

Specifications Flange type Torque Transducer by Optical Transformer method

★ Composition apparatus

- 1) Torque Transducer Model : TMHS- NM
- △2) Exclusive signal cable Model : CAC-176B- *M(selectable from 10m,20m,30m) 【Option】
- △3) Exclusive transmitter Model : OPT-563B 【Option】

The following spec. is fulfilled when an exclusive signal cable and exclusive transmitter are combined and adjusted.

★ Spec. of torque transducer

Model(Capacity indicated)	100NM	200NM	300NM	500NM	1KNM	2KNM	3KNM
Performance							
Rated capacity(R.C.)	±100Nm	±200Nm	±300Nm	±500Nm	±1kNm	±2kNm	±3kNm
Safe overload	150 %R.C.						
Ultimate overload	300 %R.C.						
Rated output(R.O.)	±10 V						
Accuracy of detected value (include Nonlinearity, Hysteresis, Repeatability)	digital output : ±0.02 %R.O. voltage output : ±0.05 %R.O.						
Temperature							
Safe temperature range	-10 °C to 70 °C						
Compensated temperature range	0 °C to 60 °C						
Temperature effect on zero balance	0.02 %R.O./10°C						
Temperature effect on output	0.03 %LOAD/10°C						
Characteristics on rotation							
Maximum number of rotation	25,000 rpm		22,000 rpm		16,000 rpm		
Zero point shift by rotation(noise)	0.5 %R.O.p-p(WB=1kHz)						
Others							
IP class	IP54						
Material	Rotor : Alloy steel Stator : Aluminum alloy						
Fatigue life	10 ⁷ times with rated load						
Mass	Rotor part	1.1kg		1.4kg	1.8kg	3.7kg	
	Stator part	2.0kg					

★ Machine characteristics(Rotor part)

Model(Capacity indicated)	100NM	200NM	300NM	500NM	1KNM	2KNM	3KNM
Response Frequency [kHz]	1						
Inertia moment [kg·cm ²]	13.51	13.52	13.54	19.05	28.27	111.6	111.7
Torsion rigidity [kN·m/rad]	371.7	430.1	553.5	764.5	1171	1706	2106
Torsion peculiar pitch [kHz]	5.357	5.778	6.577	6.413	6.274	4.040	4.508
Bending peculiar pitch (Radial direction) [kHz]	3.375	3.497	3.763	3.919	4.016	2.151	2.368
Bending peculiar pitch (Thrust direction) [kHz]	3.966	4.065	4.284	4.404	4.988	2.672	2.844
Twist angle at R.C. [°]	0.015	0.027	0.031	0.037	0.049	0.067	0.082
Accuracy safe bending load [N]	75	150	225	375	750	800	1000
Accuracy safe thrust load [N]	65	130	195	325	650	3750	12000

- Accuracy safety bending/thrust load is load value(actual measurement) which generate output error 0.05%R.O.△
- Accuracy safety bending load is the result of loading at position 200mm from flange edge.
- All are the guarantee value over static load.

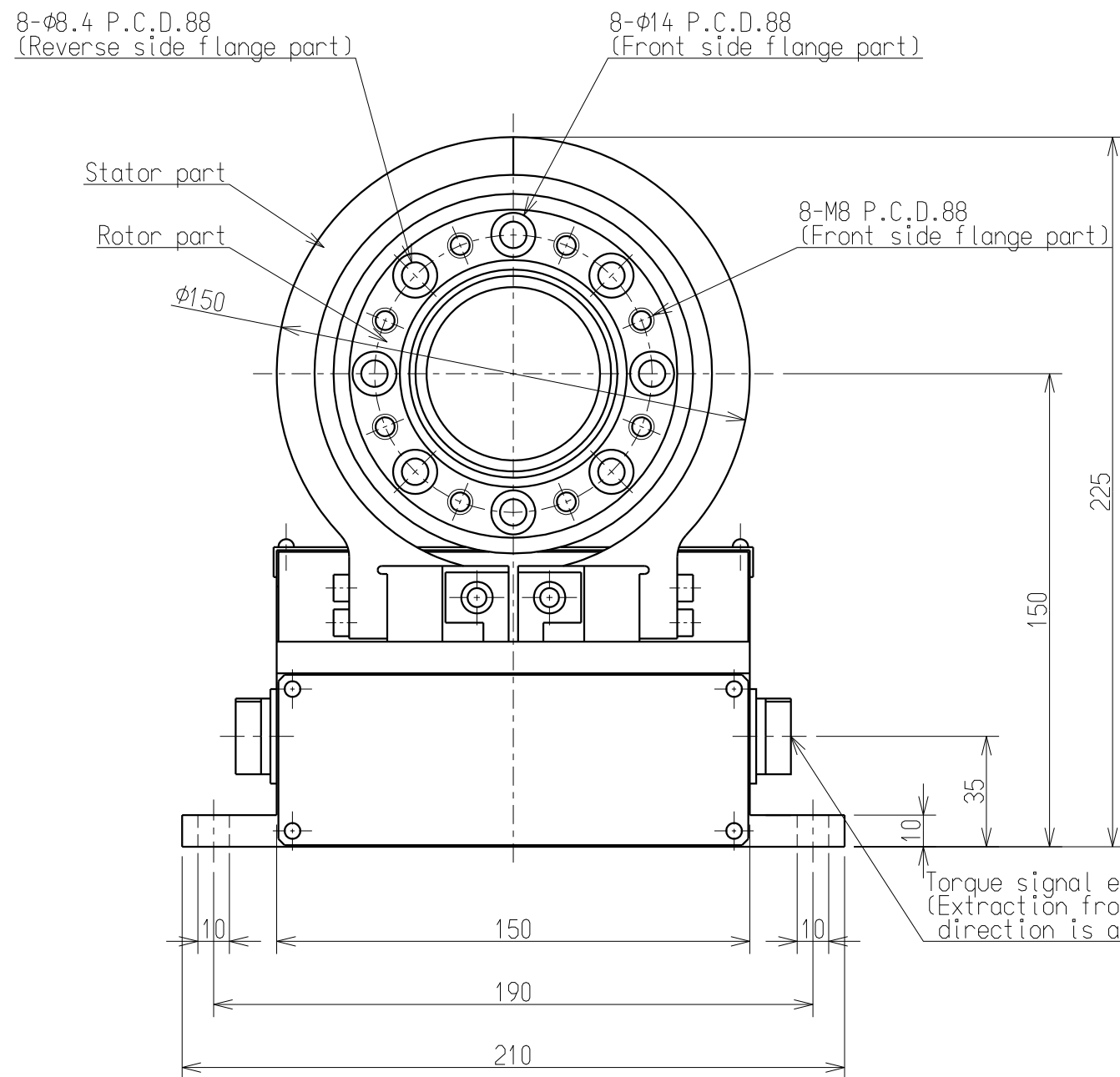
					ミネベアミツミ株式会社 MinebeaMitsumi Inc.			単位 UNIT mm	材質 MATERIAL	作成日 DATE 2019/11/27	
					センシングデバイス事業部 Sensing Device Business Unit					尺度 SCALE Free	表面粗さ SURF.ROUGH.
C	2019/11/27	FN19-0553	S.SONG	F.IDE	APPROVED CHECKED DRAWN			DIMENSION L TOL	熱処理 HEAT TREAT.		
B	2014.11.07	KN14-0472	KOBAYASHI	F.IDE						F.IDE	
A	2013.09.15	KN13-0395	KOBAYASHI	F.IDE	S.UCHIBORI		角度 DEG	400<L≤1000 ±0.8	TMHS	1/6	
-	2012.04.16	NEW	KOBAYASHI	F.IDE	S.SONG				400<L≤1000 ±0.8	200<L≤400 ±0.5	図番 DRAWING NO.
行号 MARK	日付 DATE	変更事項 REASON	ECN NO.	担当 ENGINEER	承認 APPROVED		角度 DEG	±0.5			KT53353-2

A

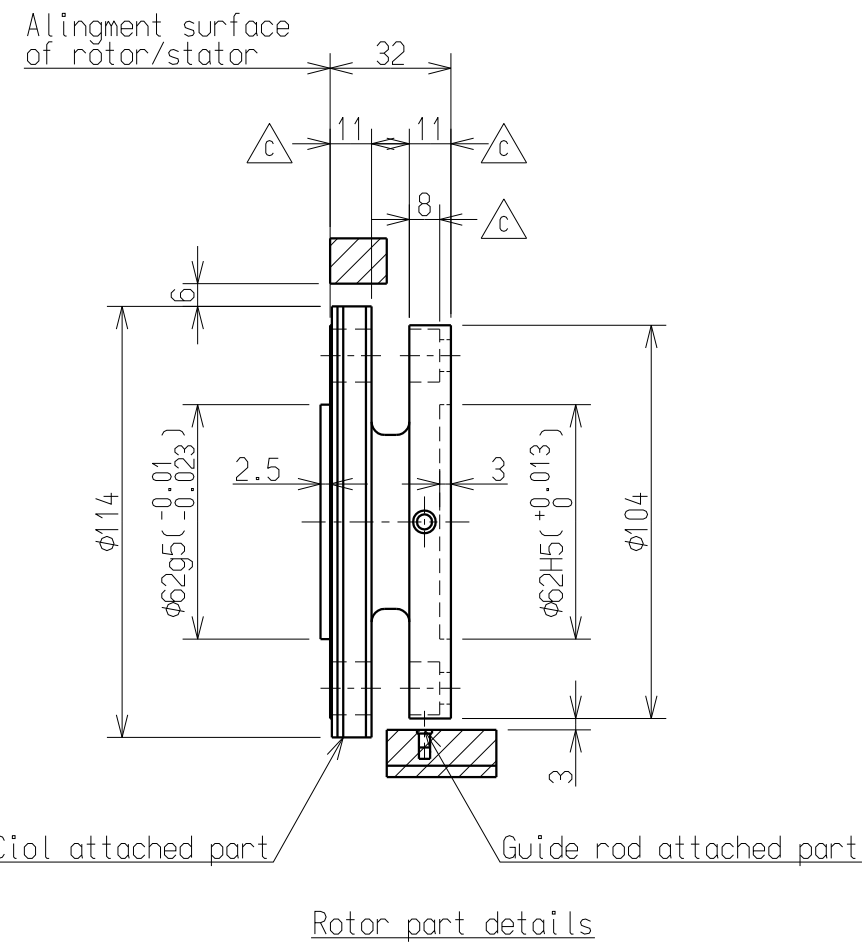
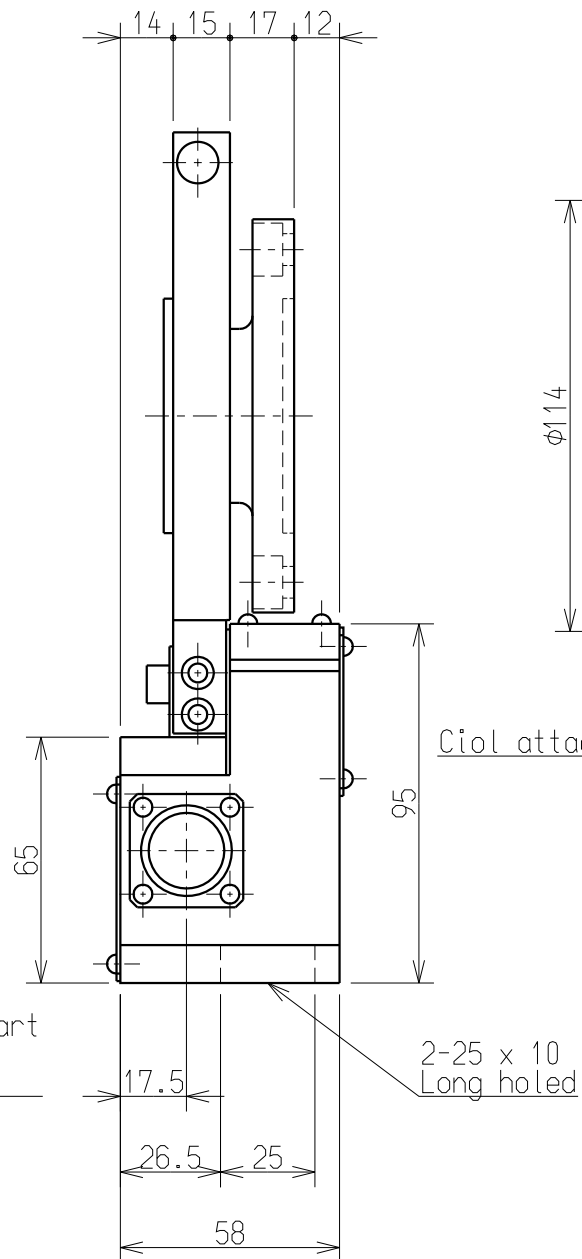
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Torque signal extraction part
 (Extraction from only one direction is available)



TMHS-100NM~300NM

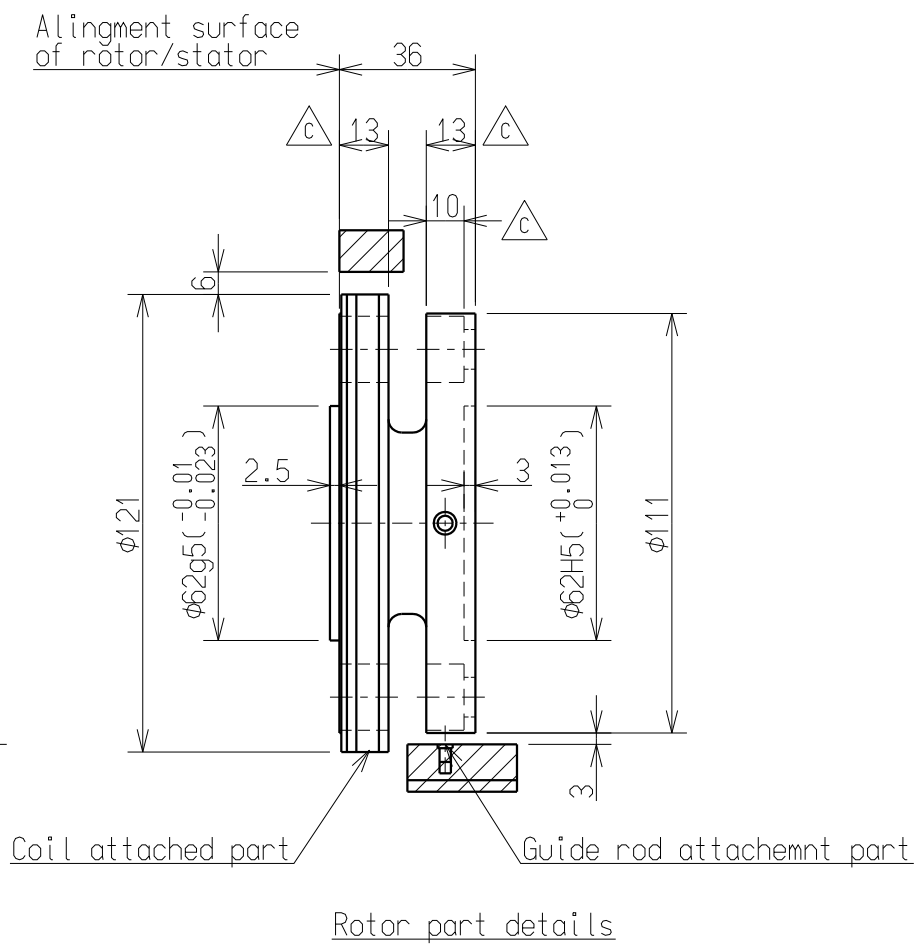
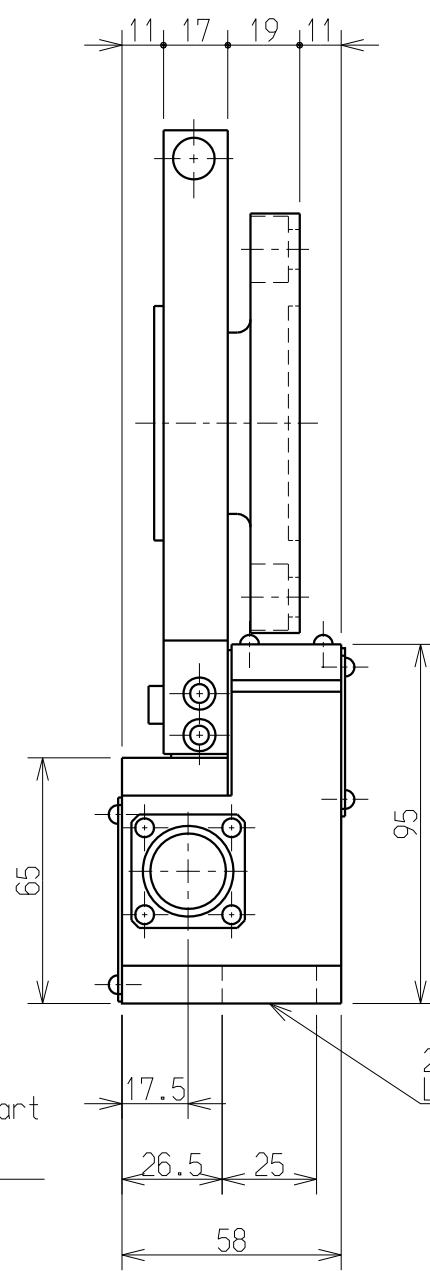
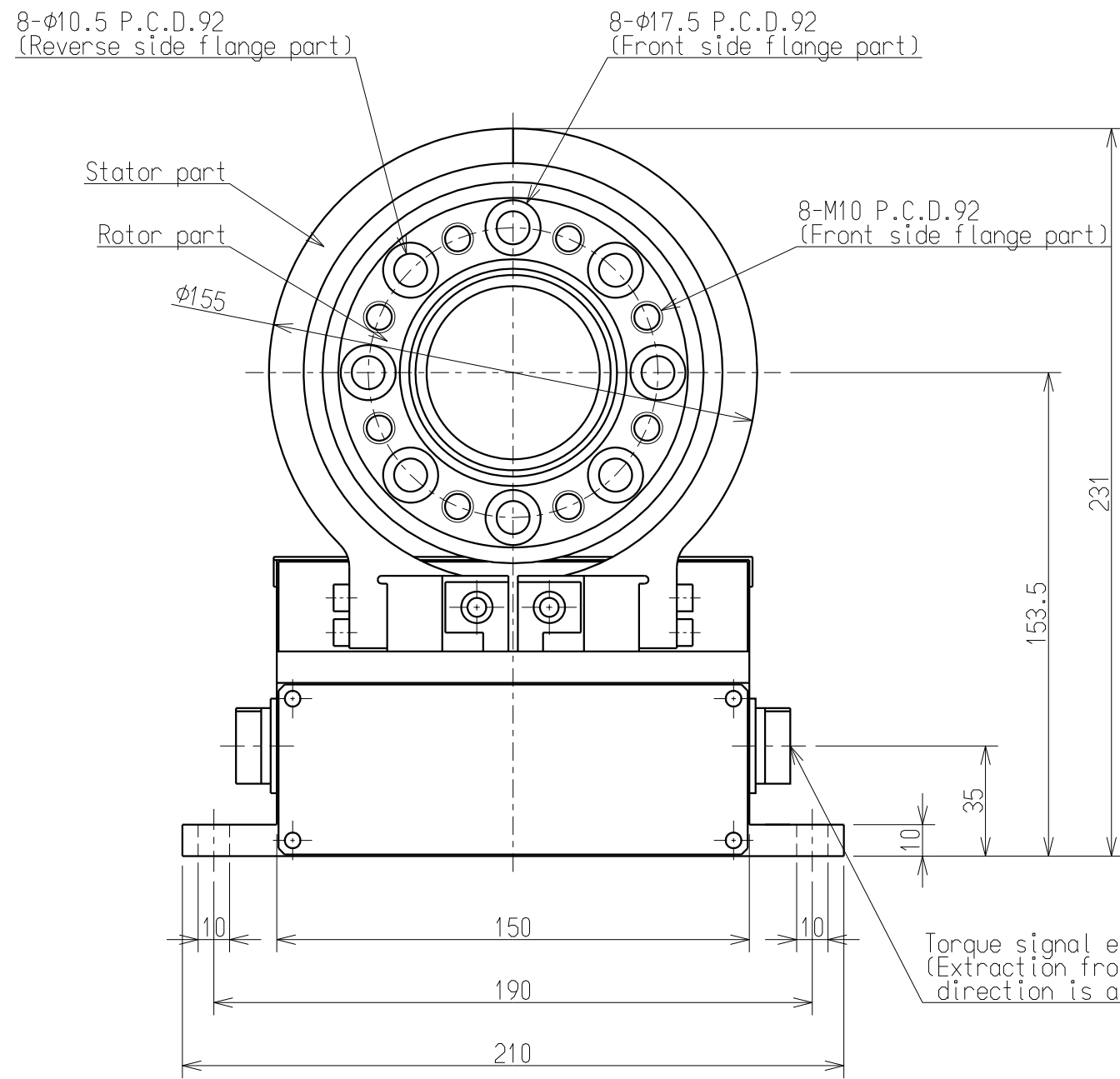
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	品名 DESCRIPTION	OUTLINE
	型式 MODEL NAME	TMHS
	図番 DRAWING NO.	KT53353-2
	葉番 SHEET	2 / 6
	改訂 REV.	C

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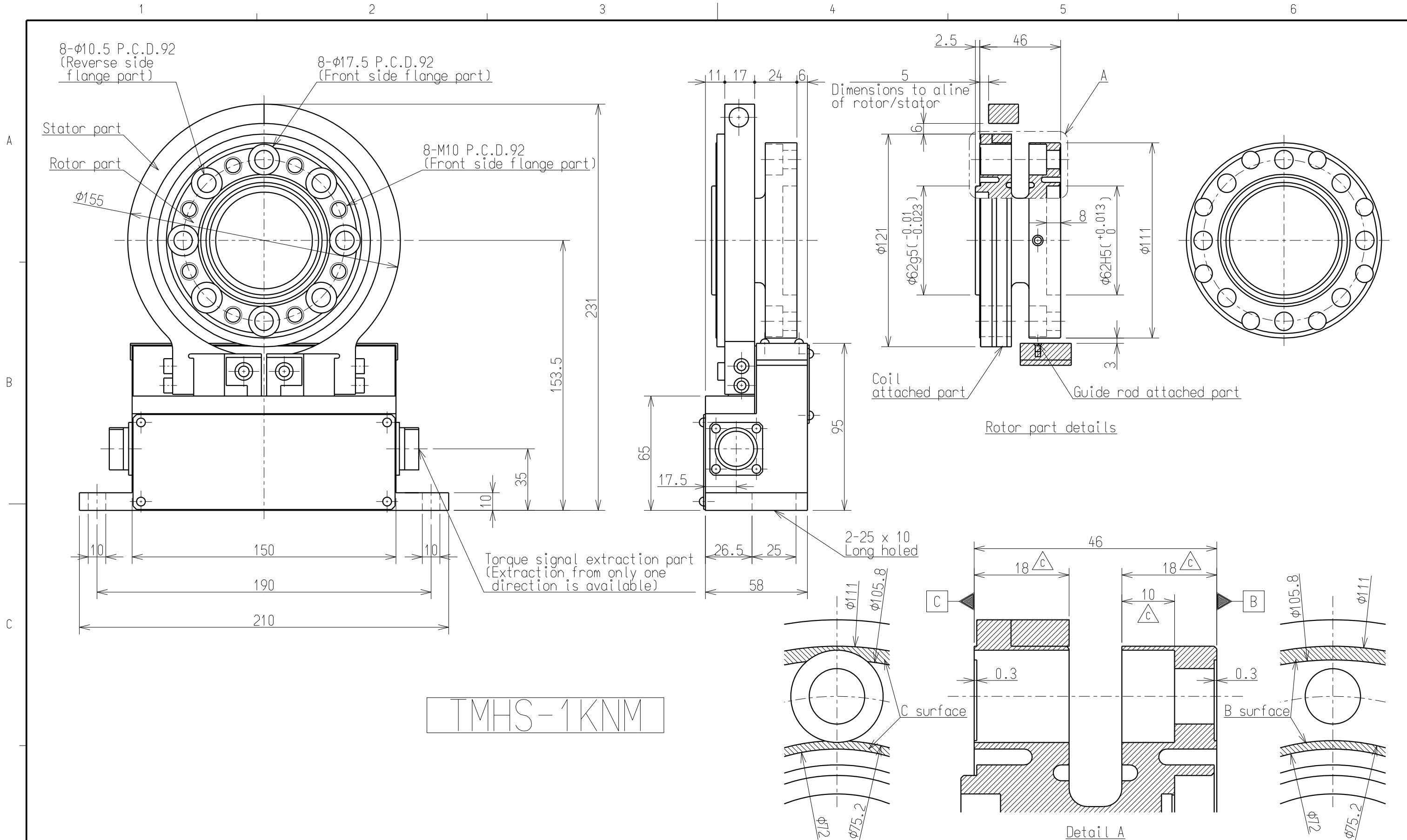
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TMHS-500NM

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	葉番 SHEET	3 / 6
	改訂 REV.	C



TMHS-1KNM

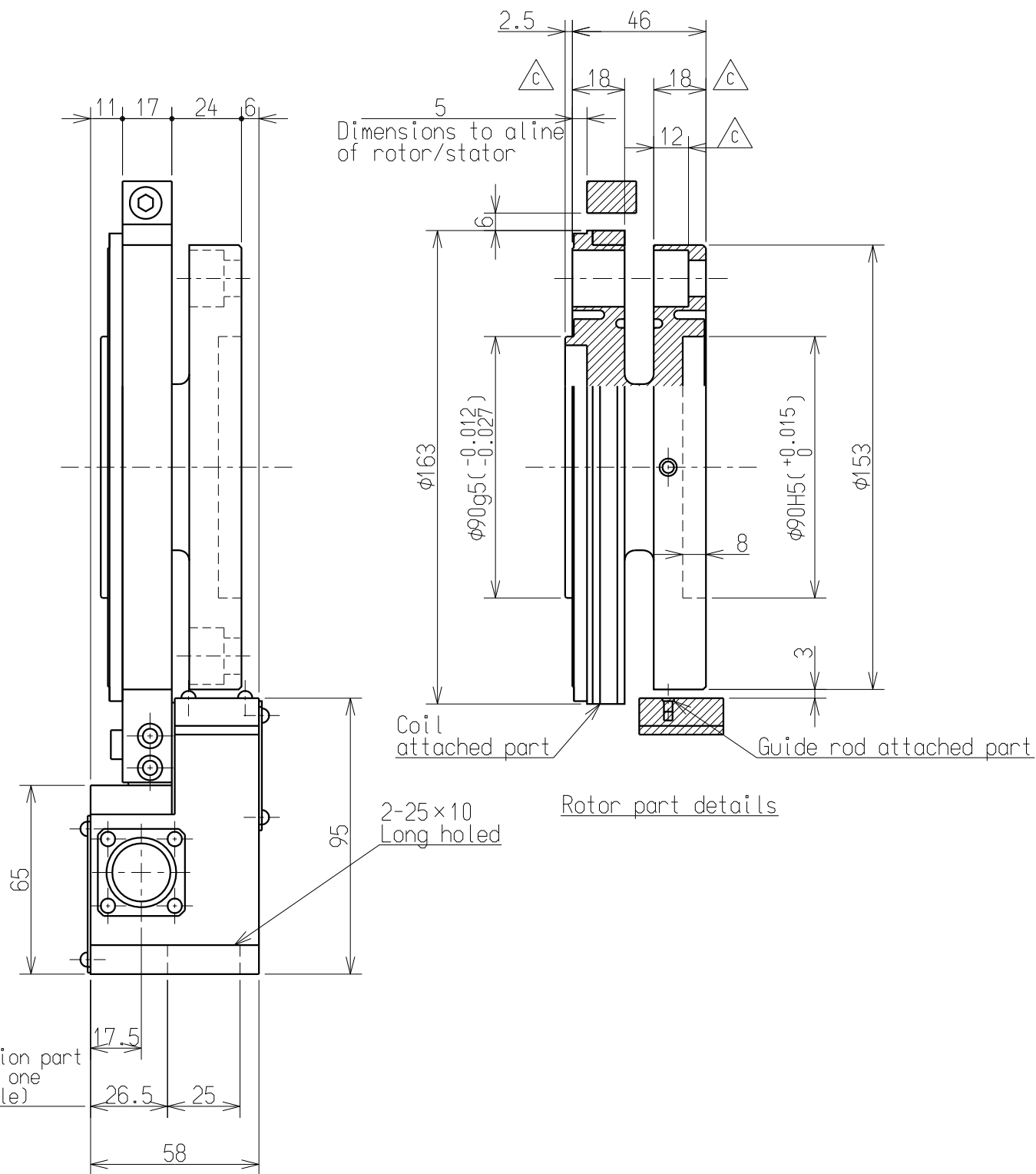
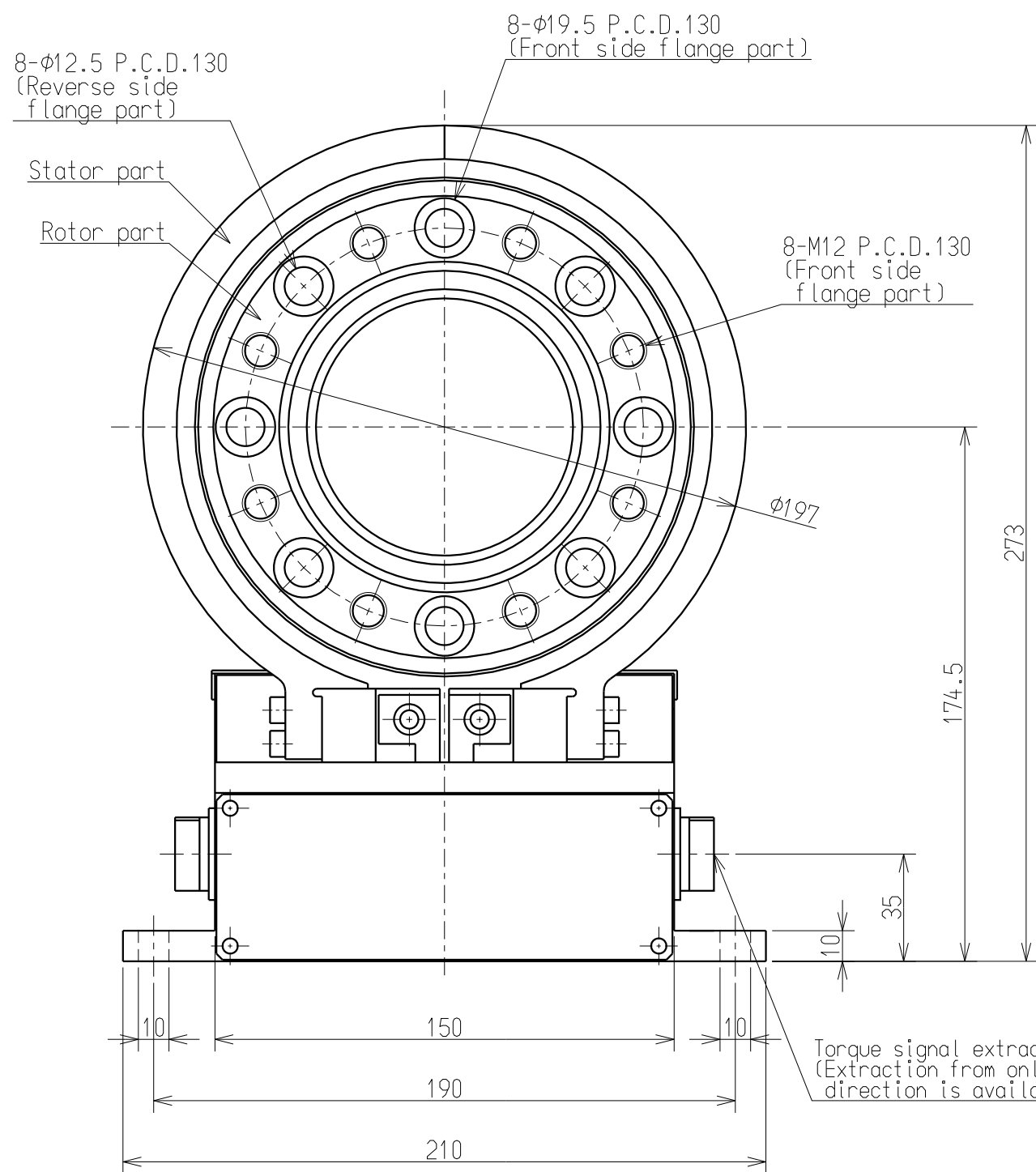
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	葉番 SHEET	4 / 6
	改訂 REV.	C

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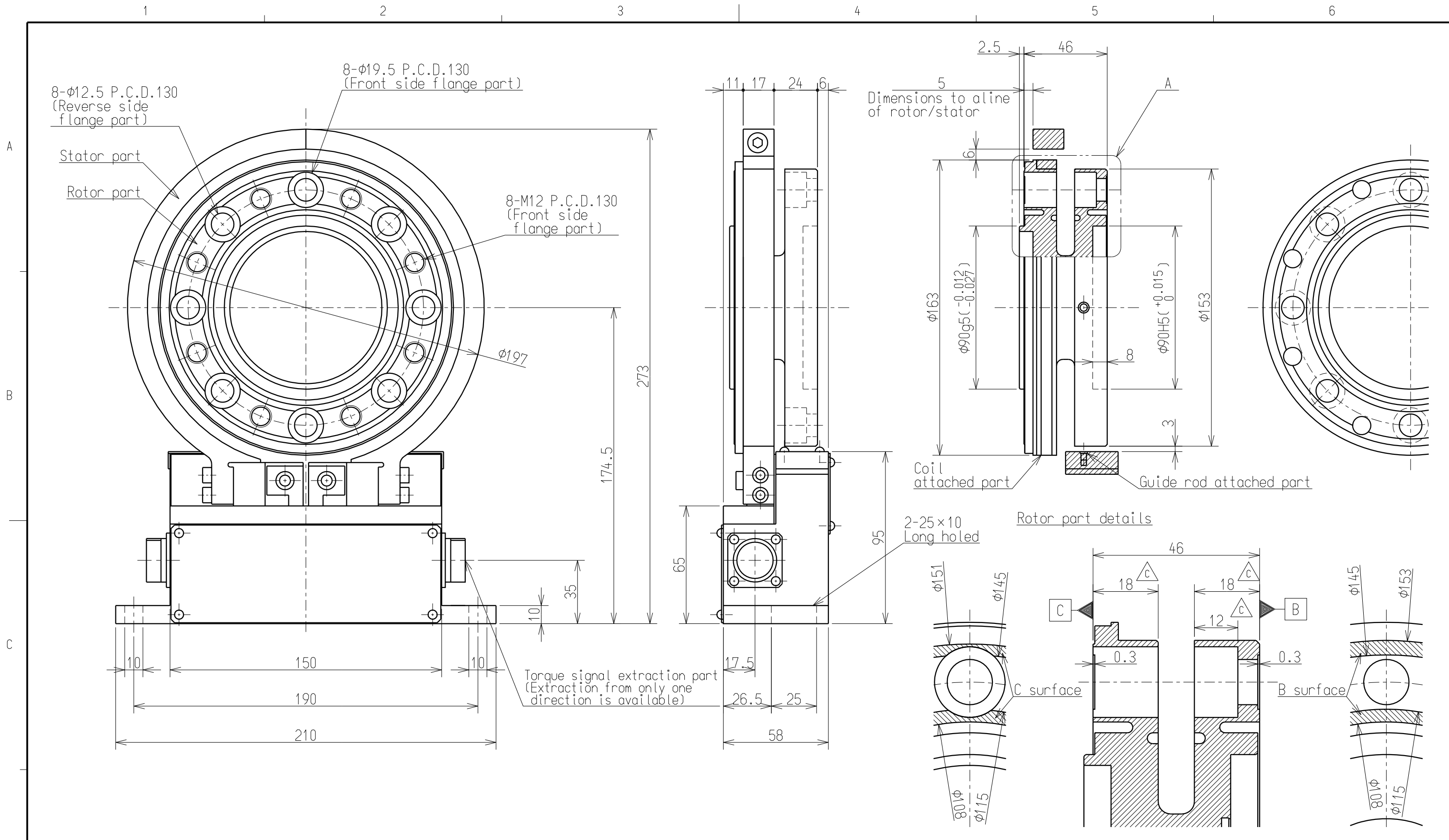
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TMHS-2KNM $\triangle B$

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	型式 MODEL NAME TMHS	葉番 SHEET 5 / 6
	図番 DRAWING NO. KT53353-2	改訂 REV. C



TMHS-3KNM B

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	葉番 SHEET	6 / 6
	改訂 REV.	C