Engineering motordata (WIN 782)		
DC bus voltage	320	V DC
Nominal AC voltage	220	V AC (rms)
Rated voltage	173	V AC (rms)
Rated power	1.3	kW
Rated speed	4500	rpm
Rated torque	2.75	Nm
Rated current	5.25	A (rms)
Peak torque	10.5	Nm
Peak current	18.9	A (rms)
Stall torque	3.5	Nm
Stall current	5.2	A (rms)
No load speed	5420	rpm
EMF constant ±10%	40.5	V AC (rms) / 1000rpm
Theoretical torque constant ±10%	0.67	Nm / A (rms)
Torque constant ±10% @ rated load	0.52	Nm / A (rms)
Number of poles	10	
Electrical time constant	2.89	ms
Winding terminal resistance	1.8	Ω
Rotary field terminal inductance	5.2	mH

Customs info	
HS Code	85015220

Mechanical motor data (setting 48)		
Max mechanical speed	12000	rpm
Mech. time constant	0.72	ms
Thermal time constant	27	min
Rotor inertia	1.04	kgcm²
Protection	IP64	
Color	RAL 9005	
Cooling	Convection	
Motor-only mass	2.9	kg
Max. axial force 20kh	59	N
Max. radial force 20kh*	311	N
Max. axial force 100kh	35	N
Max. radial force 100kh*	182	N

** Defined for point of action at ½ output shaft length*

Sensors	
Temperature	PT1000 {PT1000}
Feedback	EEM37 (HDSL) multi-turn, 17+12 bits

Gearbox engineering data		
Gear ratio	40	
Efficiency*	93	%
Torsional stiffness	20	Nm/arcmin
Number of stages	2	
Rated output torque	146	Nm
Cycling output torque	172	Nm
Max output torque	275	Nm
Emergency output torque	500	Nm
Rated input speed	3500	rpm
Max input speed	6500	rpm
Operating temperature	<-25; 90>	°C
Max. backlash	< 9	arcmin
Service life	20000	h

** at rated speed & torque*

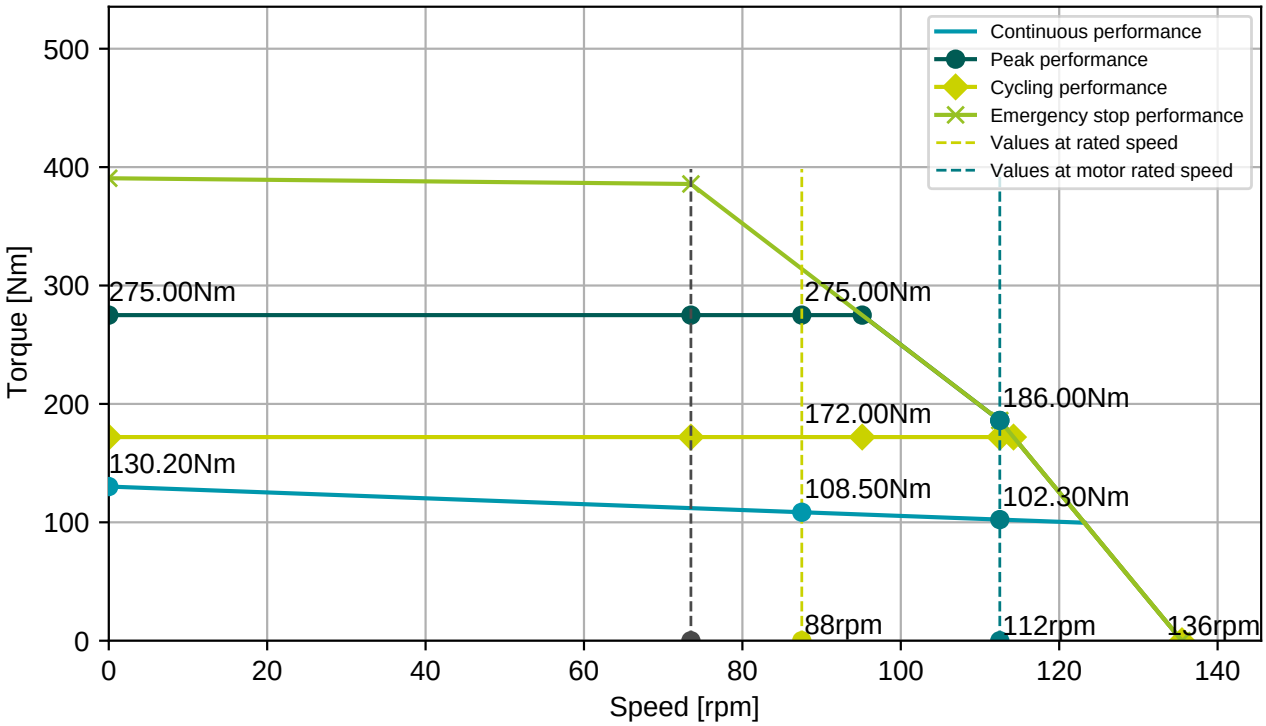
Lubrication	
Type	Standard
Lubricant	Grease (lifetime lubrication)

Gearbox mechanical data		
Radial force for 20'000h*	1750	N
Radial force for 30'000h*	1500	N
Max. radial force*	2000	N
Axial force for 20'000h	2500	N
Axial force for 30'000h	2100	N
Max. axial force	3800	N
Tilting moment for 20'000h	101	Nm
Tilting moment for 30'000h	86	Nm
Max. bending moment	40	Nm
Output shaft design	Shaft key	
Mass	9.52	kg
Input inertia	1.419	kgcm²
Protection	IP54	

** Defined for point of action at ½ output shaft length*

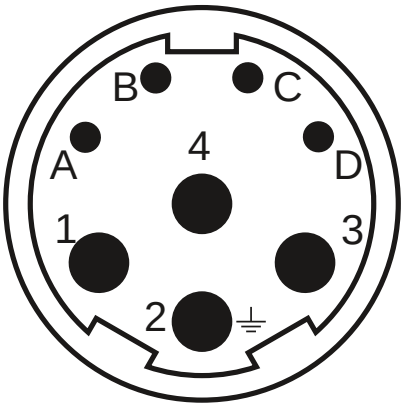
Actuator data		
Rated speed	88	rpm
Rated torque	108.50	Nm
Cycling torque	172.00	Nm
Peak torque	275.00	Nm
Emergency stop torque	420.00	Nm
EMF constant ±10%	1620.0	V AC (rms) / 1000rpm
Torque constant ±10% @ rated load	19.49	Nm / A (rms)
Total mass	12.42	kg
Output inertia	3934.4	kgcm²

Torque / speed curve

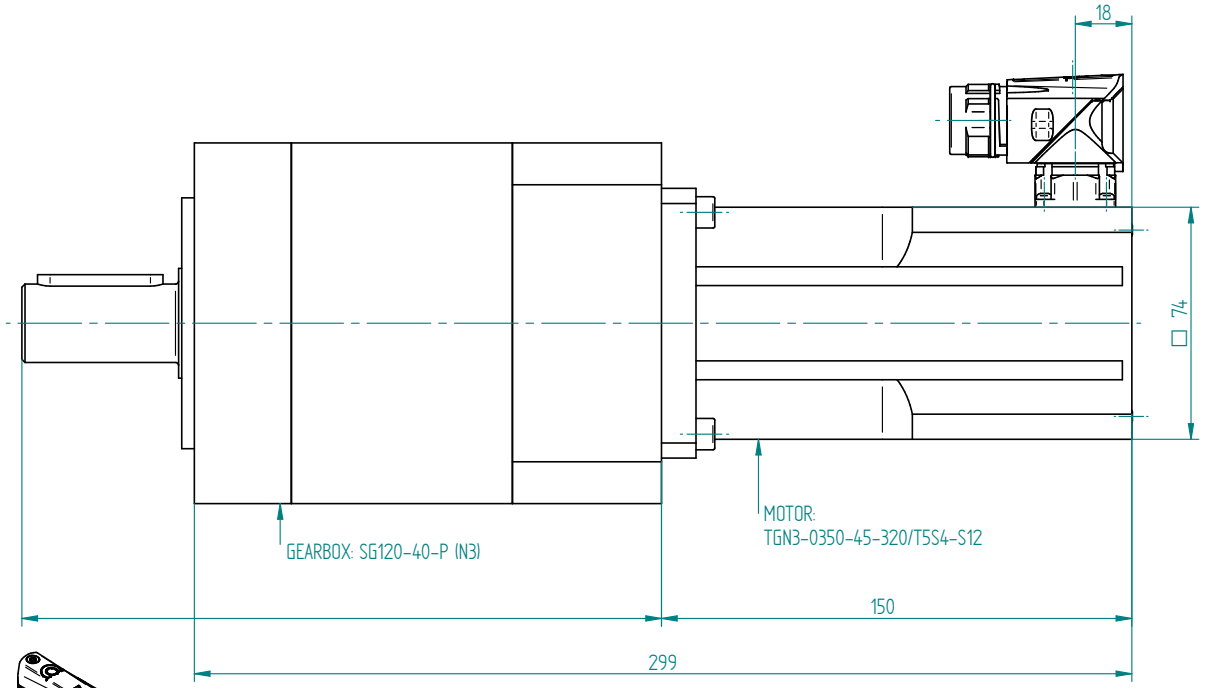


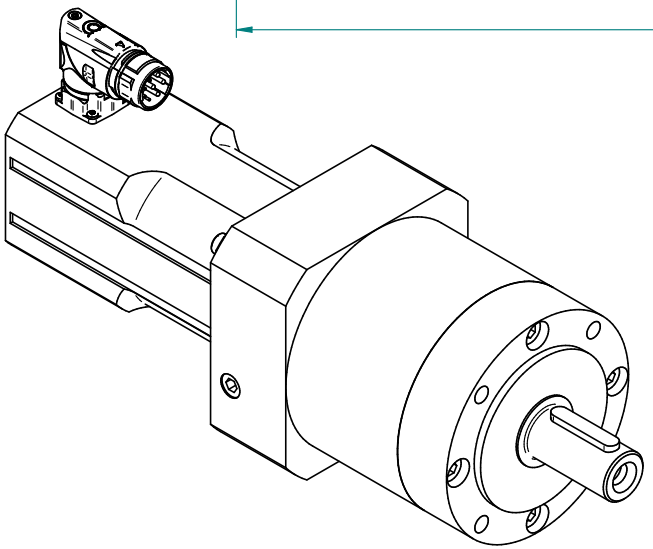
BGC110N00001216000

M23, 8 poles, rotary



Connector 1 (283)	
1	U
4	V
3	W
2	PE
A	Brake+
B	Brake-
C	GND/DSL-
D	+Us/DSL+



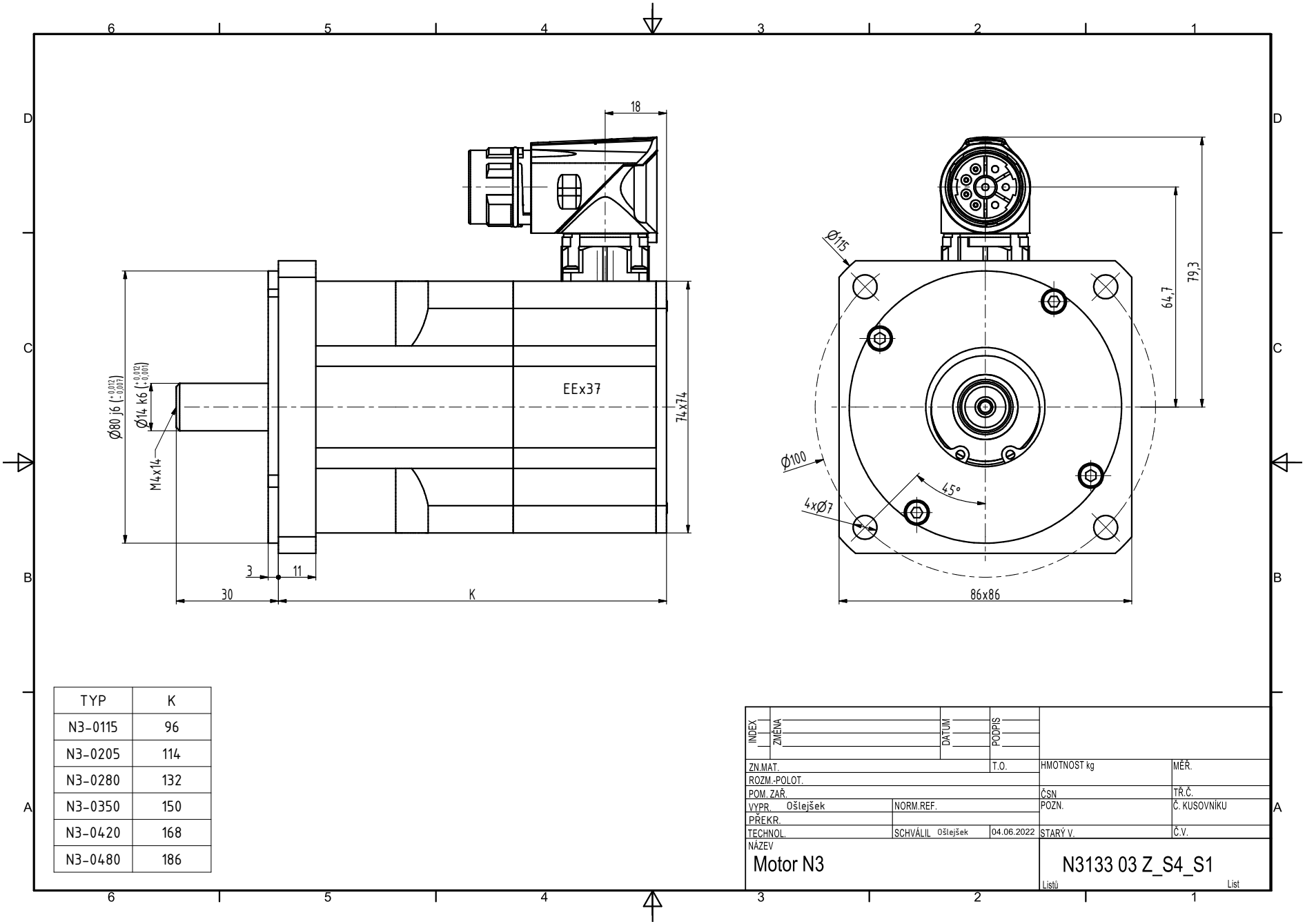


Bill of materials			
Part Name	Quantity	Type	Tools
Screw_DIN 912_A4 - 70_M6x25	4	A4 - 70	inbus - M6

Drawn:	Stepan Bednar	Created: 30.05.2025	Modified: 30.05.2025
Checked / approved by:	- - -	PROJECT NAME: Gearboxe SG120-40-P (N3)	
Material:			
Semiprod.		NUMBER - TITLE: SG120-40-P (N3)	
Project ID's			

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MM
ANGLES ±X.XX° or ±X.XXX", 2 PL ±X.XX, 3 PL ±X.XXX

SIZE A3	QUANTITY:	REVISION: - - -	
Designer: Bednar Mail bednar@tgdrives.cz Tel: +420 724844770	TG drives Olomoucka 1290/79 627 00 Brno Czech republic	SOLID EDGE	
SCALE :	WEIGHT:	SHEET 1 OF 3	



TYP	K
N3-0115	96
N3-0205	114
N3-0280	132
N3-0350	150
N3-0420	168
N3-0480	186

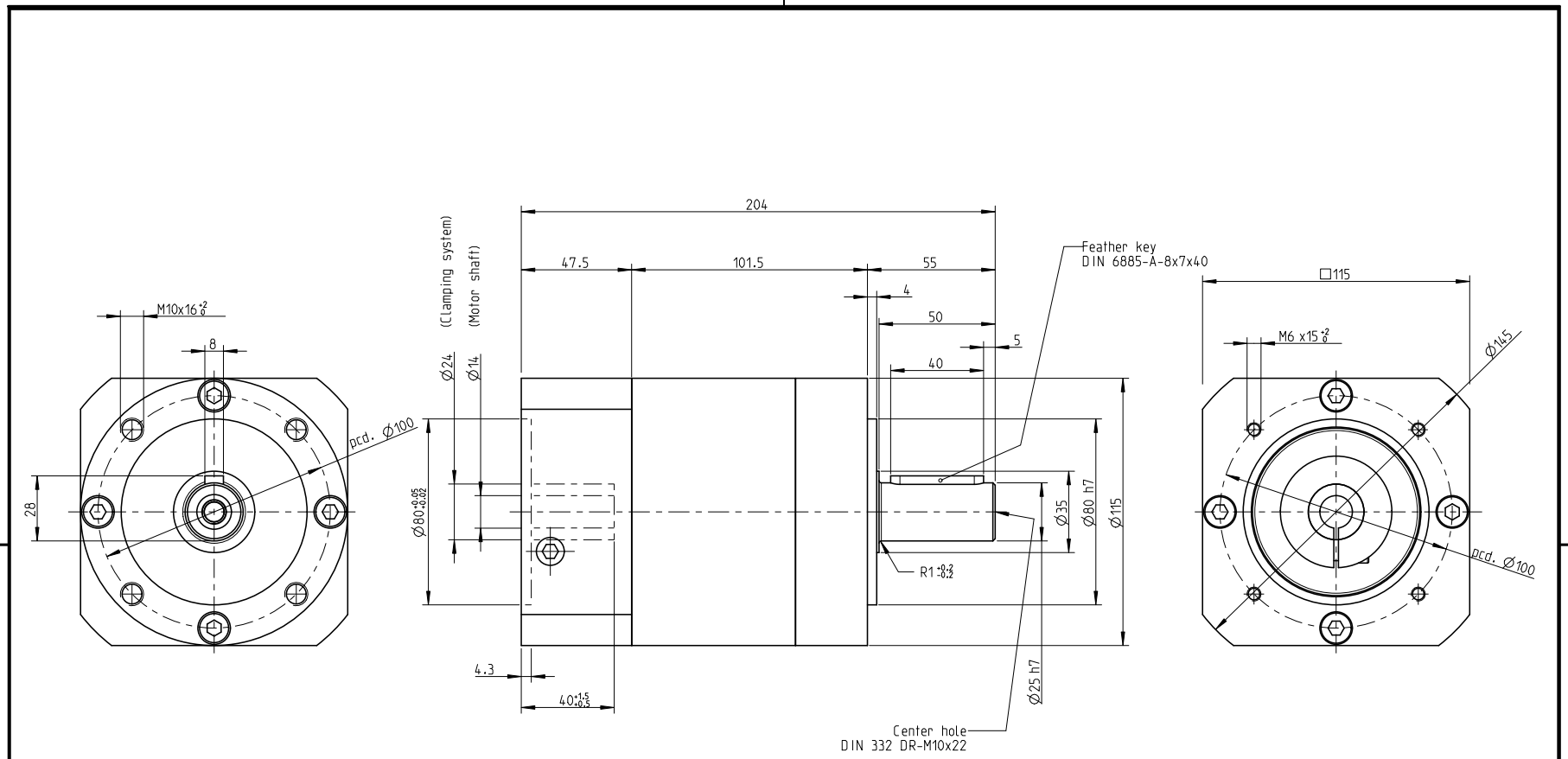
INDEX	ZMĚNA	DATUM	PODPIS

ZN.MAT.		T.O.	HMOTNOST kg	MĚŘ.
ROZM.-POLOT.				
POM. ZAŘ.			ČSN	TŘ.Č.
VYPR. Ošlejšek	NORM.REF.		POZN.	Č. KUSOVNÍKU
PŘEKR.				
TECHNOL.	SCHVÁLIL Ošlejšek	04.06.2022	STARÝ V.	Č.V.

NÁZEV
Motor N3

N3133 03 Z_S4_S1

Listů List



INDEX	ZMĚNA	DATUM	PODPIS		
ZM.MAT.			T.O.	HMOTNOST kg	MĚŘ.
ROZM.-POLOT.					
ROZM. ZAŘ.				ČSN	TŘ.Č.
VYPR.		NORM. REF.		POZN.	Č. KUSOVNÍKU
PŘEKR.					
TECHNOL.		SCHVÁLIL.	12.9.2020	STARÝ V.	Č.V.

NÁZEV

Gearbox SG115

TGN3, TGH3, TGT3

Listů List