

Engineering motordata (WIN 1015)

DC bus voltage	24 V DC
Nominal AC voltage	17 V AC (rms)
Rated voltage	15 V AC (rms)
Rated power	503 W
Rated speed	3000 rpm
Rated torque	1.60 Nm
Rated current	24.21 A (rms)
Peak torque	5.2 Nm
Peak current	110.5 A (rms)
Stall torque	1.9 Nm
Stall current	27.5 A (rms)
No load speed	4060 rpm
EMF constant ±10%	4.2 V AC (rms) / 1000rpm
Theoretical torque constant ±10%	0.07 Nm / A (rms)
Torque constant ±10% @ rated load	0.07 Nm / A (rms)
Number of poles	10
Electrical time constant	2.38 ms
Winding terminal resistance	0.042 Ω
Rotary field terminal inductance	0.1 mH

Customs info

HS Code	85015100
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Mechanical motor data (setting 30)

Max mechanical speed	12000 rpm
Mech. time constant	1.05 ms
Thermal time constant	30 min
Rotor inertia	0.7 kgcm ²
Protection	IP67
Color	RAL 9005
Cooling	Convection
Motor-only mass	2.3 kg

Sensors

Temperature	PT1000 {PT1000}
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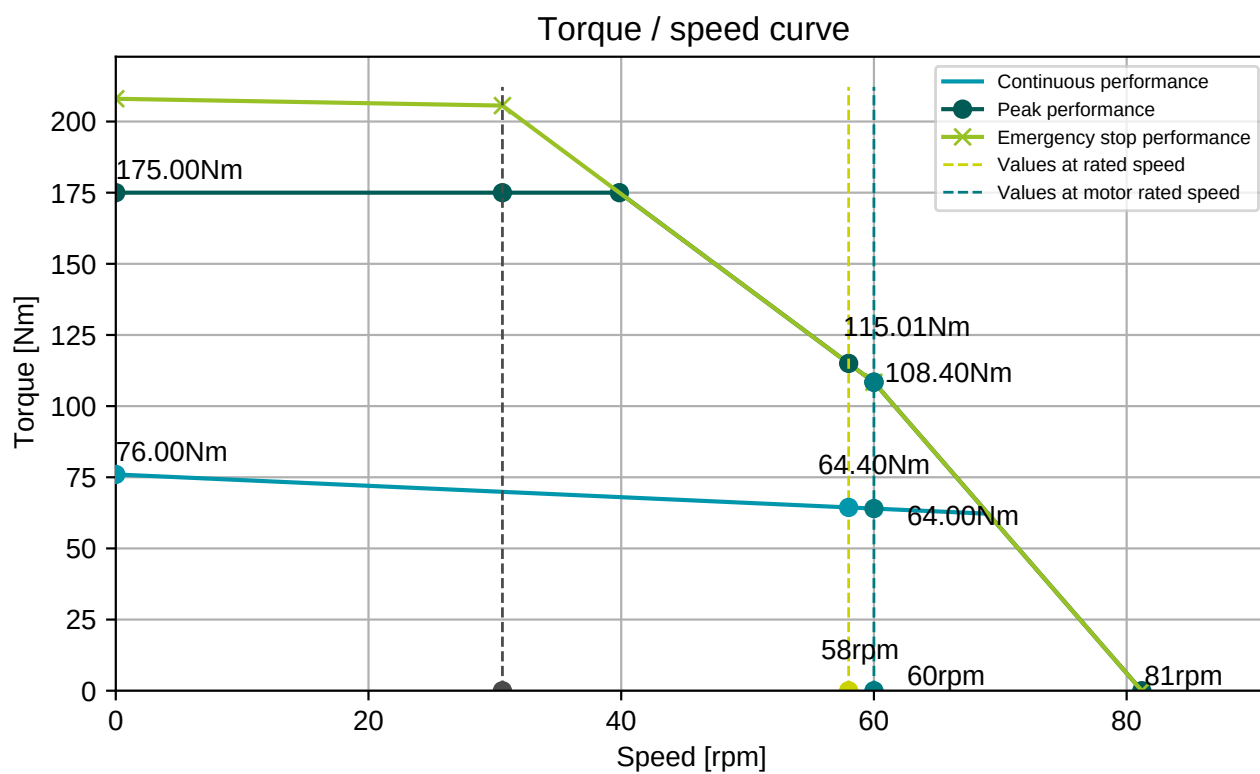
Brake

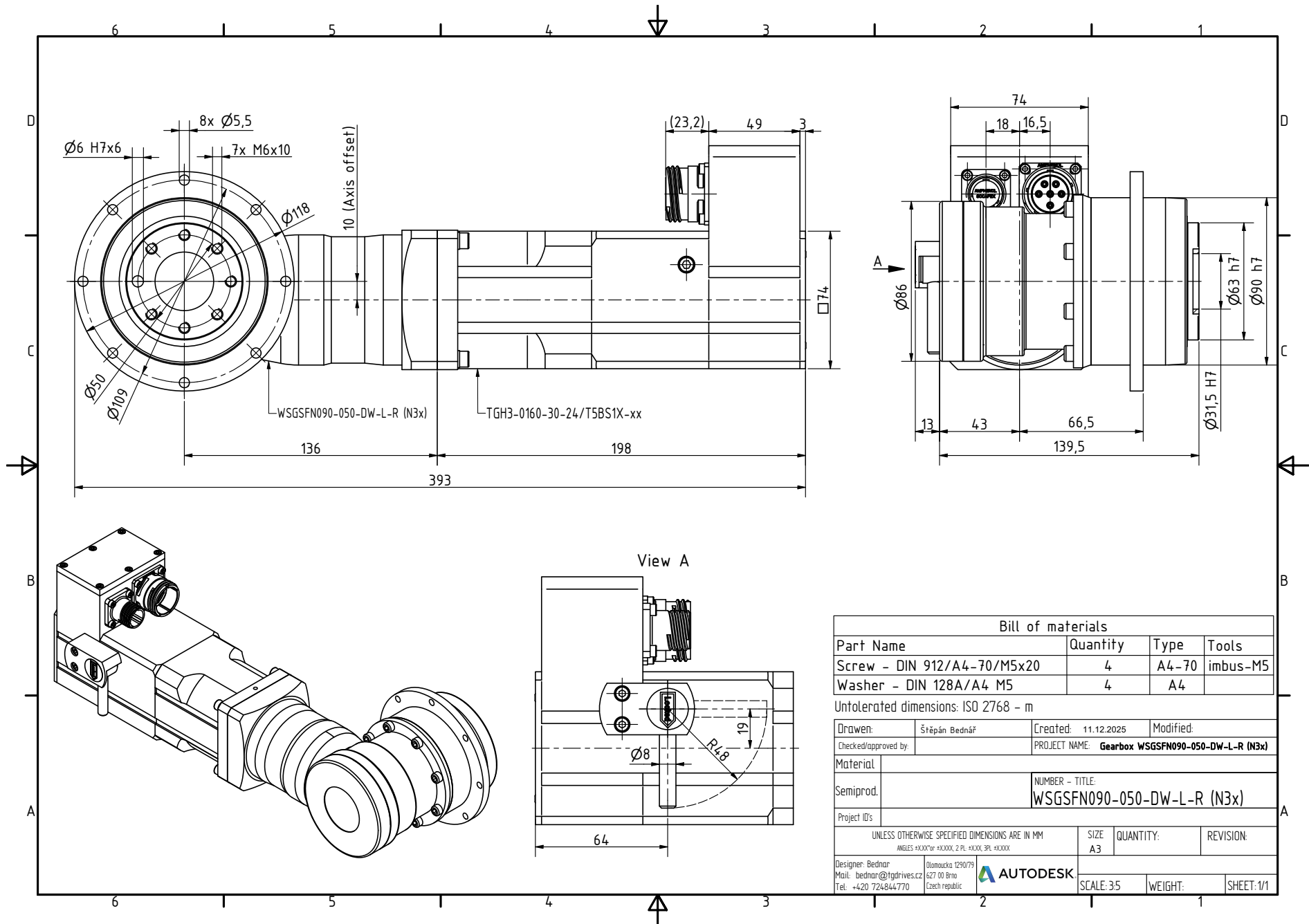
Braking torque	2.00 Nm
Voltage	24 V DC
Power @20°C	15.0 W
Current @20°C	0.63 A
Inertia	0.08 kgcm ²
Mass	0.25 kg

Note

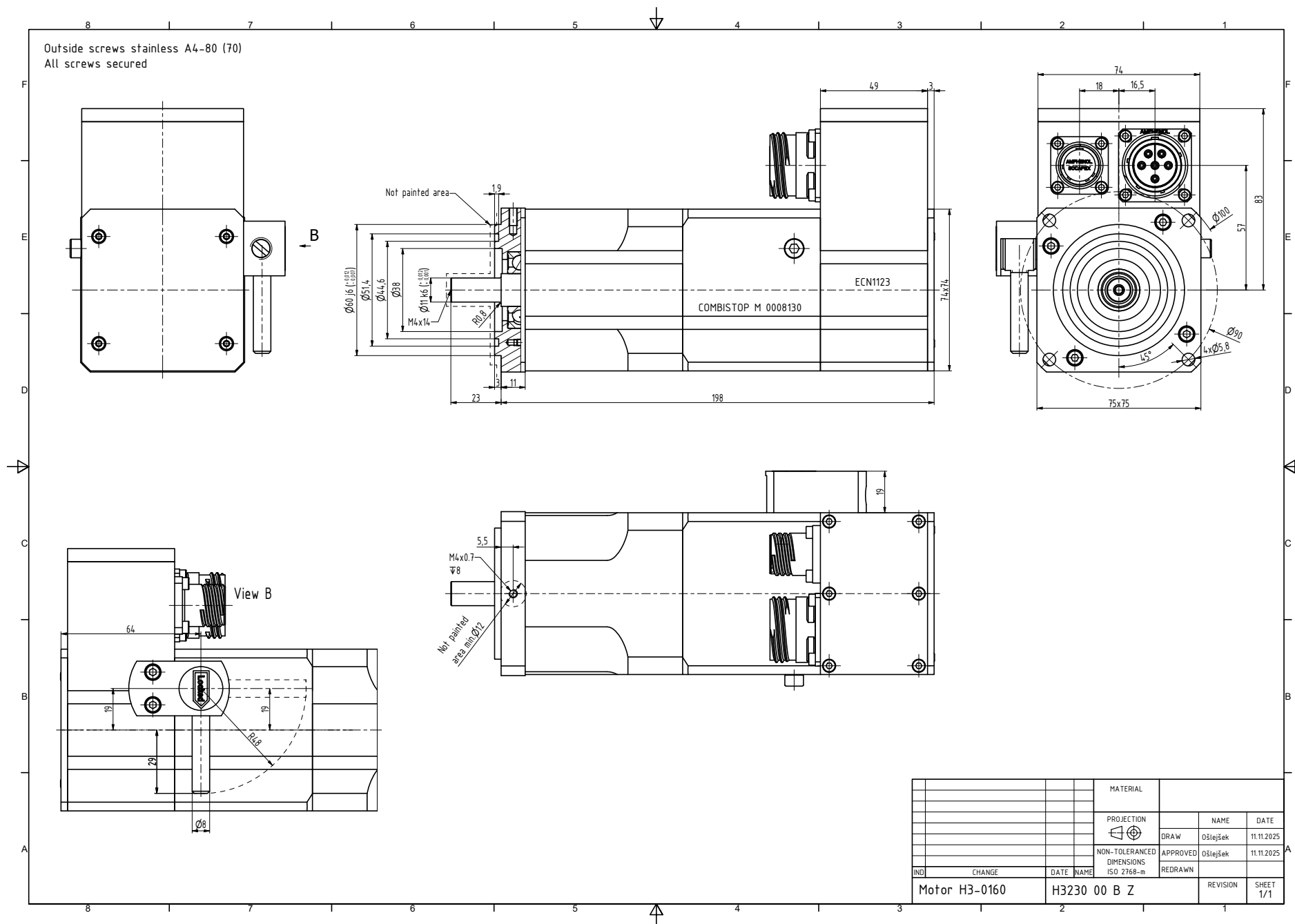
Preliminary

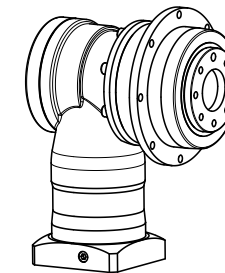
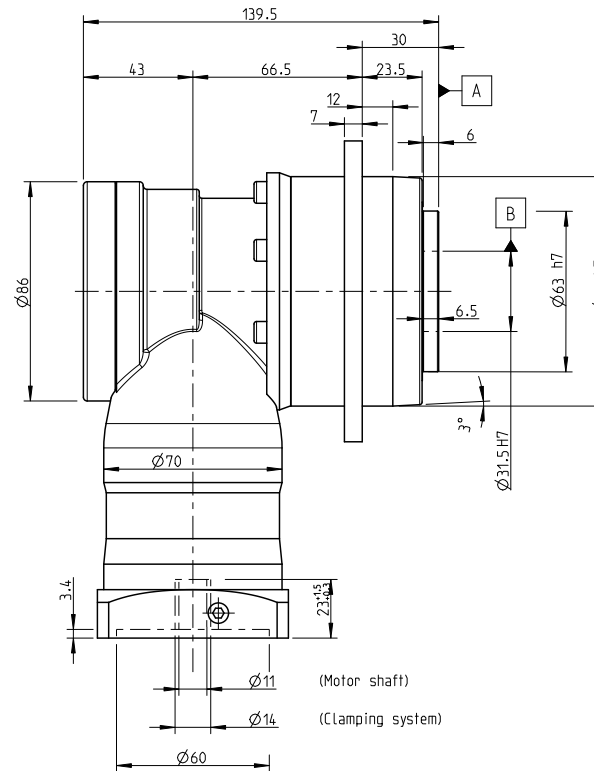
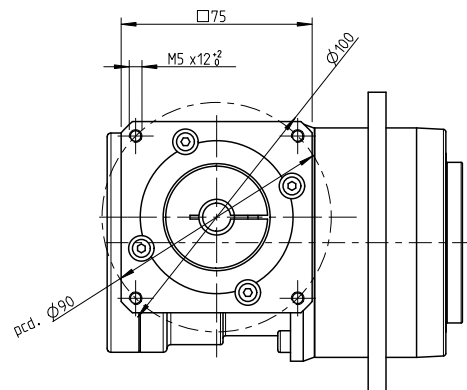
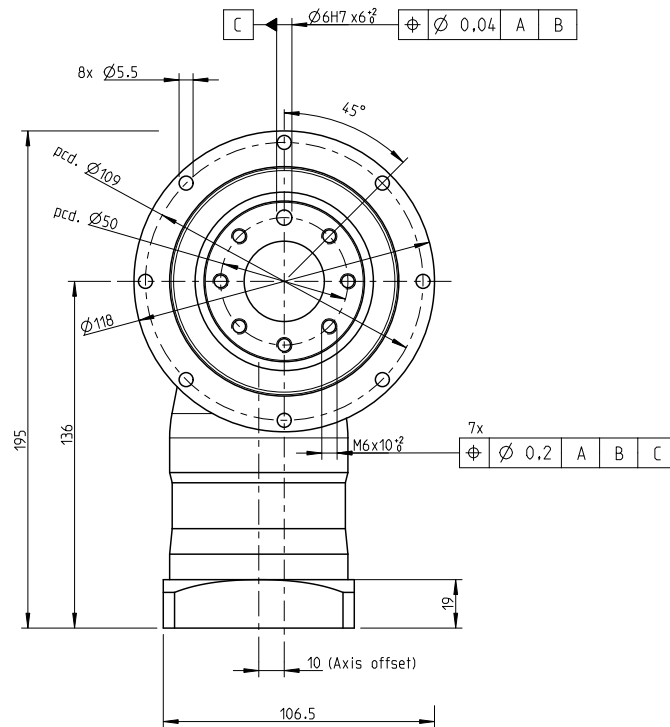
Gearbox engineering data		Gearbox mechanical data	
Gear ratio	50	Radial force for 20'000h	3950 N
Efficiency	80 %*	Axial force for 20'000h	8200 N
Torsional stiffness	16.6 Nm/arcmin	Output shaft design	Flange with dowel hole
Number of stages	2	Mass	5.45 kg
Rated output torque	110 Nm	Input inertia	0.499 kgcm ²
Max output torque	175 Nm	Protection	IP65
Emergency output torque	300 Nm	Actuator data	
Rated input speed	2900 rpm	Rated speed	58 rpm
Max input speed	16000 rpm	Rated torque	64.40 Nm
Operating temperature	<-25; 90> °C	Peak torque	175.00 Nm
Max. backlash	< 3 arcmin	Emergency stop torque	260.00 Nm
Service life	20000 h	EMF constant ±10%	210.0 V AC (rms) / 1000rpm
* at rated speed & torque		Torque constant ±10% @ rated load	2.64 Nm / A (rms)
Lubrication		Total mass	8.00 kg
Type	Standard	Output inertia	2997.5 kgcm ²
Lubricant	Oil (lifetime lubrication)		





Bill of materials			
Part Name	Quantity	Type	Tools
Screw - DIN 912/A4-70/M5x20	4	A4-70	imbus-M5
Washer - DIN 128A/A4 M5	4	A4	
Untolerated dimensions: ISO 2768 - m			
Drawn:	Štěpán Bednář	Created: 11.12.2025	Modified:
Checked/approved by:		PROJECT NAME: Gearbox WSGSFN090-050-DW-L-R (N3x)	
Material			
Semiprod.	NUMBER - TITLE: WSGSFN090-050-DW-L-R (N3x)		
Project ID's			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MM ANGLES: °X'X" or °X'X', 2 PL: °X'X', 3 PL: °X'X'		SIZE A3	QUANTITY: REVISION:
Designer: Bednar Mail: bednar@tgdrives.cz Tel: +420 724844770	Olomoucka 1290/79 627 00 Brno Czech republic	 AUTODESK	
		SCALE: 3:5	WEIGHT: SHEET: 1/1





INDEX	ZMĚNA	DATUM	PODPIS		
ZM.MAT.			T.O.	HMOTNOST kg	MĚŘ.
ROZM.-POLOT.					
ROZM. ZAR.				ČSN	TRČ.
VYPR.				POZN.	Č. KUSOVNÍKU
PŘEKR.					
TECHNOL.		SCHVÁLIL.	12.9.2020	STARÝ V.	Č.V.
NÁZEV	Gearbox WSGSFN090			TGN3x, TGT3x, TGH3x	
				Listů	List