

ULTIMATE-CI-RA _ Internal construction

Ultimate is a low-backlash, heavy-duty planetary gearbox.

It provides amazing acceleration capacity to severe applications including new-generation laser-cutting machines, delta robots or punching machines, where high precision is needed, together with torsional stiffness.



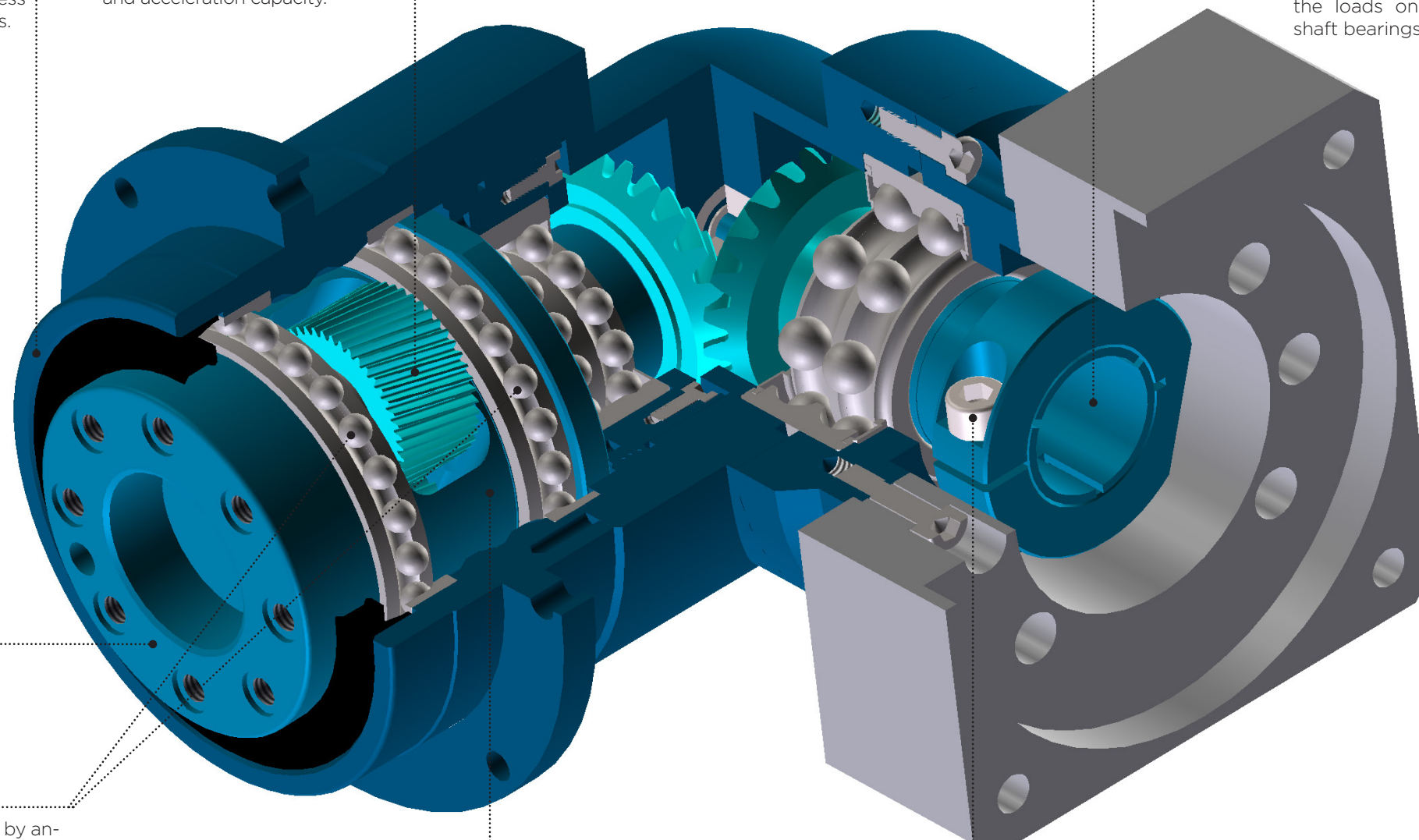
PerfectPitch™

Ring gear is monobloc with the external housing and the output flange, to provide higher stiffness and allow more dynamic reversals.

Carburized and quenched helical teeth for quiet operation, reliability and acceleration capacity.

The output flange is ideal for fast reversals, strong acceleration requiring stiffness in heavy-duty applications.

The balanced coupling limits vibration and reduces the loads on your motor shaft bearings.



The planet carrier is dual-supported by angular-contact ball bearings (small sizes) or tapered roller bearings (sizes above 140), to improve stiffness, guarantee a perfect alignment of gears during operation and provide greater acceptance to radial loads.

The caged planet carrier provides stiffness, reliability and acceleration capacity to the gearbox.

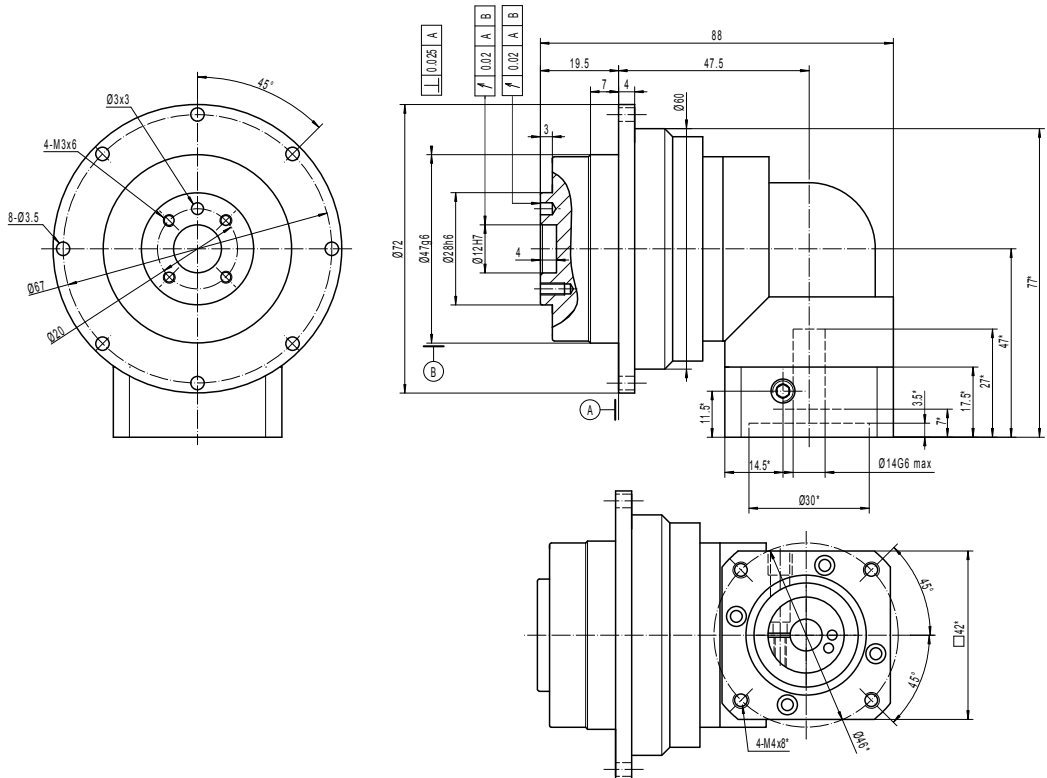
Easy and safe, 1-screw installation to your motor shaft.

	Ratio**	ULTIMATE-CI-RA								
		047-P*	064-P*	090-R*	090-P*	110-R*	110-P*	140-R*	140-P*	200-R*
Nominal torque ¹ T _{2N} (Nm)	4	8	42	154		244		407		1,180
	5	11	33	120		190		438		1,225
	5,5	-	44	164		260		590		1,660
	6	-	27	81		179		440		1,225
	7	8	30	108		203		465		1,300
	8	-	18	55		164		408		1,185
	9	-	16	47		137		353		1,035
	10	5	18	66		147		308		922
	16	8	42	86	154	244	244	377	407	764
	20	8	42	90	154	244	244	393	407	1,096
	22	-	44	118	164	260	260	518	590	1,051
	25	11	33	113	120	190	190	438	438	1,225
	27,5	-	44	124	164	260	260	540	590	1,507
	28	8	42	68	154	183	244	359	407	960
	30	-	27	81	81	179	179	440	440	1,225
	35	11	33	85	120	190	190	438	438	1,200
	38,5	-	44	94	164	252	260	494	590	1,320
	40	8	39	40	113	113	218	218	407	577
	42	-	27	81	81	179	179	440	440	1,225
	49	8	30	108	108	203	203	465	465	1,300
	50	11	33	49	120	141	190	273	438	721
	55	-	44	54	164	156	260	300	590	794
	60	-	27	59	81	170	179	327	440	866
	70	8	30	69	108	198	203	382	465	1,010
	80	-	18	55	55	164	164	408	408	1,154
	90	-	16	47	47	137	137	353	353	1,035
	100	5	18	66	66	147	147	308	308	922
Peak torque ² T _{max} (Nm)	4	14	77	190		488		810		1,786
	5	14	55	170		380		870		2,380
	5,5	-	73	235		500		1100		2,900
	6	-	38	114		327		815		2,250
	7	14	54	161		379		804		2,170
	8	-	37	111		322		765		2,050
	9	-	36	104		305		728		1,970
	10	13	50	157		353		715		1,470
	16	14	77	122	190	322	488	669	810	1,524
	20	14	77	115	190	275	488	636	810	1,786
	22	-	73	168	235	443	500	920	1,100	2,095
	25	14	55	144	170	344	380	795	870	2,238
	27,5	-	73	158	235	378	500	875	1,100	2,462
	28	14	77	113	190	282	488	609	810	1,651
	30	-	38	114	114	327	327	815	815	2,250
	35	14	55	141	170	353	380	762	870	2,064
	38,5	-	73	155	235	388	500	838	1,100	2,270
	40	14	77	109	190	259	488	560	810	1,480
	42	-	38	114	114	327	327	815	815	2,250
	49	14	54	161	161	379	379	804	804	2,170
	50	14	55	136	170	324	380	700	870	1,850
	55	-	73	150	235	356	500	770	1,100	2,035
	60	-	38	114	114	327	327	815	815	2,220
	70	14	54	161	161	379	379	804	804	2,170
	80	-	37	111	111	322	322	765	765	2,050
	90	-	36	104	104	305	305	728	728	1,970
	100	13	50	157	157	353	353	715	715	1,470
Emergency stop torque (Nm) ³		1,5 x T _{max}								
Max angular backlash (minutes)	1 stage	Standard : ≤8 ; Option : ≤6			Standard : ≤8 ; Option : ≤4					
	2 stages				Standard : ≤8 ; Option : ≤6					
Nominal input speed (rpm) ⁴		4 000	4 000	3,100	2,800	2,600	2,000			
Max input speed (rpm) ⁵		7 500	7 500	6,000	5,500	5,000	4,500			
Max radial load (N) ⁶		320	465	1,440	3,960	11,680	22,500			
Max axial load (N) ⁶		420	565	2,050	5,700	16,900	17,400			
Tilting moment (Nm) ⁶		11	23	95	335	1,130	2,280			
Efficiency (%) ⁷	1 stage	≥94								
	2 stages	≥92								
Torsional stiffness (Nm/min)		6	13	32	82	150	600			
Life (h) ⁸		20,000								
Min / max ambient temperature ⁹ (°C)		-15 / +45								
Max temperature of the body (°C)		90								
Protection class		IP 65								
Noise level (dB) ¹⁰		≤68	≤70	≤70	≤74	≤78	≤82			
Lubrication		Lifetime lubrication (grease)								
Coating color		Capri blue (RAL 5019)								
Input flange		Anodized aluminum								

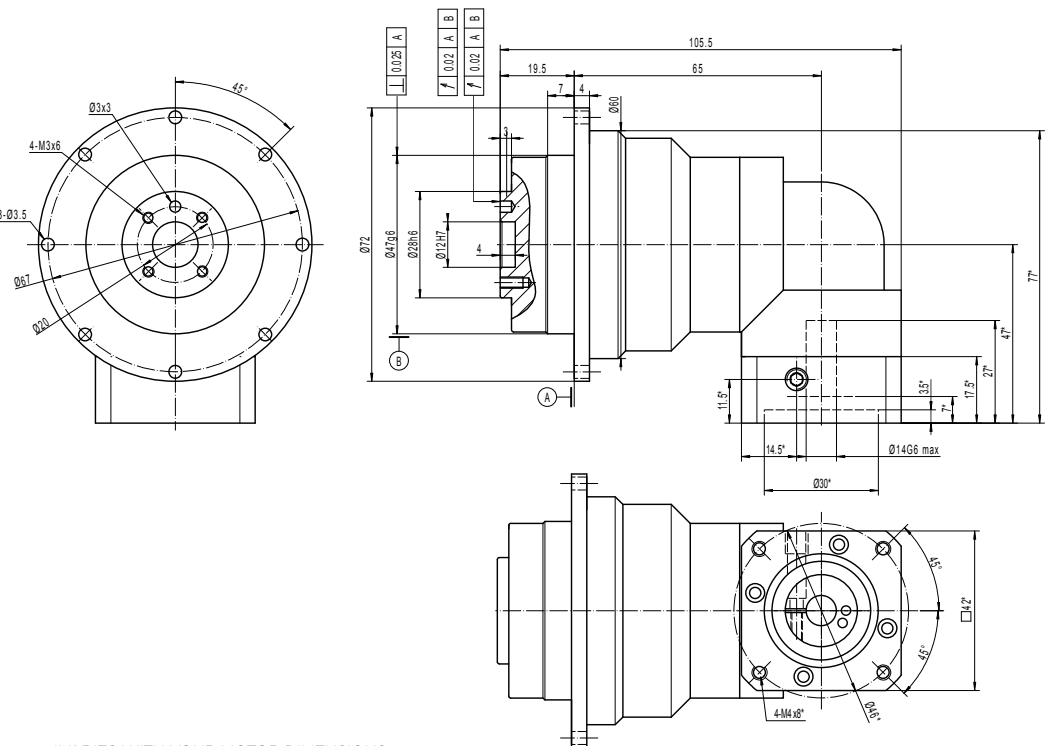
* 2 stage-gearboxes, can be equipped with a light, space-saving, low inertia input stage (R) or with a larger input stage (P), offering more power (as a paying option).
** Others ratios are available upon request.

- 1: Calculation based on the ISO 6336-2 standard (life = 20 000 h, speed = nominal speed, internal temperature = 60°C, Application Factor = 1,25).
Using max 10% of the max tilting moment. Torque capacity decreases when the radial load increases. Please refer to the website for more information.
2: Calculation based on the ISO 6336-2 standard (life = 2 000 h, speed = nominal speed, internal temperature = 60°C, Safety Factor = 1,4).
This rating will not provide a 2 000 hours life if used at max speed. Contact us to get an estimation of the product lifetime in your application.
Using a torque higher than the rated torque may affect the gearbox precision.
3: 1 000 occurrences maximum.
4: Speed at which the nominal torque is applicable 20 000 hours.
5: Peak speed only.
6: Applied on the front face of the output shaft at 100rpm
7: Measured at full load and at 25°C
8: Lifetime at nominal torque and speed. Consult us to obtain a free estimation of lifetime in your working conditions
9: Room temperature. Refer to temperature factors in dedicated section.
10: Ratio 10 at nominal speed, measured at 1m.

ULTIMATE-CI-RA-047- 1 STAGE - RATIOS 4 TO 10 FOR MOTOR SHAFT ≤ Ø14

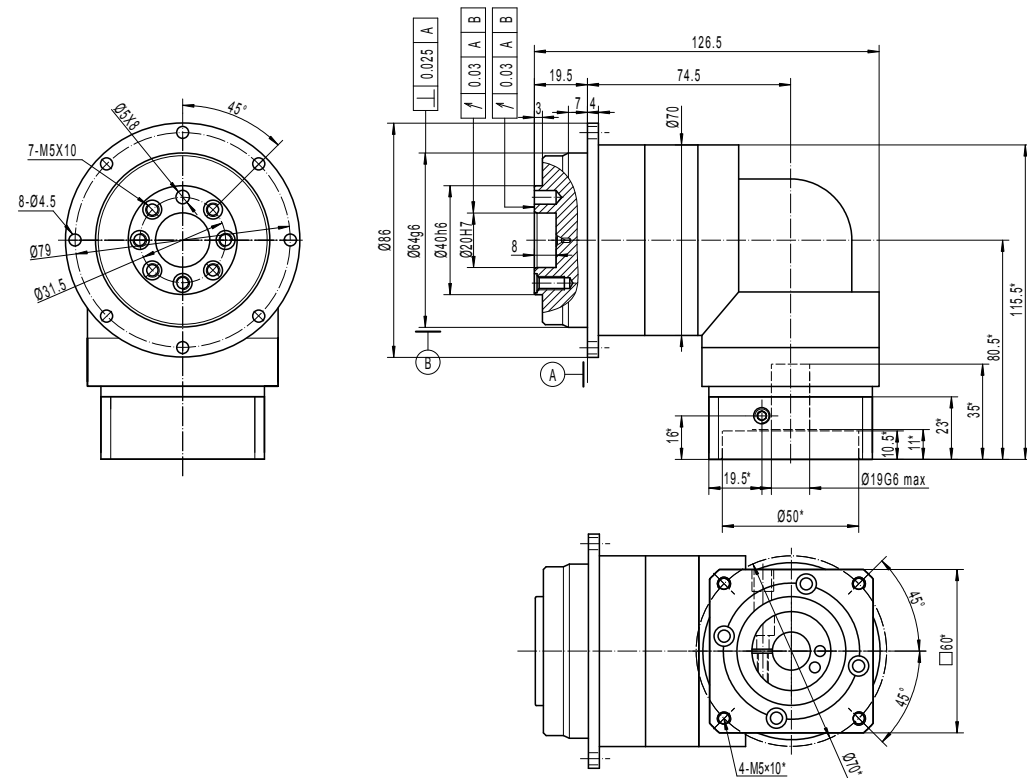


ULTIMATE-CI-RA-047- 2 STAGES-P - RATIOS 16 TO 100 FOR MOTOR SHAFT ≤ Ø14

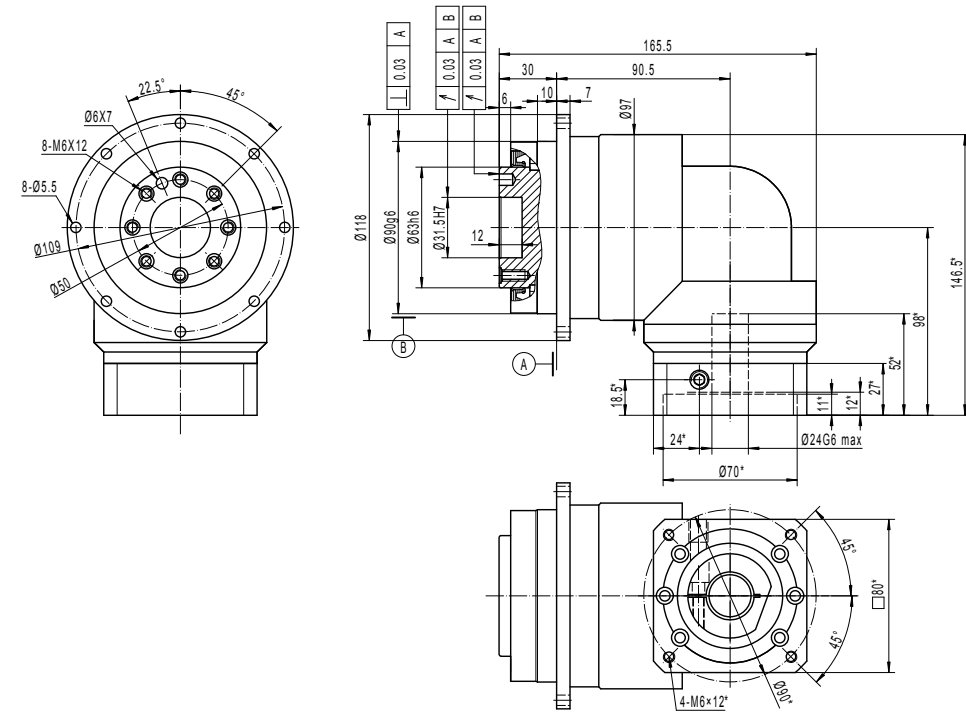


*VARIES WITH YOUR MOTOR DIMENSIONS

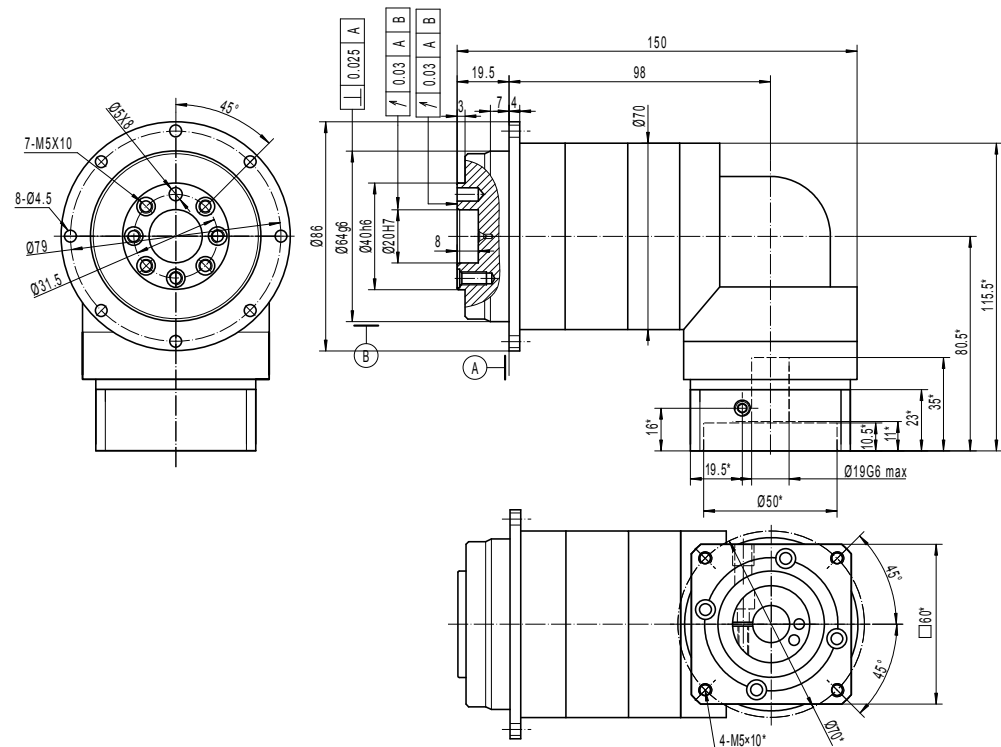
ULTIMATE-CI-RA-064- 1 STAGE - RATIOS 4 TO 10
FOR MOTOR SHAFT $\leq \varnothing 19$



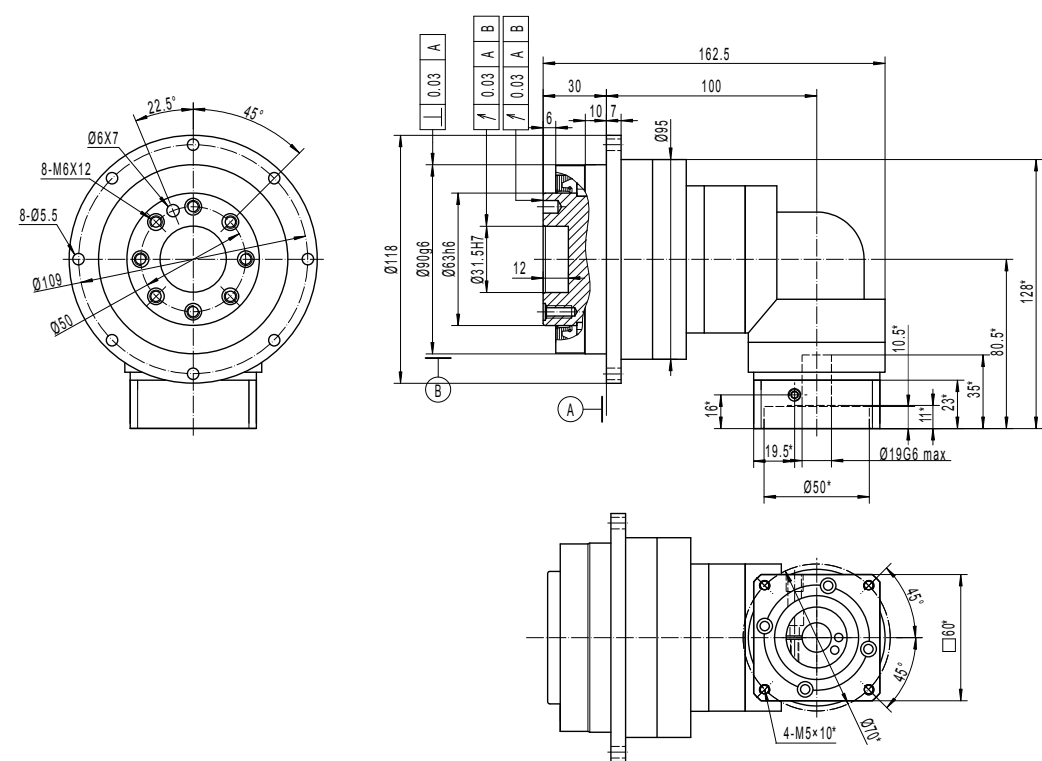
ULTIMATE-CI-RA-090- 1 STAGE - RATIOS 4 TO 10
FOR MOTOR COUPLING $\leq \varnothing 24$



ULTIMATE-CI-RA-064- 2 STAGES-P - RATIOS 16 TO 100
FOR MOTOR SHAFT $\leq \varnothing 19$



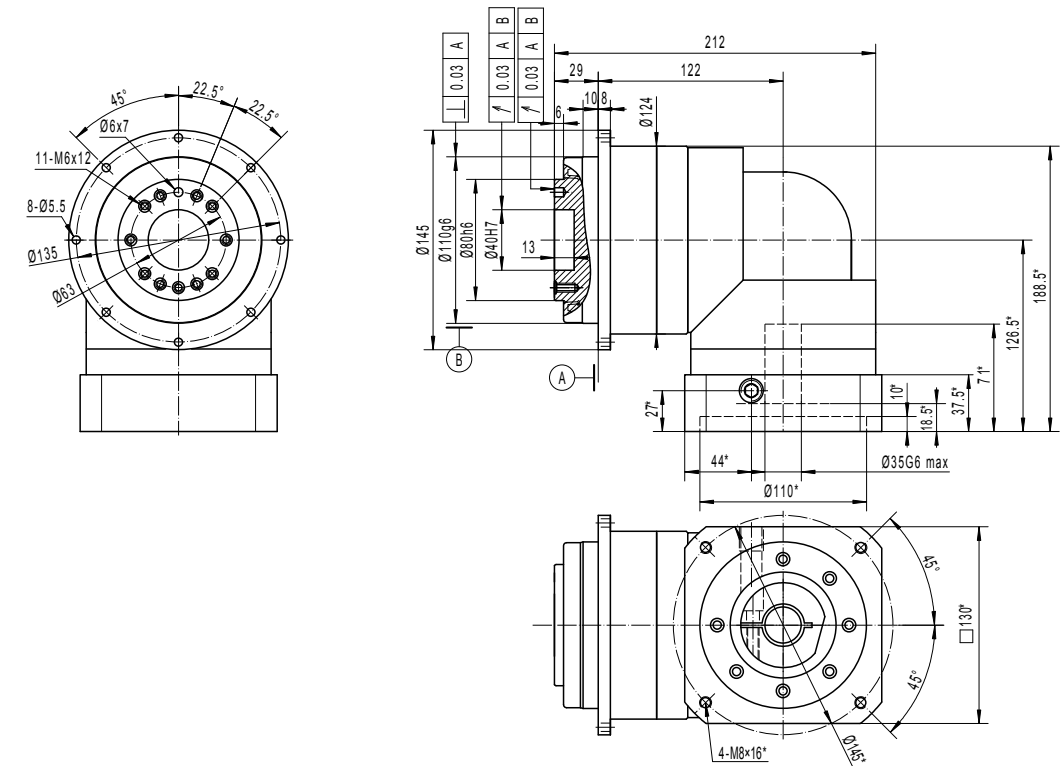
ULTIMATE-CI-RA-090- 2 STAGES-R - RATIOS 16 TO 100
FOR MOTOR SHAFT $\leq \varnothing 19$



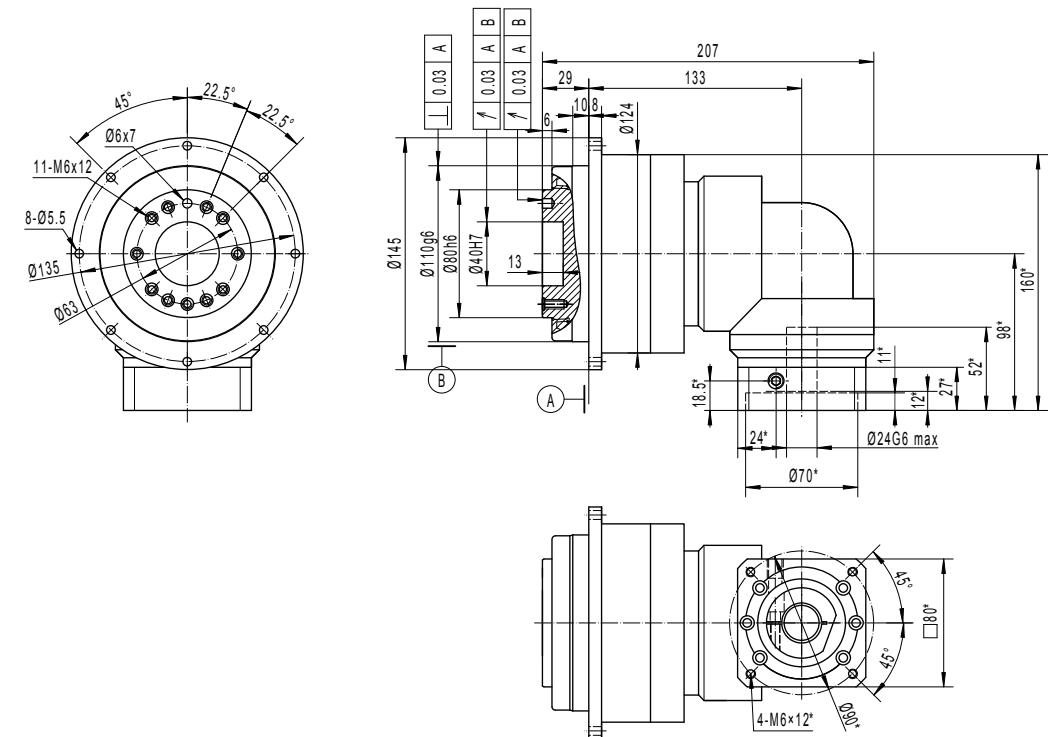
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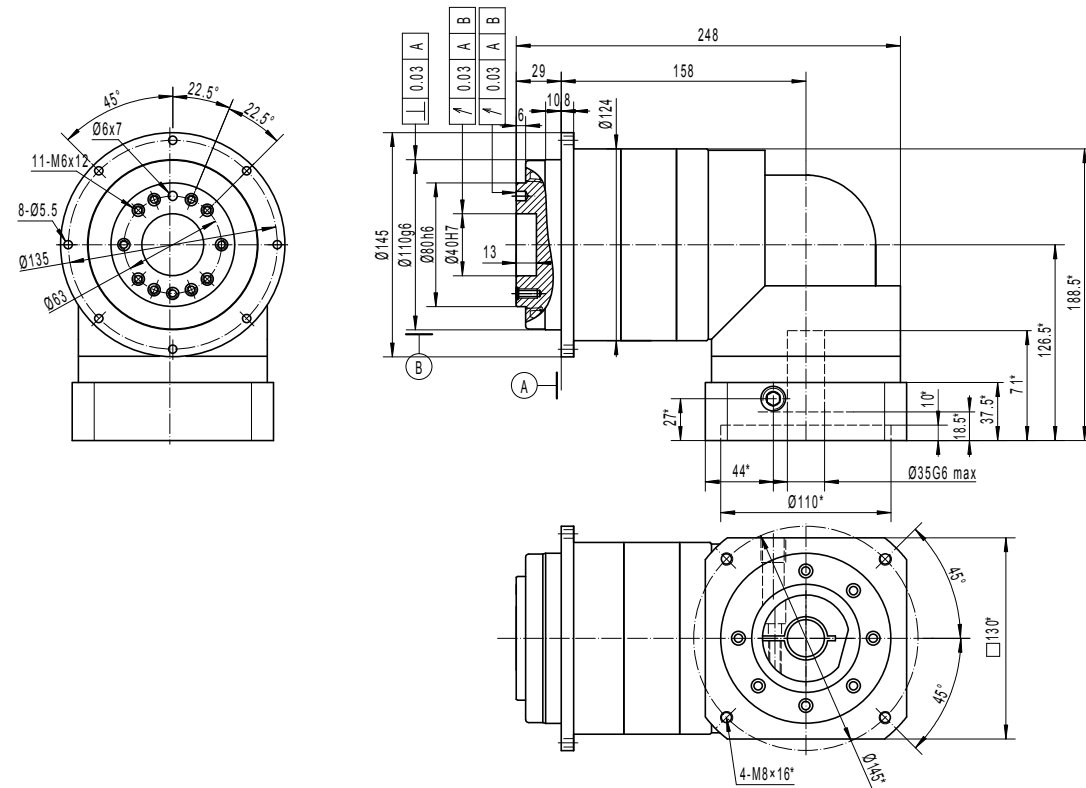
ULTIMATE-CI-RA-110-1 STAGE - RATIOS 4 TO 10
FOR MOTOR SHAFT $\leq \varnothing 35$



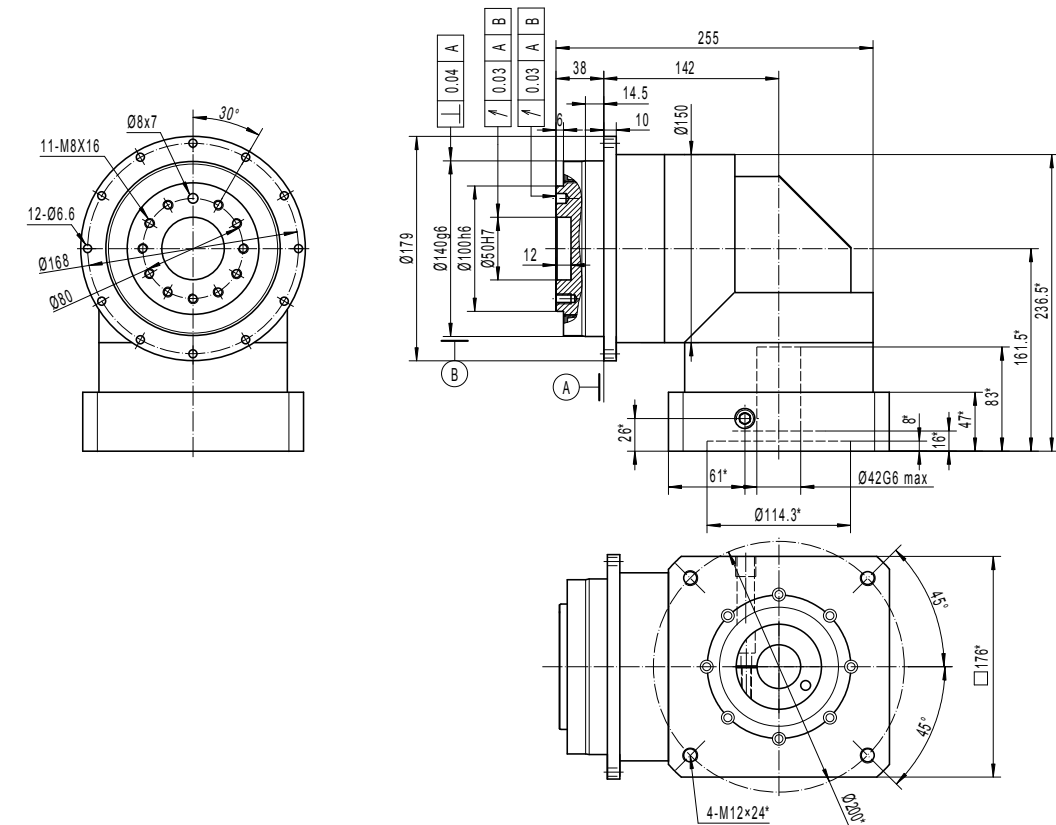
ULTIMATE-CI-RA-110- 2 STAGES-R - RATIOS 16 TO 100
FOR MOTOR SHAFT $\leq \varnothing 24$



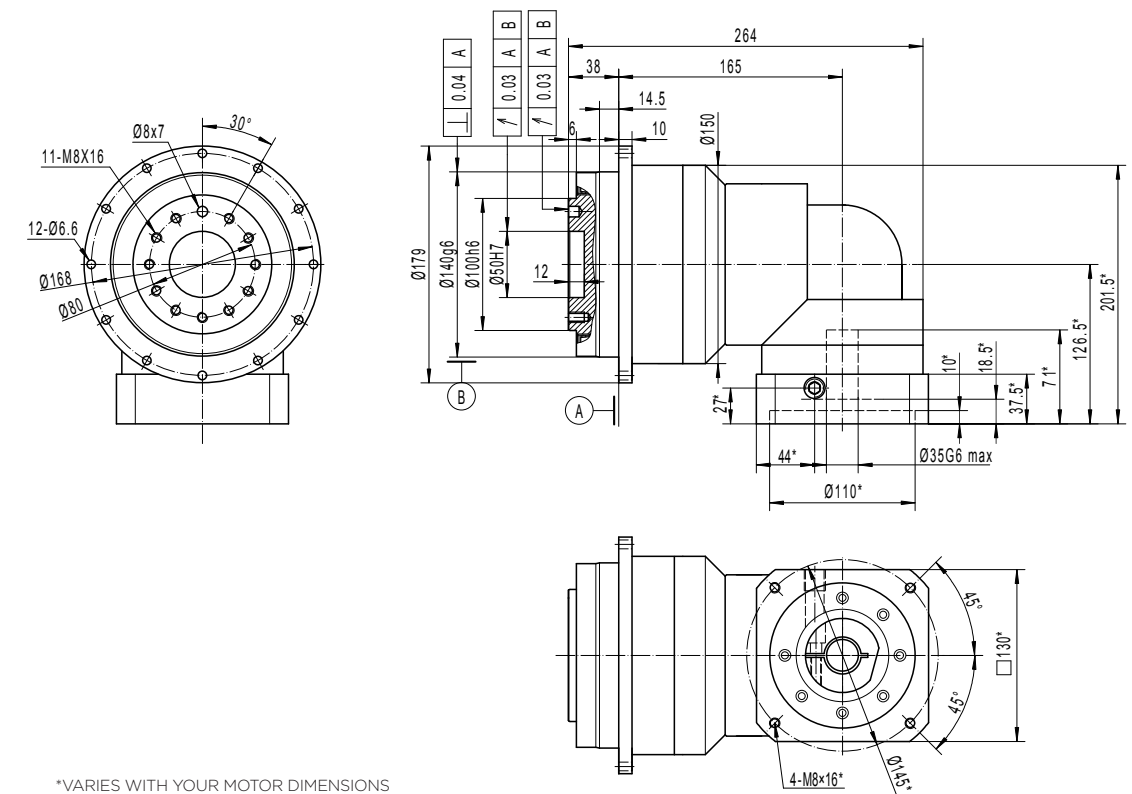
ULTIMATE-CI-RA-110- 2 STAGES-P - RATIOS 16 TO 100
FOR MOTOR SHAFT $\leq \varnothing 35$



ULTIMATE-CI-RA-140- 1 STAGE - RATIOS 4 TO 10
FOR MOTOR SHAFT $\leq \varnothing 42$



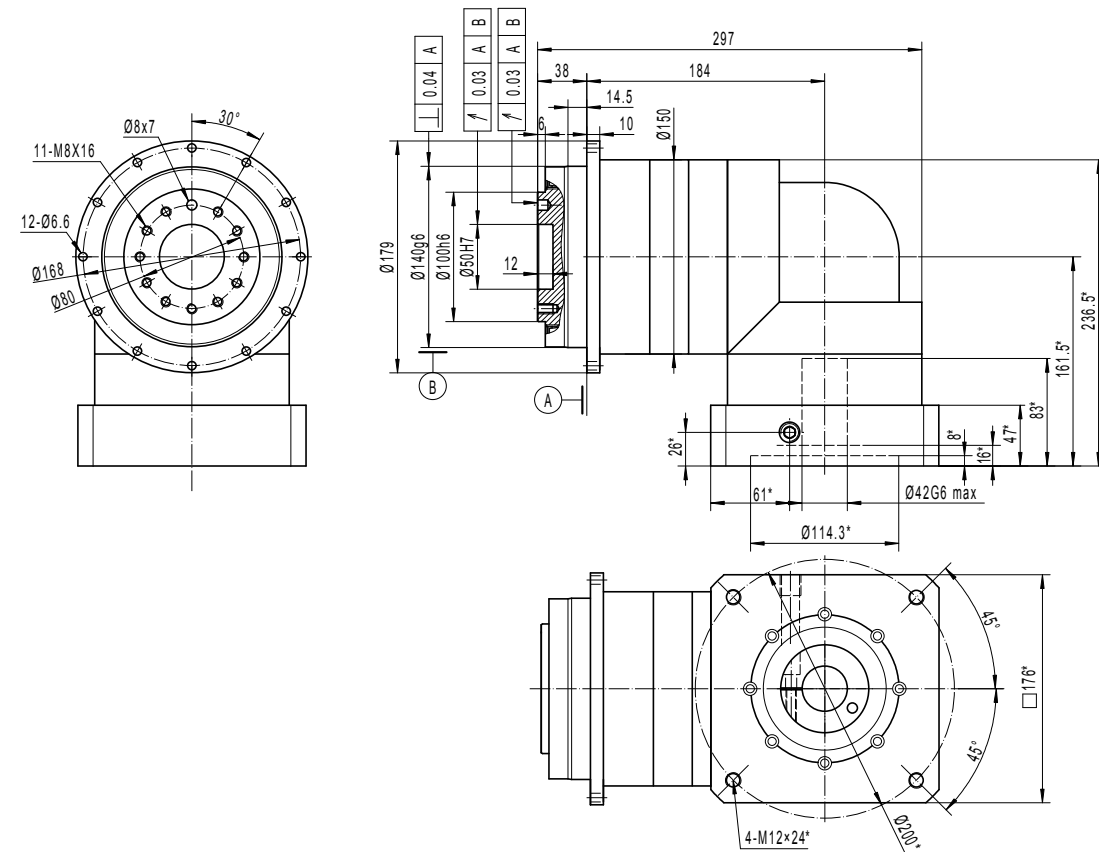
ULTIMATE-CI-RA-140- 2 STAGES-R - RATIOS 16 TO 100
FOR MOTOR SHAFT $\leq \varnothing 35$



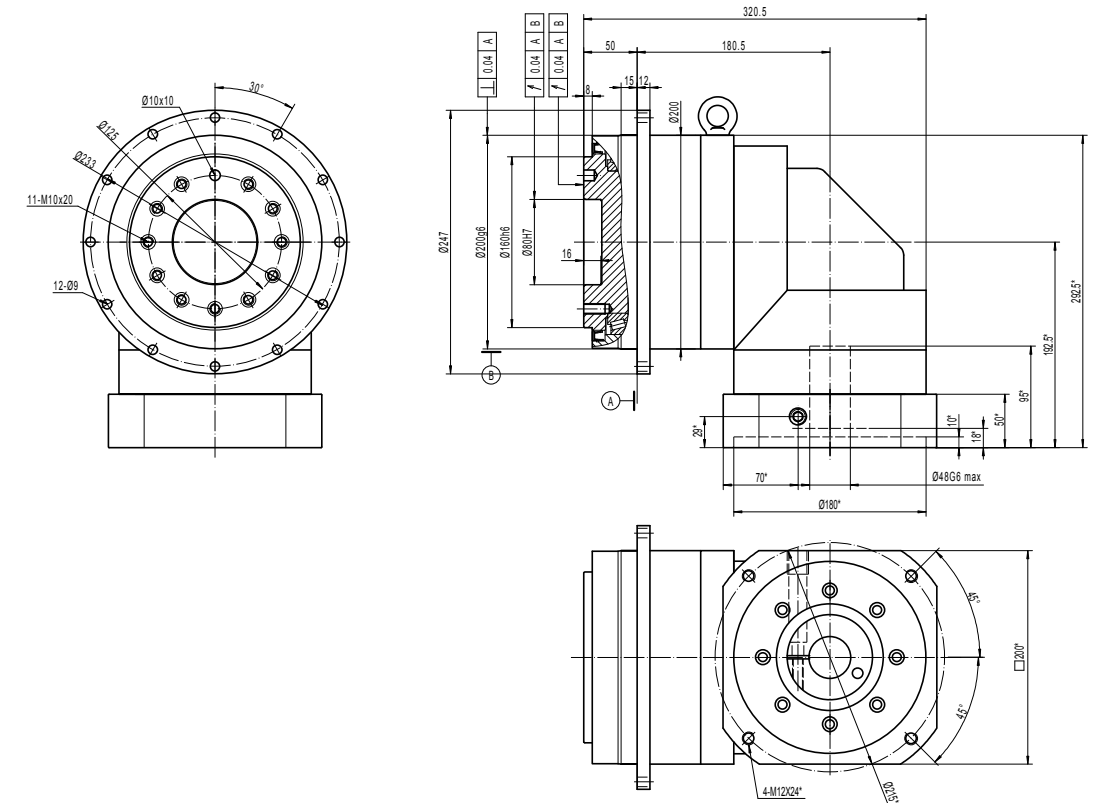
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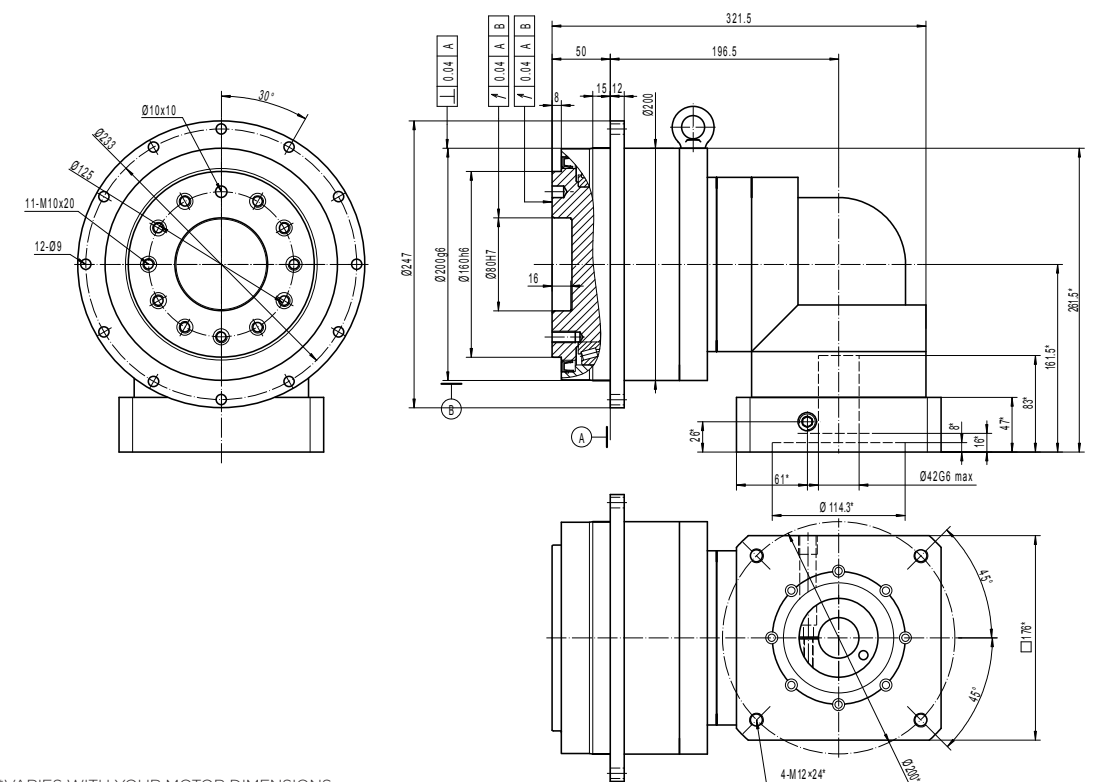
ULTIMATE-CI-RA-140- 2 STAGES-P - RATIOS 16 TO 100
FOR MOTOR SHAFT $\leq \varnothing 42$



ULTIMATE-CI-RA-200- 1 STAGE - RATIOS 4 TO 10
FOR MOTOR SHAFT $\leq \varnothing 48$



ULTIMATE-CI-RA-200- 2 STAGES-R - RATIOS 16 TO 100
FOR MOTOR SHAFT $\leq \varnothing 42$



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