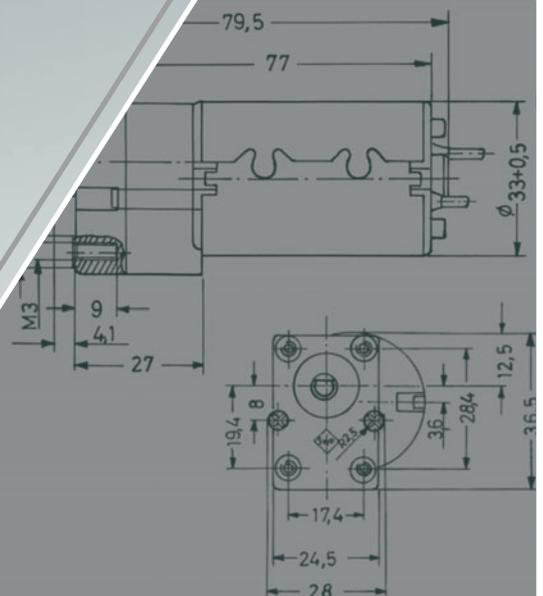


❖❖❖ TECHNICAL DESCRIPTION

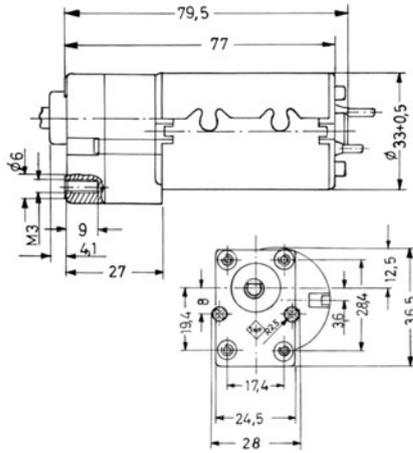
Motorhousing:	sheet metal, rolled & corrosion protected
Excitation field:	permanent magnet
Type of gear mesh:	spur gear
Gear housing:	plastic
Gear wheel material:	steel or plastic
Lubrication:	grease
Mechanical interface:	steel shaft
Electric interface:	tinned leads or with connector
Sensor:	optional
Thermal protection:	optional
EMC suppression:	optional

❖❖❖ APPLICATION

Automatic machines, Constructional engineering
 Business machines, Laboratory appliances
 Medical appliances, Traffic & communications
 technology, Photographic/optical equipment



Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	



Performance data		
Rated voltage [V]	U_N	12
Nominal torque [Nm]	M_N	0.24
No-load speed [min^{-1}]	n_0	17.0
Nominal power [W]	P_N	0.37
Nominal current [A]	I_N	0.0
Nominal force [kN]	F_N	0.00
Duty cycle		s3

Sensor data	
Pulses	0
Output channels	0

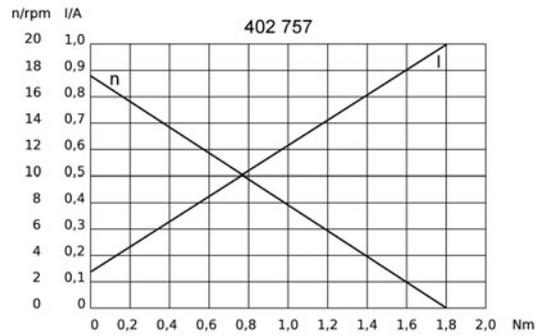
Other data	
Gear ratio	109/1
Gear wheel material	
Suppression components	
Enclosure class	IP40
Weight [kg]	0.180

Remarks:

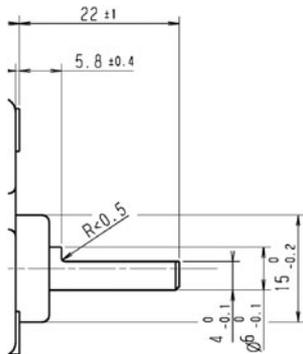
Motor picture



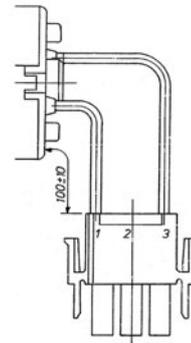
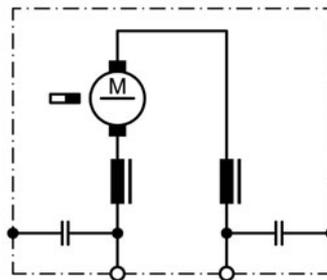
Characteristic curves



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



S 30



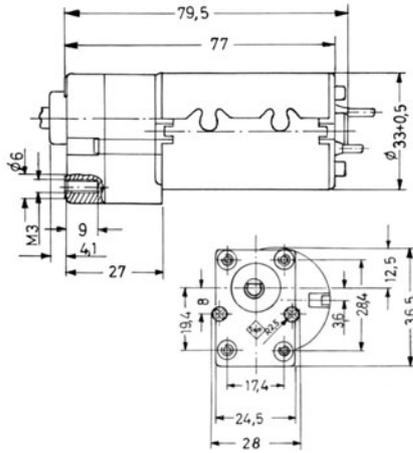
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	0.50
No-load speed [min^{-1}]	n_0	55.0
Nominal power [W]	P_N	2.56
Nominal current [A]	I_N	0.5
Nominal force [kN]	F_N	0.00
Duty cycle		s3

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	109/1
Gear wheel material	
Suppression components	
Enclosure class	IP40
Weight [kg]	0.180

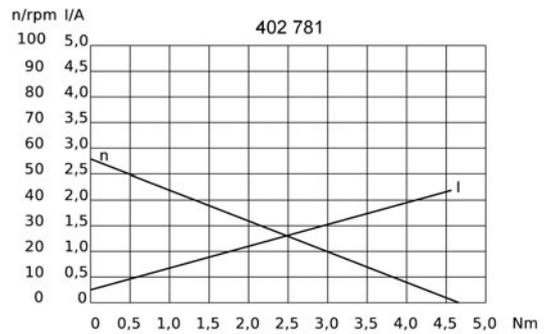
Remarks:



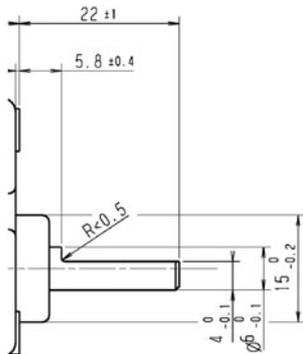
Motor picture



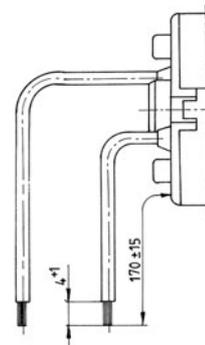
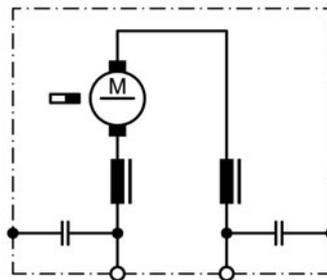
Characteristic curves



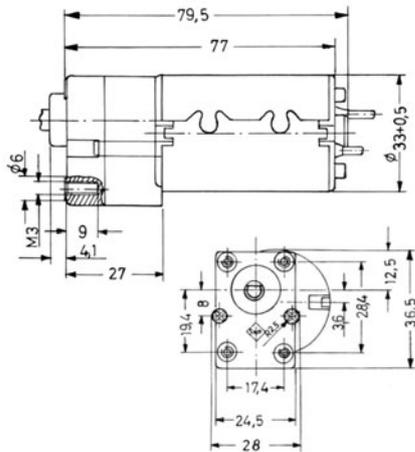
Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



S 30



Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	



Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	0.04
No-load speed [min^{-1}]	n_0	300.0
Nominal power [W]	P_N	1.07
Nominal current [A]	I_N	0.2
Nominal force [kN]	F_N	0.00
Duty cycle		s3

Sensor data	
Pulses	0
Output channels	0

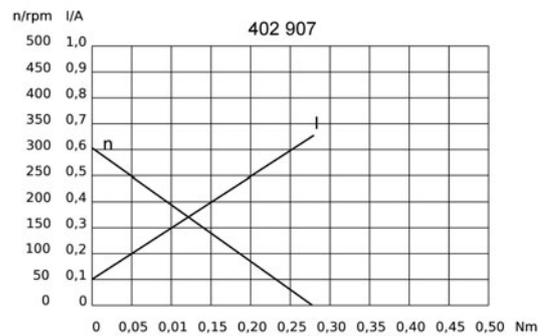
Other data	
Gear ratio	9.7/1
Gear wheel material	
Suppression components	
Enclosure class	IP40
Weight [kg]	0.180

Remarks:

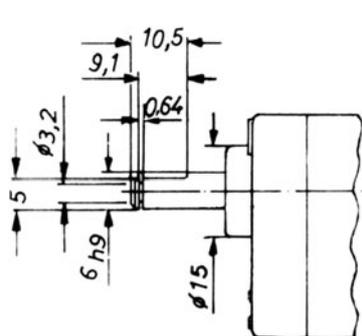
Motor picture



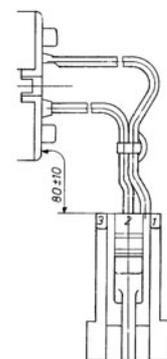
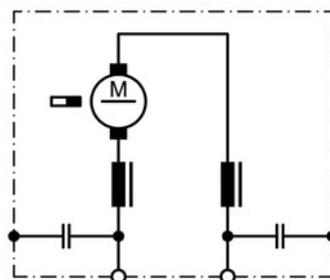
Characteristic curves



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

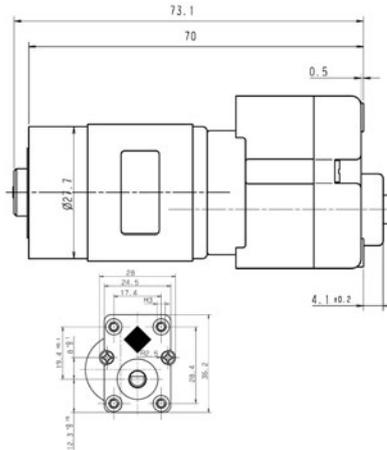


S 30



Connector Burndy
 Pins: SWM 1EF TV2
 Housing: SMS 2p-1

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	



Motor picture



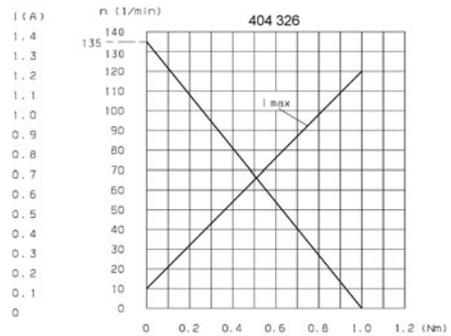
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	0.20
No-load speed [min^{-1}]	n_0	135.0
Nominal power [W]	P_N	2.26
Nominal current [A]	I_N	0.3
Nominal force [kN]	F_N	0.00
Duty cycle		s3

Sensor data	
Pulses	0
Output channels	0

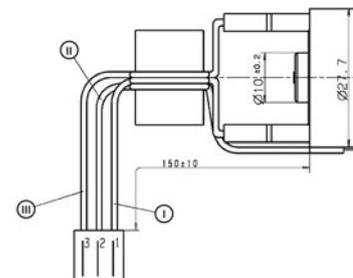
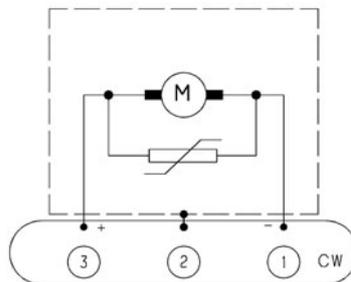
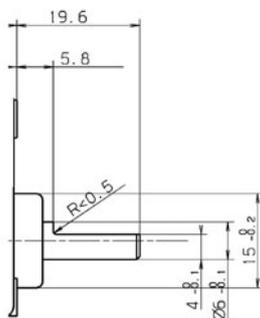
Other data	
Gear ratio	43/1
Gear wheel material	
Suppression components	
Enclosure class	IP40
Weight [kg]	0.180

Remarks:

Characteristic curves



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



Housing: AMP-Nr.: 1-480 700-0
Pins: AMP-Nr.: 350 570-1
I: black
II: yellow/green
III: red

Design Data

Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

Performance data

Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	0.50
No-load speed [min^{-1}]	n_0	65.0
Nominal power [W]	P_N	2.84
Nominal current [A]	I_N	0.4
Nominal force [kN]	F_N	0.00
Duty cycle		s3

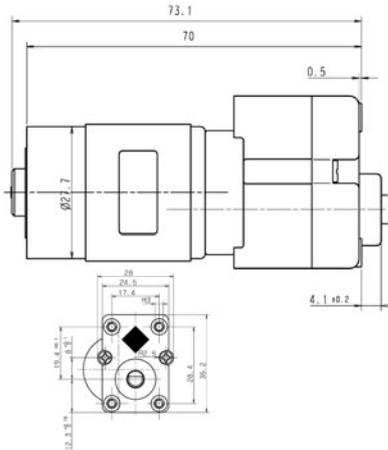
Sensor data

Pulses	0
Output channels	0

Other data

Gear ratio	109/1
Gear wheel material	
Suppression components	
Enclosure class	IP40
Weight [kg]	0.180

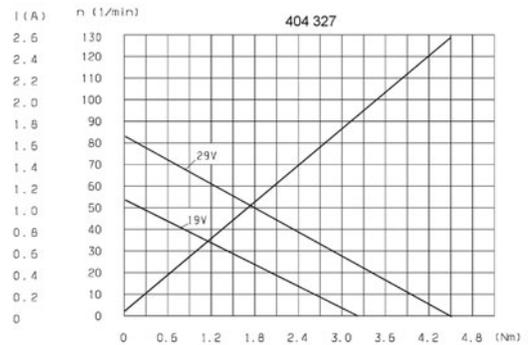
Remarks:



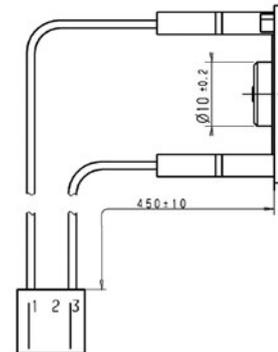
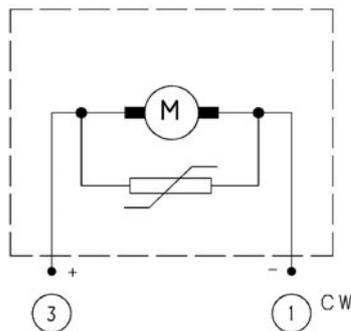
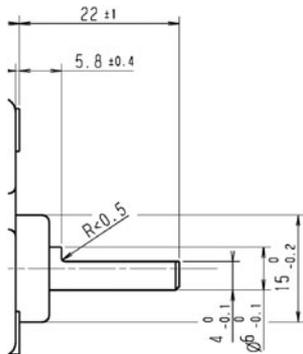
Motor picture



Characteristic curves



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



Housing: AMP-Nr. 1-480 700-0
Pins: AMP-Nr. 350 687-1



NIDEC MOTORS & ACTUATORS ❖❖❖ MOTOR SERIES

0231 (GMPI)

❖❖❖ DC MOTORS WITH SPUR GEAR



❖❖❖ TECHNICAL DESCRIPTION

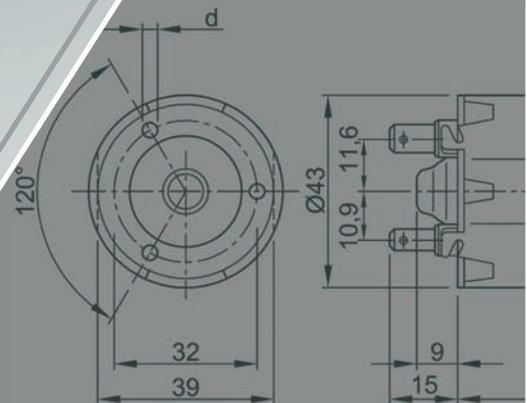
Motorhousing:	sheet metal, rolled & corrosion protected
Excitation field:	permanent magnet
Type of gear mesh:	spur gear
Gear housing:	plastic
Gear wheel material:	plastic
Lubrication:	grease
Mechanical interface:	steel shaft
Electric interface:	connector or leads with connector
Sensor:	optional
Thermal protection:	optional
EMC suppression:	optional

❖❖❖ INDUSTRIAL APPLICATION

Linear actuators, home automation

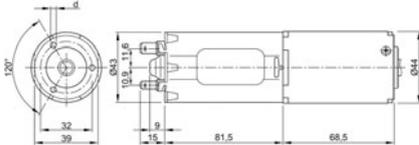
❖❖❖ AUTOMOTIVE APPLICATION

Spoiler adjustment



Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Sleeve - B:Sleeve

0231 A



Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	4.00
No-load speed [min^{-1}]	n_0	210.0
Nominal power [W]	P_N	72.0
Nominal current [A]	I_N	7.0
Nominal force [kN]	F_N	0.00
Duty cycle		s3

Sensor data	
Pulses	0
Output channels	0

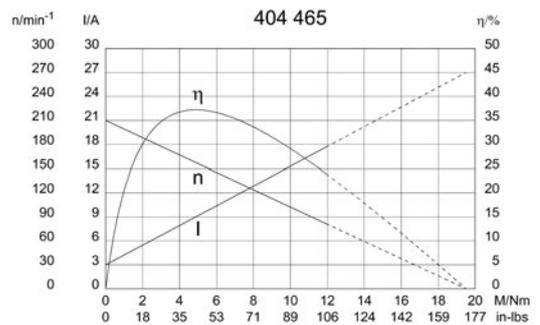
Other data	
Gear ratio	39.7/1
Gear wheel material	plastic
Suppression components	7,5 μ H, 1nF
Enclosure class	IP30
Weight [kg]	0.630

Remarks: d = 3,3mm, for selftapping screw 4mm (shape Remform)

Motor picture

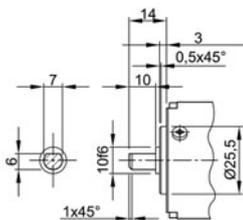


Characteristic curves

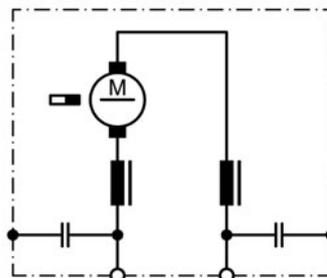


Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

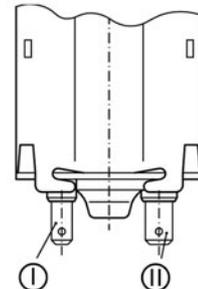
W 268



S 30



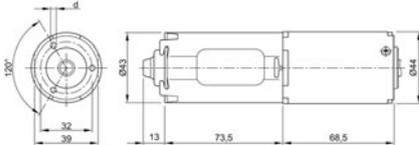
K 117



I Blade terminal ends 4,8 x 0,8 DIN 46 244
 II Blade terminal ends 6,3 x 0,8 DIN 46 244

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Sleeve - B:Sleeve

0231 C



Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	1.50
No-load speed [min^{-1}]	n_0	178.0
Nominal power [W]	P_N	20.0
Nominal current [A]	I_N	3.0
Nominal force [kN]	F_N	0.00
Duty cycle		s3

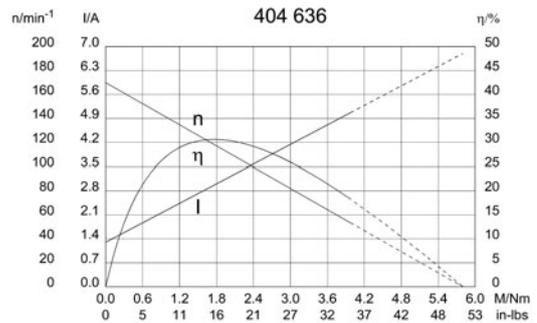
Sensor data	
Pulses	20
Output channels	2

Other data	
Gear ratio	20/1
Gear wheel material	plastic
Suppression components	4 μ H, 1nF
Enclosure class	IP 30
Weight [kg]	0.750

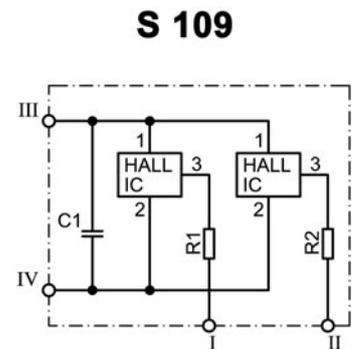
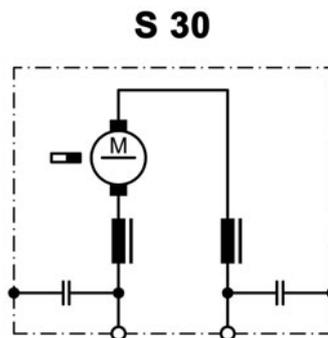
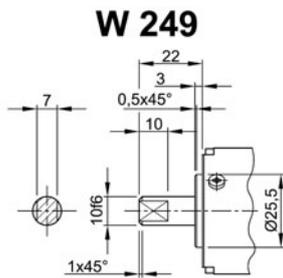
Remarks: d = 3,3mm, for self-cutting screw 4mm (shape Remform)

Characteristic curves

Motor picture



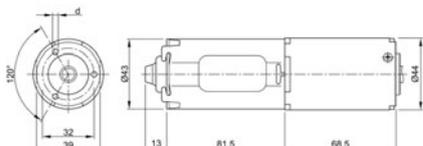
Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



- I Terminal 1, OUT A1, grey
- II Terminal 2, OUT A2, black
- III Terminal 3, +, white
- IV Terminal 4, -, red

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	sleeve bearing

0231 B



Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	4.00
No-load speed [min^{-1}]	n_0	200.0
Nominal power [W]	P_N	69.8
Nominal current [A]	I_N	8.0
Nominal force [kN]	F_N	0.00
Duty cycle		s2

Sensor data	
Pulses	39
Output channels	2

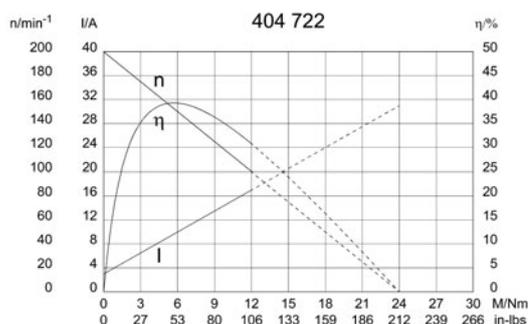
Other data	
Gear ratio	39.7/1
Gear wheel material	plastic
Suppression components	4,0 μ H, 1nF
Enclosure class	IP 30
Weight [kg]	0.650

Remarks: d = 3,3mm, for self-cutting screw 4mm

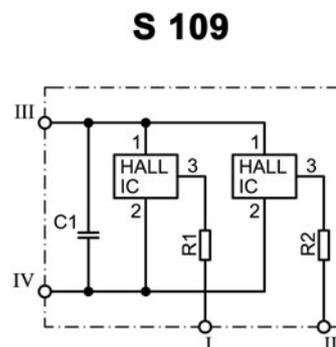
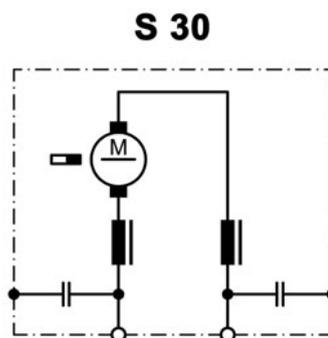
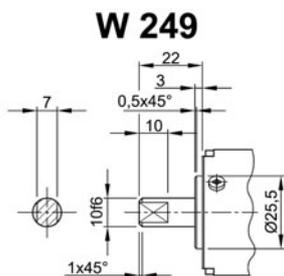
Motor picture



Characteristic curves

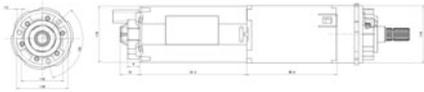


Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



- I Terminal 1, OUT A1, grey
- II Terminal 2, OUT A2, black
- III Terminal 3, +, white
- IV Terminal 4, -, red

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Sleeve - B:Sleeve



Performance data		
Rated voltage [V]	U_N	12
Nominal torque [Nm]	M_N	10.0
No-load speed [min^{-1}]	n_0	40.0
Nominal power [W]	P_N	34.4
Nominal current [A]	I_N	8.0
Nominal force [kN]	F_N	0.00
Duty cycle		s3

Sensor data	
Pulses	116
Output channels	1

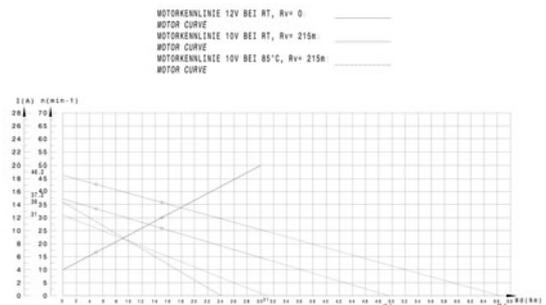
Other data	
Gear ratio	116/1
Gear wheel material	plastic
Suppression components	2,5 μ H, 47nF, ()
Enclosure class	IP 30
Weight [kg]	0.800

Remarks:

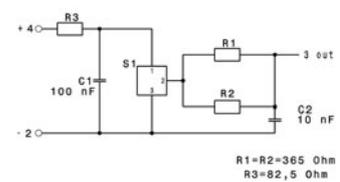
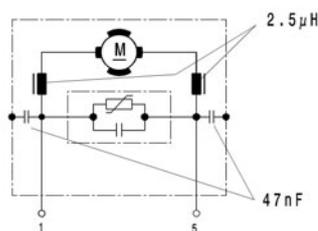
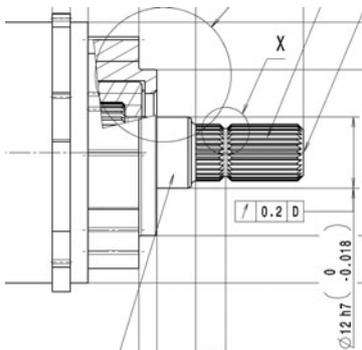
Motor picture



Characteristic curves



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

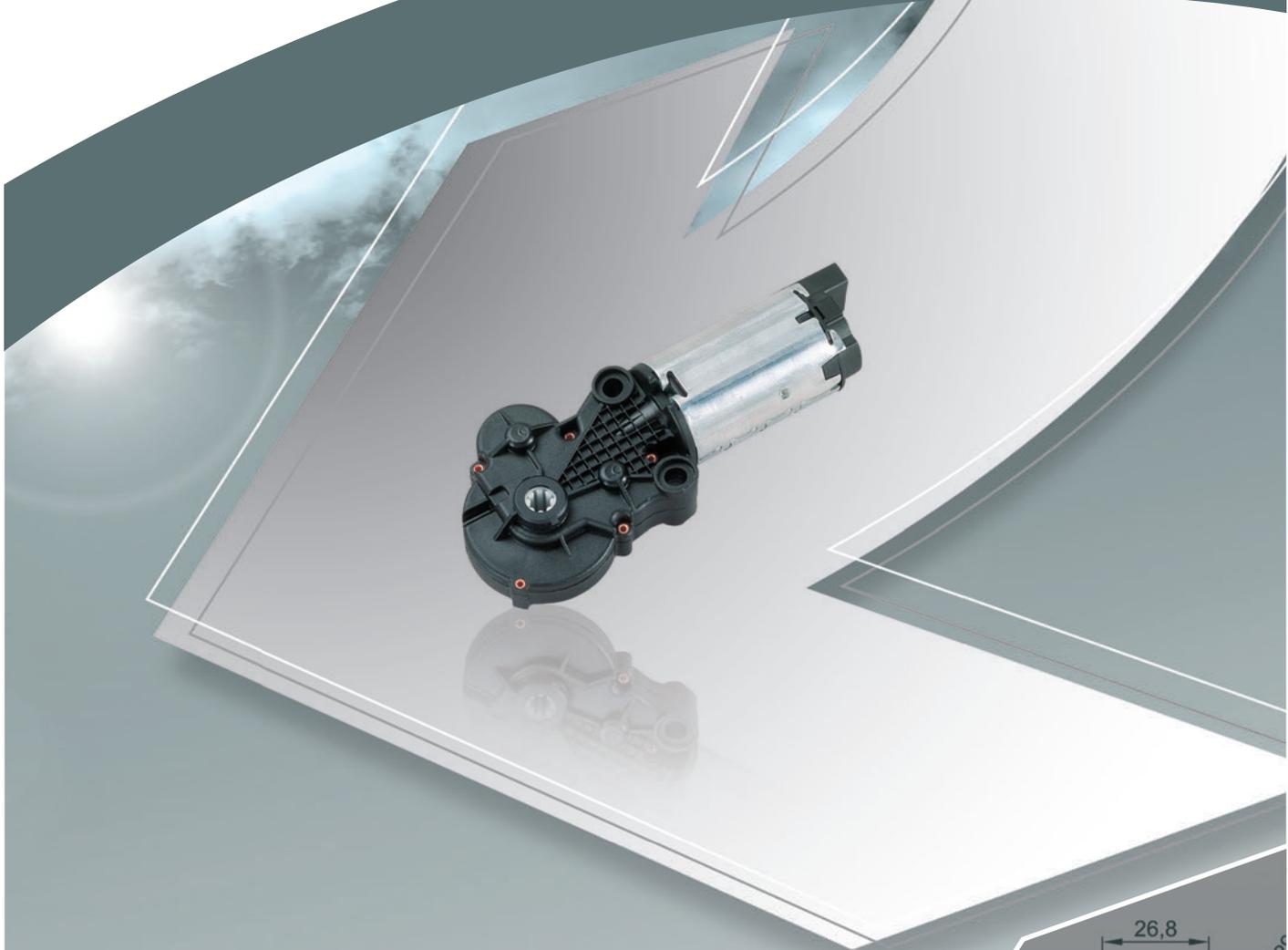




NIDEC MOTORS & ACTUATORS ❖❖❖ MOTOR SERIES

0320 (GMPD)

❖❖❖ DC MOTORS WITH WORM GEAR



❖❖❖ TECHNICAL DESCRIPTION

Motorhousing:	sheet metal, rolled & corrosion protected
Excitation field:	permanent magnet
Type of gear mesh:	combination of worm and spur gear
Gear housing:	plastic
Gear wheel material:	plastic
Lubrication:	grease
Mechanical interface:	hollow shaft with profile
Electric interface:	connector or leads with connector
Sensor:	optional
Thermal protection:	optional
EMC suppression:	optional

❖❖❖ INDUSTRIAL APPLICATION

Machine construction

❖❖❖ AUTOMOTIVE APPLICATION

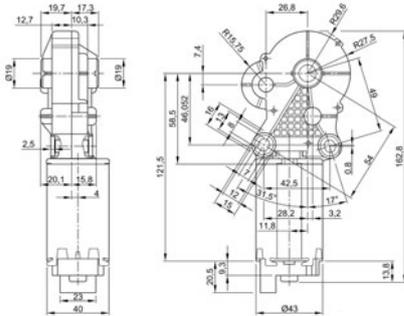
Seat Recline Adjustment



Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Sleeve - B:Sleeve

Performance data		
Rated voltage [V]	U_N	12
Nominal torque [Nm]	M_N	3.00
No-load speed [min^{-1}]	n_0	21.0
Nominal power [W]	P_N	5.59
Nominal current [A]	I_N	3.5
Nominal force [kN]	F_N	0.00
Duty cycle		s3

0320 BR



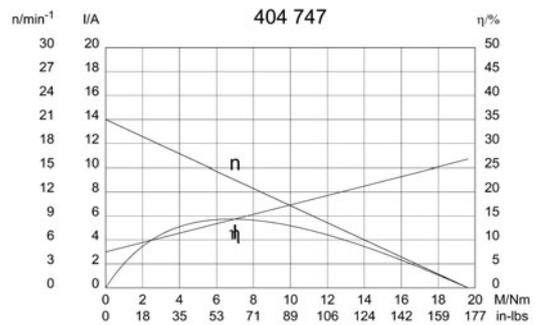
Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	210/1
Gear wheel material	plastic
Suppression components	5,5 μ H, 47nF, (0,47 μ F)
Enclosure class	IP 40
Weight [kg]	0.440

Remarks:

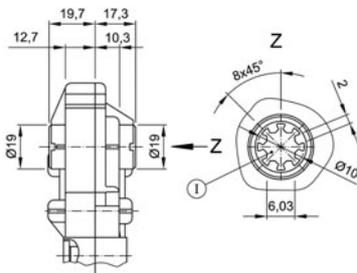
Motor picture

Characteristic curves



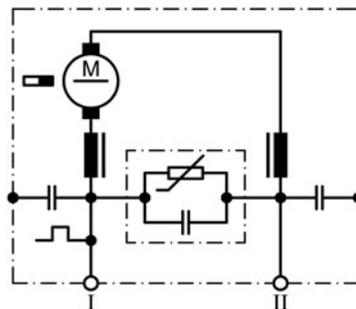
Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

W 270



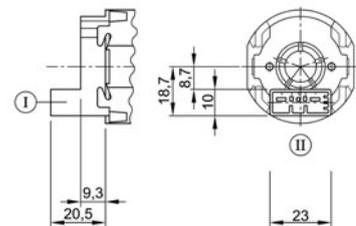
I through profile

S 93



I Terminal 1
 II Terminal 5

K 220

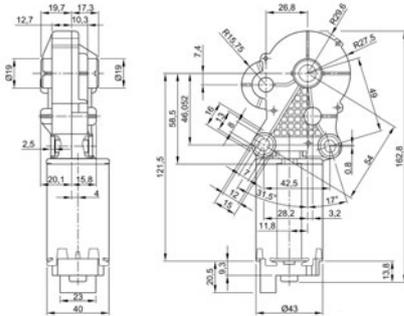


Connector TYCO C-208-15621 (Z) mating with:
Connector housing 1379217-3 & cover
 1379218-2
www.tycoelectronics.com

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Sleeve - B:Sleeve

Performance data		
Rated voltage [V]	U_N	12
Nominal torque [Nm]	M_N	3.00
No-load speed [min^{-1}]	n_0	21.0
Nominal power [W]	P_N	5.59
Nominal current [A]	I_N	3.5
Nominal force [kN]	F_N	0.00
Duty cycle		s3

0320 BR



Sensor data	
Pulses	210
Output channels	1

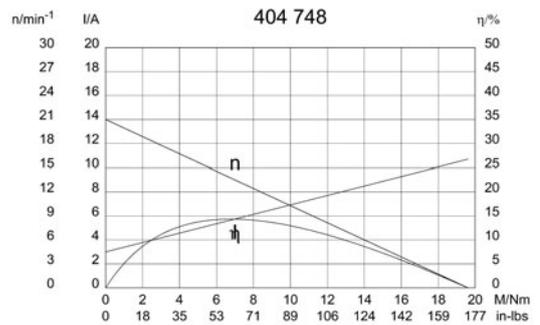
Other data	
Gear ratio	210/1
Gear wheel material	plastic
Suppression components	5,5 μ H, 47nF, (0,47 μ F)
Enclosure class	IP 40
Weight [kg]	0.440

Remarks:

Motor picture

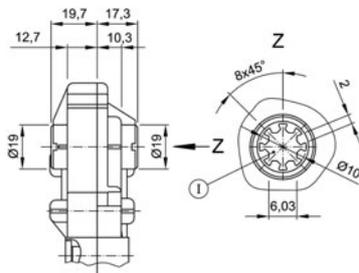


Characteristic curves



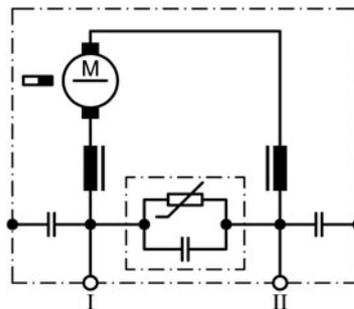
Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

W 270



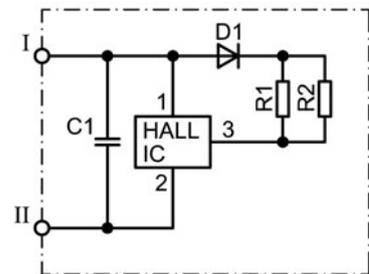
I through profile

S 86



I Terminal 1
 II Terminal 5

S 85

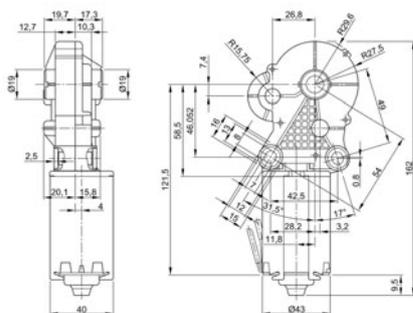


I Terminal 4, Hall-IC +
 II Terminal 2, Hall-IC -

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Sleeve - B:Sleeve

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	4.00
No-load speed [min^{-1}]	n_0	22.0
Nominal power [W]	P_N	7.54
Nominal current [A]	I_N	1.8
Nominal force [kN]	F_N	0.00
Duty cycle		s3

0320 AR



Sensor data	
Pulses	0
Output channels	0

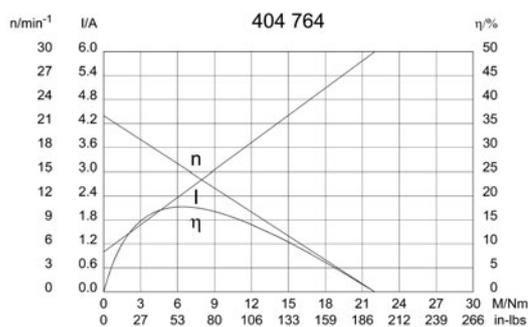
Other data	
Gear ratio	210/1
Gear wheel material	plastic
Suppression components	7,5 μ H, 47nF, (0,47 μ F)
Enclosure class	IP 40
Weight [kg]	0.440

Remarks:

Motor picture

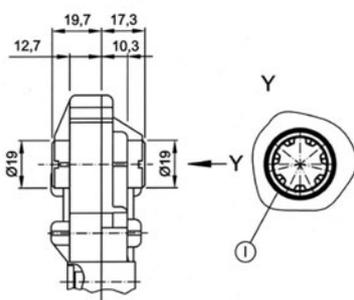


Characteristic curves



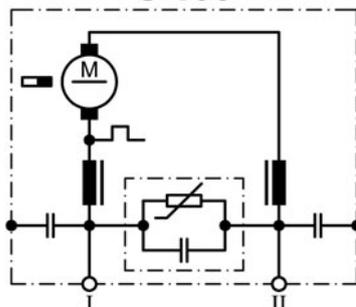
Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

W 224



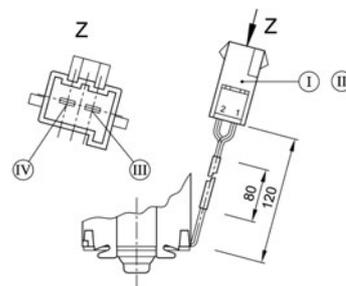
I through Profile KRC 316928 AEIZ 01

S 103



I Terminal 1, black
 II Terminal 2, blue

K 227

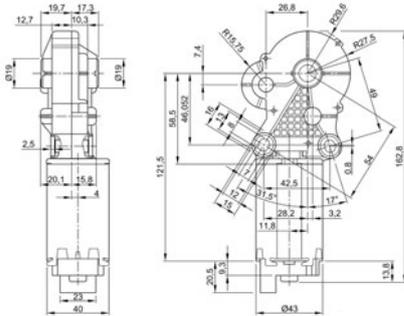


tap housing 365057-1, timer contacts 928781-5
 mating with receptacle housing 365058-1,
 timer contacts 927768-1
 1 black motor, 2 blue motor

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Sleeve - B:Sleeve

Performance data		
Rated voltage [V]	U_N	12
Nominal torque [Nm]	M_N	2.00
No-load speed [min^{-1}]	n_0	21.0
Nominal power [W]	P_N	3.95
Nominal current [A]	I_N	3.0
Nominal force [kN]	F_N	0.00
Duty cycle		s3

0320 BR



Sensor data	
Pulses	0
Output channels	0

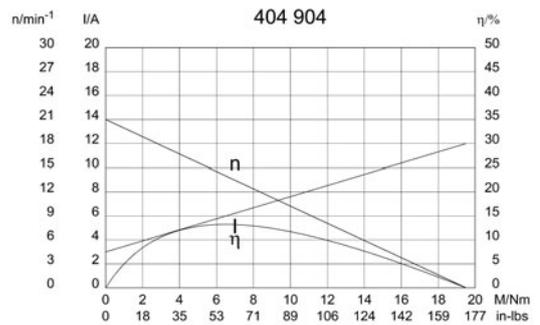
Other data	
Gear ratio	210/1
Gear wheel material	plastic
Suppression components	5,5 μ H, 47nF
Enclosure class	IP 40
Weight [kg]	0.440

Remarks:

Motor picture

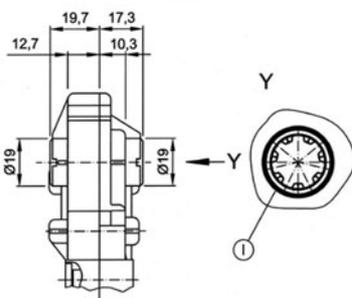


Characteristic curves



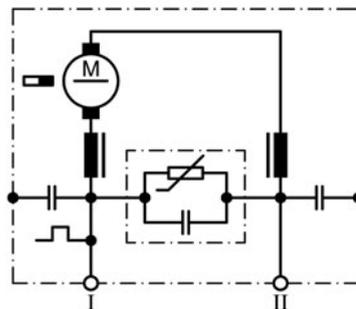
Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

W 224



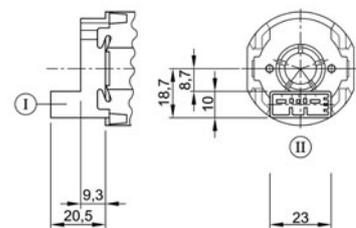
I through Profile KRC 316928 AEIZ 01

S 93



I Terminal 1
 II Terminal 5

K 220

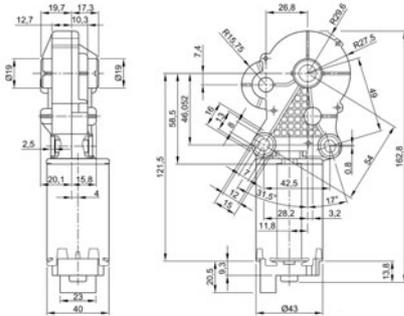


Connector TYCO C-208-15621 (Z) mating with:
Connector housing 1379217-3 & cover
 1379218-2
www.tycoelectronics.com

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

Performance data		
Rated voltage [V]	U_N	12
Nominal torque [Nm]	M_N	2.00
No-load speed [min^{-1}]	n_0	21.0
Nominal power [W]	P_N	3.92
Nominal current [A]	I_N	3.5
Nominal force [kN]	F_N	0.00
Duty cycle		s3

0320 BR

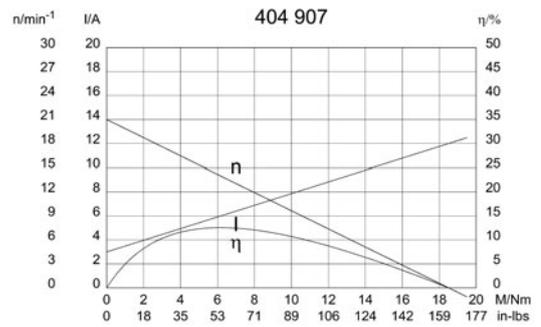


Sensor data	
Pulses	210
Output channels	1

Other data	
Gear ratio	210/1
Gear wheel material	plastic
Suppression components	""
Enclosure class	IP 40
Weight [kg]	0.440

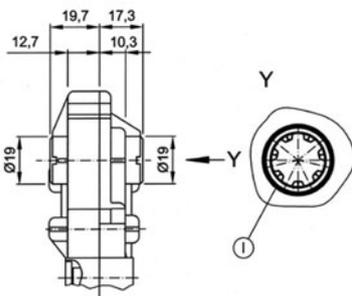
Remarks: Plastic gearbox

Motor picture

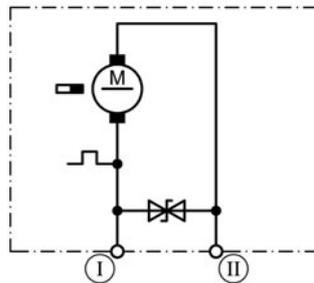


Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

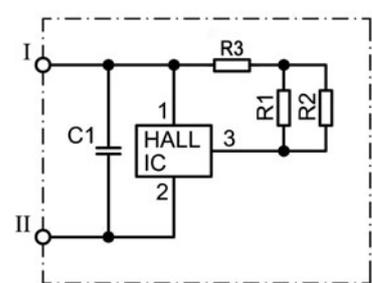
W 224



S 138



S 140



I through Profile KRC 316928 AEIZ 01

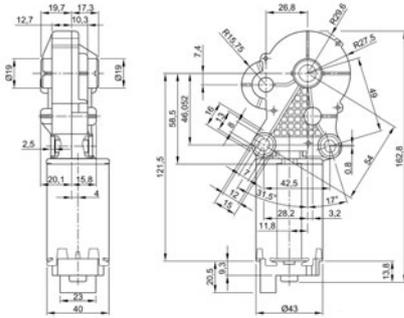
I Terminal 1
 II Terminal 5

I Terminal 4; Hall-IC +
 II Terminal 2; Hall-IC -

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Sleeve - B:Sleeve

Performance data		
Rated voltage [V]	U_N	12
Nominal torque [Nm]	M_N	2.00
No-load speed [min^{-1}]	n_0	22.0
Nominal power [W]	P_N	4.10
Nominal current [A]	I_N	4.0
Nominal force [kN]	F_N	0.00
Duty cycle	s3	

0320 BR



Sensor data	
Pulses	0
Output channels	0

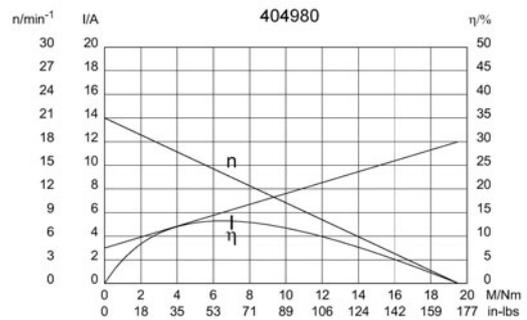
Other data	
Gear ratio	210/1
Gear wheel material	plastic
Suppression components	7,5 μ H, 1nF
Enclosure class	IP40
Weight [kg]	0.440

Remarks:

Motor picture

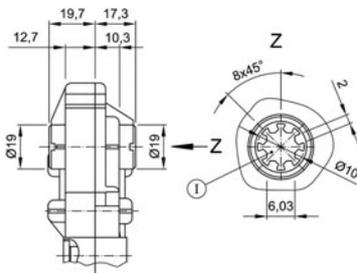


Characteristic curves



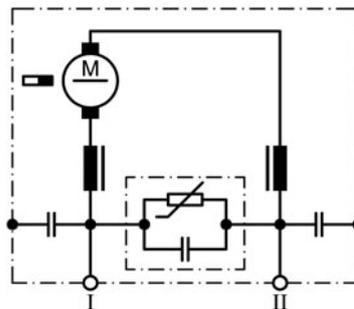
Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

W 270



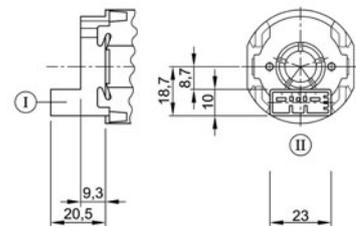
I through profile

S 86



I Terminal 1
II Terminal 5

K 220



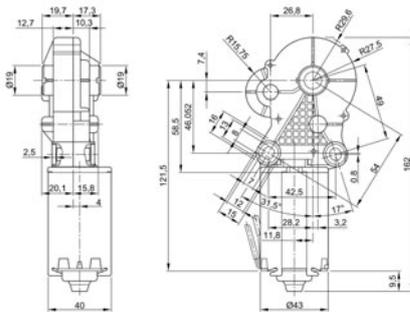
Connector TYCO C-208-15621 (Z) mating with:
Connector housing 1379217-3 & cover 1379218-2

www.tycoelectronics.com

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Sleeve - B:Sleeve

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	4.00
No-load speed [min^{-1}]	n_0	20.0
Nominal power [W]	P_N	6.70
Nominal current [A]	I_N	2.0
Nominal force [kN]	F_N	0.00
Duty cycle		s3

0320 AR



Sensor data	
Pulses	0
Output channels	0

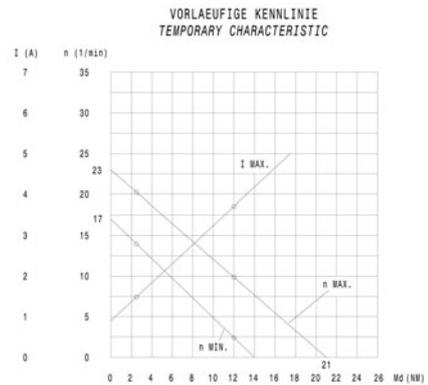
Other data	
Gear ratio	246.75/1
Gear wheel material	plastic
Suppression components	7,5 μ , 47nF
Enclosure class	IP 40
Weight [kg]	0.440

Remarks:

Motor picture

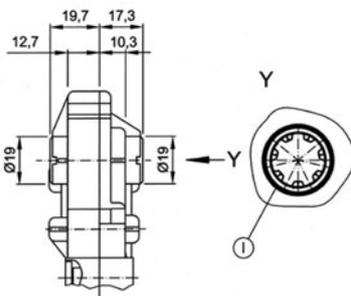


Characteristic curves

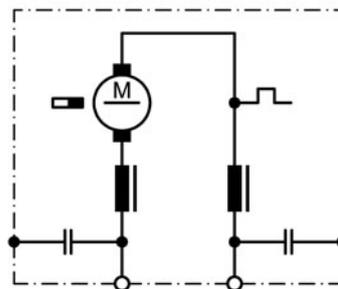


Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

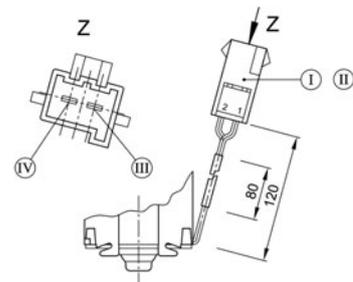
W 224



S 74



K 227



I through Profile KRC 316928 AEIZ 01

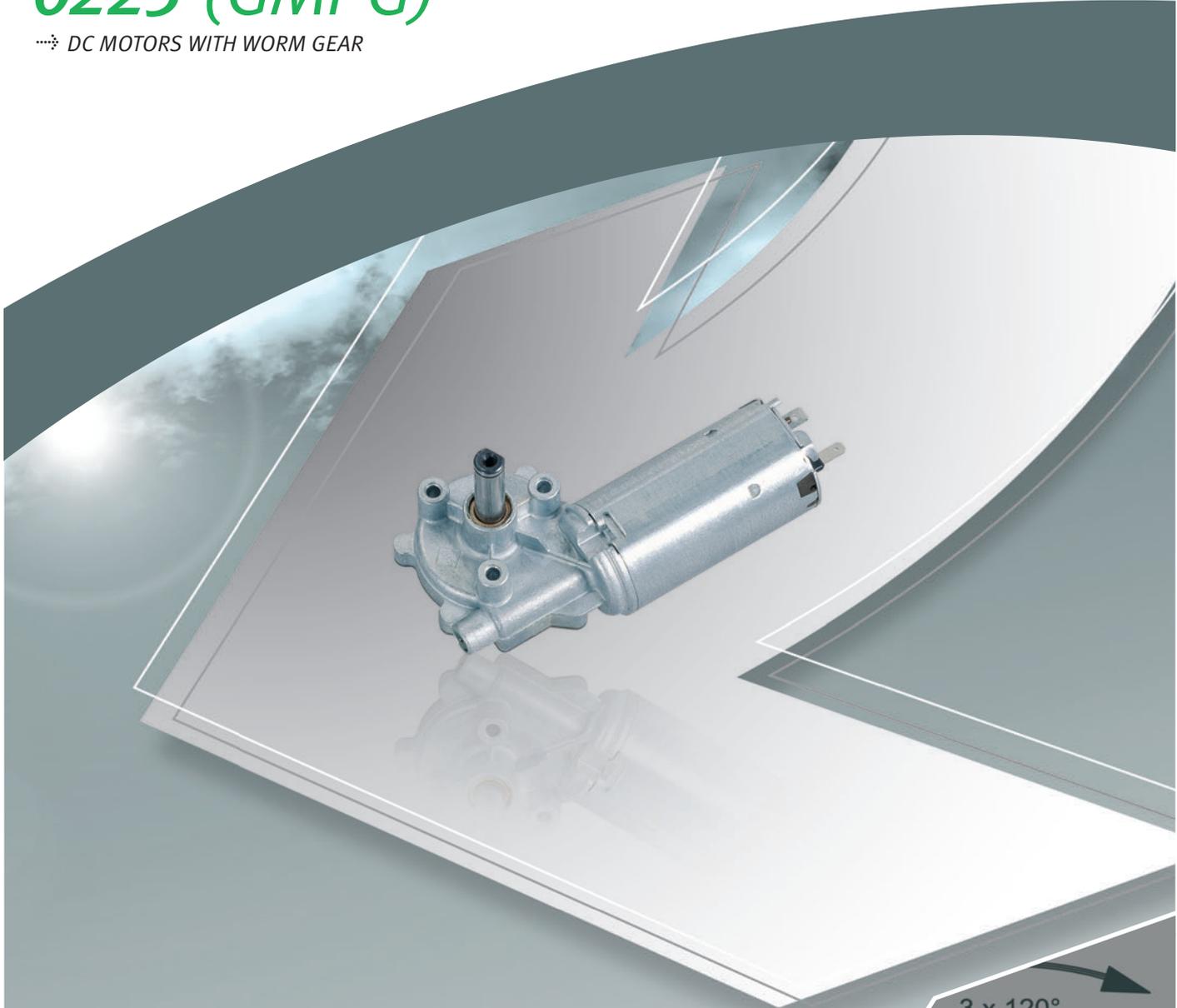
tap housing 365057-1, timer contacts 928781-5
 mating with receptacle housing 365058-1,
 timer contacts 927768-1
 1 black motor, 2 blue motor



NIDEC MOTORS & ACTUATORS ❖❖❖ MOTOR SERIES

0225 (GMPG)

❖❖❖ DC MOTORS WITH WORM GEAR



❖❖❖ TECHNICAL DESCRIPTION

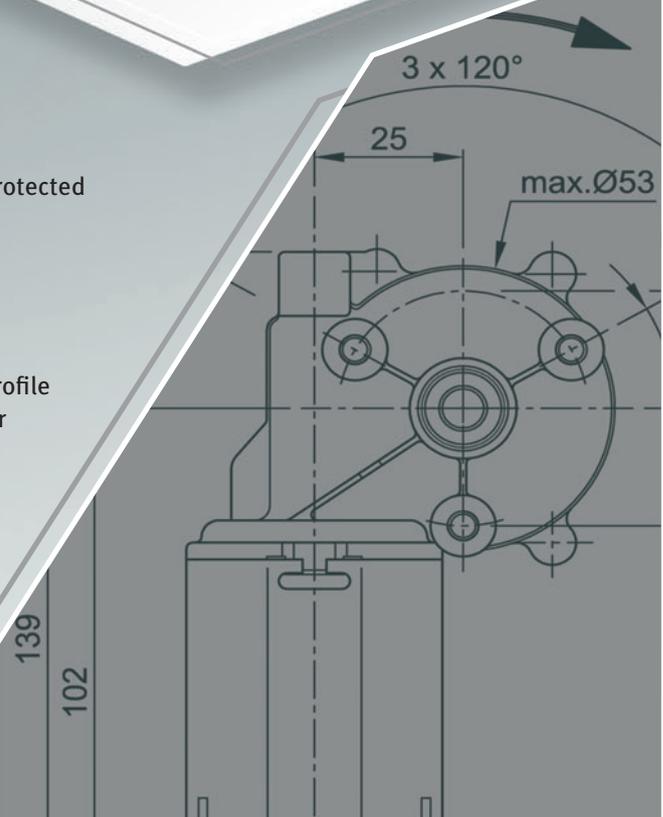
Motorhousing:	sheet metal, rolled & corrosion protected
Excitation field:	permanent magnet
Type of gear mesh:	worm gear
Gear housing:	zinc die cast
Gear wheel material:	plastic
Lubrication:	grease
Mechanical interface:	steel shaft or hollow shaft with profile
Electric interface:	connector or leads with connector
Sensor:	optional
Thermal protection:	optional
EMC suppression:	optional

❖❖❖ INDUSTRIAL APPLICATION

Catering, Office machines, Furniture Adjustment, Machine Construction

❖❖❖ AUTOMOTIVE APPLICATION

Sunroof adjustment



Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Sleeve - B:Sleeve

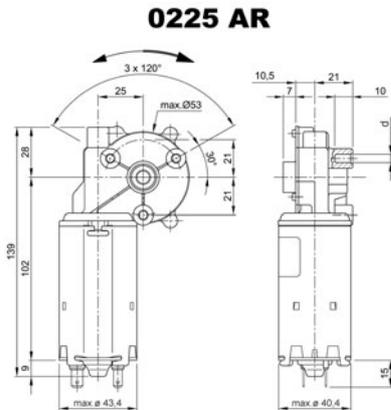
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	1.00
No-load speed [min^{-1}]	n_0	80.0
Nominal power [W]	P_N	7.33
Nominal current [A]	I_N	1.5
Nominal force [kN]	F_N	0.00
Duty cycle	s3	

Sensor data	
Pulses	0
Output channels	0

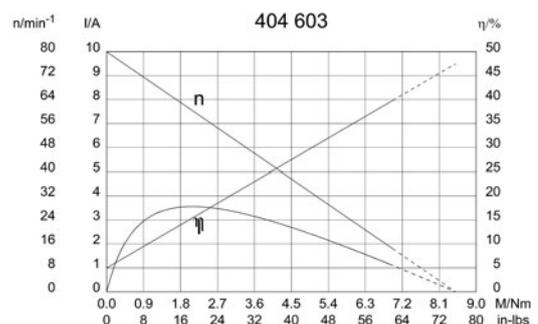
Other data	
Gear ratio	62/1
Gear wheel material	plastic
Suppression components	
Enclosure class	IP 30
Weight [kg]	0.610

Remarks: d=selftapping screw M5

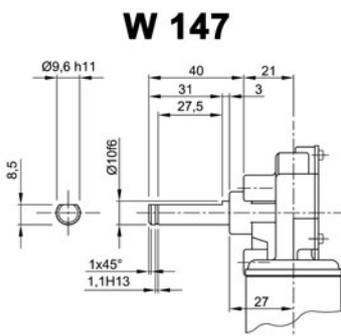
Characteristic curves



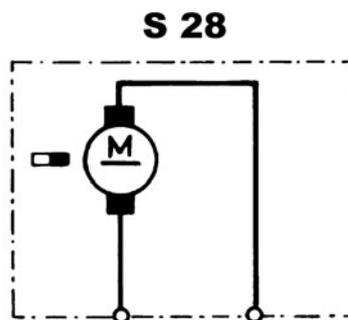
Motor picture



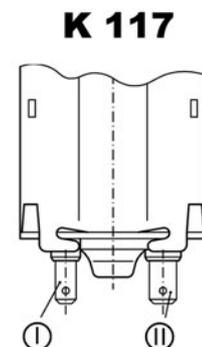
Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



W 147



S 28



K 117

- I - Blade terminal ends 4,8 x 0,8 DIN 46 244
- II - Blade terminal ends 6,3 x 0,8 DIN 46 244

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Sleeve - B:Sleeve

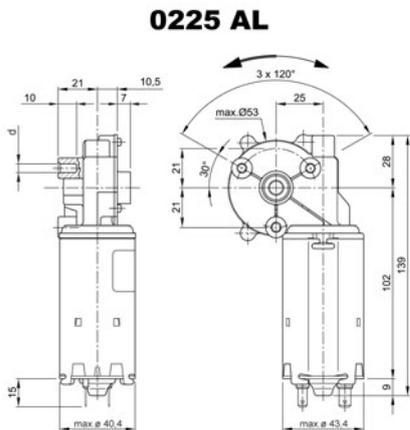
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	0.50
No-load speed [min^{-1}]	n_0	540.0
Nominal power [W]	P_N	24.7
Nominal current [A]	I_N	2.0
Nominal force [kN]	F_N	0.00
Duty cycle	s3	

Sensor data	
Pulses	0
Output channels	0

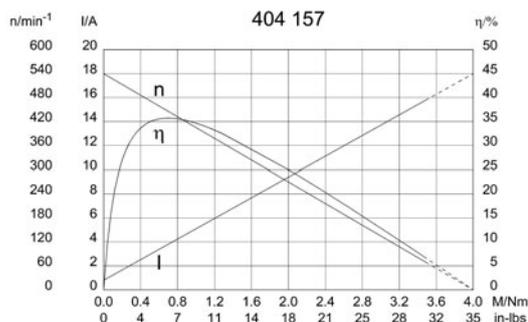
Other data	
Gear ratio	56/4
Gear wheel material	plastic
Suppression components	7,5 μ H, 1nF
Enclosure class	IP 30
Weight [kg]	0.710

Remarks: d = for thread-forming screw M 5 DIN 7500

Characteristic curves

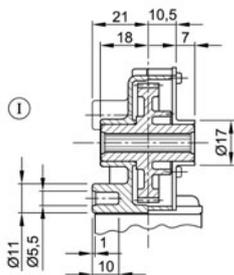


Motor picture



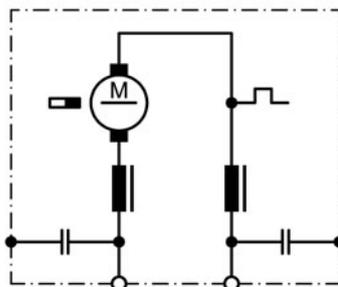
Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

W 148

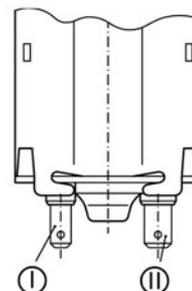


I Tapered splines 7 x 8 DIN 5481 continuous

S 74



K 117



I Blade terminal ends 4,8 x 0,8 DIN 46 244
 II Blade terminal ends 6,3 x 0,8 DIN 46 244

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Sleeve - B:Sleeve

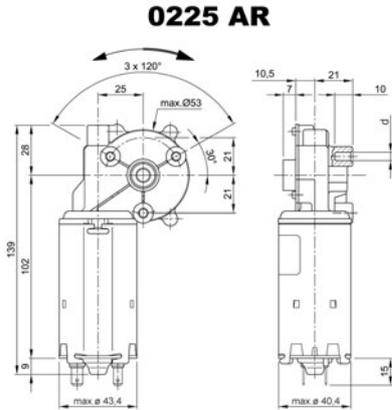
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	1.00
No-load speed [min^{-1}]	n_0	80.0
Nominal power [W]	P_N	7.39
Nominal current [A]	I_N	2.0
Nominal force [kN]	F_N	0.00
Duty cycle	s3	

Sensor data	
Pulses	0
Output channels	0

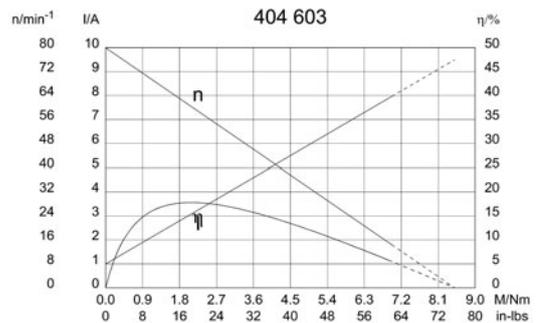
Other data	
Gear ratio	62/1
Gear wheel material	plastic
Suppression components	7,5 μ H, 1nF
Enclosure class	IP30
Weight [kg]	0.710

Remarks: d = for thread-forming screw M 5 DIN 7500

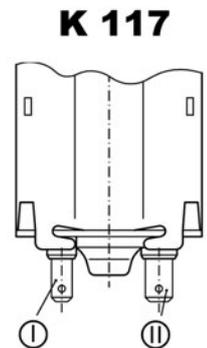
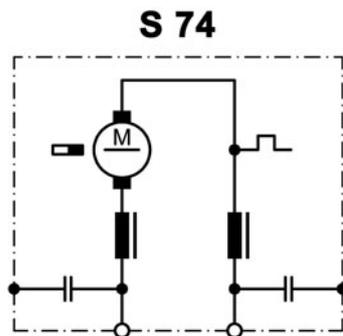
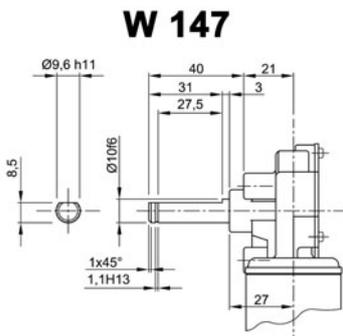
Characteristic curves



Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



- I - Blade terminal ends 4,8 x 0,8 DIN 46 244
- II - Blade terminal ends 6,3 x 0,8 DIN 46 244

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Sleeve - B:Sleeve

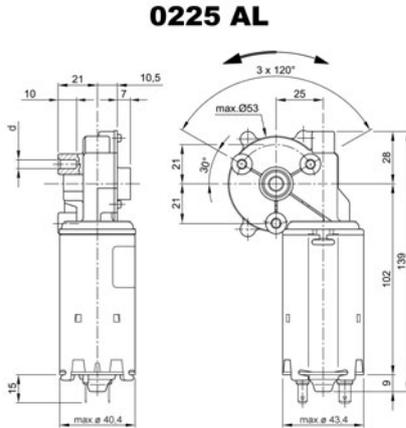
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	1.00
No-load speed [min^{-1}]	n_0	28.0
Nominal power [W]	P_N	2.48
Nominal current [A]	I_N	1.0
Nominal force [kN]	F_N	0.00
Duty cycle	s2	

Sensor data	
Pulses	0
Output channels	0

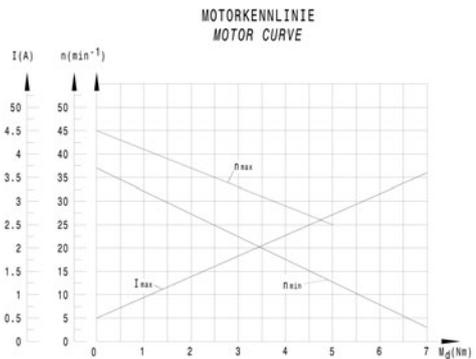
Other data	
Gear ratio	72/1
Gear wheel material	plastic
Suppression components	7,5 μ H, 1nF
Enclosure class	IP 30
Weight [kg]	0.710

Remarks: d=selftapping screw M5

Characteristic curves

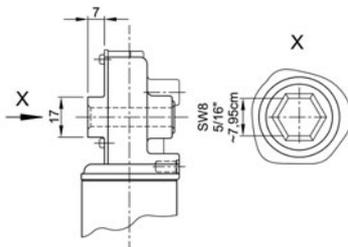


Motor picture

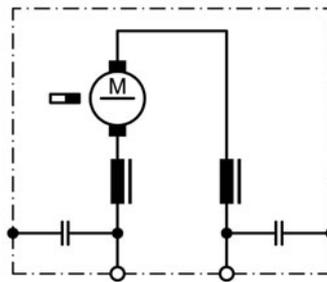


Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

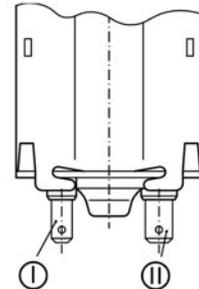
W 229



S 30



K 117



I - Blade terminal ends 4,8 x 0,8 DIN 46 244
 II - Blade terminal ends 6,3 x 0,8 DIN 46 244

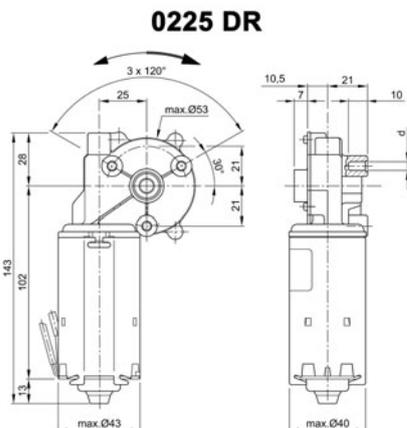
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Sleeve - B:Sleeve

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	2.00
No-load speed [min^{-1}]	n_0	140.0
Nominal power [W]	P_N	25.1
Nominal current [A]	I_N	5.0
Nominal force [kN]	F_N	0.00
Duty cycle	s3	

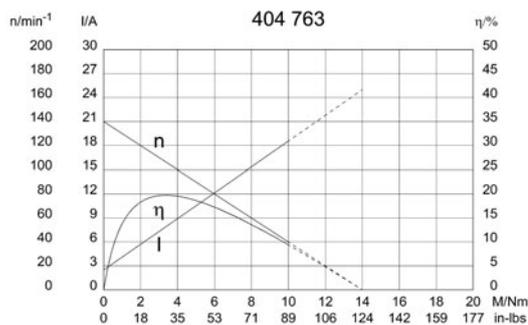
Sensor data	
Pulses	62
Output channels	2

Other data	
Gear ratio	62/1
Gear wheel material	plastic
Suppression components	$4\mu\text{H}$, 1nF
Enclosure class	IP 30
Weight [kg]	0.710

Remarks: d = for thread-forming screw M5 DIN 7500

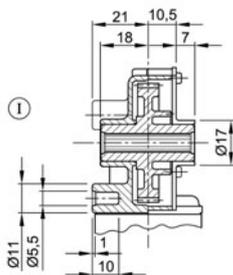


Motor picture



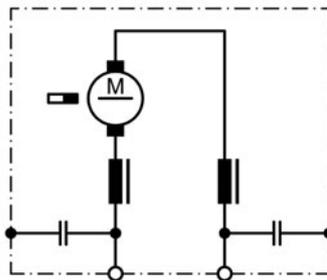
Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

W 148

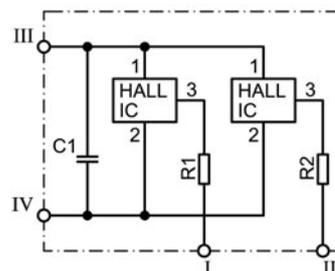


I Tapered splines 7 x 8 DIN 5481 continuous

S 30



S 109



I Terminal 1, OUT A1, grey
 II Terminal 2, OUT A2, black
 III Terminal 3, +, white
 IV Terminal 4, -, red

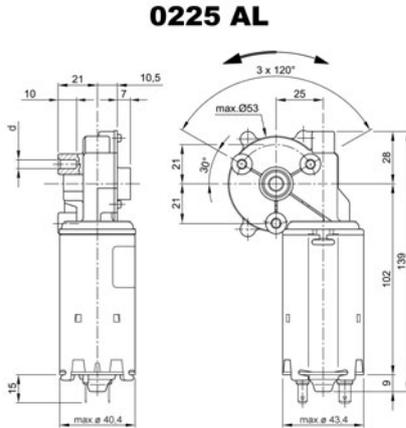
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Sleeve - B:Sleeve

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	1.30
No-load speed [min^{-1}]	n_0	35.0
Nominal power [W]	P_N	3.94
Nominal current [A]	I_N	1.5
Nominal force [kN]	F_N	0.00
Duty cycle	s3	

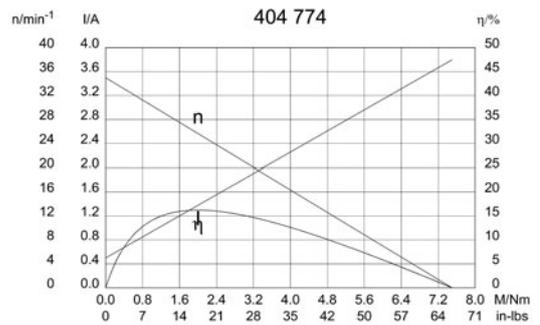
Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	72/1
Gear wheel material	plastic
Suppression components	7,5 μ H, 1nF
Enclosure class	IP 30
Weight [kg]	0.570

Remarks: d = for self-tapping screw M5 DIN 7500

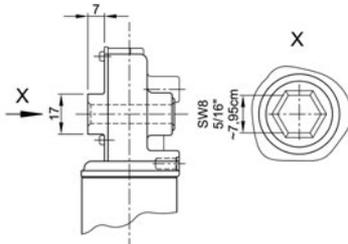


Motor picture

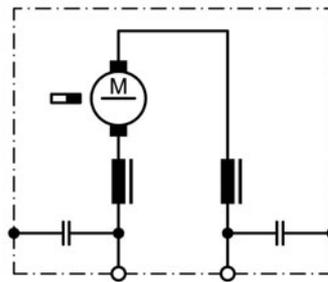


Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

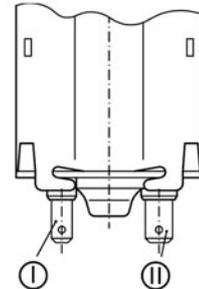
W 229



S 30



K 117



I - Blade terminal ends 4,8 x 0,8 DIN 46 244
 II - Blade terminal ends 6,3 x 0,8 DIN 46 244

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Sleeve - B:Sleeve

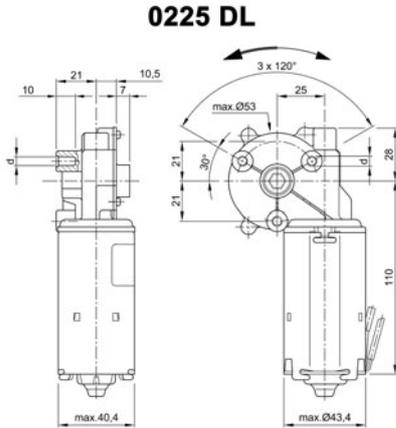
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	1.50
No-load speed [min^{-1}]	n_0	35.0
Nominal power [W]	P_N	4.47
Nominal current [A]	I_N	1.5
Nominal force [kN]	F_N	0.00
Duty cycle	s3	

Sensor data	
Pulses	288
Output channels	1

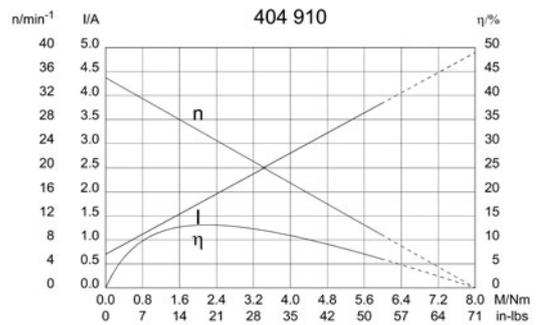
Other data	
Gear ratio	72/1
Gear wheel material	plastic
Suppression components	7,5 μ H
Enclosure class	IP 30
Weight [kg]	0.710

Remarks: d = for thread-forming screw M5 DIN 7500

Characteristic curves

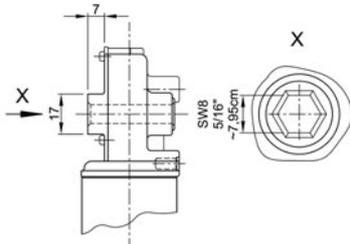


Motor picture

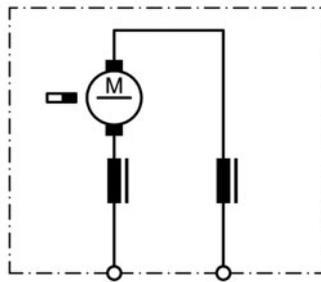


Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

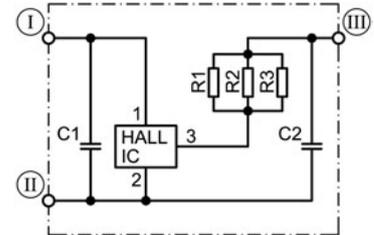
W 229



S 27



S 125



- I Terminal 3, +, white
- II Terminal 2, -, black
- III Terminal 6, OUT, red



NIDEC MOTORS & ACTUATORS ❖❖❖ MOTOR SERIES

0223 (SWMP)

❖❖❖ DC MOTORS WITH WORM GEAR



❖❖❖ TECHNICAL DESCRIPTION

Motorhousing:	sheet metal, rolled & corrosion protected
Excitation field:	permanent magnet
Type of gear mesh:	worm gear
Gear housing:	zinc die cast
Gear wheel material:	plastic or resinbonded fabric
Lubrication:	grease
Mechanical interface:	output shaft
Electric interface:	connector or leads with connector
Sensor:	optional
Thermal protection:	optional
EMC suppression:	optional

❖❖❖ APPLICATION

General machine construction, Automatic machines,
Agricultural technology, Business machines,
Laboratory appliances, Medical appliances,
Traffic & communications technology,
Photographic/optical equipment



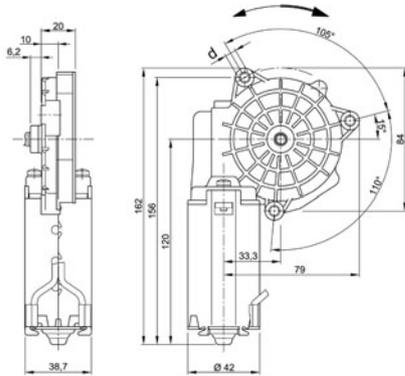
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	2.00
No-load speed [min^{-1}]	n_0	50.0
Nominal power [W]	P_N	8.73
Nominal current [A]	I_N	1.5
Nominal force [kN]	F_N	0.00
Duty cycle		s1

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	85/1
Gear wheel material	Resinbonded fabric
Suppression components	
Enclosure class	IP30
Weight [kg]	0.710

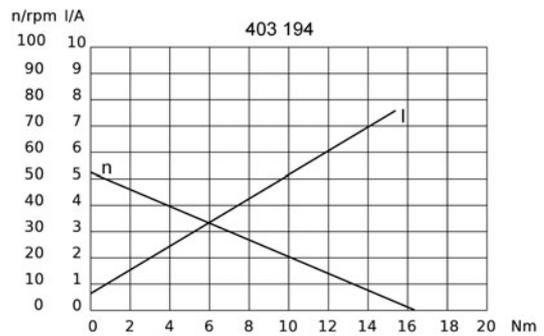
Remarks: d = M6



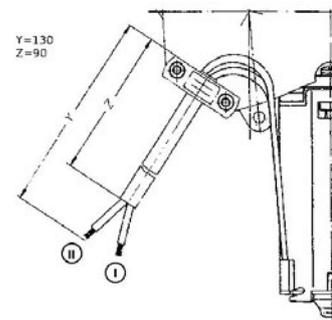
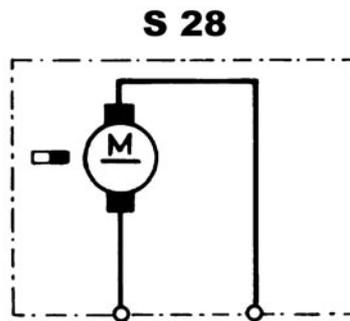
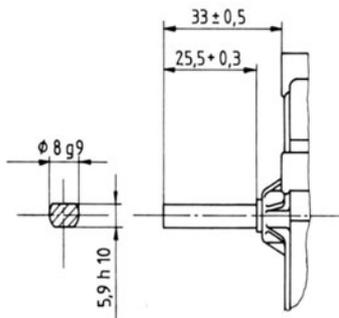
Motor picture



Characteristic curves



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



I: green
 II: black

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

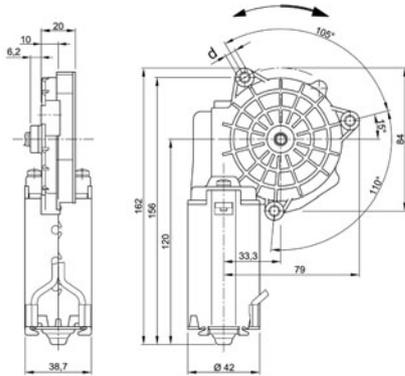
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	2.00
No-load speed [min^{-1}]	n_0	54.0
Nominal power [W]	P_N	9.94
Nominal current [A]	I_N	1.5
Nominal force [kN]	F_N	0.00
Duty cycle		s1

Sensor data	
Pulses	0
Output channels	0

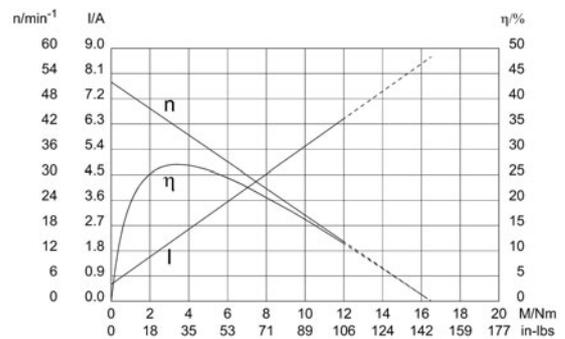
Other data	
Gear ratio	85/1
Gear wheel material	Plastic
Suppression components	7.5 μH , 47nF
Enclosure class	IP30
Weight [kg]	0.710

Remarks: d = 7.5mm, Ball bearing

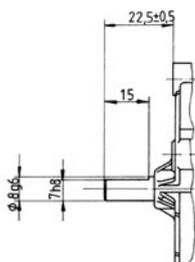
Characteristic curves



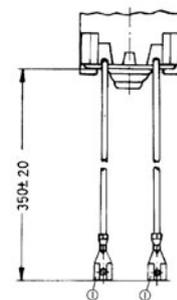
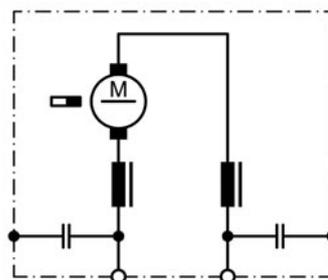
Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



S 30



Spade connector 4.8 DIN 46 247

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

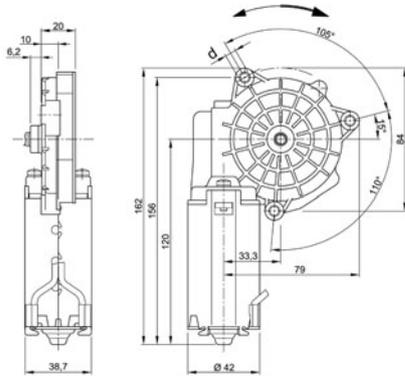
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	2.00
No-load speed [min^{-1}]	n_0	52.0
Nominal power [W]	P_N	9.57
Nominal current [A]	I_N	0.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	0
Output channels	0

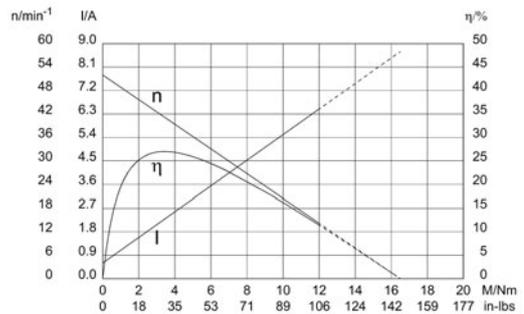
Other data	
Gear ratio	85/1
Gear wheel material	Plastic
Suppression components	
Enclosure class	IP30
Weight [kg]	0.710

Remarks: d = 7.5mm, Ball bearing

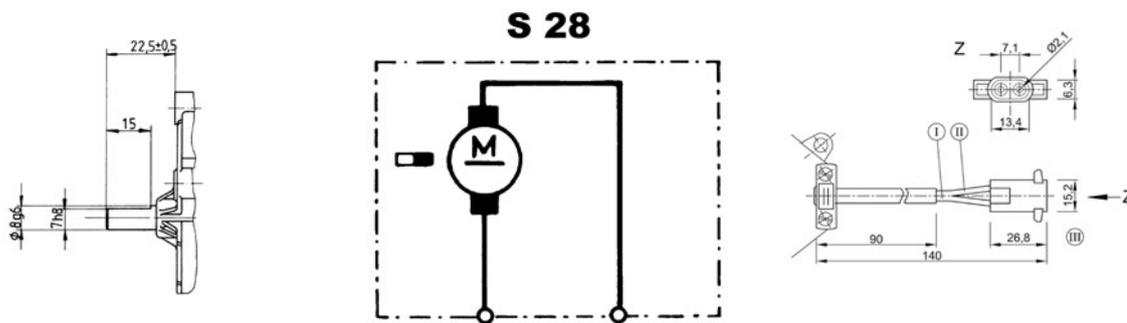
Characteristic curves



Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



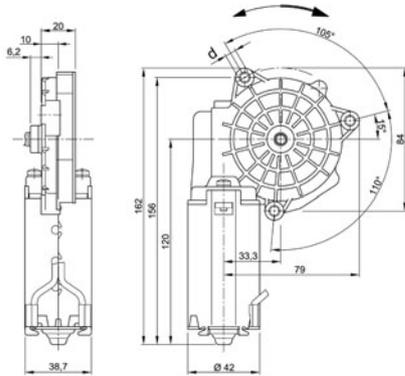
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	2.00
No-load speed [min^{-1}]	n_0	52.0
Nominal power [W]	P_N	9.34
Nominal current [A]	I_N	1.5
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	85/1
Gear wheel material	Plastic
Suppression components	
Enclosure class	IP30
Weight [kg]	0.710

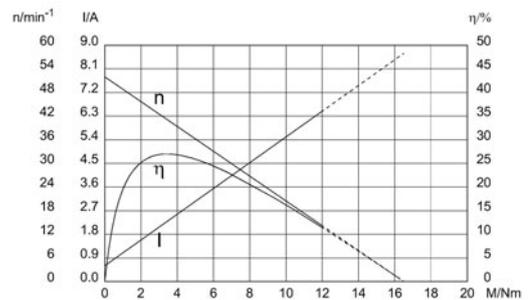
Remarks: d = M6, Ball bearing



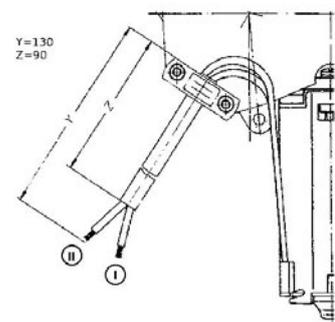
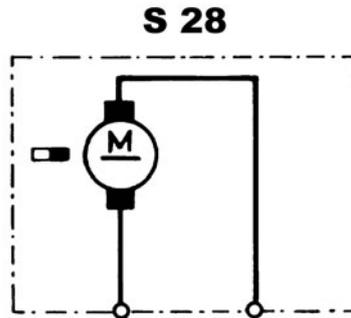
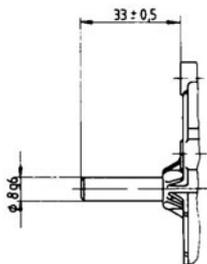
Motor picture



Characteristic curves



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



I: green
 II: black

Design Data

Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

Performance data

Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	2.00
No-load speed [min^{-1}]	n_0	52.0
Nominal power [W]	P_N	9.34
Nominal current [A]	I_N	1.5
Nominal force [kN]	F_N	0.00
Duty cycle		s1

Sensor data

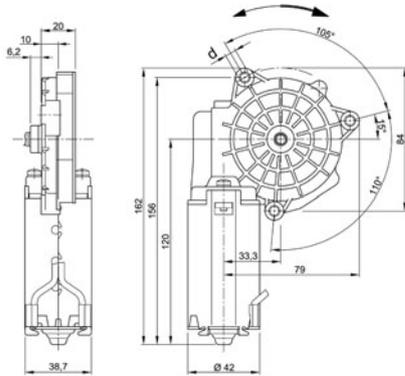
Pulses	0
Output channels	0

Other data

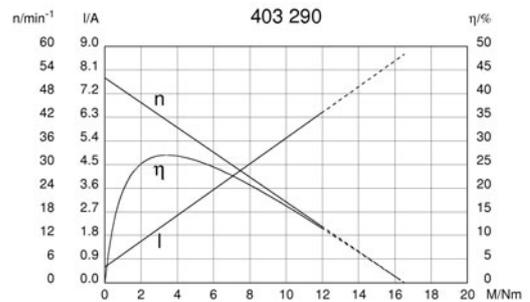
Gear ratio	85/1
Gear wheel material	Plastic
Suppression components	
Enclosure class	IP30
Weight [kg]	0.710

Remarks: d = M6, Ball bearing

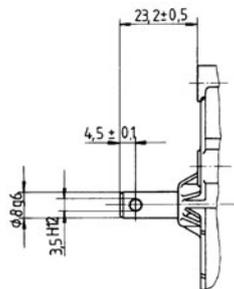
Characteristic curves



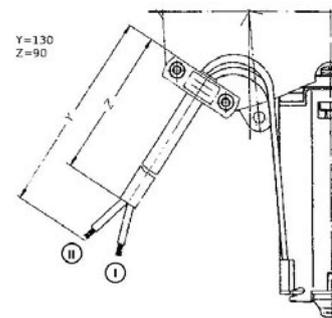
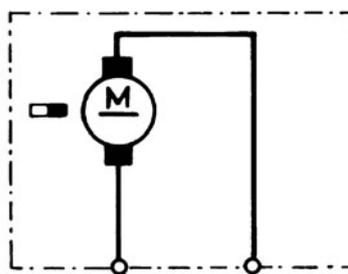
Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



S 28



I: green
 II: black

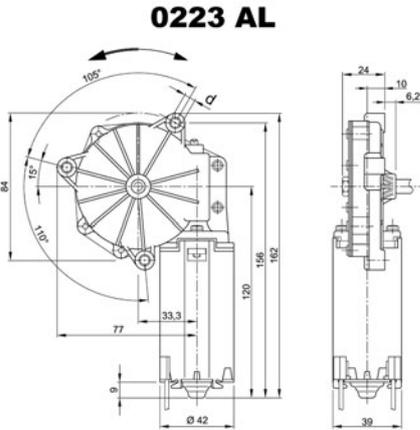
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	1.30
No-load speed [min^{-1}]	n_0	110.0
Nominal power [W]	P_N	12.2
Nominal current [A]	I_N	2.6
Nominal force [kN]	F_N	0.00
Duty cycle		s1

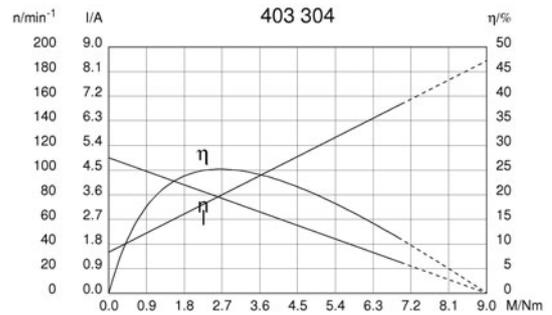
Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	83/2
Gear wheel material	Plastic
Suppression components	
Enclosure class	IP30
Weight [kg]	0.710

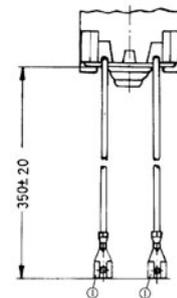
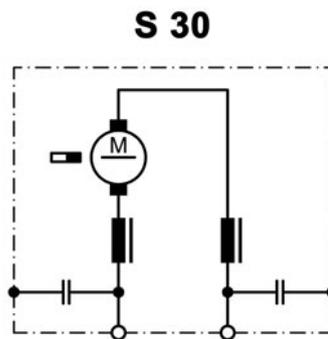
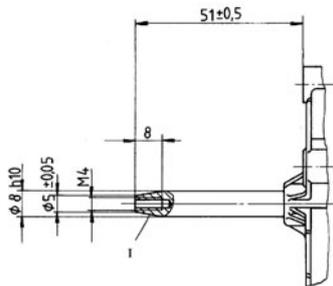
Remarks: d = M6, Ball bearing



Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



I: Cone 1:4

Spade connector 4.8 DIN 46 247

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

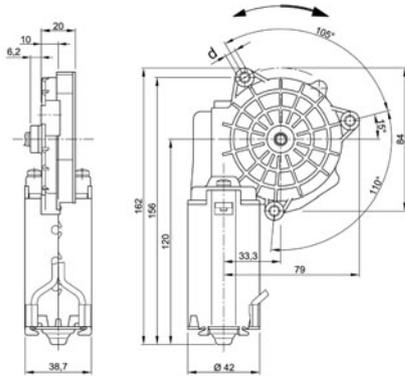
Performance data		
Rated voltage [V]	U_N	12
Nominal torque [Nm]	M_N	1.30
No-load speed [min^{-1}]	n_0	100.0
Nominal power [W]	P_N	11.1
Nominal current [A]	I_N	3.0
Nominal force [kN]	F_N	0.00
Duty cycle		s1

Sensor data	
Pulses	0
Output channels	0

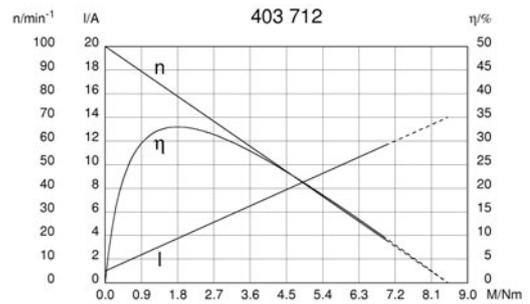
Other data	
Gear ratio	83/2
Gear wheel material	Plastic
Suppression components	
Enclosure class	IP30
Weight [kg]	0.710

Remarks: d = M6, Ball bearing

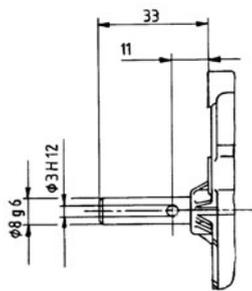
Characteristic curves



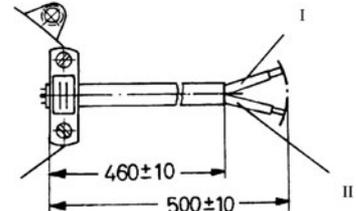
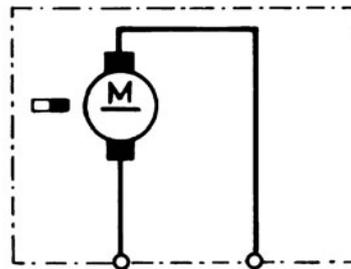
Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



S 28



I: black
 II: green

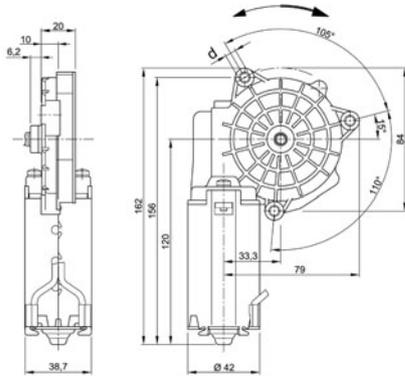
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	2.00
No-load speed [min^{-1}]	n_0	50.0
Nominal power [W]	P_N	8.98
Nominal current [A]	I_N	2.5
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	99/1
Gear wheel material	Resinbonded fabric
Suppression components	
Enclosure class	
Weight [kg]	0.710

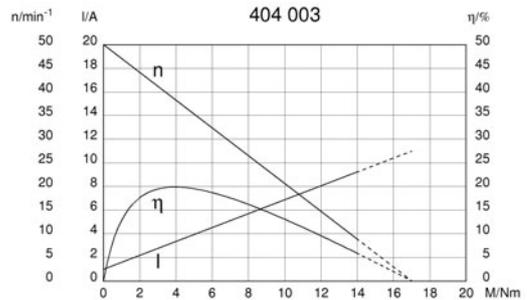
Remarks: d = M6, Ball bearing



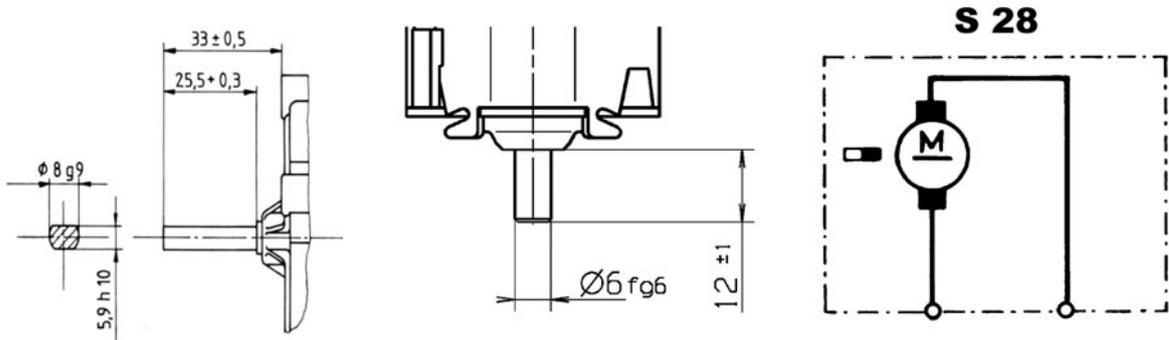
Motor picture



Characteristic curves



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

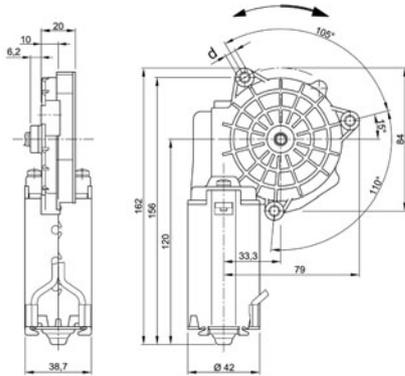
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	2.00
No-load speed [min^{-1}]	n_0	50.0
Nominal power [W]	P_N	8.38
Nominal current [A]	I_N	2.3
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	0
Output channels	0

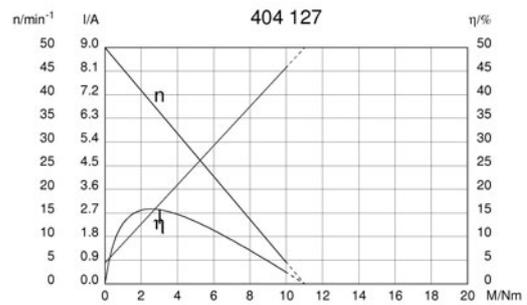
Other data	
Gear ratio	85/1
Gear wheel material	Resinbonded fabric
Suppression components	
Enclosure class	IP30
Weight [kg]	0.710

Remarks: d = M6, Ball bearing

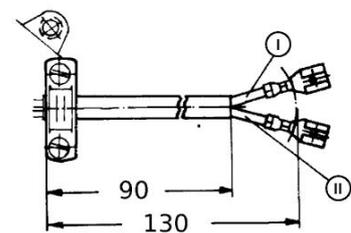
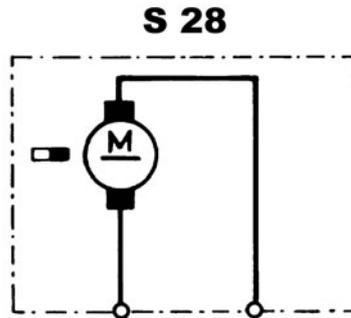
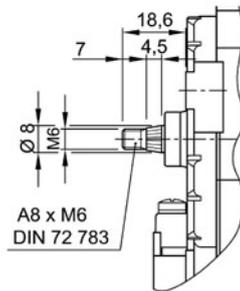
Characteristic curves



Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



Spade connector 6.3 x 0.8 DIN 46 244
 I: black
 II: green



NIDEC MOTORS & ACTUATORS ⇄ MOTOR SERIES

0321 (GMPS)

⇄ DC MOTORS WITH WORM GEAR



⇄ TECHNICAL DESCRIPTION

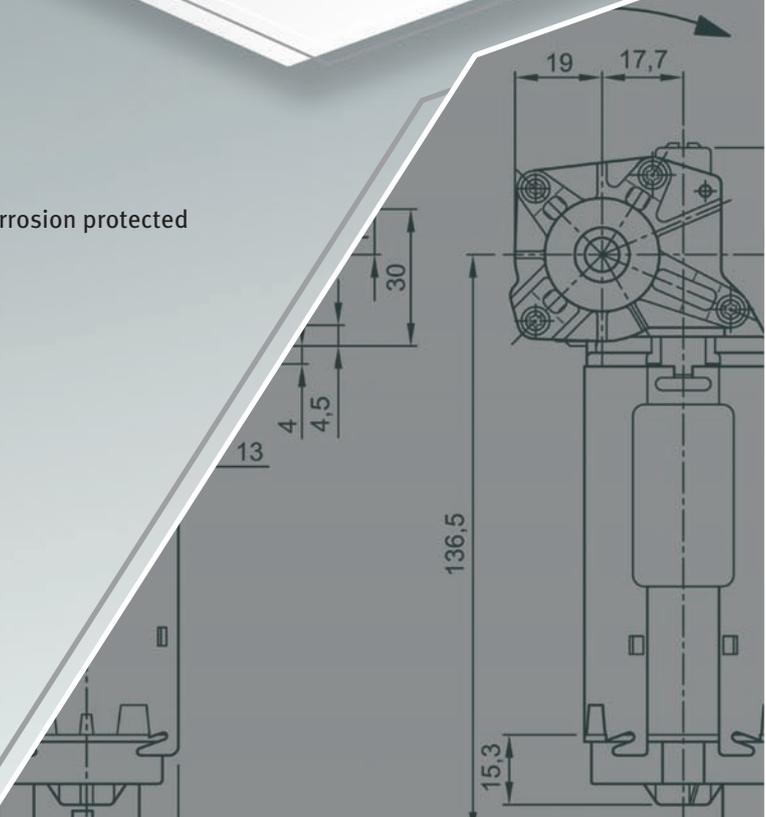
Motorhousing:	sheet metal, rolled & corrosion protected
Excitation field:	permanent magnet
Type of gear mesh:	worm gear
Gear housing:	zinc die cast
Gear wheel material:	plastic
Lubrication:	grease
Mechanical interface:	steel lead screw
Electric interface:	connector
Sensor:	optional
Thermal protection:	optional
EMC suppression:	optional

⇄ INDUSTRIAL APPLICATION

Home automation

⇄ AUTOMOTIVE APPLICATION

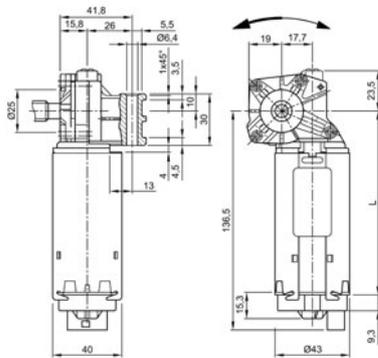
Seat tilt and height adjustment



Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Sleeve - B:Sleeve

Performance data		
Rated voltage [V]	U_N	12
Nominal torque [Nm]	M_N	1.50
No-load speed [min^{-1}]	n_0	180.0
Nominal power [W]	P_N	21.3
Nominal current [A]	I_N	9.0
Nominal force [kN]	F_N	2.00
Duty cycle	s3	

0321 BL



Sensor data	
Pulses	29
Output channels	1

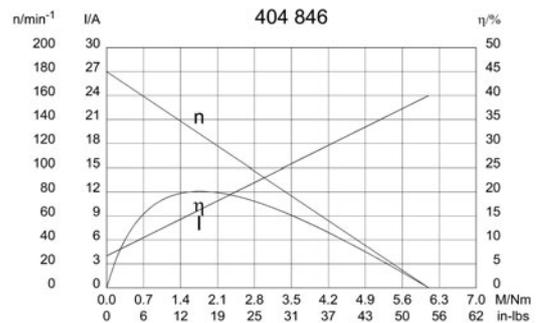
Other data	
Gear ratio	29/1
Gear wheel material	plastic
Suppression components	5,5 μ H, 47nF, (0,47 μ F)
Enclosure class	IP 40
Weight [kg]	0.880

Remarks: L = 116mm, 1 start worm

Motor picture

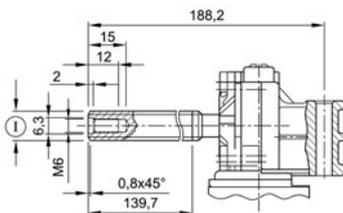


Characteristic curves



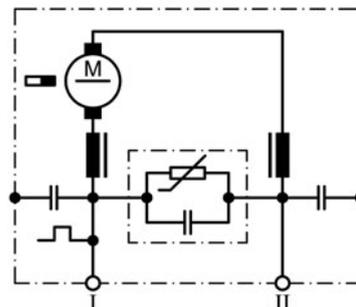
Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

W 288



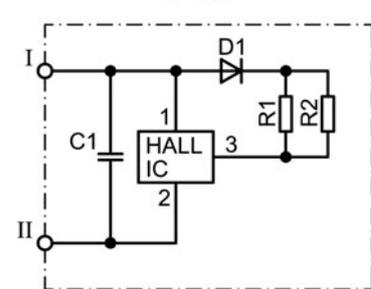
shape 7/16-8 STUB ACME RH, pressure angle 20°, pitch 3,175mm (0,125"), no of starts 1

S 93



I Terminal 1
 II Terminal 5

S 85



I Terminal 4, Hall-IC +
 II Terminal 2, Hall-IC -

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Sleeve - B:Sleeve

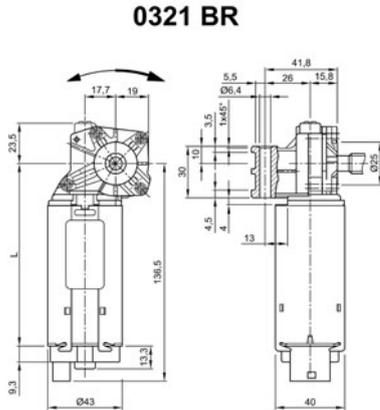
Performance data		
Rated voltage [V]	U_N	12
Nominal torque [Nm]	M_N	1.50
No-load speed [min^{-1}]	n_0	180.0
Nominal power [W]	P_N	21.3
Nominal current [A]	I_N	6.0
Nominal force [kN]	F_N	2.00
Duty cycle		s3

Sensor data	
Pulses	29
Output channels	1

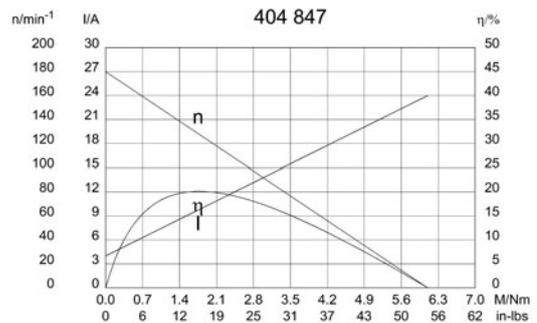
Other data	
Gear ratio	29/1
Gear wheel material	plastic
Suppression components	5,5 μ H, 47nF, (0,47 μ F)
Enclosure class	IP 40
Weight [kg]	0.880

Remarks: L = 116mm, 1 start worm

Characteristic curves

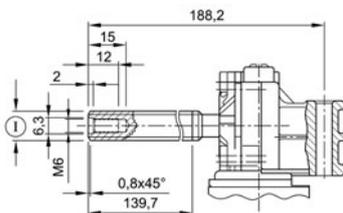


Motor picture



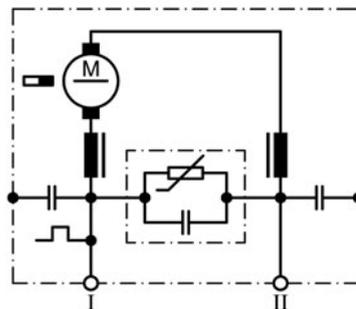
Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

W 288



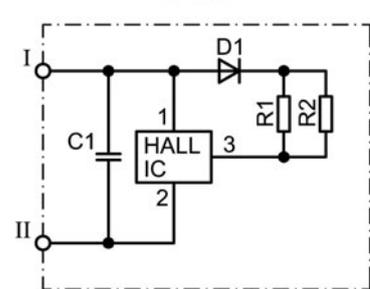
shape 7/16-8 STUB ACME RH, pressure angle 20°, pitch 3,175mm (0,125"), no of starts 1

S 93



I Terminal 1
 II Terminal 5

S 85

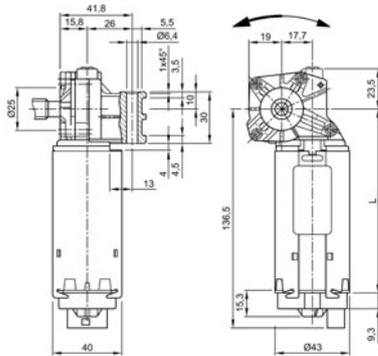


I Terminal 4, Hall-IC +
 II Terminal 2, Hall-IC -

Design Data	
Commutation	none
Direction of rotation	Bi-directional
Bearing type	A: Sleeve - B: Sleeve

Performance data		
Rated voltage [V]	U_N	12
Nominal torque [Nm]	M_N	1.50
No-load speed [min^{-1}]	n_0	145.0
Nominal power [W]	P_N	16.6
Nominal current [A]	I_N	6.0
Nominal force [kN]	F_N	1.50
Duty cycle	s3	

0321 BL



Sensor data	
Pulses	29
Output channels	1

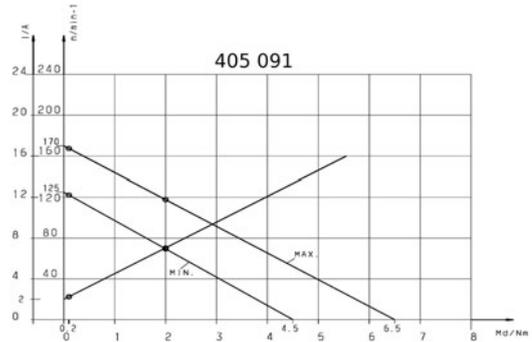
Other data	
Gear ratio	29/1
Gear wheel material	
Suppression components	5,5 μ H, 47nF, (0,47 μ F)
Enclosure class	IP40
Weight [kg]	0.880

Remarks: 1 start worm

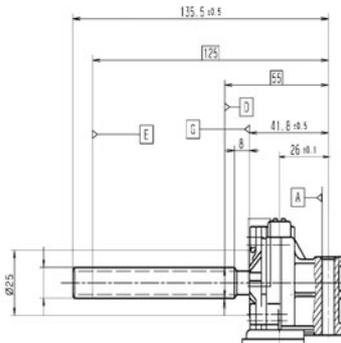
Motor picture



Characteristic curves

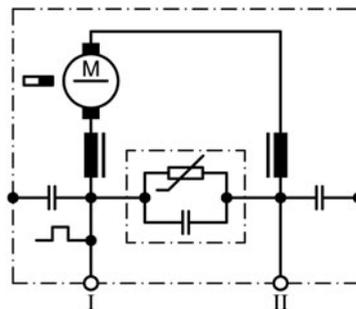


Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



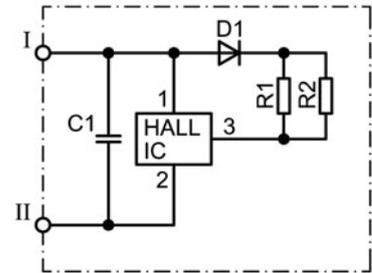
Output spindle: 7 / 16 Stub ACME RH

S 93



I Terminal 1
 II Terminal 5

S 85



I Terminal 4, Hall-IC +
 II Terminal 2, Hall-IC -

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A: Sleeve - B: Sleeve

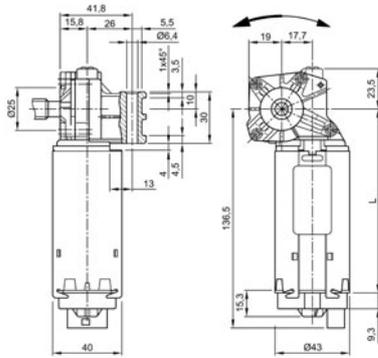
Performance data		
Rated voltage [V]	U_N	12
Nominal torque [Nm]	M_N	1.50
No-load speed [min^{-1}]	n_0	145.0
Nominal power [W]	P_N	16.6
Nominal current [A]	I_N	6.0
Nominal force [kN]	F_N	1.50
Duty cycle	s3	

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	29/1
Gear wheel material	
Suppression components	5,5 μ H, 47nF, (0,47 μ F)
Enclosure class	IP40
Weight [kg]	0.880

Remarks: 1 start worm

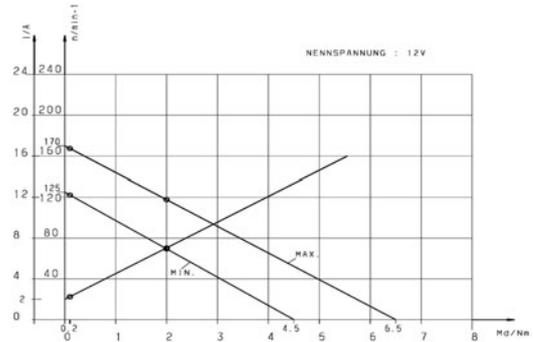
0321 BL



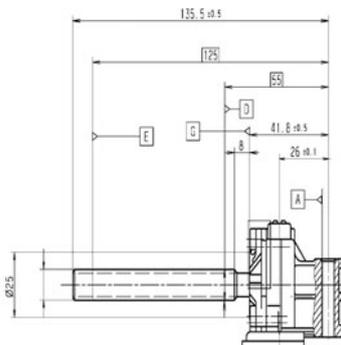
Motor picture



Characteristic curves

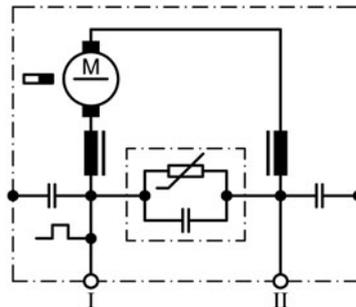


Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



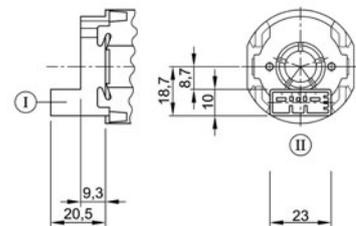
Output spindle: 7 / 16 Stub ACME RH

S 93



I Terminal 1
 II Terminal 5

K 220

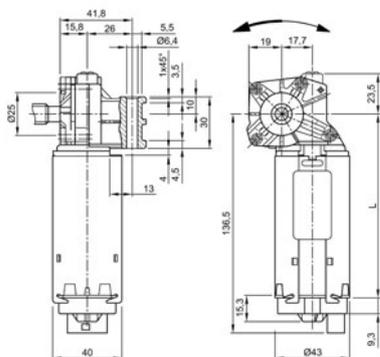


Connector TYCO C-208-15621 (Z) mating with:
Connector housing 1379217-3 & cover
 1379218-2
www.tycoelectronics.com

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A: Sleeve - B: Sleeve

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	1.50
No-load speed [min^{-1}]	n_0	145.0
Nominal power [W]	P_N	17.2
Nominal current [A]	I_N	4.5
Nominal force [kN]	F_N	1.50
Duty cycle	s3	

0321 BL



Sensor data	
Pulses	0
Output channels	0

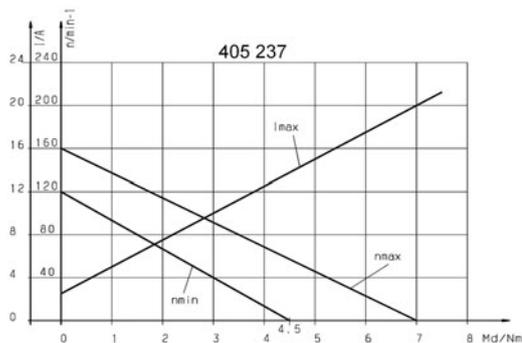
Other data	
Gear ratio	29/1
Gear wheel material	
Suppression components	
Enclosure class	IP40
Weight [kg]	0.880

Remarks: L = 116mm

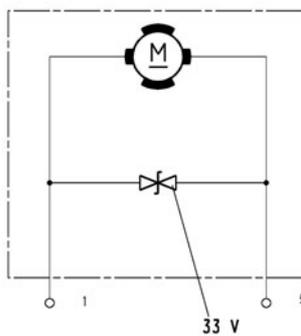
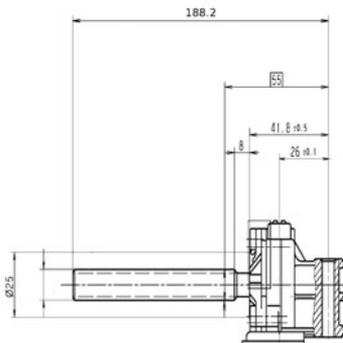
Motor picture



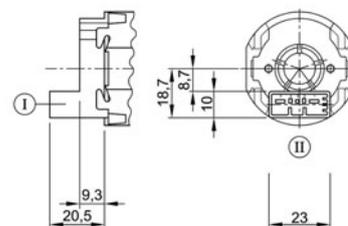
Characteristic curves



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



K 220



Output spindle: 7 / 16 Stub ACME RH

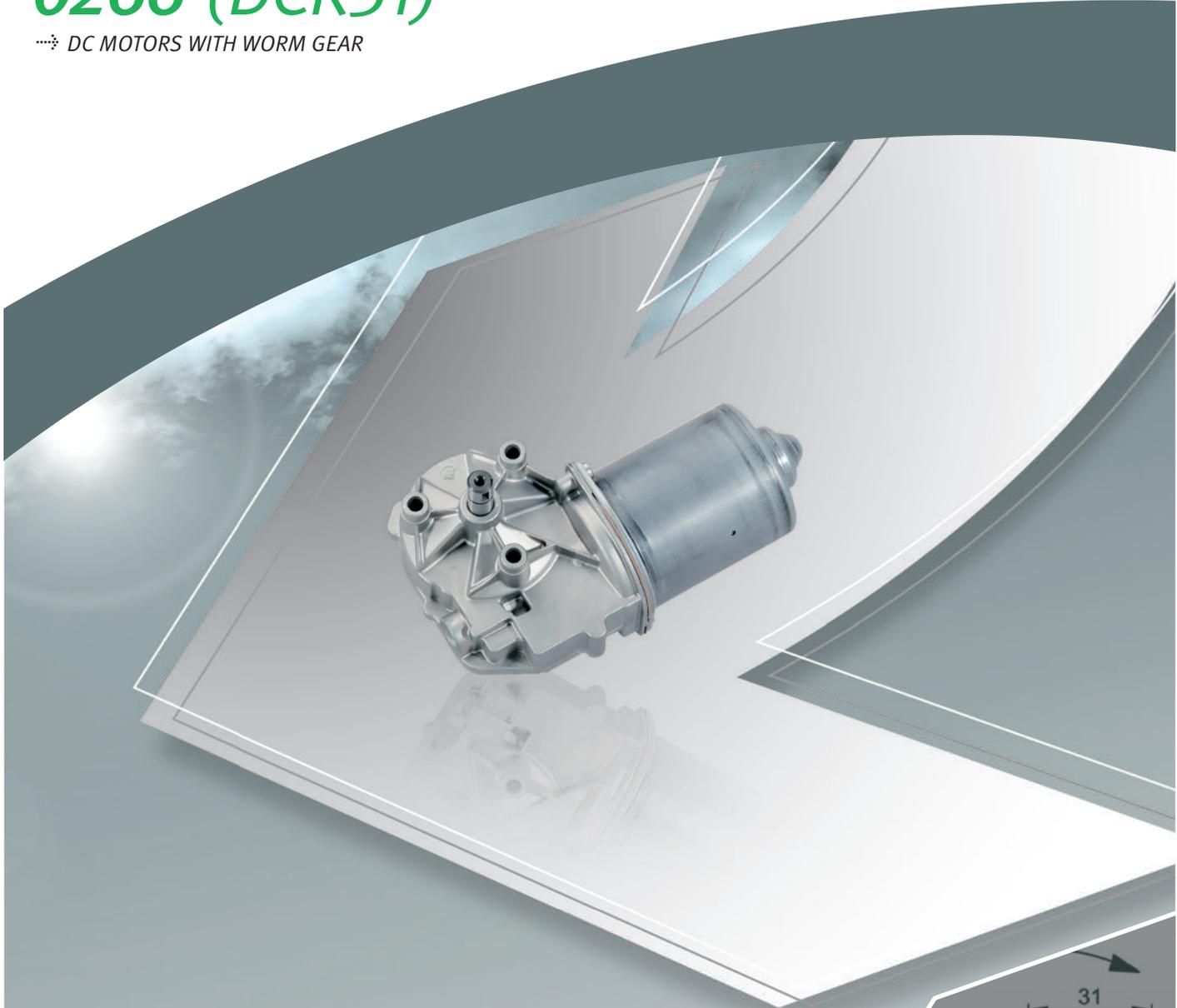
Connector TYCO C-208-15621 (Z) mating with:
 Connector housing 1379217-3 & cover
 1379218-2
www.tycoelectronics.com



NIDEC MOTORS & ACTUATORS ❖❖❖ MOTOR SERIES

0266 (DCK31)

❖❖❖ DC MOTORS WITH WORM GEAR



❖❖❖ TECHNICAL DESCRIPTION

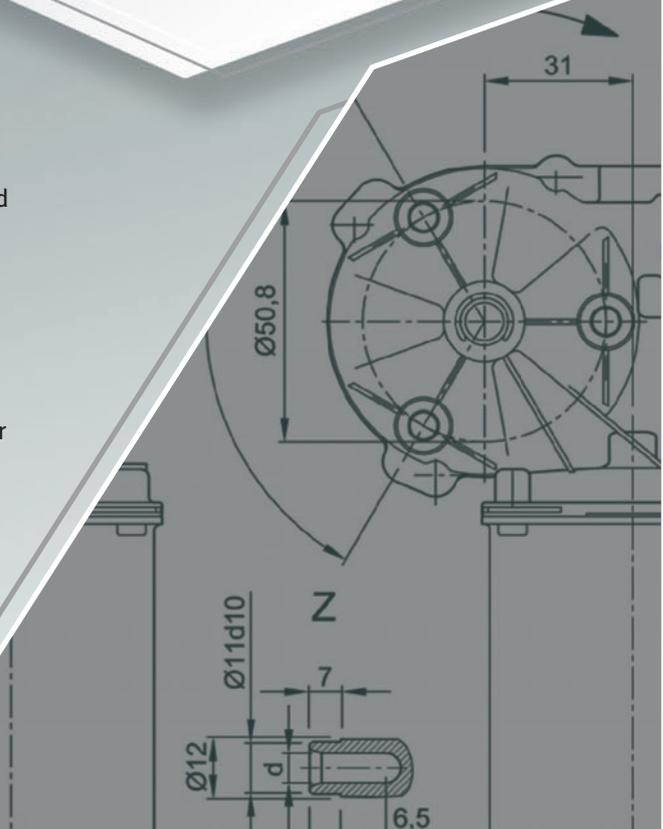
Motorhousing:	deep drawn & corrosion protected
Excitation field:	permanent magnet
Type of gear mesh:	worm gear
Gear housing:	zinc die cast
Gear wheel material:	plastic, steel
Lubrication:	grease
Mechanical interface:	steel shaft
Electric interface:	connector or leads with connector
Sensor:	optional
Thermal protection:	optional
EMC suppression:	optional

❖❖❖ INDUSTRIAL APPLICATION

Door & gate openers, pumps, lubricating technology, appliance, linear actuators

❖❖❖ AUTOMOTIVE APPLICATION

Trunk & tailgate opening & closing



Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:ball - B:sleeve

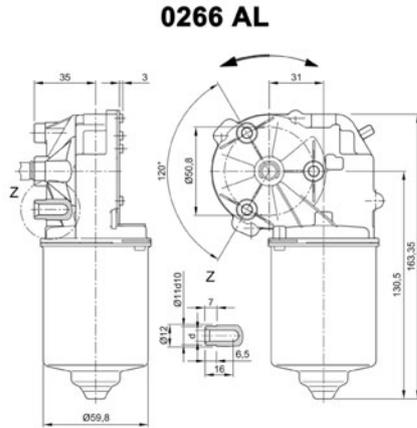
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	4.00
No-load speed [min^{-1}]	n_0	65.0
Nominal power [W]	P_N	25.0
Nominal current [A]	I_N	4.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	69
Output channels	1

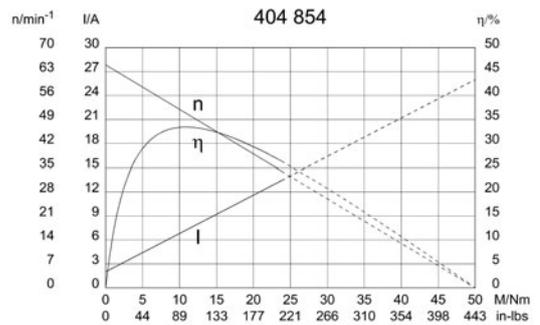
Other data	
Gear ratio	69/1
Gear wheel material	plastic
Suppression components	6 μH
Enclosure class	IP 30
Weight [kg]	1.250

Remarks: d=for selftapping screw M6 DIN ISO 965-2

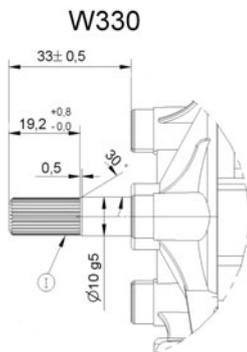
Characteristic curves



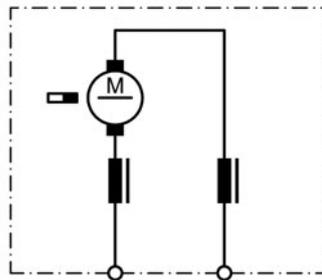
Motor picture



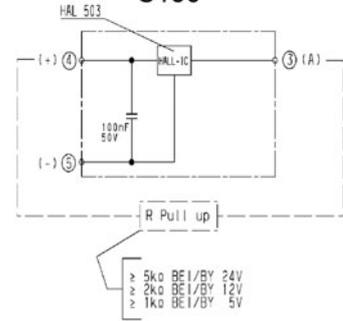
Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



S 27



S150



I serration (rolled): no of teeth 28, pitch circle dia 9 mm, tip circle dia 9.6 mm, root circle dia 8.26 mm space width angle 60° - go/no go gauge Frenco 33906 - www.frenco.de

Design Data

Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A: ball - B:sleeve

Performance data

Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	4.00
No-load speed [min^{-1}]	n_0	66.0
Nominal power [W]	P_N	25.4
Nominal current [A]	I_N	4.0
Nominal force [kN]	F_N	0.00
Duty cycle		s1

Sensor data

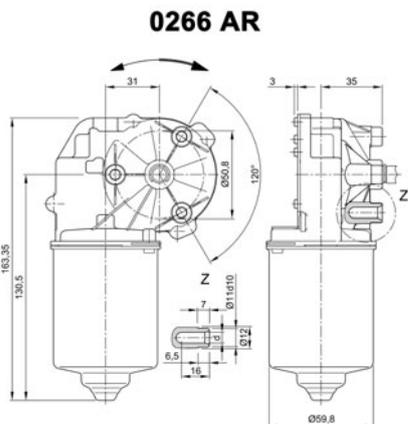
Pulses	0
Output channels	0

Other data

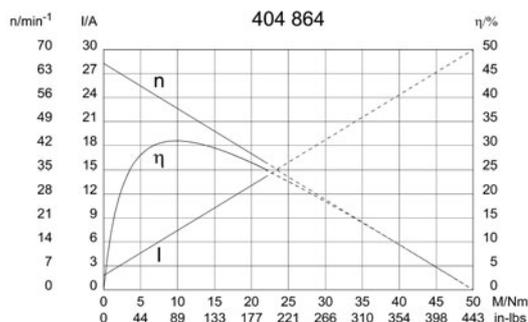
Gear ratio	69/1
Gear wheel material	plastic
Suppression components	3,5 μ H, 1 μ F
Enclosure class	IP 30
Weight [kg]	1.210

Remarks: d = for thread-forming screw M6 DIN ISO 965-2

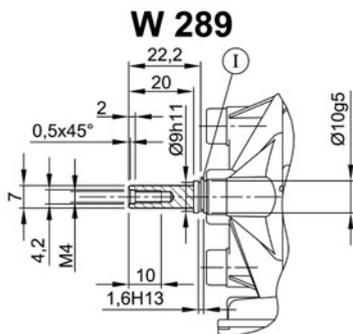
Characteristic curves



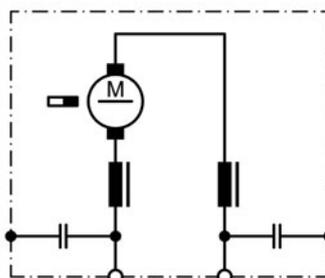
Motor picture



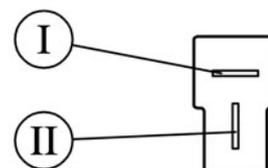
Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



S 30



K 320



I Circlip

Flat plug (DIN 46244) 6,3x0,8 mating with receptacle housing part#180907, drwg# C-180907& Receptacles for tabs, conductor cross section 0,5-1,5 sqmm (20-18AWG) part# 925603-x, drwg# 925603 www.tycoelectronics.com

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A: Ball - B: Sleeve

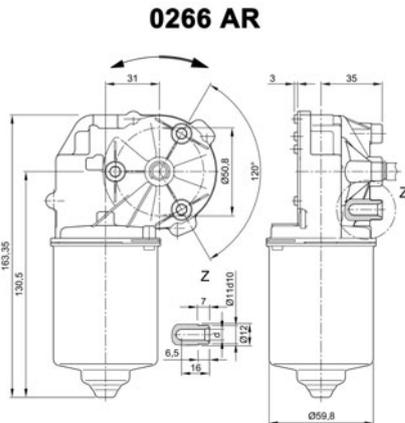
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	4.00
No-load speed [min^{-1}]	n_0	75.0
Nominal power [W]	P_N	28.9
Nominal current [A]	I_N	5.5
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	69
Output channels	2

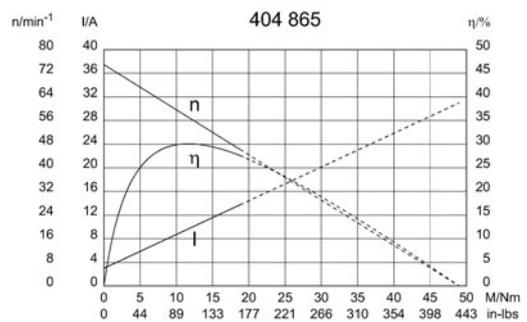
Other data	
Gear ratio	69/1
Gear wheel material	Plastic
Suppression components	6.0 μ H, 1nF
Enclosure class	IP30
Weight [kg]	1.210

Remarks: d = for thread-forming screw M6 DIN ISO 965-2

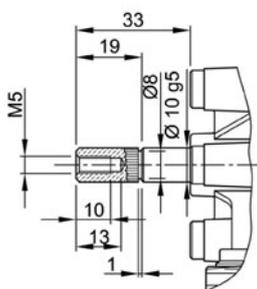
Characteristic curves



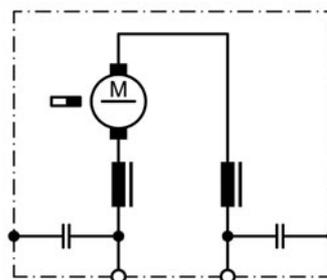
Motor picture



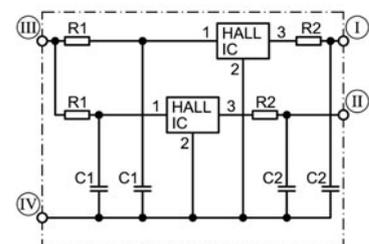
Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



S 30



S 141



- I Hall-IC A1, terminal 3
- II Hall-IC A2, terminal 4
- III Hall-IC +, terminal 5
- IV Hall-IC -, terminal 6

Design Data

Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:ball - B:sleeve

Performance data

Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	4.00
No-load speed [min^{-1}]	n_0	64.0
Nominal power [W]	P_N	24.4
Nominal current [A]	I_N	4.0
Nominal force [kN]	F_N	0.00
Duty cycle		s1

Sensor data

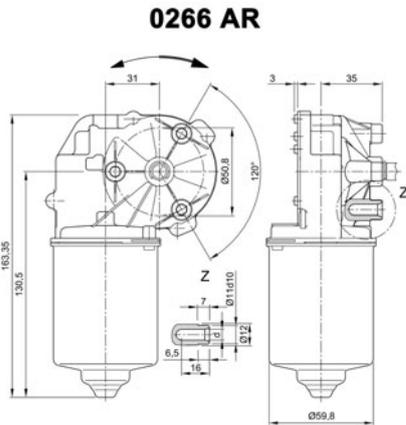
Pulses	0
Output channels	0

Other data

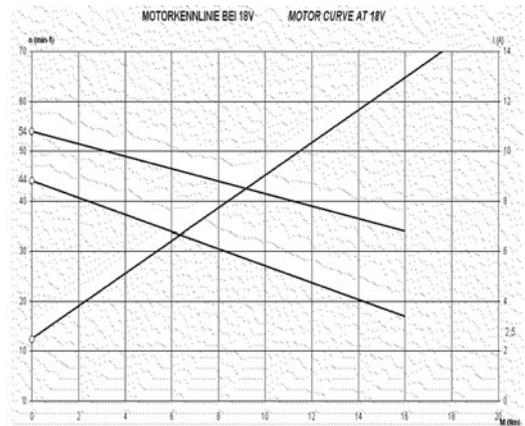
Gear ratio	69/1
Gear wheel material	plastic
Suppression components	6 μ H, 1nF
Enclosure class	IP 30
Weight [kg]	1.216

Remarks: d = for thread-forming screw M6 DIN ISO 965-2

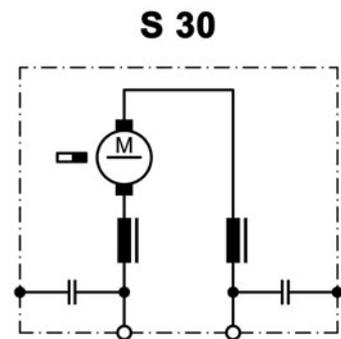
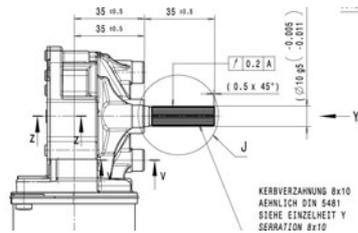
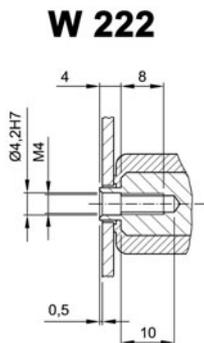
Characteristic curves



Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



! Only for connection of encoder

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A: ball - B: sleeve

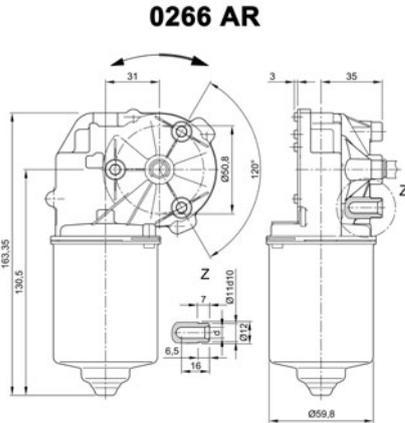
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	6.00
No-load speed [min^{-1}]	n_0	35.0
Nominal power [W]	P_N	19.2
Nominal current [A]	I_N	3.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	0
Output channels	0

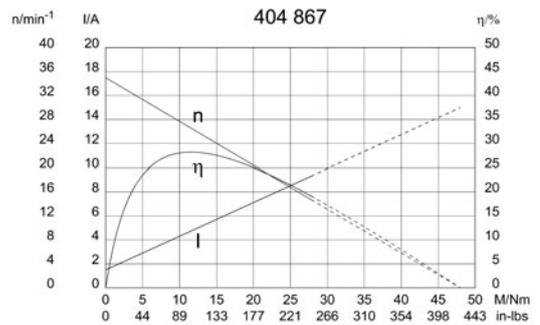
Other data	
Gear ratio	69/1
Gear wheel material	plastic
Suppression components	$6\mu\text{H}$, 1nF
Enclosure class	IP 30
Weight [kg]	1.210

Remarks: d = for thread-forming screw M6 DIN ISO 965-2

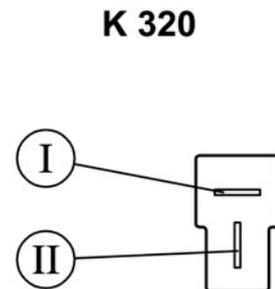
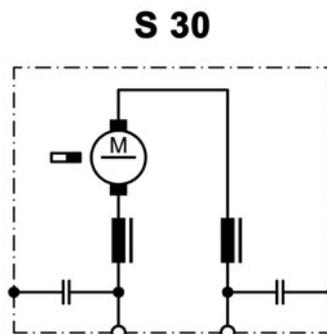
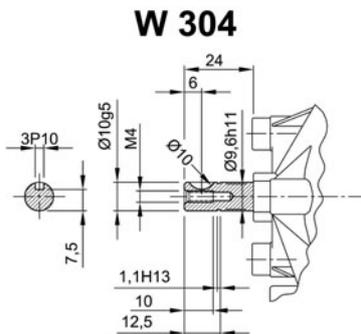
Characteristic curves



Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



Flat plug (DIN 46244) 6,3x0,8 mating with receptacle housing part#180907, drwg# C-180907& Receptacles for tabs, conductor cross section 0,5-1,5 sqmm (20-18AWG) part# 925603-x, drwg# 925603 www.tycoelectronics.com

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

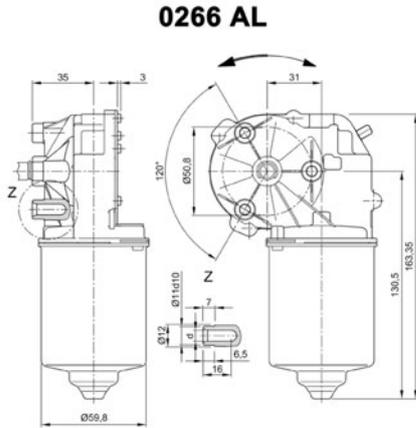
Performance data		
Rated voltage [V]	U_N	12
Nominal torque [Nm]	M_N	4.00
No-load speed [min^{-1}]	n_0	30.0
Nominal power [W]	P_N	10.8
Nominal current [A]	I_N	3.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	0
Output channels	0

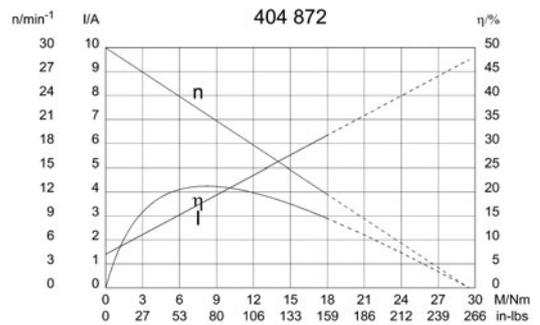
Other data	
Gear ratio	69/1
Gear wheel material	plastic
Suppression components	6 μ H
Enclosure class	IP 30
Weight [kg]	1.210

Remarks: d = for thread-forming screw M6 DIN ISO 965-2

Characteristic curves

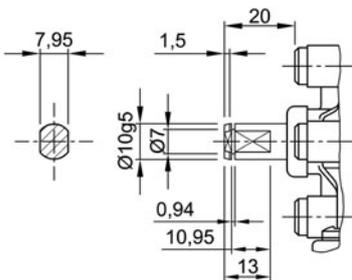


Motor picture

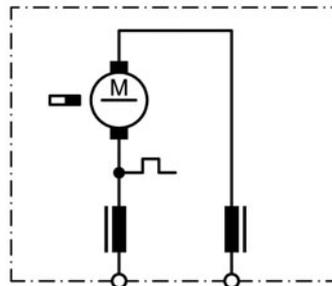


Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

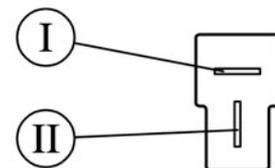
W 252



S 25



K 320



Flat plug (DIN 46244) 6,3x0,8 mating with receptacle housing part#180907, drwg# C-180907& Receptacles for tabs, conductor cross section 0,5-1,5 sqmm (20-18AWG) part# 925603-x, drwg# 925603 www.tycoelectronics.com

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

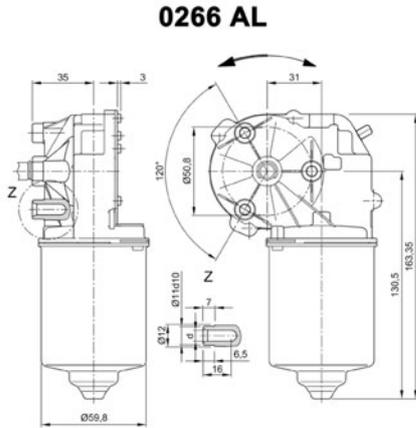
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	2.00
No-load speed [min^{-1}]	n_0	160.0
Nominal power [W]	P_N	30.9
Nominal current [A]	I_N	4.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	1
Output channels	2

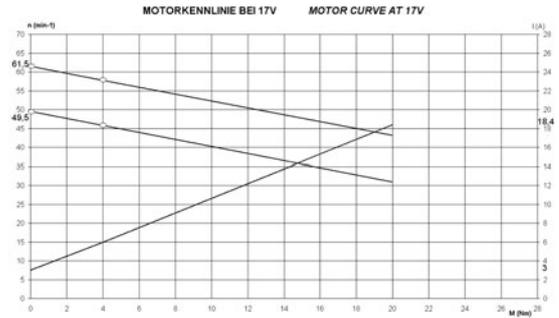
Other data	
Gear ratio	53/2
Gear wheel material	plastic
Suppression components	6 μ H, 1nF
Enclosure class	IP 30
Weight [kg]	1.210

Remarks: d= for thread forming screw M6 DIN ISO 965-2

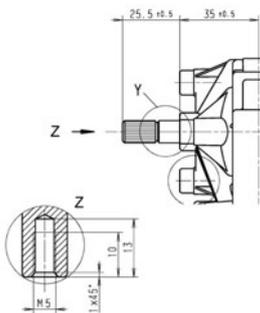
Characteristic curves



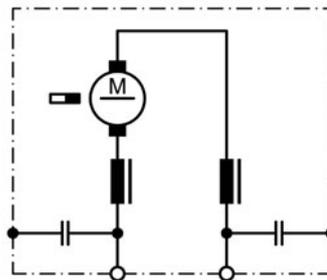
Motor picture



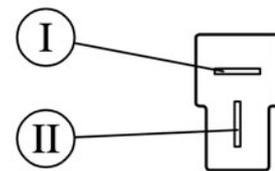
Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



S 30



K 320



I serration (rolled): **No teeth 28, pitch circle dia 9 mm, tip circle dia 9.6 mm, root circle dia 8.26 mm space width angle 60° - go/no go gauge** Frenco 33906 - www.frenco.de

Flat plug (DIN 46244) 6,3x0,8 mating with receptacle housing part#180907, drwg# C-180907& Receptacles for tabs, conductor cross section 0,5-1,5 sqmm (20-18AWG) part# 925603-x, drwg# 925603 www.tycoelectronics.com

Design Data

Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A: Ball - B:Sleeve

Performance data

Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	3.00
No-load speed [min^{-1}]	n_0	14.0
Nominal power [W]	P_N	3.60
Nominal current [A]	I_N	1.0
Nominal force [kN]	F_N	0.00
Duty cycle		s1

Sensor data

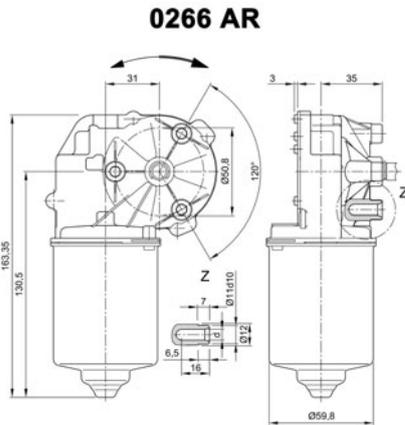
Pulses	234
Output channels	1

Other data

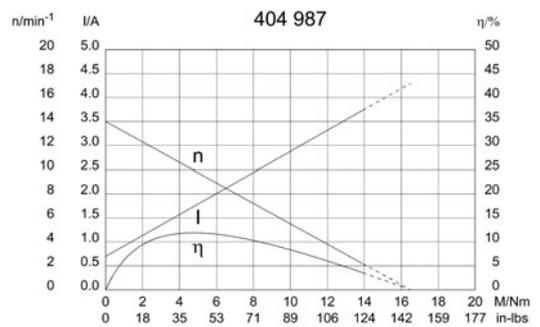
Gear ratio	78/1
Gear wheel material	bronze
Suppression components	$6\mu\text{H}, 1\text{nF}$
Enclosure class	IP 30
Weight [kg]	1.210

Remarks: d = for thread-forming screw M6 DIN ISO 965-2

Characteristic curves

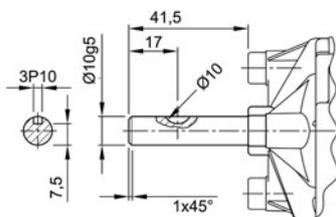


Motor picture

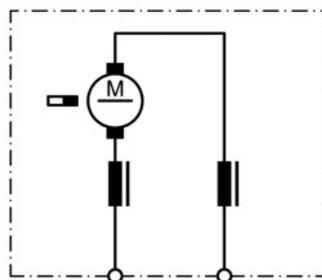


Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

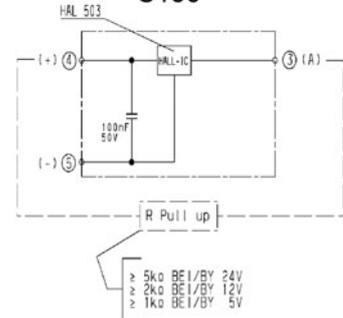
W 327



S 27



S150



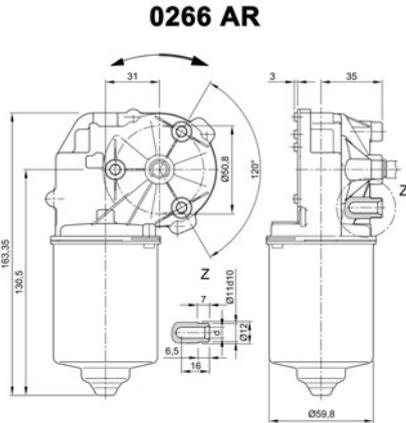
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A: ball - B: sleeve

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	4.00
No-load speed [min^{-1}]	n_0	36.0
Nominal power [W]	P_N	12.9
Nominal current [A]	I_N	3.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

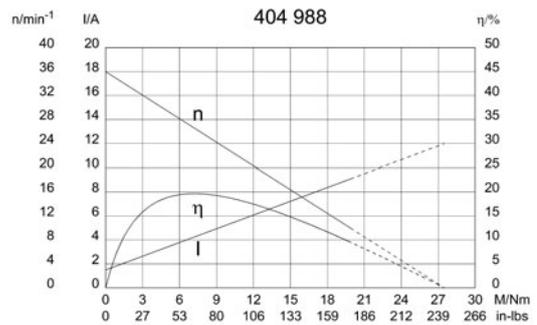
Sensor data	
Pulses	207
Output channels	1

Other data	
Gear ratio	69/1
Gear wheel material	plastic
Suppression components	$6\mu\text{H}$, 1nF
Enclosure class	IP 30
Weight [kg]	1.210

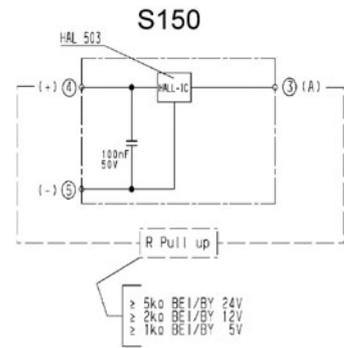
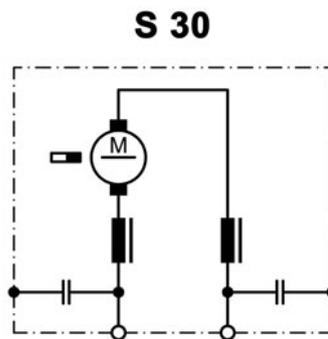
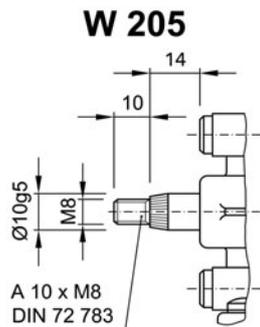
Remarks: d = for thread-forming screw M6 DIN ISO 965-2



Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball- B:Sleeve

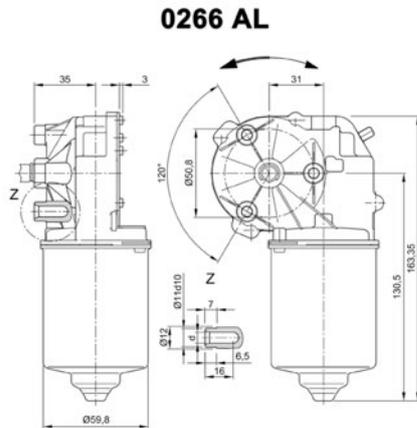
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	1.00
No-load speed [min^{-1}]	n_0	270.0
Nominal power [W]	P_N	24.5
Nominal current [A]	I_N	3.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	10.25
Output channels	1

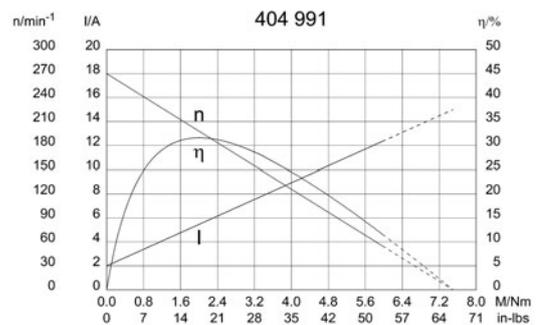
Other data	
Gear ratio	41/4
Gear wheel material	plastic
Suppression components	$6\mu\text{H}$, 1nF
Enclosure class	IP 30
Weight [kg]	1.250

Remarks: d = for thread-forming screw M6 DIN ISO 965-2

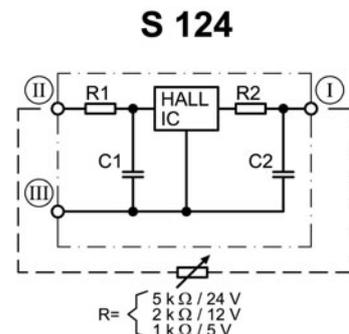
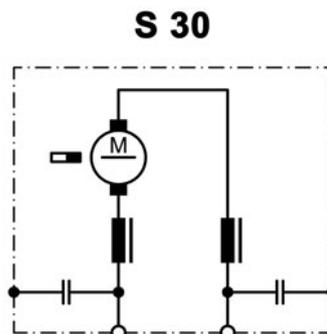
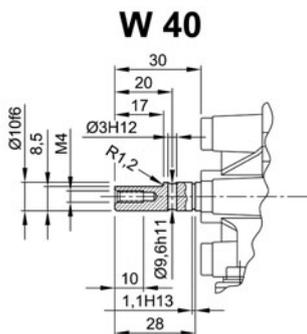
Characteristic curves



Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



- I Terminal 3, A
- II Terminal 4, +
- III Terminal 5, -

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

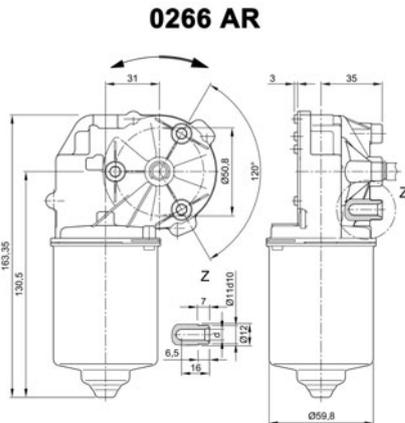
Performance data		
Rated voltage [V]	U_N	12
Nominal torque [Nm]	M_N	4.00
No-load speed [min^{-1}]	n_0	21.0
Nominal power [W]	P_N	7.79
Nominal current [A]	I_N	3.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	0
Output channels	0

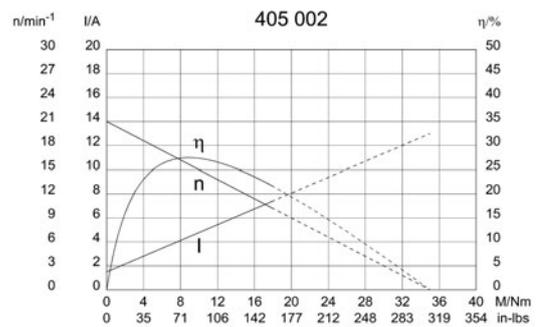
Other data	
Gear ratio	69/1
Gear wheel material	plastic
Suppression components	3,5 μ H, 1 μ F
Enclosure class	IP 30
Weight [kg]	1.210

Remarks: d = for thread-forming screw M6 DIN ISO 965-2

Characteristic curves

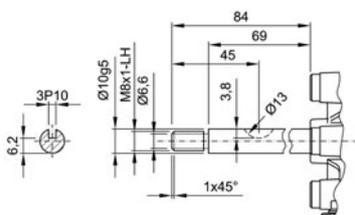


Motor picture

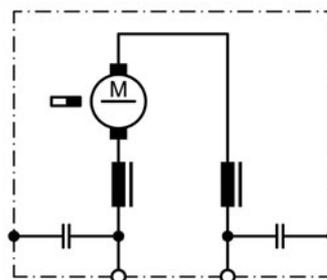


Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

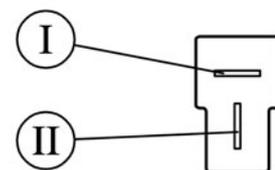
W 120



S 30



K 320



Flat plug (DIN 46244) 6,3x0,8 mating with receptacle housing part#180907, drwg# C-180907& Receptacles for tabs, conductor cross section 0,5-1,5 sqmm (20-18AWG) part# 925603-x, drwg# 925603 www.tycoelectronics.com

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

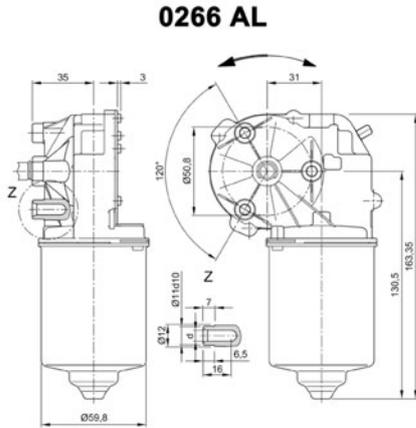
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	4.00
No-load speed [min^{-1}]	n_0	65.0
Nominal power [W]	P_N	25.0
Nominal current [A]	I_N	3.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	69
Output channels	2

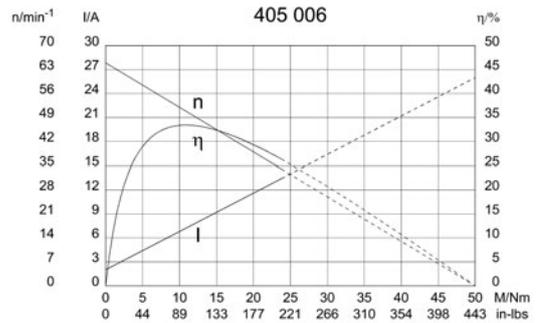
Other data	
Gear ratio	69/1
Gear wheel material	plastic
Suppression components	6 μ H
Enclosure class	IP 30
Weight [kg]	1.250

Remarks: d = for thread-forming screw M6 DIN ISO 965-2

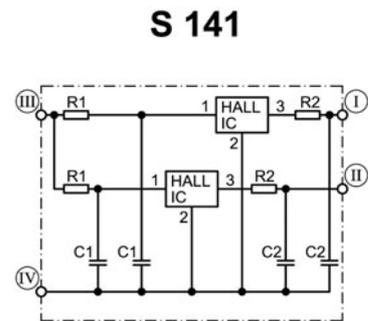
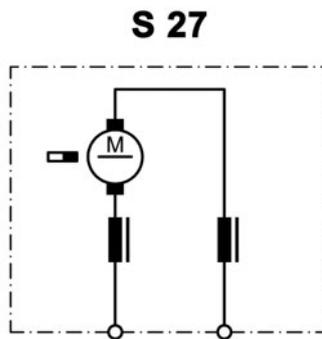
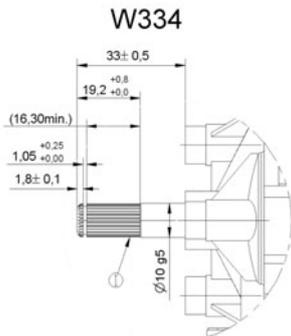
Characteristic curves



Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



I serration (rolled): no of teeth 28, pitch circle dia 9 mm, tip circle dia 9.6 mm, root circle dia 8.26 mm space width angle 60° - go/no go gauge Frenco 33906 - www.frenco.de

I Hall-IC A1, terminal 3
 II Hall-IC A2, terminal 4
 III Hall-IC +, terminal 5
 IV Hall-IC -, terminal 6

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

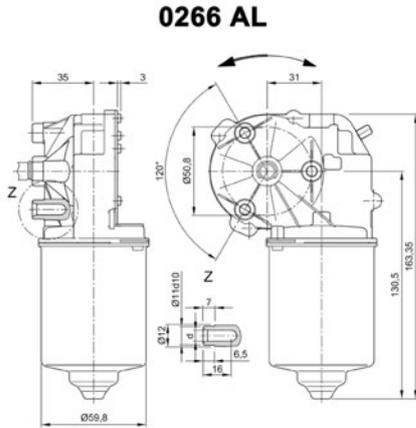
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	4.00
No-load speed [min^{-1}]	n_0	55.0
Nominal power [W]	P_N	21.5
Nominal current [A]	I_N	5.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	78
Output channels	1

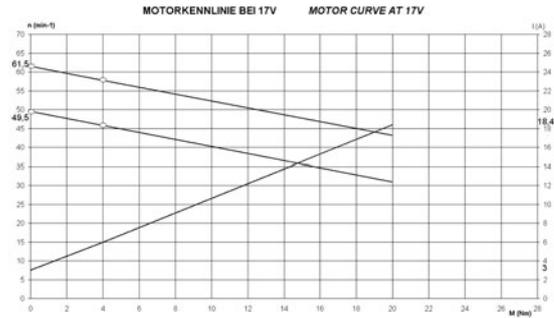
Other data	
Gear ratio	78/1
Gear wheel material	plastic
Suppression components	6 μ H, 1nF
Enclosure class	IP 30
Weight [kg]	1.210

Remarks: d= for thread forming screw M6 DIN ISO 965-2

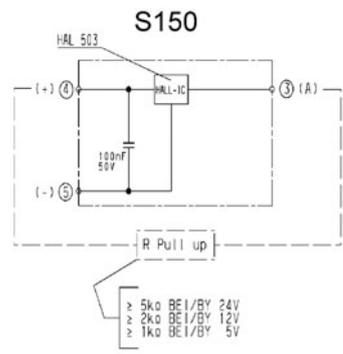
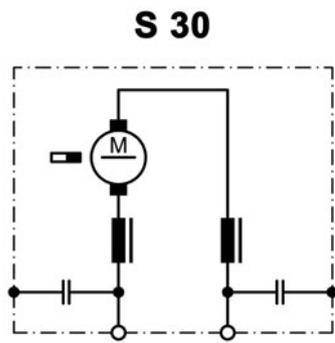
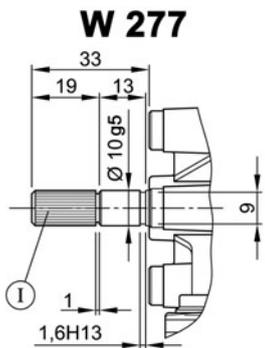
Characteristic curves



Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



I serration (rolled)
 no of teeth 28, pitch circle dia 9 mm, tip circle dia 9,6 mm, root circle dia 8,26 mm space width angle 60°
 goes with go/no go gauge Frenco 33906
 www.frenco.de

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

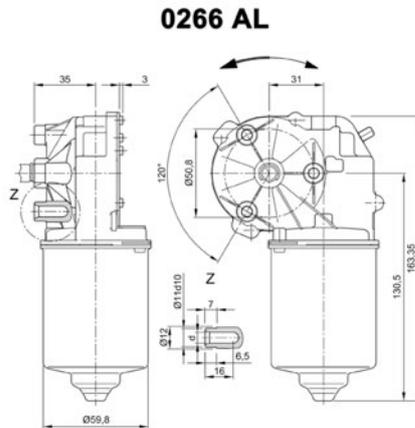
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	4.00
No-load speed [min^{-1}]	n_0	90.0
Nominal power [W]	P_N	35.9
Nominal current [A]	I_N	5.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	69
Output channels	1

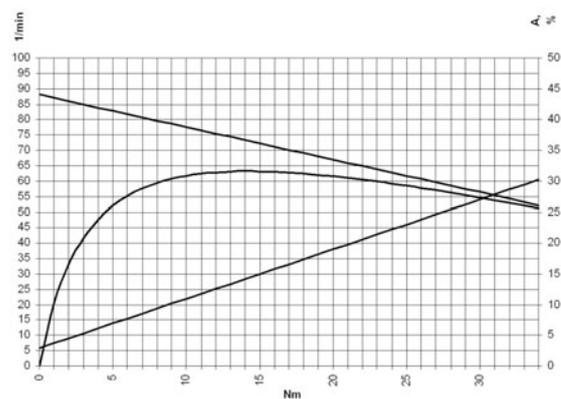
Other data	
Gear ratio	69/1
Gear wheel material	plastic
Suppression components	$6\mu\text{H}$, 1nF
Enclosure class	IP 30
Weight [kg]	1.210

Remarks: d=for thread forming screws M6 DIN-ISO 965-2

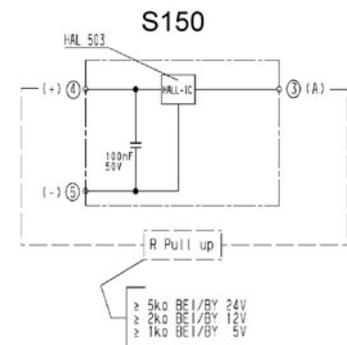
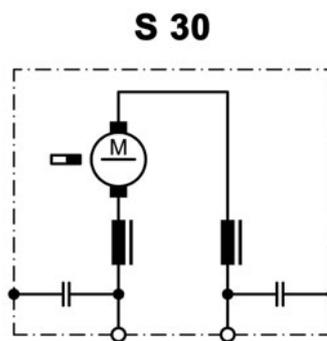
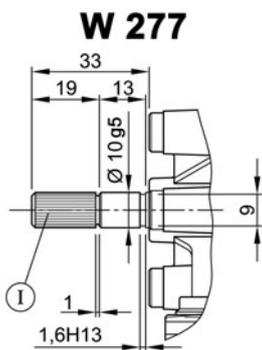
Characteristic curves



Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



I serration (rolled)
 no of teeth 28, pitch circle dia 9 mm, tip circle dia 9.6 mm, root circle dia 8.26 mm space width angle 60°
 goes with go/no go gauge Frenco 33906
 www.frenco.de

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A: Ball - B: Sleeve

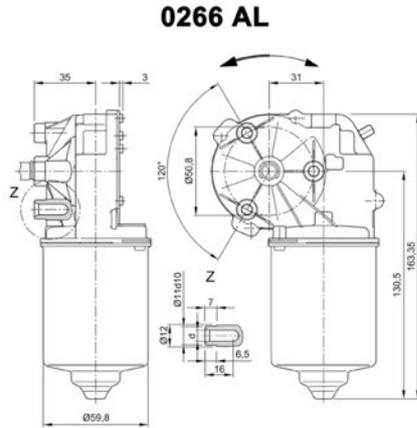
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	2.00
No-load speed [min^{-1}]	n_0	120.0
Nominal power [W]	P_N	22.0
Nominal current [A]	I_N	4.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	79.5
Output channels	1

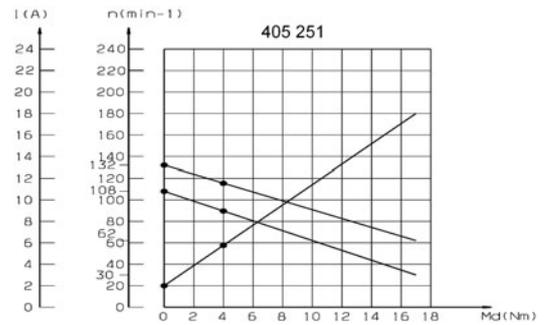
Other data	
Gear ratio	53/2
Gear wheel material	Plastic
Suppression components	6.0 μ H, 1nF
Enclosure class	IP30
Weight [kg]	1.210

Remarks: d = for thread-forming screw M6 DIN ISO 965-2

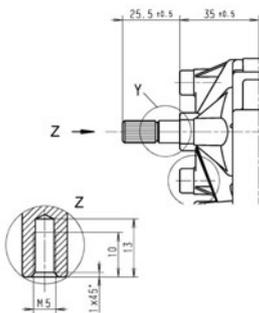
Characteristic curves



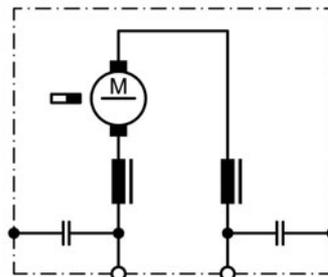
Motor picture



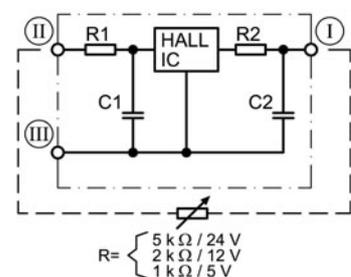
Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



S 30



S 124



I serration (rolled): **No teeth 28, pitch circle dia 9 mm, tip circle dia 9.6 mm, root circle dia 8.26 mm space width angle 60° - go/no go gauge** Frenco 33906 - www.frenco.de

I Terminal 3, A
 II Terminal 4, +
 III Terminal 5, -



NIDEC MOTORS & ACTUATORS ❖❖❖ MOTOR SERIES

0268 (DCK35)

❖❖❖ DC MOTORS WITH WORM GEAR



❖❖❖ TECHNICAL DESCRIPTION

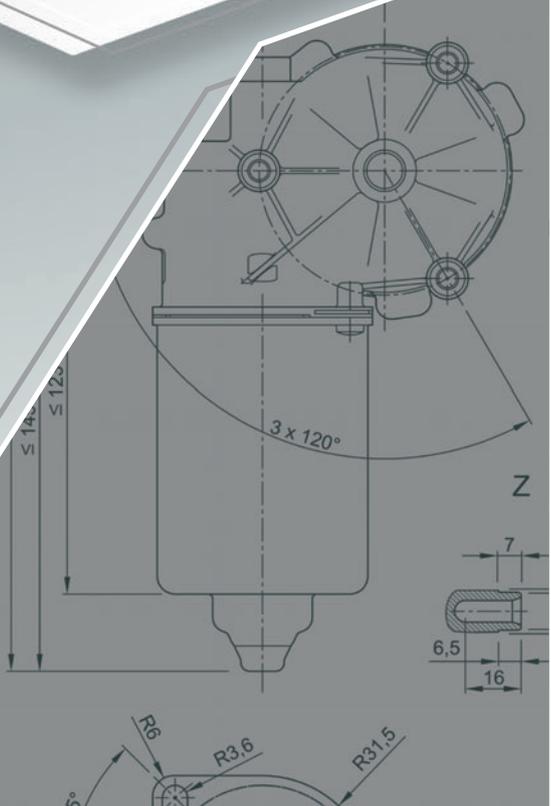
Motorhousing:	deep drawn & corrosion protected
Excitation field:	permanent magnet
Type of gear mesh:	worm gear
Gear housing:	zinc die cast
Gear wheel material:	plastic
Lubrication:	grease
Mechanical interface:	steel shaft
Electric interface:	connector
Sensor:	optional
Thermal protection:	optional
EMC suppression:	optional

❖❖❖ INDUSTRIAL APPLICATION

Home automation, machine construction

❖❖❖ AUTOMOTIVE APPLICATION

Trunk & tailgate opening & closing



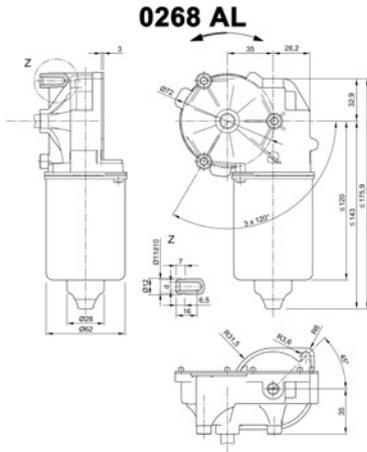
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	6.00
No-load speed [min^{-1}]	n_0	50.0
Nominal power [W]	P_N	28.7
Nominal current [A]	I_N	4.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	63/1
Gear wheel material	plastic
Suppression components	3,5 μ H, 1nF
Enclosure class	IP 30
Weight [kg]	1.250

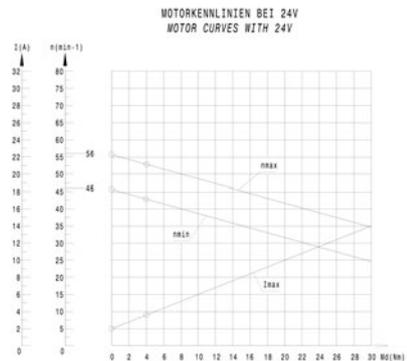
Remarks: d=for thread forming screws M6 DIN ISO 965-2



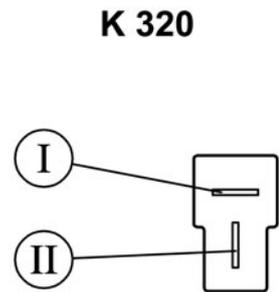
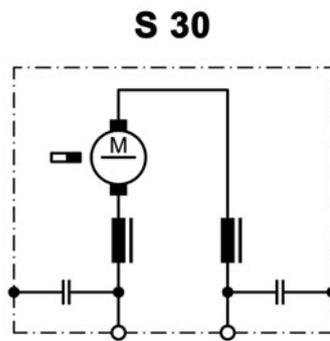
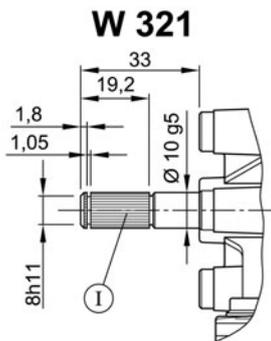
Motor picture



Characteristic curves



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

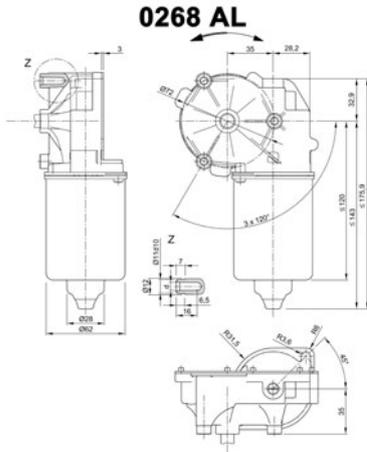


I serration (rolled): no of teeth 28, pitch circle dia 9 mm, tip circle dia 9.6 mm, root circle dia 8.26 mm space width angle 60°- go/no go gauge Frenco 33906 - www.frenco.de

Flat plug (DIN 46244) 6,3x0,8 mating with receptacle housing part#180907, drwg# C-180907& Receptacles for tabs, conductor cross section 0,5-1,5 sqmm (20-18AWG) part# 925603-x, drwg# 925603 www.tycoelectronics.com

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	5.00
No-load speed [min^{-1}]	n_0	70.0
Nominal power [W]	P_N	33.5
Nominal current [A]	I_N	4.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	



Sensor data	
Pulses	0
Output channels	0

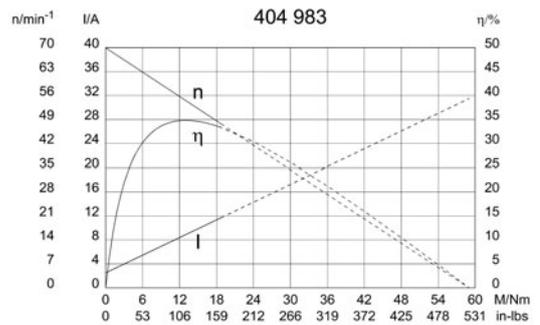
Other data	
Gear ratio	55/1
Gear wheel material	plastic
Suppression components	3,5 μ H, 1nF
Enclosure class	IP 30
Weight [kg]	1.250

Remarks: d = for thread-forming screw M6 DIN ISO 965-2

Motor picture

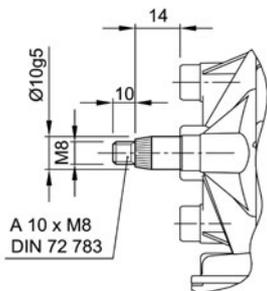


Characteristic curves

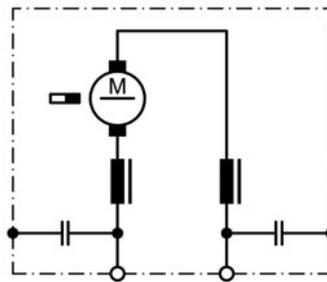


Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

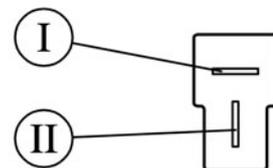
W 305



S 30



K 320



Flat plug (DIN 46244) 6,3x0,8 mating with receptacle housing part#180907, drwg# C-180907& Receptacles for tabs, conductor cross section 0,5-1,5 sqmm (20-18AWG) part# 925603-x, drwg# 925603 www.tycoelectronics.com

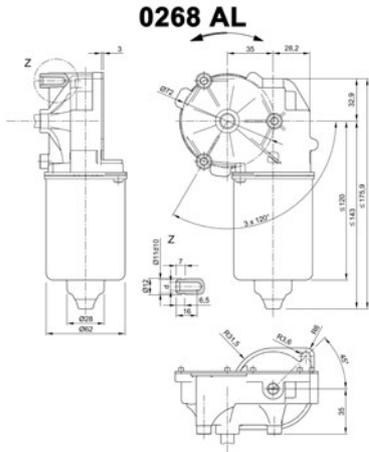
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	6.00
No-load speed [min^{-1}]	n_0	60.0
Nominal power [W]	P_N	29.3
Nominal current [A]	I_N	7.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	63/1
Gear wheel material	plastic
Suppression components	3,5 μ H
Enclosure class	IP 30
Weight [kg]	1.376

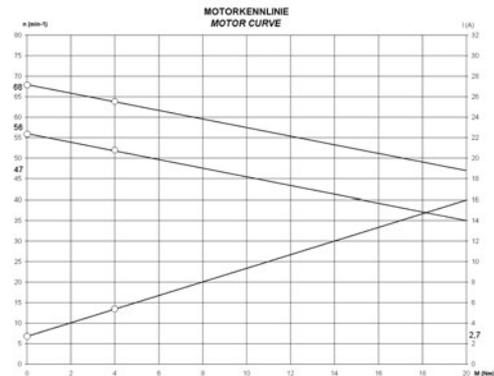
Remarks:



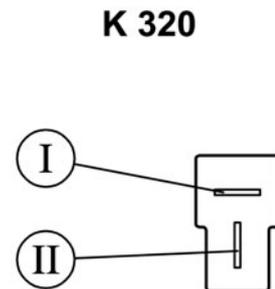
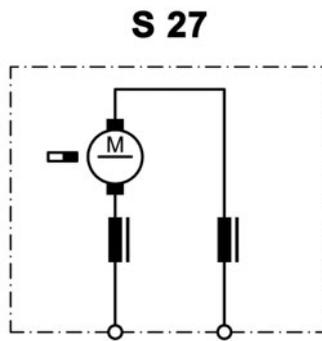
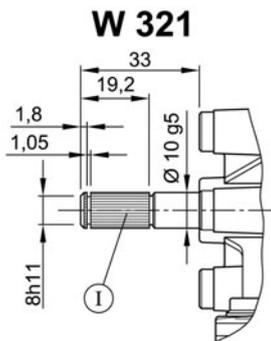
Motor picture



Characteristic curves



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



I serration (rolled): no of teeth 28, pitch circle dia 9 mm, tip circle dia 9.6 mm, root circle dia 8.26 mm space width angle 60°- go/no go gauge Frenco 33906 - www.frenco.de

Flat plug (DIN 46244) 6,3x0,8 mating with receptacle housing part#180907, drwg# C-180907& Receptacles for tabs, conductor cross section 0,5-1,5 sqmm (20-18AWG) part# 925603-x, drwg# 925603 www.tycoelectronics.com

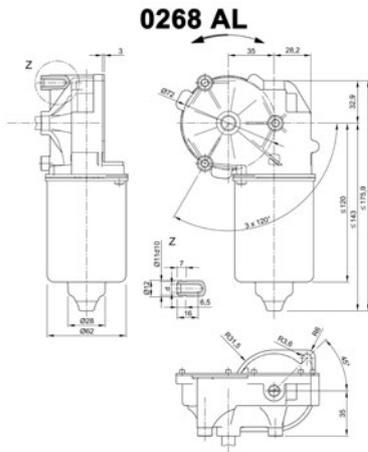
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A: Ball - B: Sleeve

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	8.00
No-load speed [min^{-1}]	n_0	75.0
Nominal power [W]	P_N	37.7
Nominal current [A]	I_N	7.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

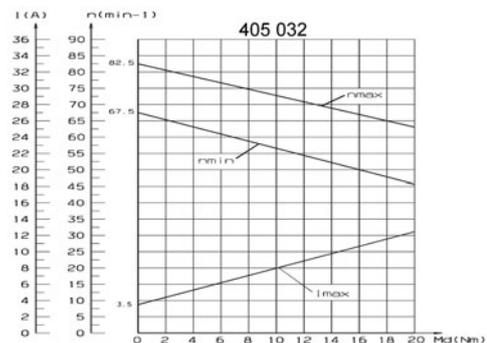
Sensor data	
Pulses	63
Output channels	1

Other data	
Gear ratio	63/1
Gear wheel material	Plastic
Suppression components	3.5 μH
Enclosure class	IP30
Weight [kg]	1.250

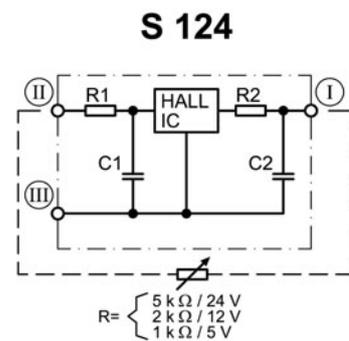
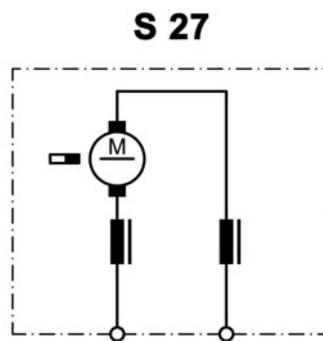
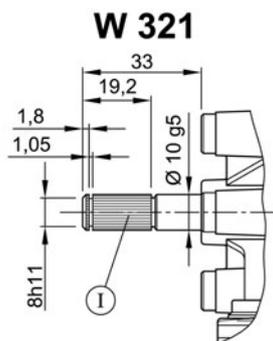
Remarks: d = for thread-forming screw M6 DIN ISO 965-2



Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



I serration (rolled): no of teeth 28, pitch circle dia 9 mm, tip circle dia 9.6 mm, root circle dia 8.26 mm space width angle 60°- go/no go gauge Frenco 33906 - www.frenco.de

I Terminal 3, A
 II Terminal 4, +
 III Terminal 5, -

$R = \begin{cases} 5 \text{ k}\Omega / 24 \text{ V} \\ 2 \text{ k}\Omega / 12 \text{ V} \\ 1 \text{ k}\Omega / 5 \text{ V} \end{cases}$

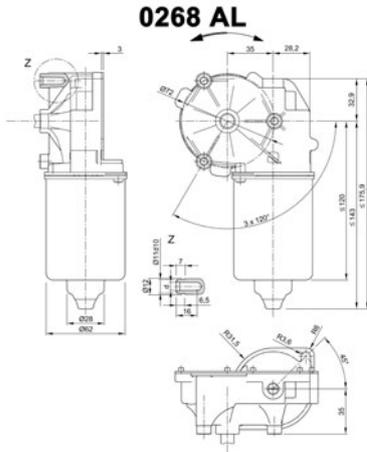
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	8.00
No-load speed [min^{-1}]	n_0	53.0
Nominal power [W]	P_N	39.2
Nominal current [A]	I_N	6.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	91
Output channels	1

Other data	
Gear ratio	91/1
Gear wheel material	plastic
Suppression components	3,5 μ H, 1nF
Enclosure class	IP 30
Weight [kg]	1.250

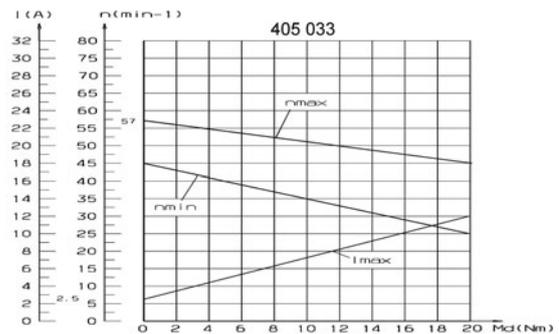
Remarks: d=for thread forming screws M6 DIN ISO 965-2



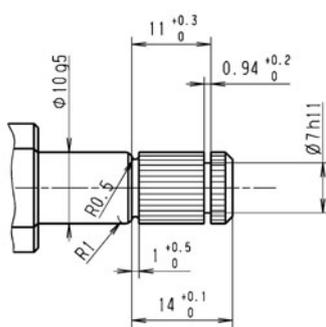
Motor picture



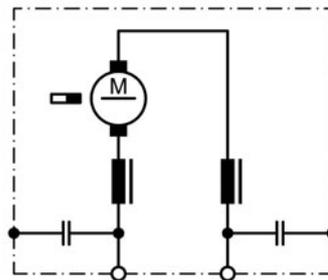
Characteristic curves



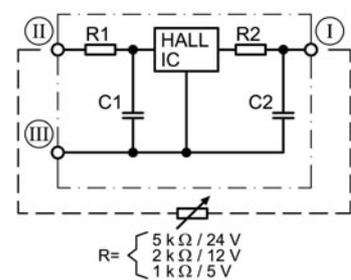
Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



S 30



S 124



Splines: 8 x 10 (according to DIN 5481)
 Output shaft length = 28mm

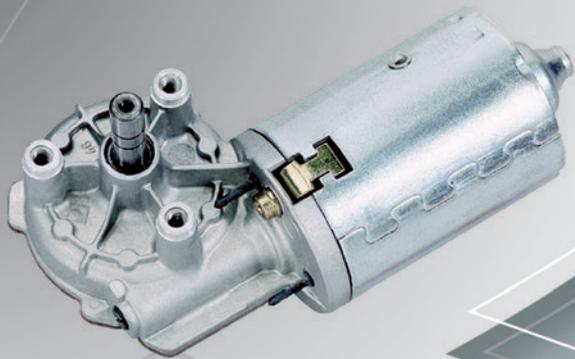
I Terminal 3, A
 II Terminal 4, +
 III Terminal 5, -



NIDEC MOTORS & ACTUATORS ❖❖❖ MOTOR SERIES

0270 (SWMK)

❖❖❖ DC MOTORS WITH WORM GEAR

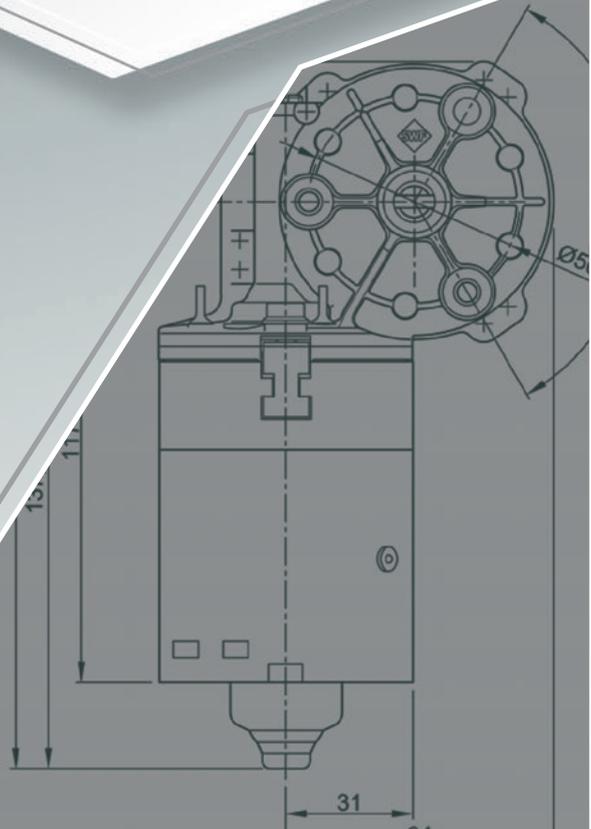


❖❖❖ TECHNICAL DESCRIPTION

Motorhousing:	rolled, corrosion protected
Excitation field:	permanent magnet
Type of gear mesh:	worm gear
Gear housing:	aluminium die cast
Gear wheel material:	plastic
Lubrication:	grease
Mechanical interface:	steel shaft
Electric interface:	connector or tinned leads
Sensor:	optional
Thermal protection:	optional
EMC suppression:	optional

❖❖❖ APPLICATION

Industry, Linear drives, General machinery,
 Vending machines, Agricultural technology,
 Office machines, Laboratory devices,
 Medical technology, Traffic & communications
 technology, Film/optics



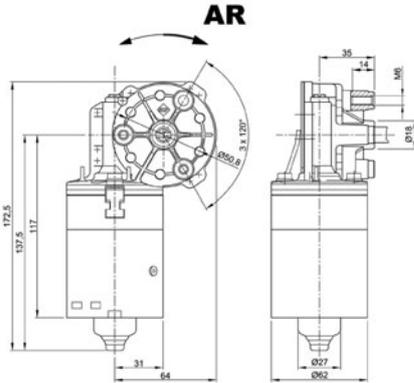
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	4.00
No-load speed [min^{-1}]	n_0	50.0
Nominal power [W]	P_N	17.7
Nominal current [A]	I_N	2.5
Nominal force [kN]	F_N	0.00
Duty cycle		s1

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	55/1
Gear wheel material	Plastic
Suppression components	
Enclosure class	IP30
Weight [kg]	1.200

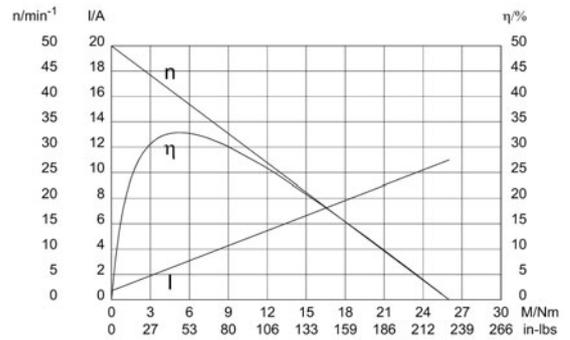
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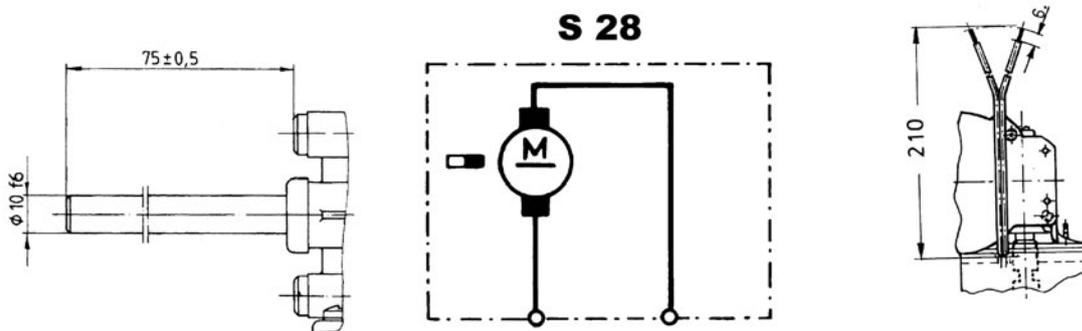
Motor picture



Characteristic curves



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



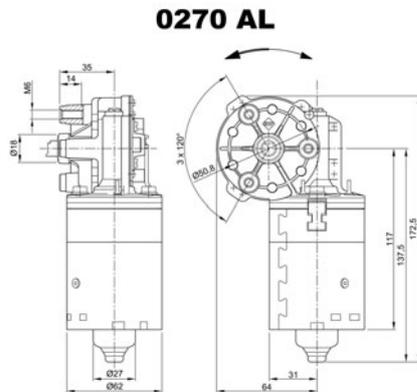
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	3.50
No-load speed [min^{-1}]	n_0	50.0
Nominal power [W]	P_N	15.9
Nominal current [A]	I_N	2.0
Nominal force [kN]	F_N	0.00
Duty cycle		s1

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	55/1
Gear wheel material	Plastic
Suppression components	4.7 μ H, 1nF
Enclosure class	IP30
Weight [kg]	1.200

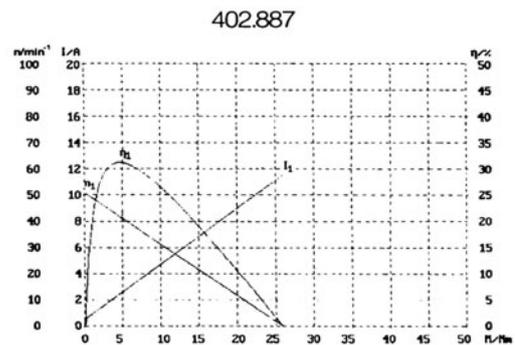
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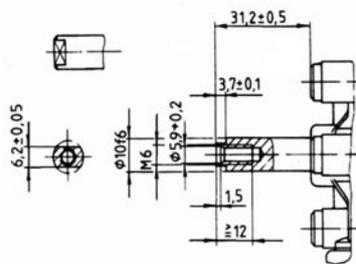
Motor picture



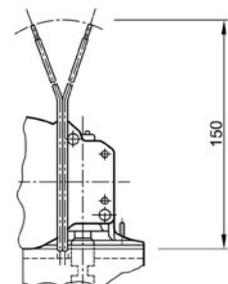
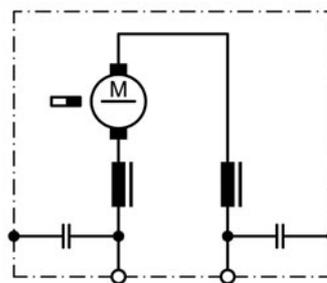
Characteristic curves



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



S 30



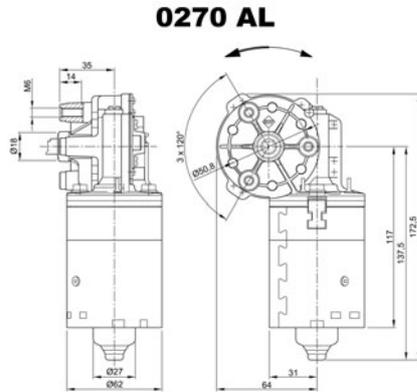
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	1.00
No-load speed [min^{-1}]	n_0	280.0
Nominal power [W]	P_N	24.9
Nominal current [A]	I_N	4.0
Nominal force [kN]	F_N	0.00
Duty cycle		s1

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	41/4
Gear wheel material	Plastic
Suppression components	
Enclosure class	IP30
Weight [kg]	1.200

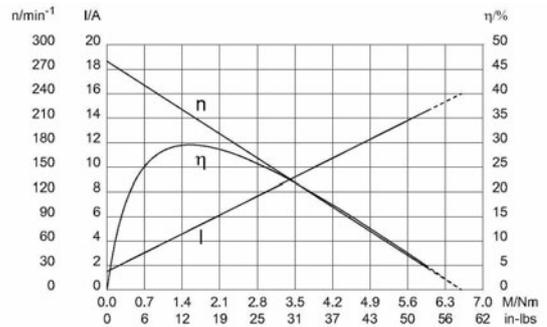
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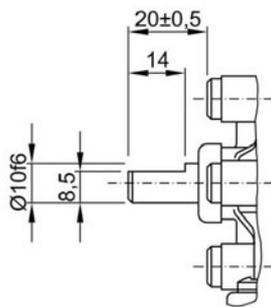
Motor picture



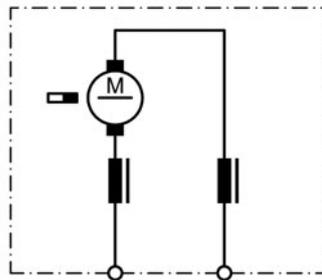
Characteristic curves



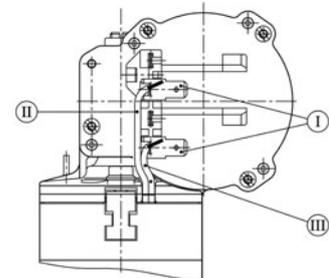
Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



S 27



K 42



- I Blade terminal ends
6,3 x 0,8 DIN 46 244
- II green
- III red

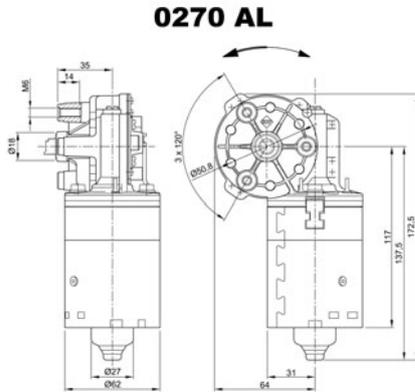
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A: Ball - B: Sleeve

Performance data		
Rated voltage [V]	U_N	36
Nominal torque [Nm]	M_N	2.00
No-load speed [min^{-1}]	n_0	100.0
Nominal power [W]	P_N	18.3
Nominal current [A]	I_N	3.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	53/2
Gear wheel material	Plastic
Suppression components	4.7 μ H, 1nF
Enclosure class	IP30
Weight [kg]	1.200

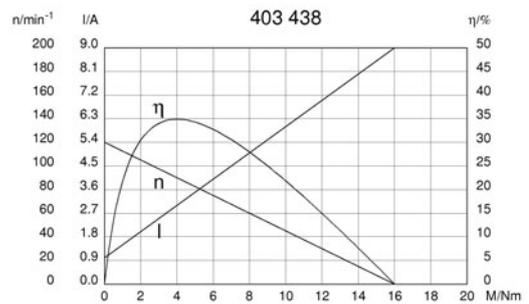
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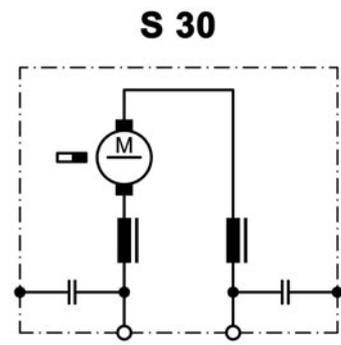
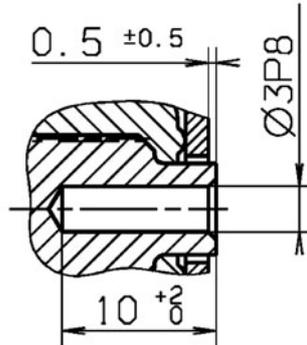
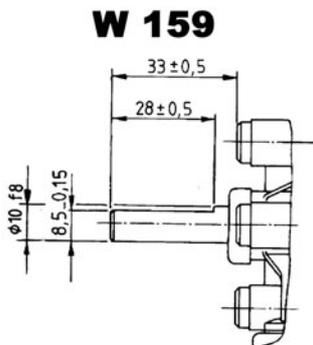
Motor picture



Characteristic curves



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



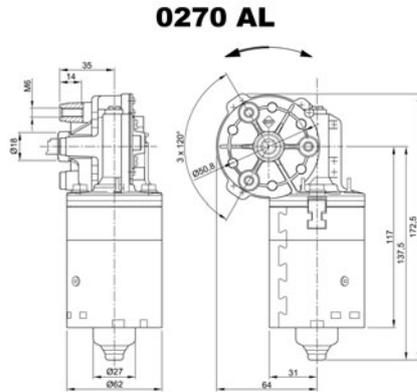
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

Performance data		
Rated voltage [V]	U_N	12
Nominal torque [Nm]	M_N	0.80
No-load speed [min^{-1}]	n_0	350.0
Nominal power [W]	P_N	27.0
Nominal current [A]	I_N	8.0
Nominal force [kN]	F_N	0.00
Duty cycle		s1

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	41/4
Gear wheel material	plastic
Suppression components	""
Enclosure class	IP 30
Weight [kg]	1.200

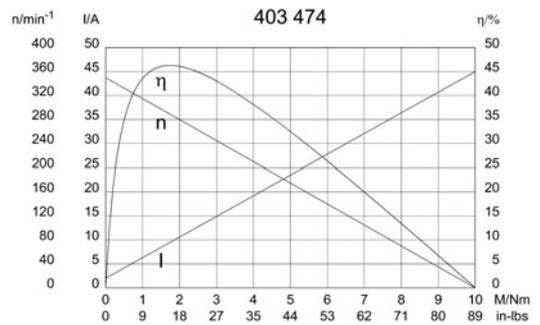
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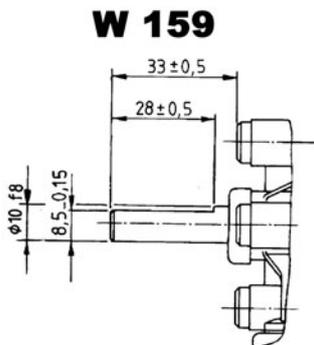
Motor picture



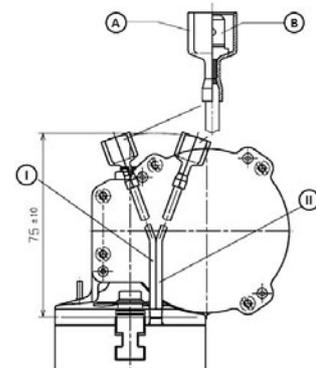
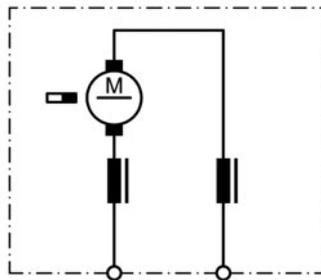
Characteristic curves



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



S 27



A: housing MST AMP No. 2-521055-2
 B: spade terminals 6.3 x 0.8 DIN 46 244
 I: red
 II: green

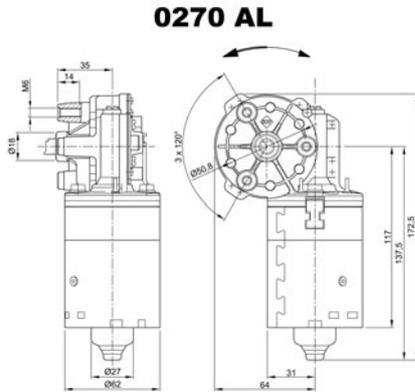
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	0.80
No-load speed [min^{-1}]	n_0	350.0
Nominal power [W]	P_N	27.0
Nominal current [A]	I_N	4.0
Nominal force [kN]	F_N	0.00
Duty cycle		s1

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	41/4
Gear wheel material	plastic
Suppression components	1nF
Enclosure class	IP 30
Weight [kg]	1.200

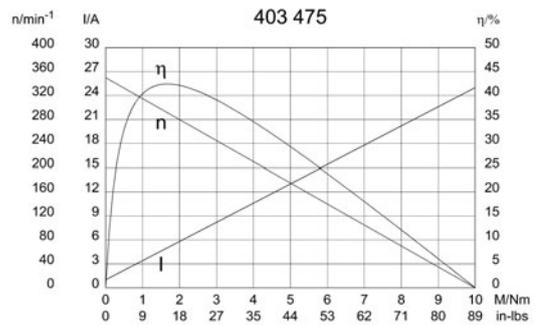
Remarks:



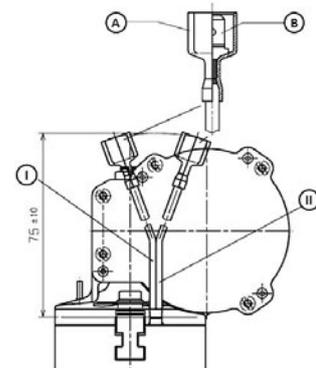
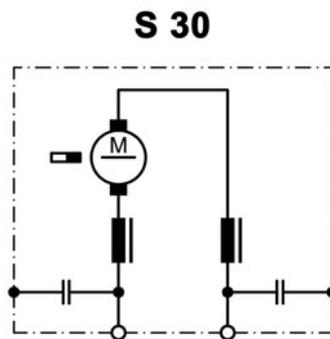
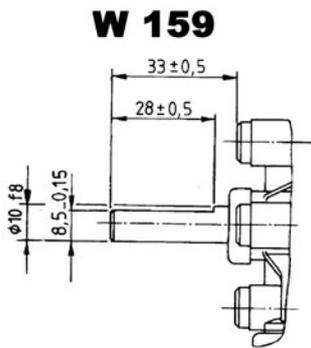
Motor picture



Characteristic curves



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



A: housing MST AMP No. 2-521055-2
 B: spade terminals 6.3 x 0.8 DIN 46 244
 I: red
 II: green

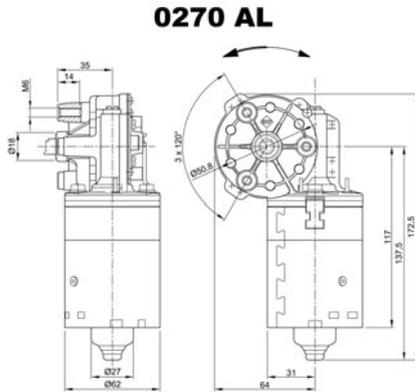
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	2.00
No-load speed [min^{-1}]	n_0	110.0
Nominal power [W]	P_N	20.8
Nominal current [A]	I_N	3.0
Nominal force [kN]	F_N	0.00
Duty cycle		s1

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	53/2
Gear wheel material	Plastic
Suppression components	4.7 μ H, 1nF
Enclosure class	IP30
Weight [kg]	1.200

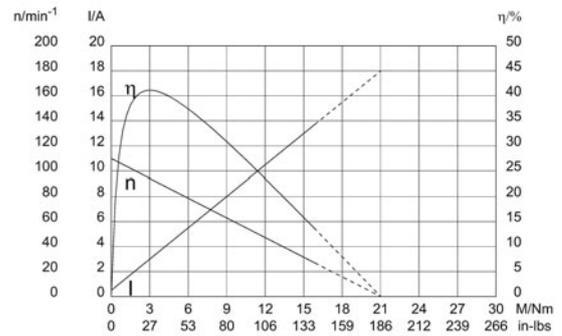
Remarks:



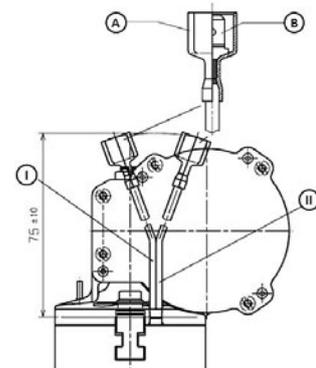
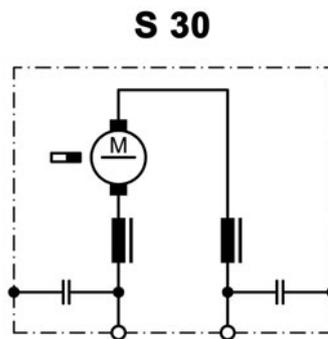
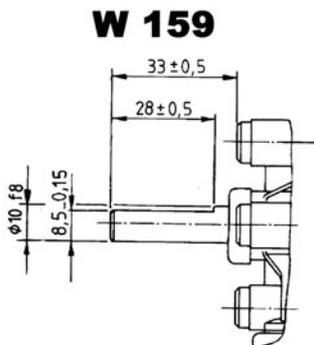
Motor picture



Characteristic curves



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



A: housing MST AMP No. 2-521055-2
 B: spade terminals 6.3 x 0.8 DIN 46 244
 I: red
 II: green

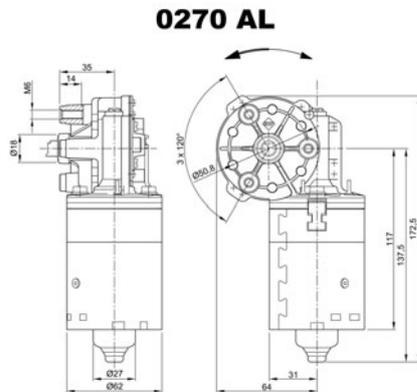
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

Performance data		
Rated voltage [V]	U_N	12
Nominal torque [Nm]	M_N	1.00
No-load speed [min^{-1}]	n_0	260.0
Nominal power [W]	P_N	23.0
Nominal current [A]	I_N	10.0
Nominal force [kN]	F_N	0.00
Duty cycle		s1

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	41/4
Gear wheel material	Plastic
Suppression components	
Enclosure class	
Weight [kg]	1.200

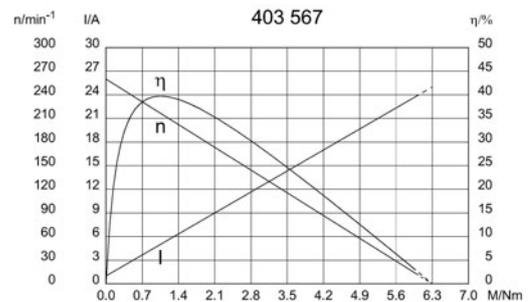
Remarks:



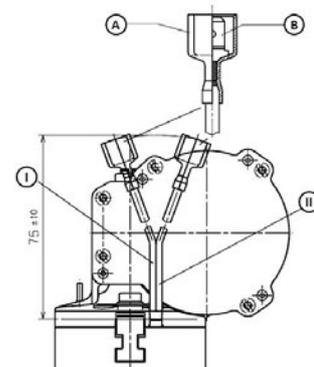
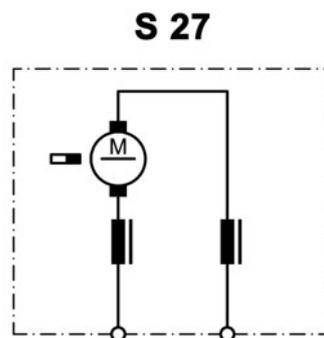
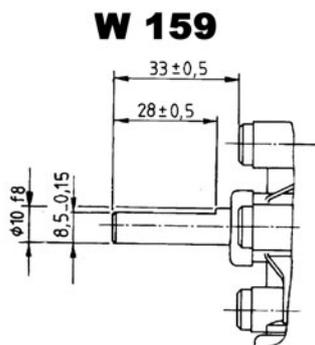
Motor picture



Characteristic curves



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



A: housing MST AMP No. 2-521055-2
 B: spade terminals 6.3 x 0.8 DIN 46 244
 I: red
 II: green

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

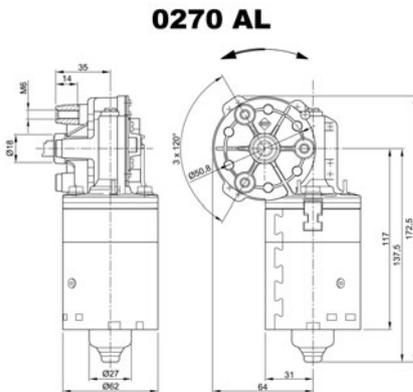
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	1.00
No-load speed [min^{-1}]	n_0	264.0
Nominal power [W]	P_N	23.2
Nominal current [A]	I_N	4.0
Nominal force [kN]	F_N	0.00
Duty cycle		s1

Sensor data	
Pulses	10.25
Output channels	1

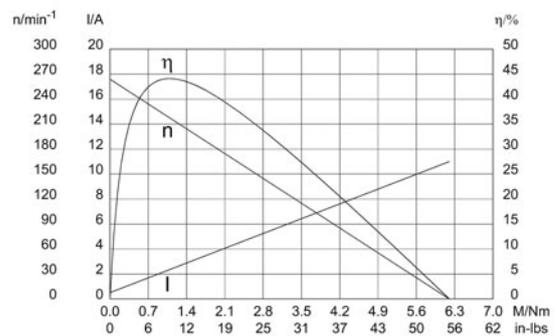
Other data	
Gear ratio	41/4
Gear wheel material	Plastic
Suppression components	
Enclosure class	IP30
Weight [kg]	1.200

Remarks:

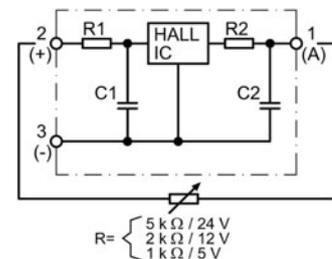
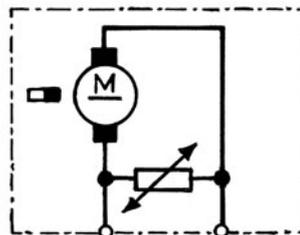
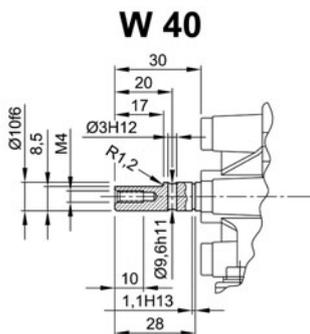
Motor picture



Characteristic curves



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

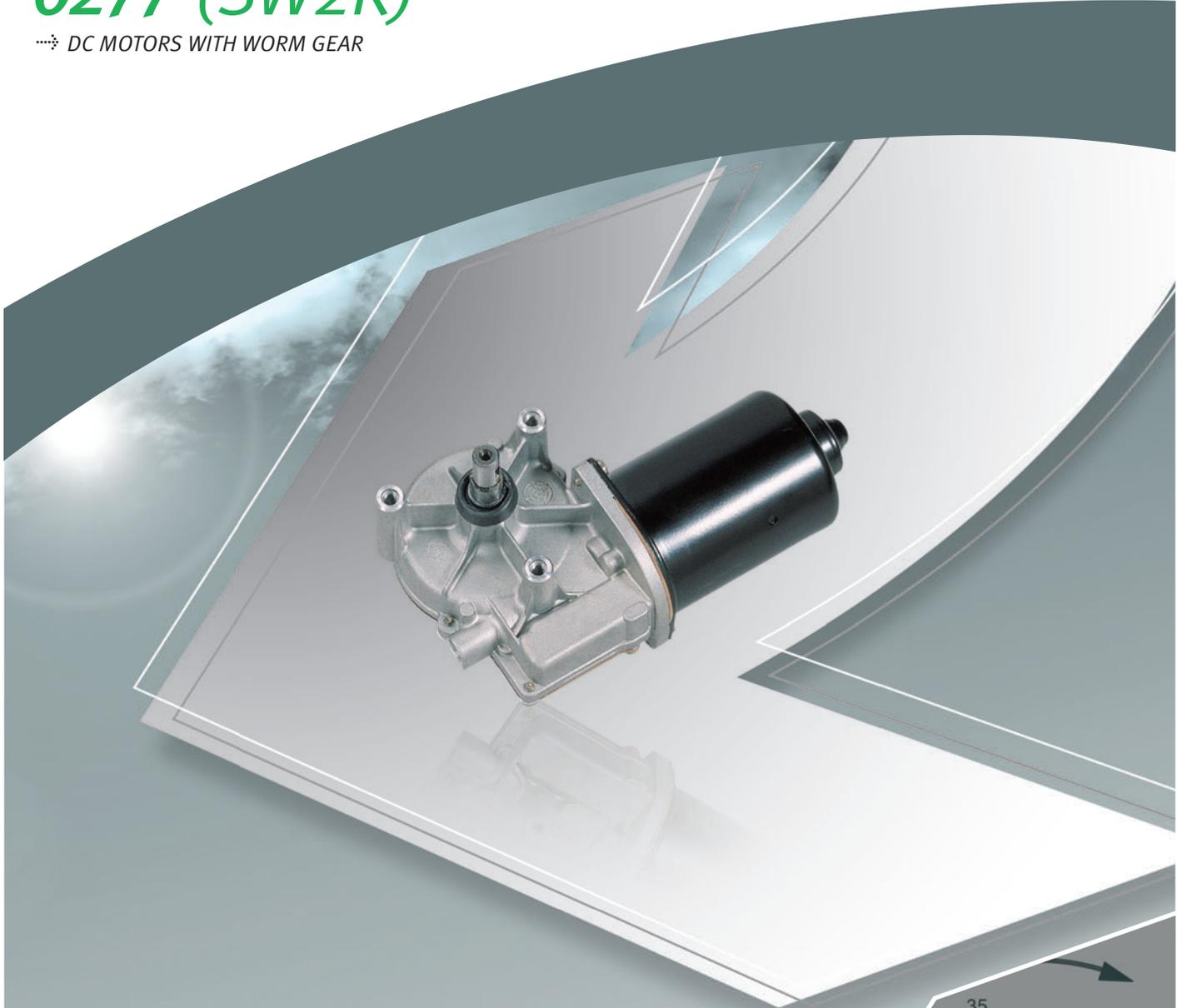




NIDEC MOTORS & ACTUATORS ❖❖❖ MOTOR SERIES

0277 (SW2K)

❖❖❖ DC MOTORS WITH WORM GEAR

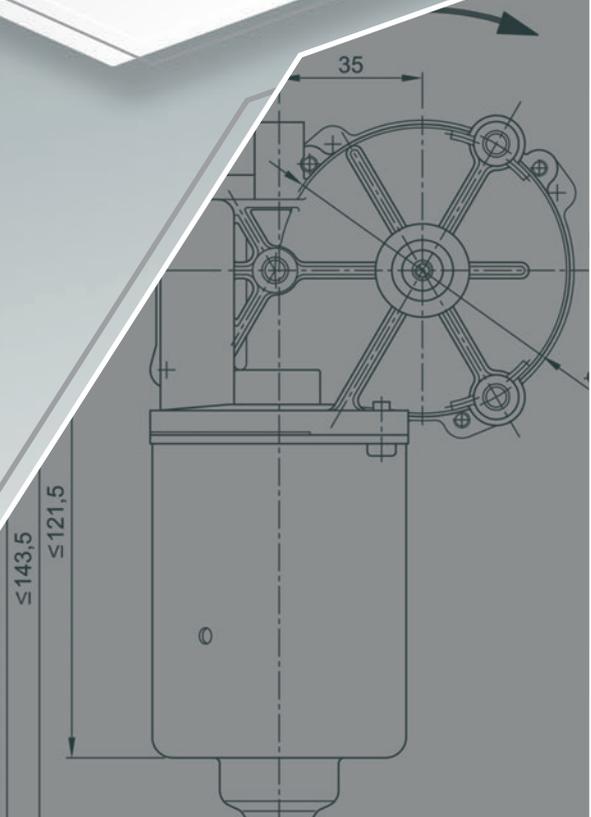


❖❖❖ TECHNICAL DESCRIPTION

Motorhousing:	deep drawn & corrosion protected
Excitation field:	permanent magnet
Type of gear mesh:	worm gear
Gear housing:	aluminium die cast
Gear wheel material:	plastic
Lubrication:	grease
Mechanical interface:	steel shaft
Electric interface:	connector or tinned leads
Sensor:	optional
Thermal protection:	optional
EMC suppression:	optional

❖❖❖ APPLICATION

Industry, Linear drives, General machinery,
 Vending machines, Agricultural technology,
 Office machines, Laboratory devices,
 Medical technology, Traffic & communications
 technology, Film/optics



Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

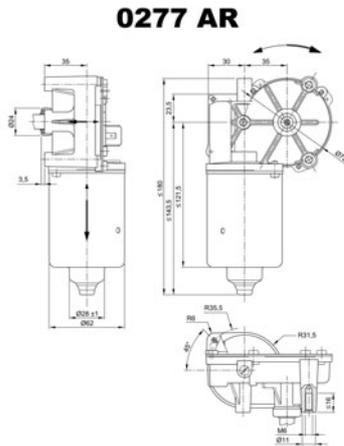
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	5.00
No-load speed [min^{-1}]	n_0	40.0
Nominal power [W]	P_N	16.8
Nominal current [A]	I_N	3.5
Nominal force [kN]	F_N	0.00
Duty cycle		s1

Sensor data	
Pulses	0
Output channels	0

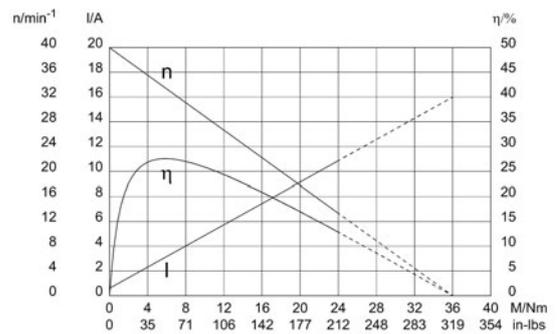
Other data	
Gear ratio	78/1
Gear wheel material	Plastic
Suppression components	4.7 μ H, 1nF
Enclosure class	IP40
Weight [kg]	1.200

Remarks: Ball bearing

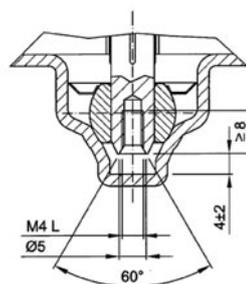
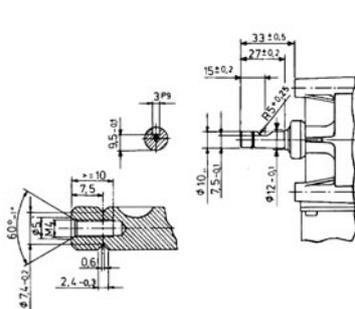
Characteristic curves



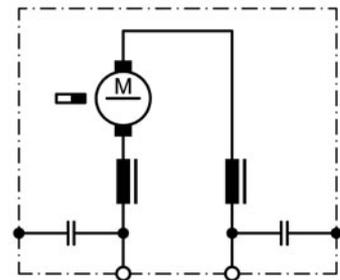
Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



S 30



! Lefthand thread

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

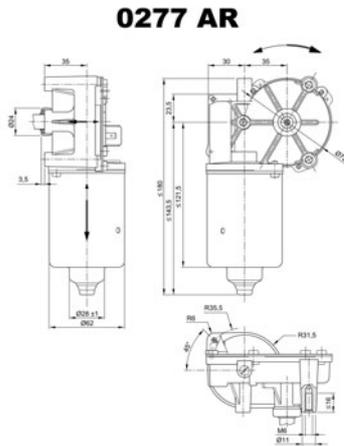
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	2.00
No-load speed [min^{-1}]	n_0	230.0
Nominal power [W]	P_N	44.2
Nominal current [A]	I_N	6.0
Nominal force [kN]	F_N	0.00
Duty cycle		s1

Sensor data	
Pulses	0
Output channels	0

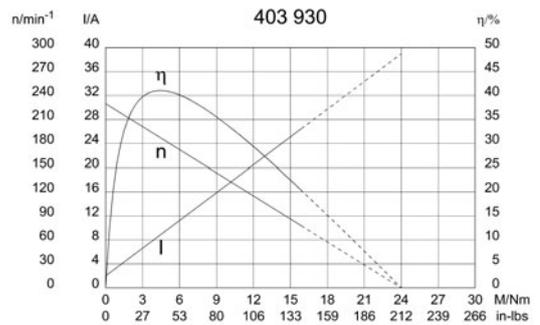
Other data	
Gear ratio	70/4
Gear wheel material	plastic
Suppression components	""
Enclosure class	IP 40
Weight [kg]	1.200

Remarks: Ball bearing

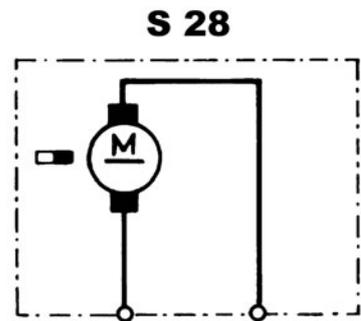
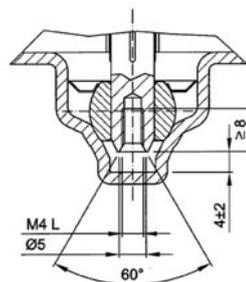
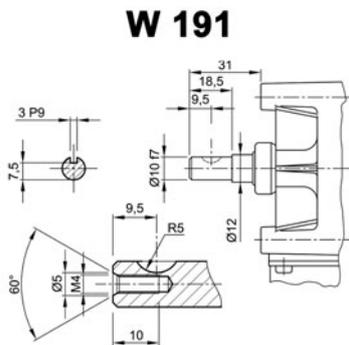
Characteristic curves



Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



! Lefthand thread

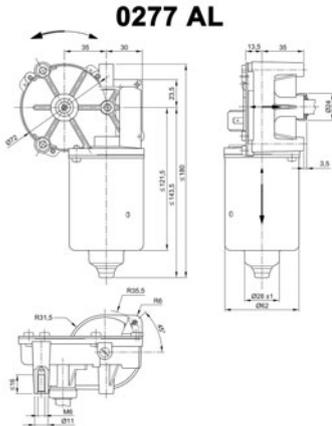
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	2.00
No-load speed [min^{-1}]	n_0	230.0
Nominal power [W]	P_N	44.2
Nominal current [A]	I_N	6.0
Nominal force [kN]	F_N	0.00
Duty cycle		s1

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	70/4
Gear wheel material	plastic
Suppression components	""
Enclosure class	IP 40
Weight [kg]	1.200

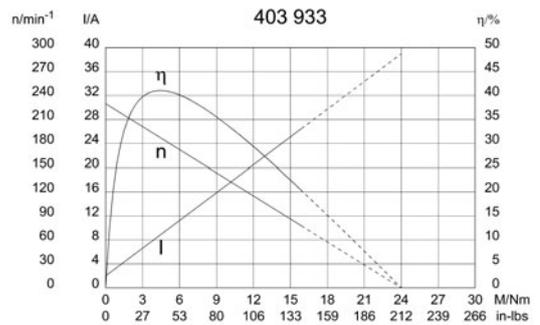
Remarks: Ball bearing



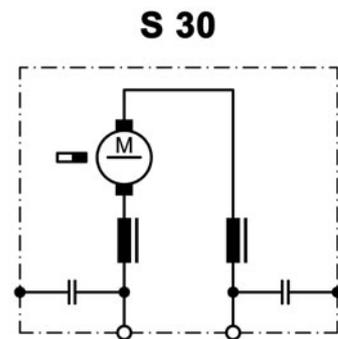
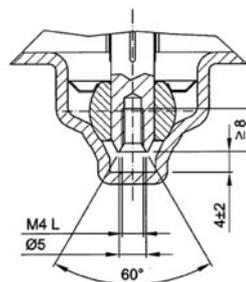
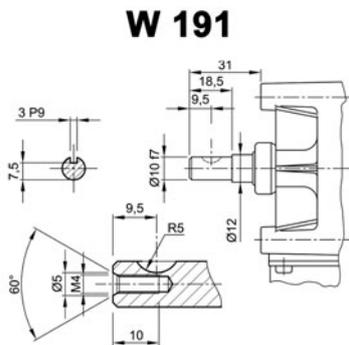
Motor picture



Characteristic curves



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



! Lefthand thread

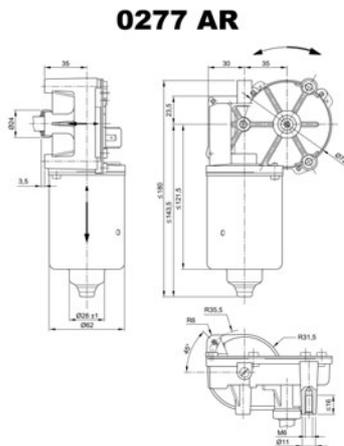
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	5.00
No-load speed [min^{-1}]	n_0	54.0
Nominal power [W]	P_N	26.3
Nominal current [A]	I_N	5.0
Nominal force [kN]	F_N	0.00
Duty cycle		s1

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	78/1
Gear wheel material	plastic
Suppression components	$5\mu\text{H}$, 1nF
Enclosure class	IP 40
Weight [kg]	1.200

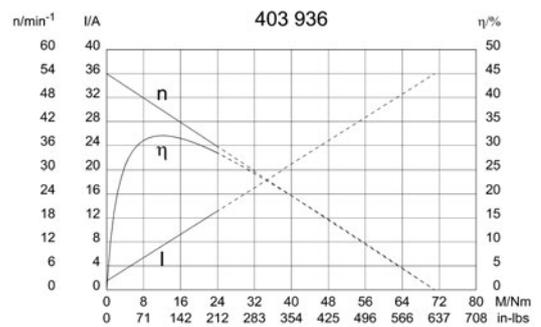
Remarks:



Motor picture

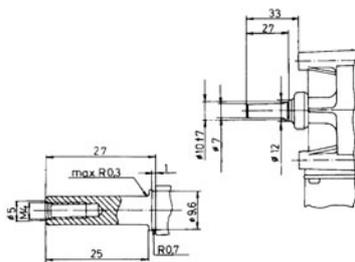


Characteristic curves

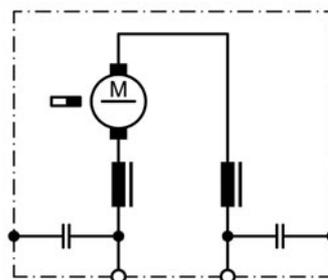


Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

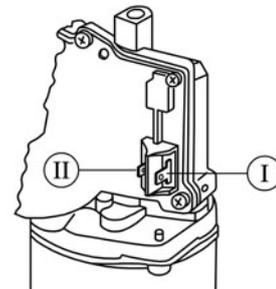
W 194



S 30



K 144



I - Blade terminal ends 6,3 x 0,8 DIN 46 244
 II - Blade terminal ends 4,8 x 0,8 DIN 46 244

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A: Ball - B: Sleeve

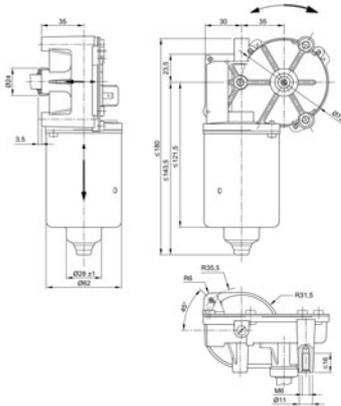
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	5.00
No-load speed [min^{-1}]	n_0	40.0
Nominal power [W]	P_N	16.8
Nominal current [A]	I_N	3.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	78/1
Gear wheel material	Plastic
Suppression components	
Enclosure class	IP40
Weight [kg]	1.200

Remarks:

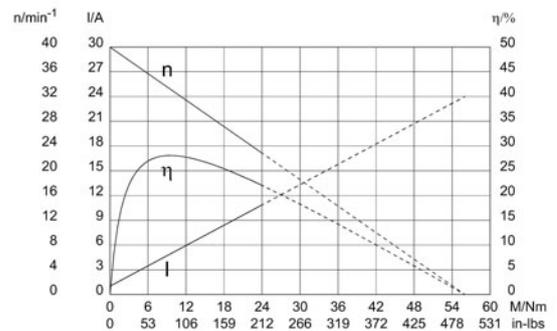
0277 AR



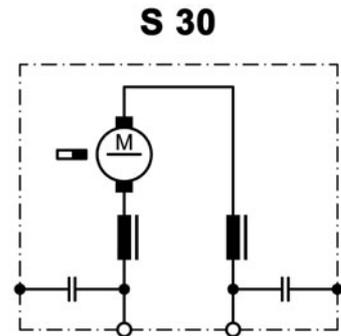
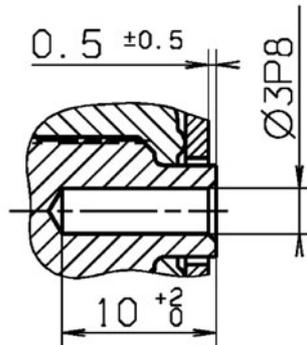
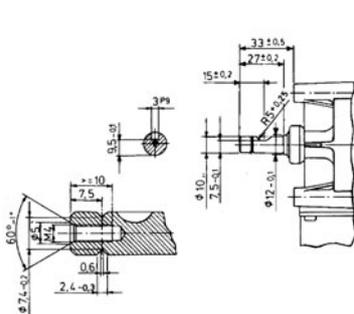
Motor picture



Characteristic curves



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

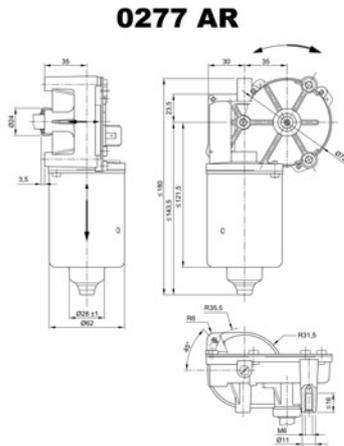
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	5.00
No-load speed [min^{-1}]	n_0	65.0
Nominal power [W]	P_N	27.2
Nominal current [A]	I_N	4.0
Nominal force [kN]	F_N	0.00
Duty cycle		s1

Sensor data	
Pulses	0
Output channels	0

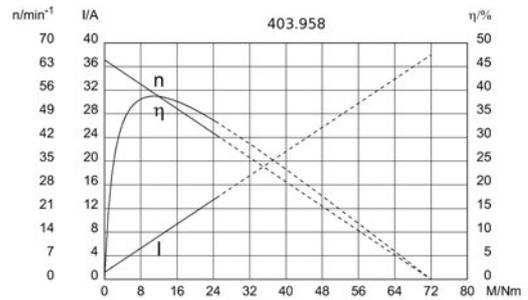
Other data	
Gear ratio	63/1
Gear wheel material	Plastic
Suppression components	4.7 μ H, 1nF
Enclosure class	IP40
Weight [kg]	1.200

Remarks: Ball bearing

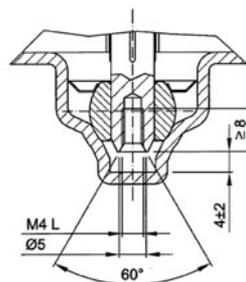
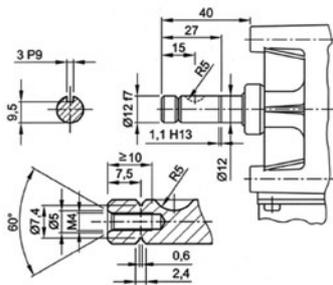
Characteristic curves



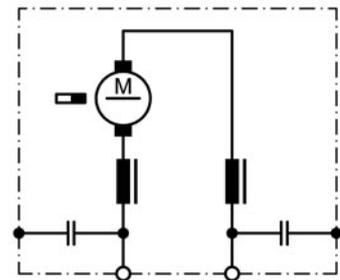
Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



S 30



! Lefthand thread

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	

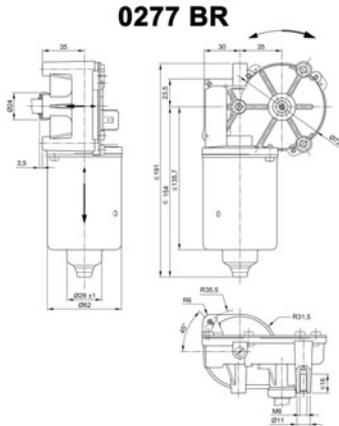
Performance data		
Rated voltage [V]	U_N	12
Nominal torque [Nm]	M_N	3.00
No-load speed [min^{-1}]	n_0	270.0
Nominal power [W]	P_N	68.9
Nominal current [A]	I_N	15.0
Nominal force [kN]	F_N	0.00
Duty cycle		s1

Sensor data	
Pulses	0
Output channels	0

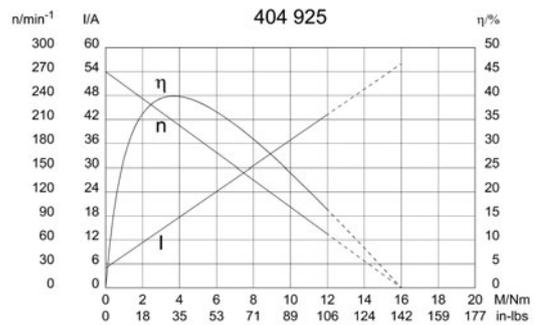
Other data	
Gear ratio	70/4
Gear wheel material	plastic
Suppression components	1.9 μ H, 1 μ F
Enclosure class	IP 40
Weight [kg]	1.200

Remarks: Ball bearing

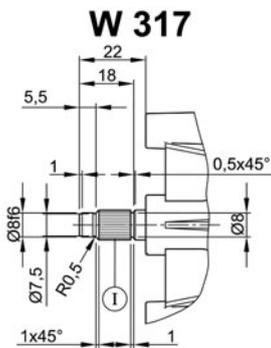
Characteristic curves



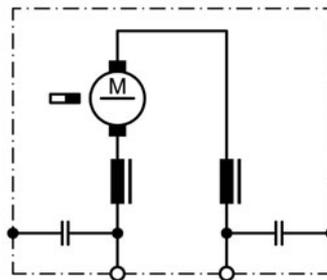
Motor picture



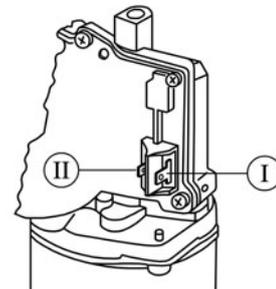
Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



S 30



K 144



I Tapered splines 8 x 10 f
(similar DIN 5481)

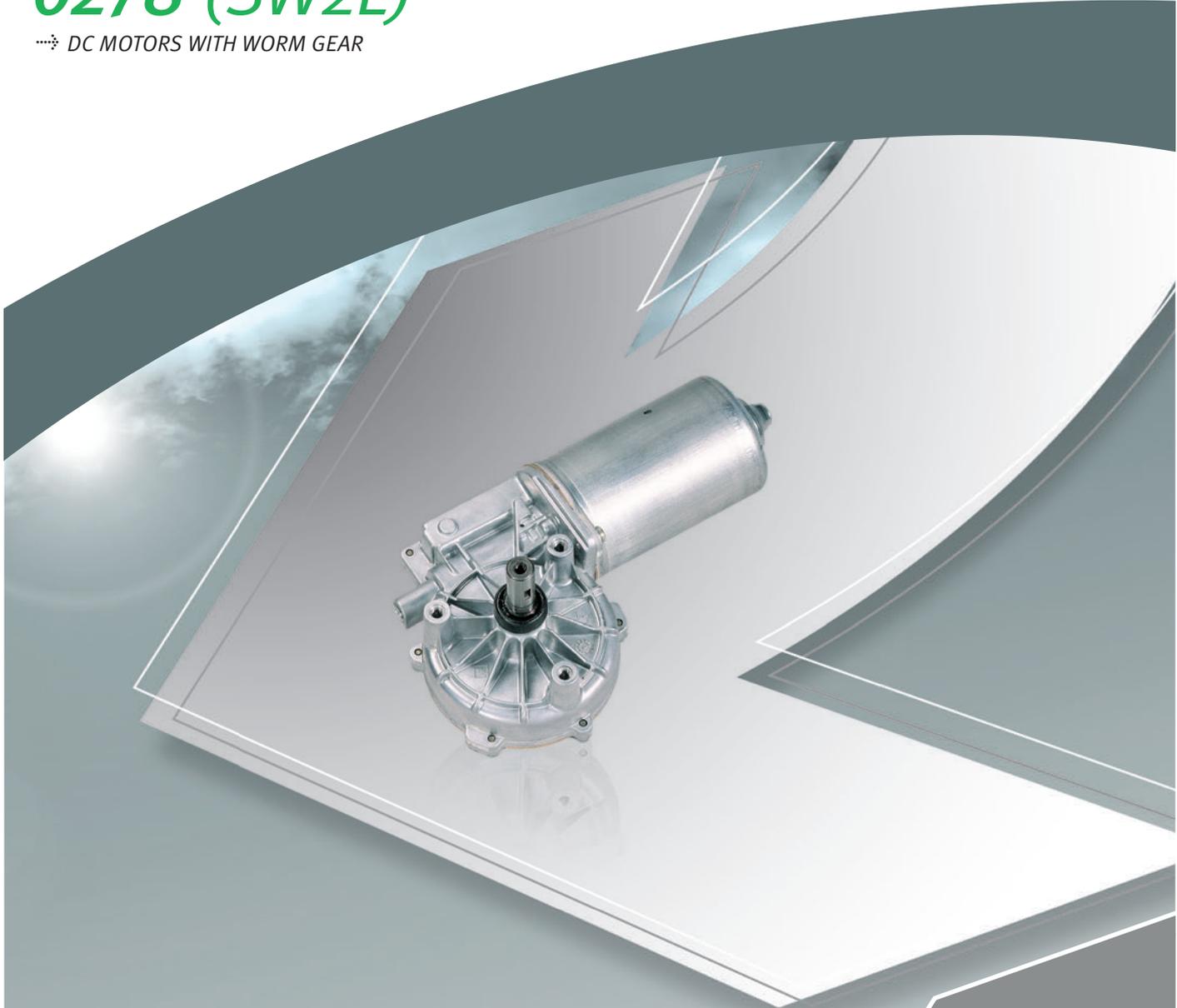
I Blade terminal ends 6,3 x 0,8 DIN 46 244
II Blade terminal ends 4,8 x 0,8 DIN 46 244



NIDEC MOTORS & ACTUATORS ❖❖❖ MOTOR SERIES

0278 (SW2L)

❖❖❖ DC MOTORS WITH WORM GEAR

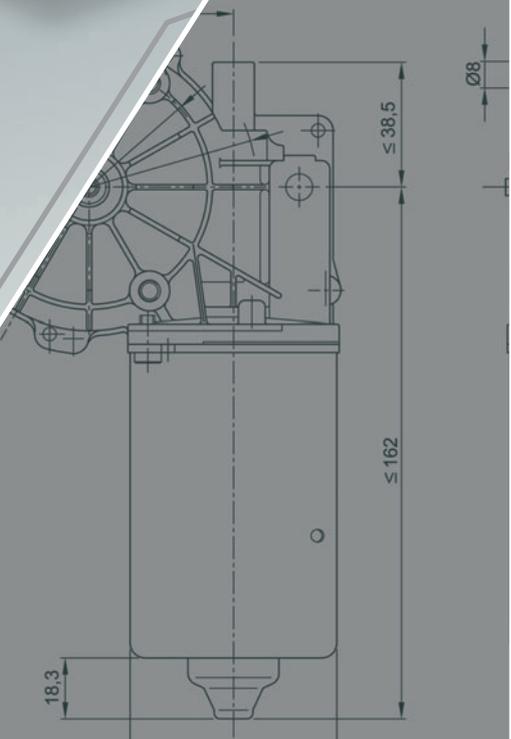


❖❖❖ TECHNICAL DESCRIPTION

Motorhousing:	deep drawn & corrosion protected
Excitation field:	permanent magnet
Type of gear mesh:	worm gear
Gear housing:	aluminium die cast
Gear wheel material:	plastic
Lubrication:	grease
Mechanical interface:	steel shaft
Electric interface:	connector
Sensor:	optional
Thermal protection:	optional
EMC suppression:	optional

❖❖❖ INDUSTRIAL APPLICATION

Gate Opener, Patient Hoist,
Machine construction



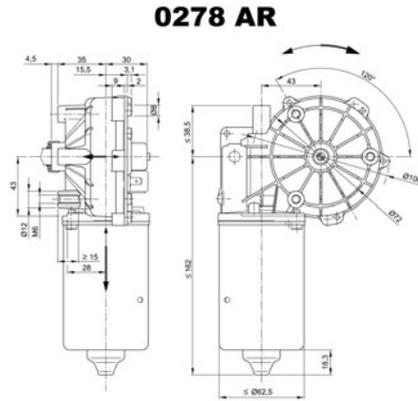
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	6.00
No-load speed [min^{-1}]	n_0	48.0
Nominal power [W]	P_N	27.9
Nominal current [A]	I_N	6.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	74/1
Gear wheel material	plastic
Suppression components	4,7 μ H, 1 μ F
Enclosure class	IP40
Weight [kg]	1.716

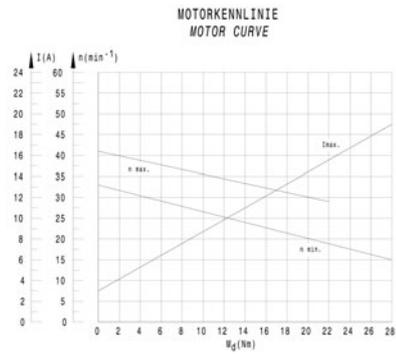
Remarks:



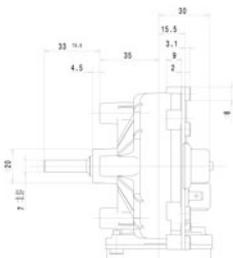
Motor picture



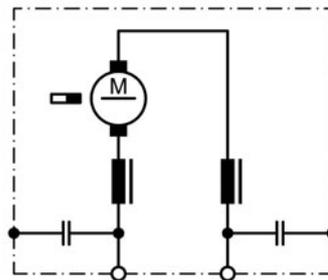
Characteristic curves



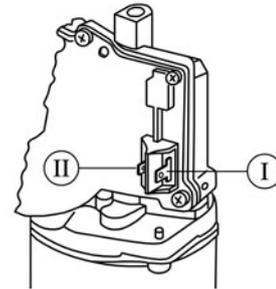
Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



S 30



K 144



- I - Blade terminal ends 6,3 x 0,8 DIN 46 244
- II - Blade terminal ends 4,8 x 0,8 DIN 46 244

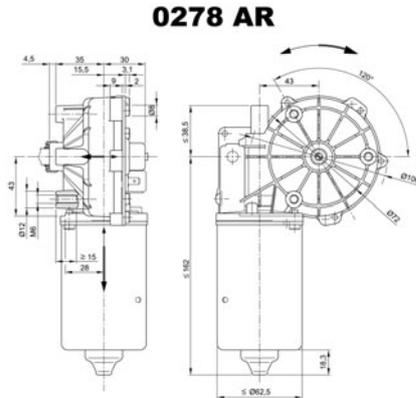
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	4.00
No-load speed [min^{-1}]	n_0	190.0
Nominal power [W]	P_N	73.1
Nominal current [A]	I_N	7.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	103/4
Gear wheel material	plastic
Suppression components	4,7 μ H, 1nF
Enclosure class	IP 40
Weight [kg]	1.700

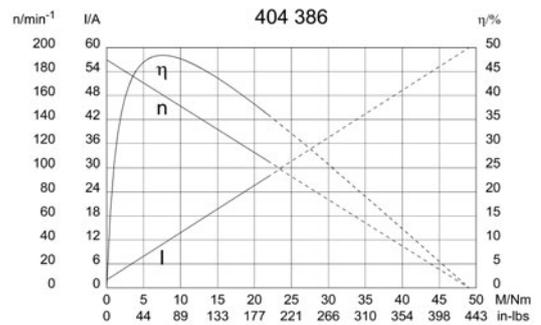
Remarks:



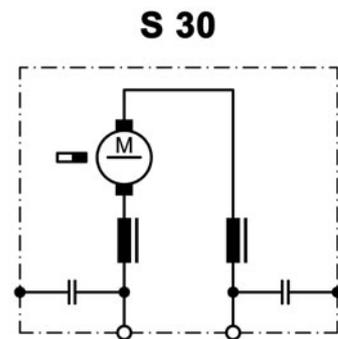
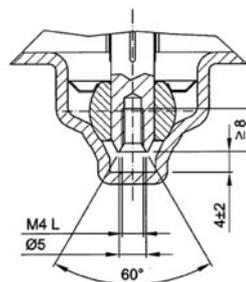
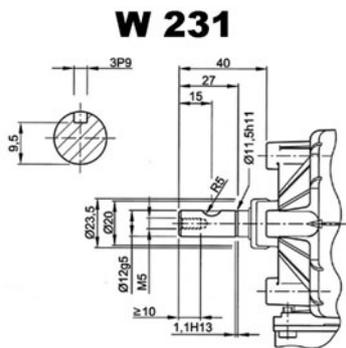
Motor picture



Characteristic curves



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



! Lefthand thread

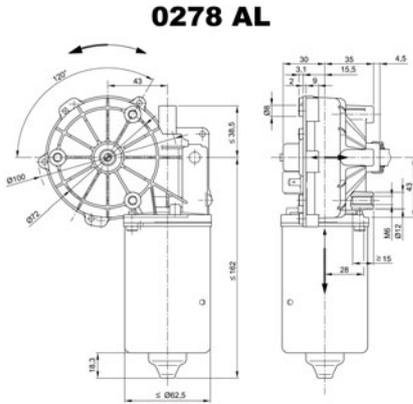
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	6.00
No-load speed [min^{-1}]	n_0	48.0
Nominal power [W]	P_N	21.9
Nominal current [A]	I_N	4.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	74
Output channels	1

Other data	
Gear ratio	74/1
Gear wheel material	plastic
Suppression components	4,7 μ H, 1nF
Enclosure class	IP40
Weight [kg]	1.730

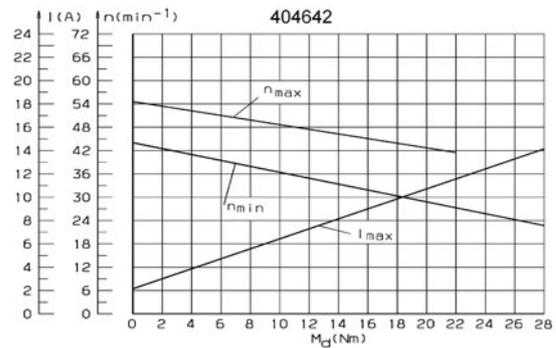
Remarks:



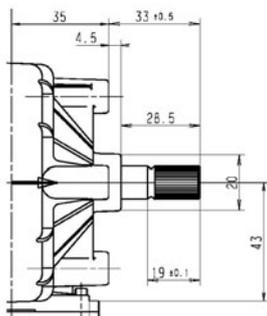
Motor picture



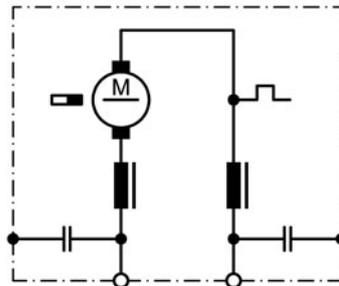
Characteristic curves



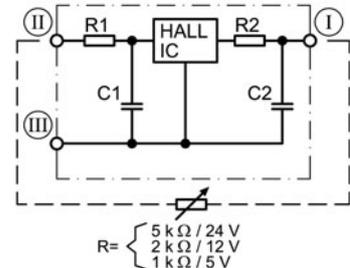
Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



S 74



S 124



Splines: 10 x 12f (according to DIN 5481)

I Terminal 3, A
 II Terminal 4, +
 III Terminal 5, -



NIDEC MOTORS & ACTUATORS ❖❖❖ MOTOR SERIES

0291 (SWMV)

❖❖❖ DC MOTORS WITH WORM GEAR



❖❖❖ TECHNICAL DESCRIPTION

Motorhousing:	sheet metal, rolled & corrosion protected
Excitation field:	permanent magnet
Type of gear mesh:	worm gear
Gear housing:	zinc die cast
Gear wheel material:	plastic, resin bonded fabrics, steel
Lubrication:	grease
Mechanical interface:	steel shaft
Electric interface:	connector or leads
Sensor:	-
Thermal protection:	-
EMC suppression:	optional

❖❖❖ INDUSTRIAL APPLICATION

Machine construction



Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A: Ball - B: Sleeve

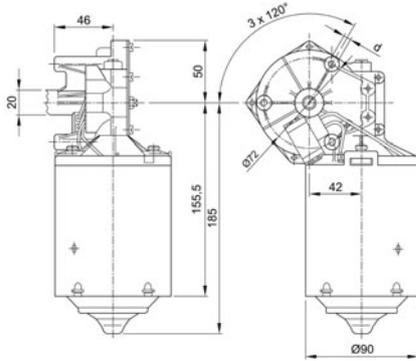
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	6.00
No-load speed [min^{-1}]	n_0	67.0
Nominal power [W]	P_N	38.5
Nominal current [A]	I_N	5.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	46/1
Gear wheel material	Bronze
Suppression components	
Enclosure class	IP20
Weight [kg]	2.900

Remarks:

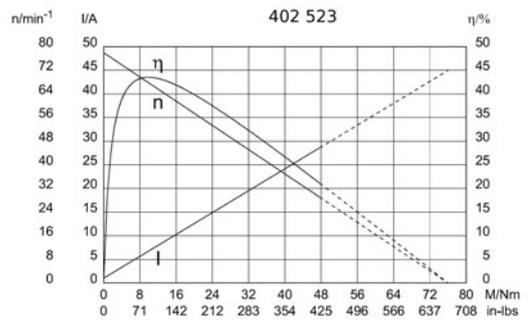
0291 AL



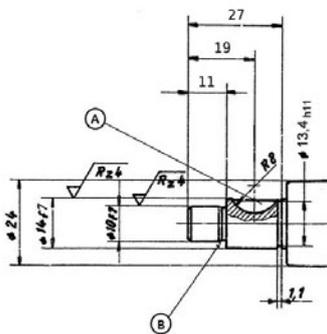
Motor picture



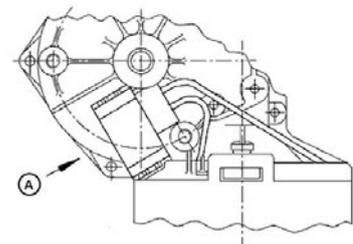
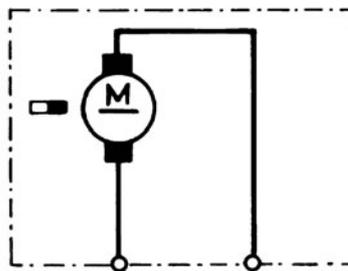
Characteristic curves



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



S 28



A: keyway 5 - P9 width tolerance
 B: undercut E 0.6 x 0.2 to DIN 509

A: spade ends 6.3 x 0.8 (according to DIN 46 244)

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

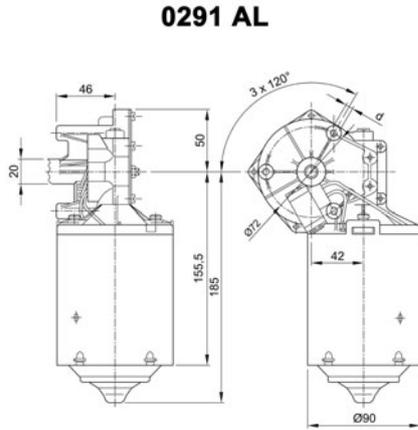
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	8.00
No-load speed [min^{-1}]	n_0	78.0
Nominal power [W]	P_N	58.5
Nominal current [A]	I_N	6.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	0
Output channels	0

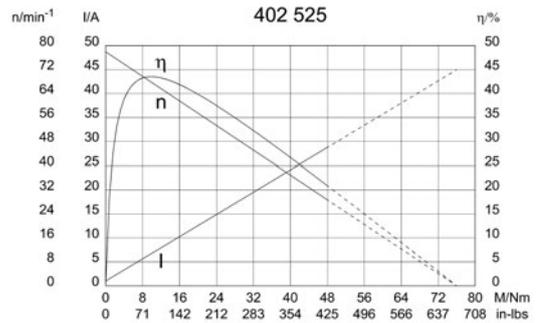
Other data	
Gear ratio	46/1
Gear wheel material	Resinbonded fabric
Suppression components	
Enclosure class	IP 20
Weight [kg]	2.900

Remarks: d = M6x16mm

Characteristic curves

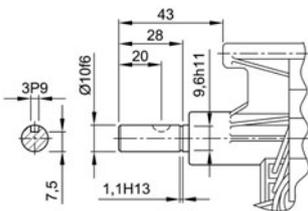


Motor picture

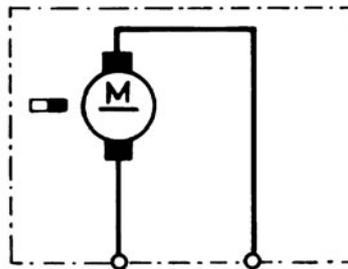


Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

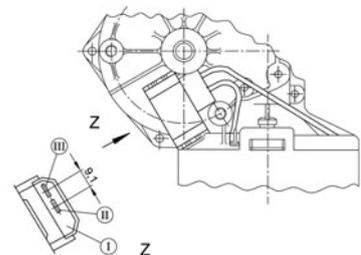
W 278



S 28



K 243



Flat plug 6,8x0,8 DIN 46244 mating with receptacle for tabs and connector housing 163 006-1, drwg C163006, www.tycoelectronics.com

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

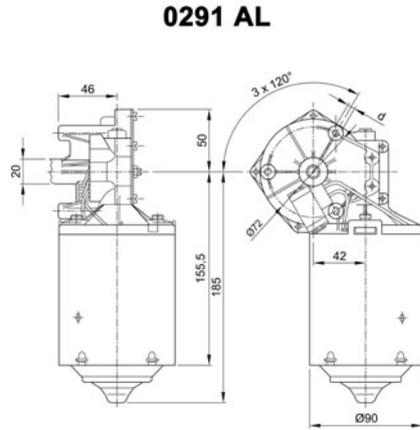
Performance data		
Rated voltage [V]	U_N	12
Nominal torque [Nm]	M_N	6.00
No-load speed [min^{-1}]	n_0	52.0
Nominal power [W]	P_N	29.7
Nominal current [A]	I_N	6.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	0
Output channels	0

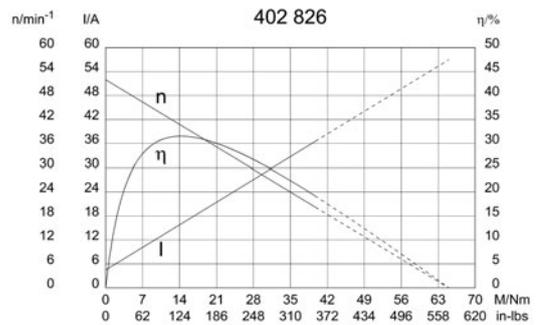
Other data	
Gear ratio	59/1
Gear wheel material	Resinbonded fabric
Suppression components	
Enclosure class	IP 20
Weight [kg]	2.900

Remarks: d = M6x16mm

Characteristic curves

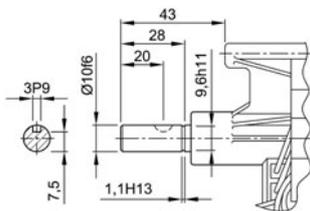


Motor picture

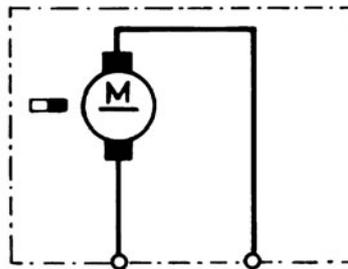


Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

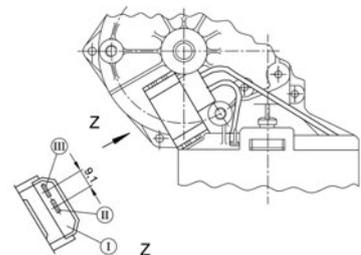
W 278



S 28



K 243



Flat plug 6,8x0,8 DIN 46244 mating with receptacle for tabs and connector housing 163 006-1, drwg C163006, www.tycoelectronics.com

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A: Ball - B: Sleeve

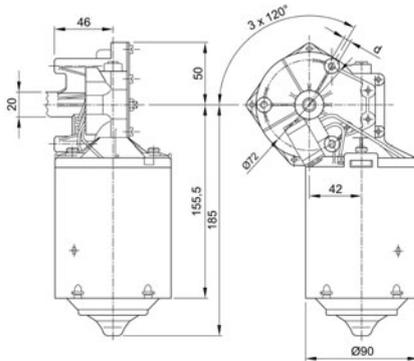
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	8.00
No-load speed [min^{-1}]	n_0	47.0
Nominal power [W]	P_N	34.9
Nominal current [A]	I_N	11.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	59/1
Gear wheel material	Bronze
Suppression components	5.0 μ H
Enclosure class	IP20
Weight [kg]	2.900

Remarks:

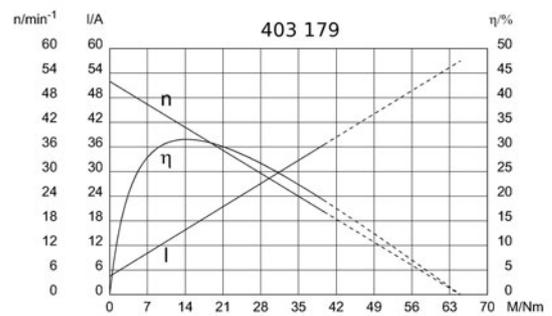
0291 AL



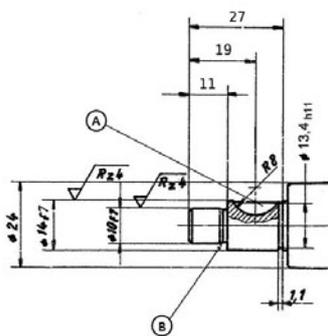
Motor picture



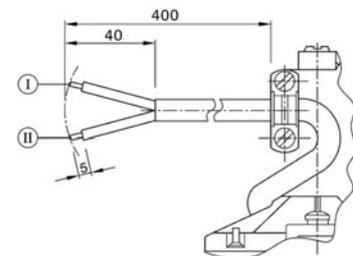
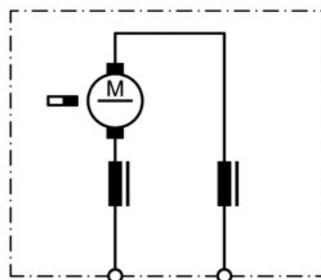
Characteristic curves



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



S 27



A: keyway 5 - P9 width tolerance
 B: undercut E 0.6 x 0.2 to DIN 509

I: red
 II: green

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

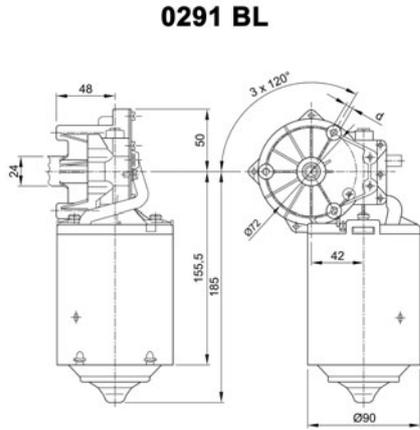
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	3.00
No-load speed [min^{-1}]	n_0	220.0
Nominal power [W]	P_N	65.7
Nominal current [A]	I_N	8.0
Nominal force [kN]	F_N	0.00
Duty cycle		s1

Sensor data	
Pulses	0
Output channels	0

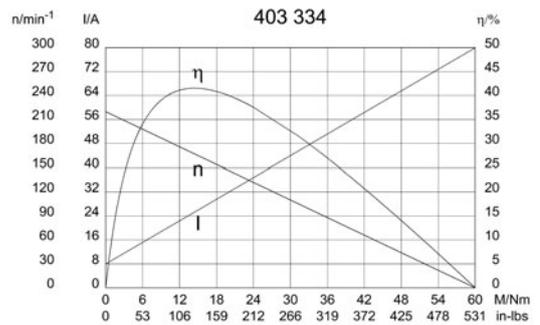
Other data	
Gear ratio	44/2
Gear wheel material	plastic
Suppression components	6,5 μ H, 1nF
Enclosure class	IP 20
Weight [kg]	2.900

Remarks: d = M8 x 16 mm

Characteristic curves

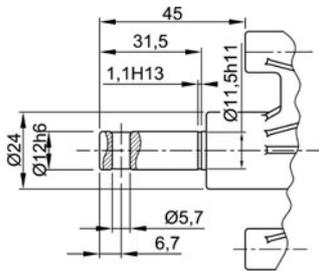


Motor picture

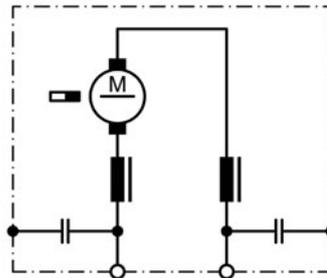


Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

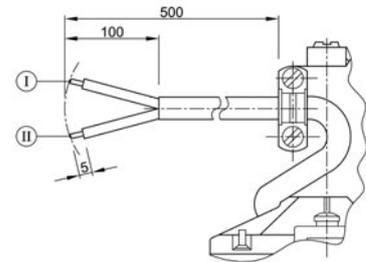
W 070



S 30



K 274



I red
 II green

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

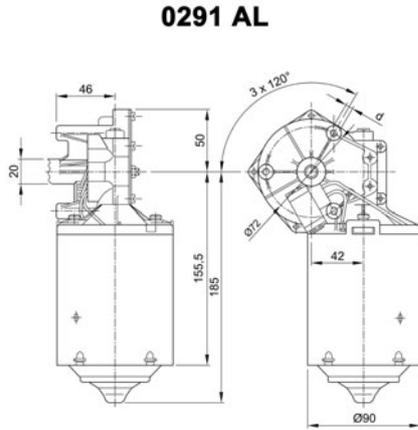
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	5.00
No-load speed [min^{-1}]	n_0	52.0
Nominal power [W]	P_N	25.7
Nominal current [A]	I_N	5.0
Nominal force [kN]	F_N	0.00
Duty cycle		s1

Sensor data	
Pulses	0
Output channels	0

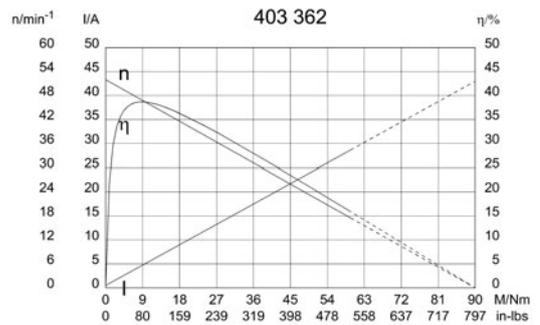
Other data	
Gear ratio	59/1
Gear wheel material	Resinbonded fabric
Suppression components	
Enclosure class	IP 20
Weight [kg]	2.900

Remarks: d = M8 x 23mm

Characteristic curves

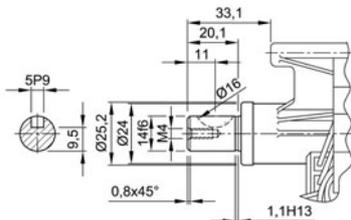


Motor picture

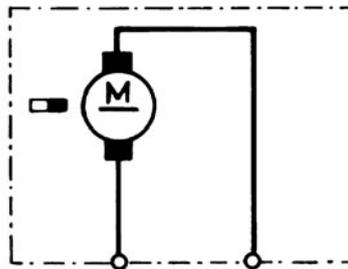


Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

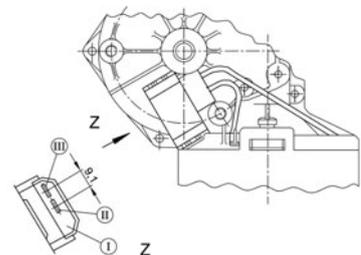
W 126



S 28



K 243



Flat plug 6,8x0,8 DIN 46244 mating with receptacle for tabs and connector housing 163 006-1, drwg C163006, www.tycoelectronics.com

Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

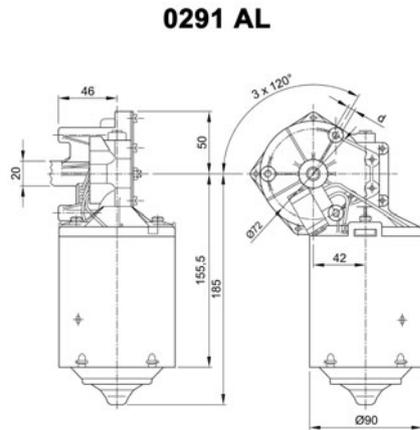
Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	8.00
No-load speed [min^{-1}]	n_0	48.0
Nominal power [W]	P_N	36.0
Nominal current [A]	I_N	7.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	0
Output channels	0

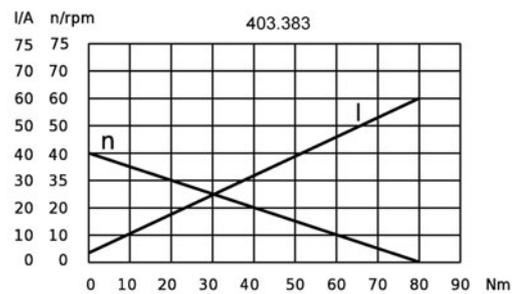
Other data	
Gear ratio	46/1
Gear wheel material	bronze
Suppression components	
Enclosure class	IP20
Weight [kg]	2.900

Remarks: d=M8x23

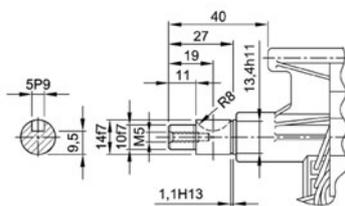
Characteristic curves



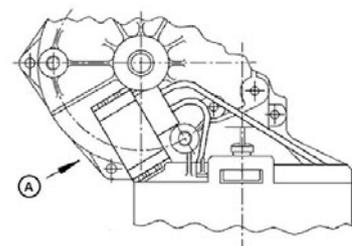
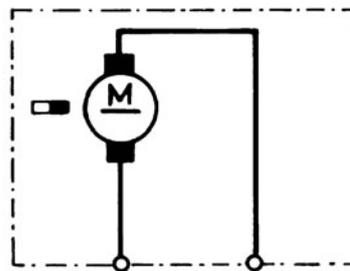
Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)



S 28



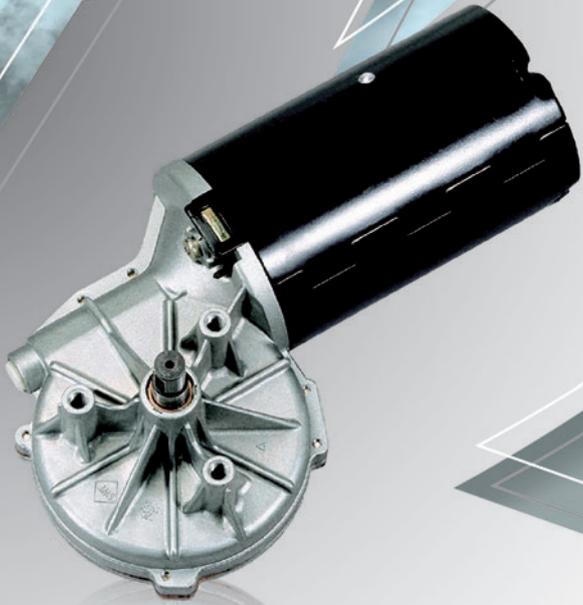
A: spade ends 6.3 x 0.8 (according to DIN 46 244)



NIDEC MOTORS & ACTUATORS ❖❖❖ MOTOR SERIES

0292 (SWMG)

❖❖❖ DC MOTORS WITH WORM GEAR



❖❖❖ TECHNICAL DESCRIPTION

Motorhousing:	sheet metal, rolled & corrosion protected
Excitation field:	permanent magnet
Type of gear mesh:	worm gear
Gear housing:	zinc die cast
Gear wheel material:	plastic, resin bonded fabrics, steel
Lubrication:	grease
Mechanical interface:	steel shaft
Electric interface:	leads with connector
Sensor:	optional
Thermal protection:	optional
EMC suppression:	optional

❖❖❖ INDUSTRIAL APPLICATION

Machine construction



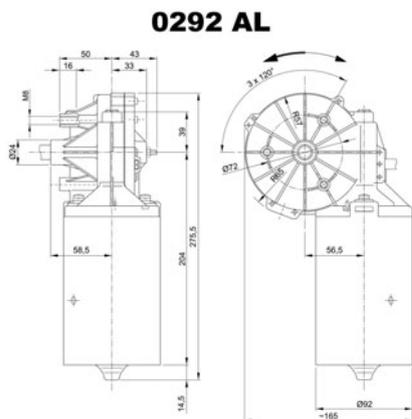
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Ball

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	20.0
No-load speed [min^{-1}]	n_0	27.0
Nominal power [W]	P_N	44.0
Nominal current [A]	I_N	6.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	50/1
Gear wheel material	plastic
Suppression components	
Enclosure class	IP 20
Weight [kg]	4.200

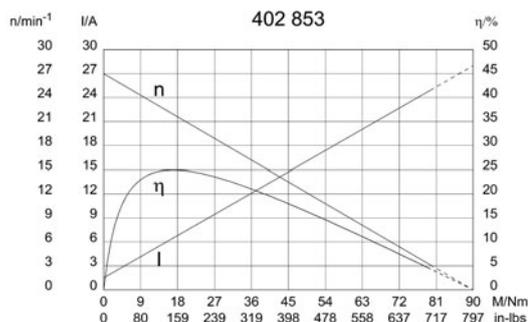
Remarks:



Motor picture

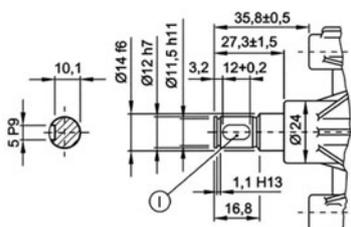


Characteristic curves

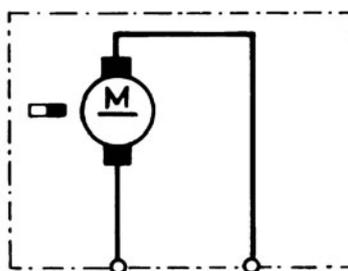


Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)

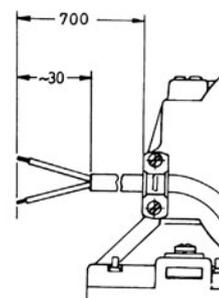
W 110



S 28



K 86



I Groove for feather key A 5x3x12 DIN 6885

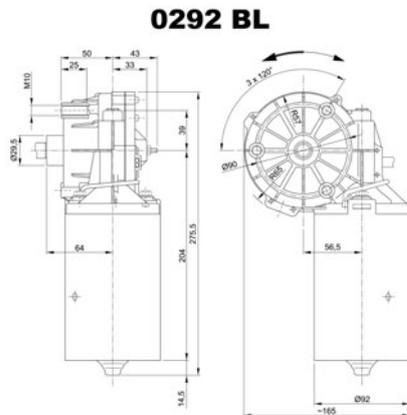
Design Data	
Commutation	Brushed
Direction of rotation	Bi-directional
Bearing type	A:Ball - B:Sleeve

Performance data		
Rated voltage [V]	U_N	24
Nominal torque [Nm]	M_N	10.0
No-load speed [min^{-1}]	n_0	165.0
Nominal power [W]	P_N	156
Nominal current [A]	I_N	5.0
Nominal force [kN]	F_N	0.00
Duty cycle	s1	

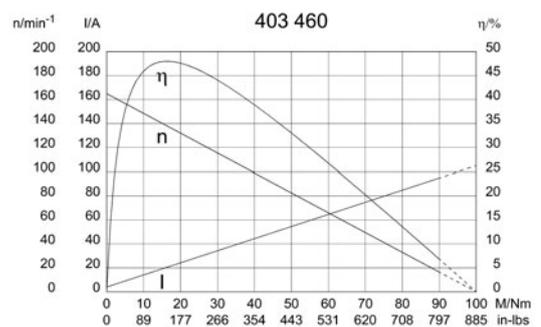
Sensor data	
Pulses	0
Output channels	0

Other data	
Gear ratio	43/3
Gear wheel material	plastic
Suppression components	
Enclosure class	IP 20
Weight [kg]	4.200

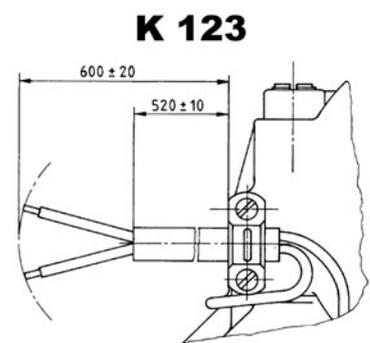
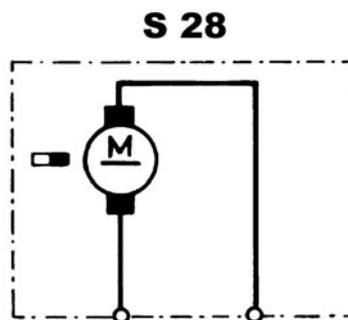
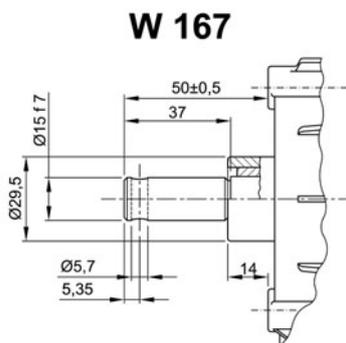
Remarks:



Motor picture



Output shaft drawing (W), Wiring diagrams (S) and Connector layout (K)





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403 389	152	404 743	11	405 060	143
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403 460	200	404 747	50	405 063	145
403 474	155	404 748	51	405 072	125
403 475	156	404 753	20	405 091	95
403 559	157	404 757	21	405 092	97
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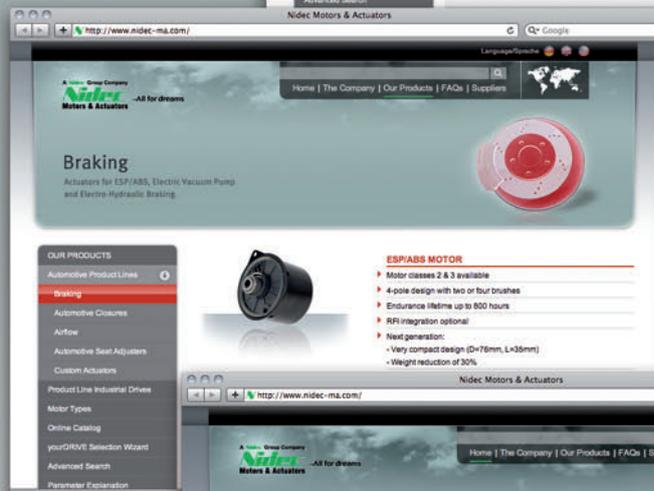
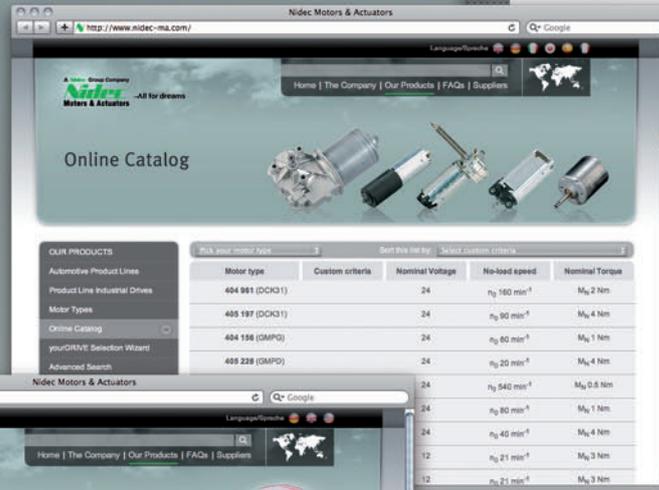
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