Santasalo | GEARED FOR INDUSTRY

PRODUCT CATALOGUE

Drive Solutions for Conveyor Applications

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1. Introduction to Santasalo conveyor gear unit series

In addition to standard bevel helical and helical D-series gear units, Santasalo offers two bevel helical gear unit series designed specifically for conveyors. The D3RSF..CV series gear units are designed for regular conveyor applications and the high thermal XO series gear units offer an explosion proof design with self align flange mount connection for electric motors.

Santasalo is fulfilling the most demanding needs of conveyor applications with these products. Our conveyor gear units can be delivered on a turnkey basis - from 3D planning, engineering and manufacturing complete with accessories through to start up and customer training.

High quality for process reliability

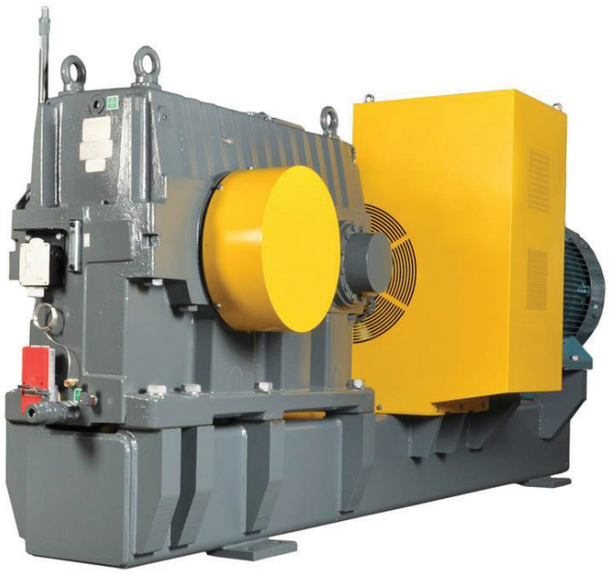
With our design expertise and manufacturing competence, we offer solutions to enhance process reliability. The Santasalo conveyor gear series are built on decades of experience in layout engineering, complete design of components and manufacturing of gear units for heavy-duty applications. All key manufacturing processes are performed in-house to ensure that all process stages achieve a consistently high level of quality. Reliability combined with easy maintenance contributes to maximum uptime and minimum downtime.

Life-cycle support for efficient process performance

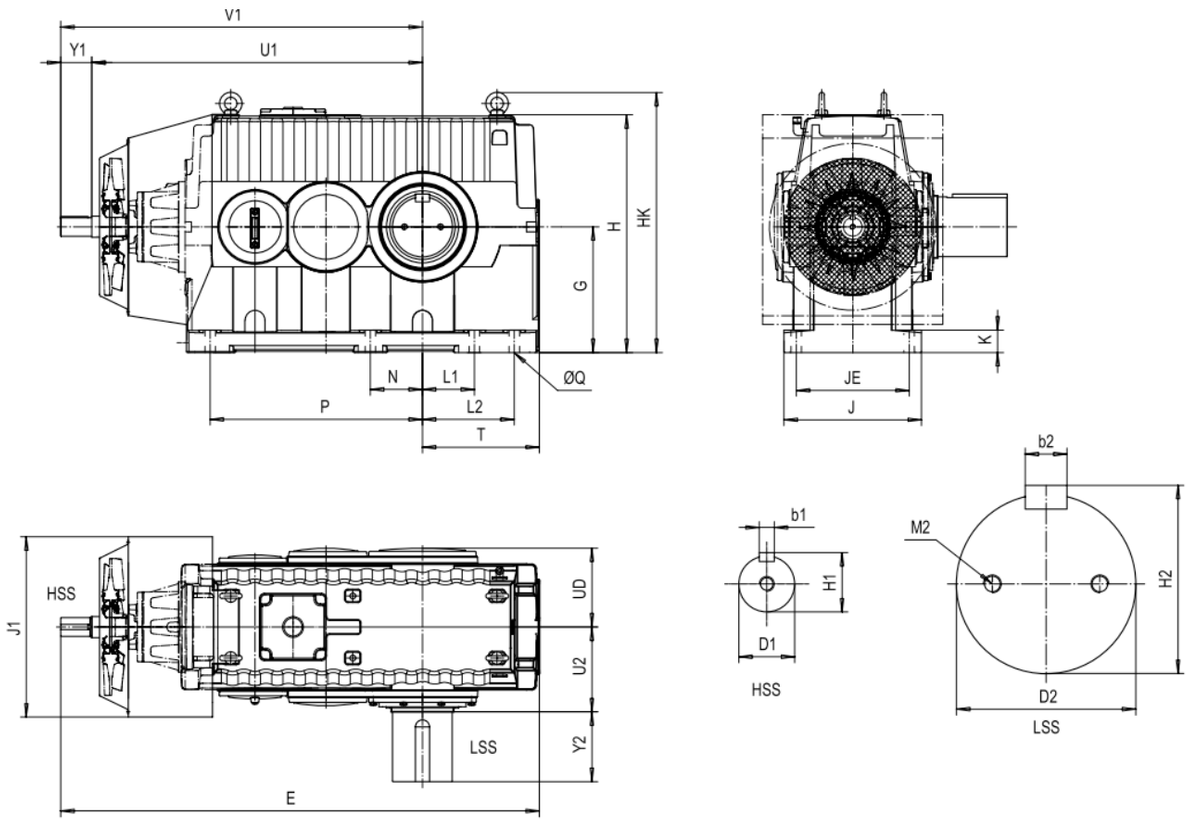
The Santasalo conveyor gear series incorporates flexible design features and comprehensive product support to reduce maintenance costs throughout the complete life-cycle of the mechanical drive solution.

To improve serviceability, features like a horizontal split plane design, correctly positioned lifting points and generously sized visual inspection covers are taken into account during engineering and design phases. Santasalo can be relied on for upgrades, rebuilds and spare parts according to original design specifications. Application manuals, comprehensive documentation and detailed histories of each gear unit serviced at one of our Santasalo Service Centres facilitate fast and efficient maintenance services.

2. Conveyor Gear Unit Series D3RSF50CV-D3RSF95CV



2.1 Gear Unit Dimensions



Housing dimensions in mm														
Size	E	G	H	HK	J1 X)	J	K	JE	L1	L2	N	P	T	ØQ
50	1450	350	660	731	600	396	65	330	148	245	148	600	325	28
60	1627	400	755	845	600	460	76	378	170	300	170	700	373	35
70	1809	460	870	960	725	506	82	416	194	322	194	800	427	35
80	1923	505	955	1045	725	552	90	454	209	369	209	853	470	42
90	2172	550	1040	1149	800	584	97	480	228	418	228	945	512	42
95	2317	500	980	1090	800	634	75	535	410	-	335	990	500	42

LSS dimensions in mm												
	Solid shaft without key					Solid shaft with key						
Size	D2	M2	Y2	U2	UD	D2	b2	H2	M2	Y2	U2	UD
50	140h8	M30	200	232	216	140m6	36h9	148	M30	200	232	216
60	160h8	M30	240	261	245	160m6	40h9	169	M30	240	261	245
70	180h8	M30	240	281	274	180m6	45h9	190	M30	240	281	274
80	200h8	2xM20	280	315	290	200m6	45h9	210	2xM20	280	315	290
90	220h8	2xM20	280	337	314	220m6	50h9	231	2xM20	280	337	314
95	270h8	2xM24	350	390	367	270m6	63h9	287	2xM24	350	390	367

X) With sheet metal quards

HSS dimensions in mm														
	Ratio i=14 ... 56						Ratio i=63... 80						Weight	Oil Capacity
Size	U1	Y1	V1	D1	b1	H1	Y1	V1	D1	b1	H1	kg	kg	l
50	972	125	1097	75m6	20h9	79.5	125	1097	65m6	18h9	69	860	860	62
60	1129	150	1279	85m6	22h9	90	125	1254	75m6	20h9	79.5	1290	1290	92
70	1232	150	1382	90m6	25h9	95	150	1382	80m6	22h9	85	1900	1900	144
80	1328	150	1478	95m6	25h9	100	150	1478	85m6	22h9	90	2390	2390	185
90	1510	190	1700	100m6	28h9	106	150	1660	90m6	25h9	95	3170	3170	227
95	1602	215	1817	115m6	32h9	122	190	1792	100m6	28h9	106	3560	3560	220

2.2 Nominal mechanical power ratings

Nominal power / kW, when FS=1																	
	Nominal Ratio n1/rpm	14	16	18	20	22.5	25	28	31.5	35.5	40	45	50	56	63	71	80
D3RSF50CV	*1800*	376	376	376	354	292	278	249	228	194	171	163	135	132	108	94.8	79.6
	1500	331	331	331	299	245	232	207	190	162	143	136	112	110	94.8	79.1	66.1
	1200	283	283	269	244	197	186	166	152	130	115	109	89.7	88	75.7	63.4	52.7
	1000	248	248	224	206	165	155	138	127	109	95.8	91	74.6	73.5	63	52.9	43.9
D3RSF60CV	*1800*	534	534	514	514	482	433	375	321	319	273	246	212	188	152	129	129
	1500	449	449	449	449	424	367	315	304	272	218	198	177	156	134	107	107
	1200	362	362	362	362	353	296	253	214	195	174	158	142	125	112	85.3	85.3
	1000	304	304	304	303	294	248	212	179	162	145	132	118	105	93.1	71	71
D3RSF70CV	*1800*	815	815	793	694	625	566	517	472	413	374	333	301	276	247	214	197
	1500	718	718	668	586	528	478	437	399	349	315	281	253	232	206	178	165
	1200	583	583	543	476	430	389	355	325	283	256	229	203	186	165	142	132
	1000	485	485	459	403	363	329	300	274	239	217	194	169	155	138	118	111
D3RSF80CV	*1800*	946	946	935	893	803	723	626	581	530	472	428	389	346	325	291	214
	1500	832	832	823	753	678	610	525	490	448	399	361	327	289	274	245	178
	1200	698	698	679	612	550	496	423	399	363	323	290	262	232	224	195	142
	1000	585	585	574	517	465	420	354	335	303	269	242	219	193	190	162	118
D3RSF90CV	*1800*												481	445	445	311	228
	1500	1057	1057	1057	1015	949	858	746	663	609	543	479	405	372	372	259	189
	1200	854	854	854	854	758	686	597	530	487	434	383	327	299	298	206	151
	1000	716	716	716	716	631	571	497	442	406	362	320	276	250	248	172	125
D3RSF95CV	*1800*													657	607	541	422
	1500	1707	1594	1594	1594	1439	1282	1112	989	879	782	705	627	551	506	451	352
	1200	1460	1364	1364	1297	1152	1024	889	791	703	625	564	502	439	405	361	281
	1000	1273	1143	1138	1080	959	853	740	659	586	521	470	418	365	338	301	235

2.3 Nominal output torque

Nominal output torque / kNm, when FS=1 / n1=1500 1/min																
	14.0	16.0	18.0	20.0	22.5	25.0	28.0	31.5	35.5	40.0	45.0	50.0	56.0	63.0	71.0	80.0
D3RSF50CV	27.6	31.2	35.6	36.6	34.4	36.2	36.2	36.2	34.8	38.1	36.2	34.2	37.9	36.6	34.6	32.6
D3RSF60CV	37.5	42.4	48.3	55.0	59.5	57.3	55.0	57.9	58.3	58.1	52.7	54.0	53.8	51.7	46.8	52.8
D3RSF70CV	60.0	67.7	71.8	71.7	74.1	74.6	76.3	76.0	74.9	83.9	74.8	77.3	80.0	79.5	77.9	81.5
D3RSF80CV	69.5	78.5	88.5	92.2	95.2	95.2	91.7	93.4	96.1	106.3	96.1	99.9	99.6	105.8	107.3	87.9
D3RSF90CV	88.3	99.7	113.6	124.2	133.2	133.9	130.3	126.3	130.6	144.6	127.6	123.7	128.3	143.6	113.4	93.3
D3RSF95CV	142.6	150.4	171.3	195.1	202.0	200.0	194.2	188.4	188.6	208.3	187.8	191.5	190.0	195.3	197.4	173.8

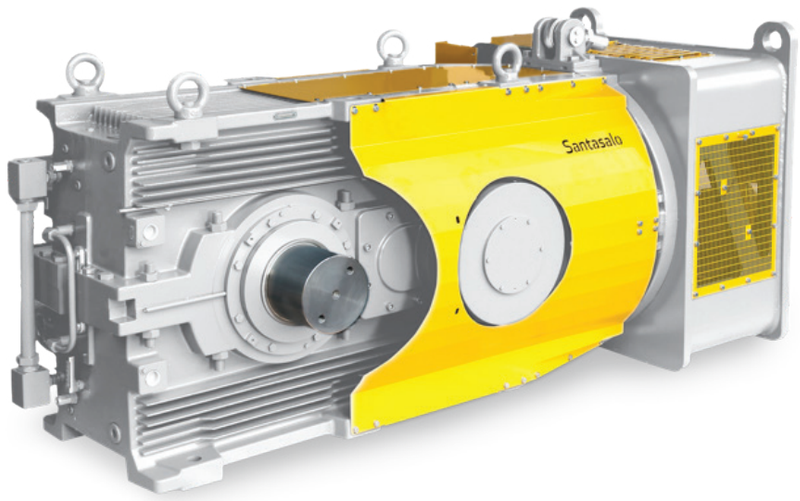
2.4 Exact gear ratios

Nominal gear ratio																
	14	16	18	20	22.5	25	28	31.5	35.5	40	45	50	56	63	71	80
D3RSF50CV	13.730	15.508	17.666	20.118	23.076	25.647	28.707	31.316	35.260	43.776	43.776	50.191	56.667	63.445	71.952	81.177
D3RSF60CV	14.203	16.042	17.800	19.972	22.196	25.114	28.725	32.152	35.398	39.562	43.503	48.670	55.102	61.944	69.885	80.439
D3RSF70CV	14.069	15.800	17.609	20.217	22.612	25.528	28.149	31.047	35.342	39.381	44.586	50.311	55.102	61.944	69.885	80.439
D3RSF80CV	14.279	16.213	18.347	20.480	23.111	25.848	29.691	32.741	36.111	40.806	45.469	50.298	56.945	62.149	69.866	78.824
D3RSF90CV	14.216	16.150	18.063	20.168	23.121	25.554	29.354	33.065	35.957	40.360	45.741	49.653	56.945	63.953	71.752	81.111
D3RSF95CV	14.223	15.881	17.700	20.194	22.724	25.532	29.405	33.039	37.171	41.765	46.343	52.071	56.840	61.309	68.887	78.846

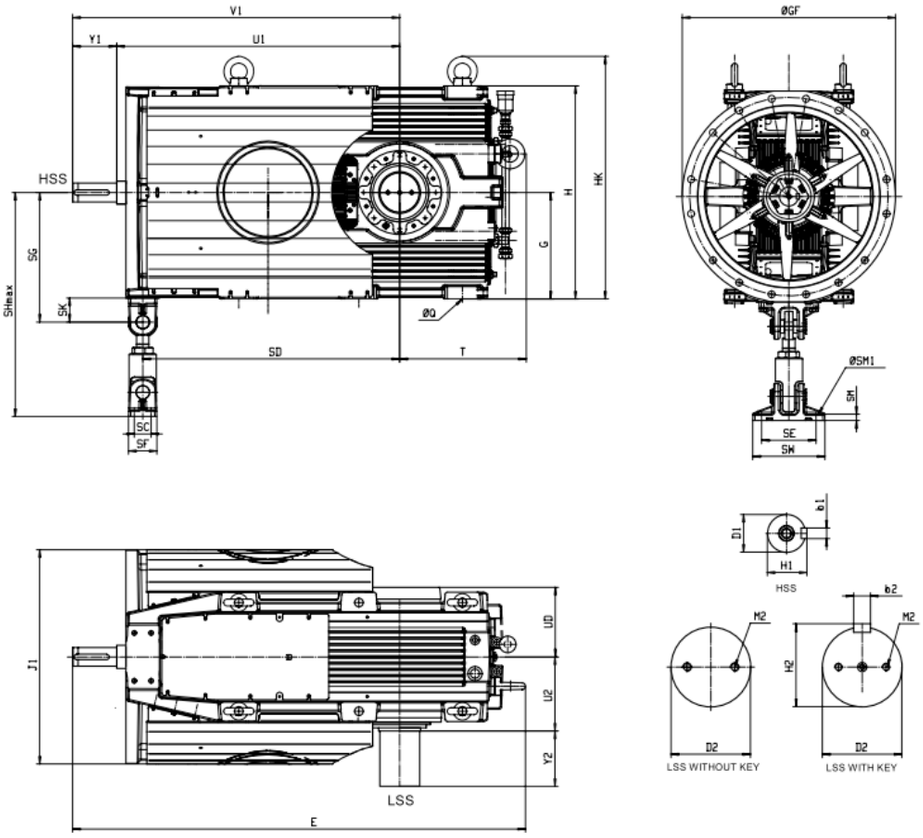
2.5 Thermal ratings

Thermal ratings PTN in kW (n1=1500 1/min) Oil surface temperature in the sump 90 °C / Synthetic oil												
Gear ratio	in = 14...25				in = 28...45				in = 50...80			
Ambient temp.	20 °C	30 °C	40 °C	50 °C	20 °C	30 °C	40 °C	50 °C	20 °C	30 °C	40 °C	50 °C
D3RSF50CV	270	216	162	107	286	232	178	124	298	244	190	136
D3RSF60CV	331	264	198	132	351	284	218	151	366	299	233	166
D3RSF70CV	401	320	240	159	425	344	264	183	442	362	282	201
D3RSF80CV	470	376	281	187	498	404	310	215	519	425	331	236
D3RSF90CV	557	445	334	222	591	479	367	255	616	504	392	280
D3RSF95CV	575	459	344	229	609	494	378	263	635	520	404	289

3. High thermal rating conveyor gear unit series D3RST50XO-D3RST110XO



3.1 Gear Unit Dimensions



Housing dimensions in mm																		
															Motor flange connection			
Size	E	EB	G	H	HK	J1 X)	J2	K	P	L	N	T	JE	ØQ	ØS8	E8	ØGF	ØE6
60	1573	483	460	920	1030	880	520	55	650	280	170	570	450	35	26	840	900	780
70	1805	495	510	1020	1160	1030	620	65	770	300	195	600	520	42	33	950	1020	870
82	2006	556	530	1060	1200	1030	670	65	850	340	230	630	580	42	33	950	1020	870
110	3135	625	645	1290	1445	1520	820	95	1250	470	340	780	690	54	0	0	0	0

LSS dimensions in mm																
	Solid shaft without key					Solid shaft with key							Motor flange connection XO110			
Size	D2	M2	Y2	U2	UD	D2	b2	H2	M2	Y2	U2	UD	Y110	ØE110	h110	W110
60	180h8	M20	230	280	280	180m6	45h9	190	M20	240	280	280	0	0	0	0
70	190h8	M20	265	355	335	190m6	45h9	200	M20	280	355	335	0	0	0	0
82	230h8	M24	175	330	330	230m6	50h9	241	M24	280	330	330	0	0	0	0
110	330h8	M30	380	465	465	330m6	80h9	345.5	M30	380	465	465	0	0	0	0

X) With sheet metal quards

HSS dimensions in mm																			
							Torque arm mounting bracket D3RHTXO, D3RSTXO					Standard torque arm D3RHTXO, D3RSTXO						Weight	Oil Capacity
Size	U1	Y1	V1	D1	b1	H1	Ø0	SD	SG	SK	SW	SM	SC	SF	SE	SHmax	ØSM1	kg	l
60	1215	205	1420	80m6	22h9	85	63	1020	565	115	345	30	80	135	260	1950	26	2160	100
70	1355	210	1565	90m6	25h9	95	63	1230	620	115	345	30	80	135	260	1950	26	3090	140
82	1495	210	1705	100m6	28h9	106	63	1380	625	115	345	30	80	135	260	1950	26	4100	150
110	2160	190	2350	110m6	28h9	116	63	1770	800	152	345	30	80	135	260	1800	26	9900	250

3.2 Nominal mechanical power ratings

Nominal power / kW, when FS=1													
	Nominal Ratio n1/rpm	10	11.2	12.5	14	16	18	20	22.5	25	28	31.5	35.5
D3RST50XO	*1800*	517	517	517	488	490	441	401	340	309	278	224	200
	1500	450	450	450	414	418	367	334	283	258	232	187	167
	1200	363	363	363	339	334	293	267	227	206	186	149	134
	1000	305	305	305	288	278	244	222	189	172	155	125	111
D3RST60XO	*1800*	763	763	763	739	739	696	675	537	515	463	359	322
	1500	636	636	636	636	636	586	562	447	429	386	299	269
	1200	509	509	509	509	509	469	449	357	343	308	239	215
	1000	424	424	424	424	424	390	374	298	286	257	200	179
D3RST70XO	*1800*	1213	1213	1213	1135	1077	987	908	778	712	655	562	481
	1500	1015	1015	1015	964	915	838	767	648	593	546	468	401
	1200	812	812	812	790	746	669	613	518	474	436	374	321
	1000	676	676	676	672	621	557	511	431	395	364	312	267
D3RST82XO	*1800*	1260	1260	1260	1260	1260	1253	1173	1018	970	881	847	716
	1500	1060	1060	1060	1060	1060	1060	995	848	823	748	719	596
	1200	852	852	852	852	852	852	814	678	674	613	589	477
	1000	710	710	710	710	710	710	692	565	565	521	500	398
D3RST110XO	*1800*	4031	4016	4003	4003	3810	3610	3060	2765	2300	2190	1770	1585
	1500	3425	3400	3400	3400	3230	3030	2540	2300	1940	1820	1470	1320
	1200	2793	2783	2774	2774	2625	2430	2030	1837	1570	1450	1175	1055
	1000	2358	2349	2342	2342	2210	2030	1690	1529	1320	1210	980	880

3.3 Nominal output torque

Nominal output torque / kNm, when FS=1 / n1=1500 1/min												
	10.0	11.2	12.5	14.0	16.0	18.0	20.0	22.5	25.0	28.0	31.5	35.5
D3RST50XO	27.4	30.7	34.0	34.8	39.7	39.7	41.2	39.7	41.2	41.1	35.5	35.5
D3RST60XO	37.4	42.0	47.0	54.3	61.3	62.7	67.4	62.6	67.4	67.3	60.2	60.4
D3RST70XO	61.3	68.8	76.5	83.0	89.0	90.8	94.7	90.7	94.6	94.6	90.7	90.6
D3RST82XO	64.2	72.8	81.5	91.5	103.0	118.0	125.0	117.0	127.0	129.0	132.0	128.0
D3RST110XO	209.0	236.0	258.0	277.0	303.0	327.0	310.0	310.0	298.0	309.0	284.0	284.0

3.4 Exact gear ratios

Nominal ratio												
	10.0	11.2	12.5	14.0	16.0	18.0	20.0	22.5	25.0	28.0	31.5	35.5
D3RST50XO	10.004	11.225	12.429	13.834	15.625	17.800	20.269	23.035	26.231	29.153	31.225	34.951
D3RST60XO	9.675	10.856	12.146	14.029	15.845	17.582	19.727	23.035	25.845	28.724	33.062	37.006
D3RST70XO	9.936	11.149	12.395	14.166	16.000	17.826	20.299	23.032	26.228	28.507	31.861	37.195
D3RST82XO	9.956	11.287	12.635	14.192	15.952	18.359	20.612	22.679	25.463	28.364	30.095	35.225
D3RST110XO	10.035	11.394	12.457	13.381	15.411	17.762	20.009	22.143	25.209	27.897	31.690	35.298

3.5 Thermal ratings

Thermal ratings PTN in kW (n1=1500 1/min) Oil surface temperature in the sump 90 °C / Synthetic oil												
Gear ratio	in = 10...16				in = 18...25				in = 28...35			
Ambient temp.	20 °C	25 °C	40 °C	50 °C	20 °C	30 °C	40 °C	50 °C	20 °C	30 °C	40 °C	50 °C
D3RST50XO	392	347	211	120	409	319	228	137	420	330	239	149
D3RST60XO	532	409	286	163	555	432	309	186	570	447	325	202
D3RST70XO	644	495	346	198	672	523	375	226	691	542	393	244
D3RST82XO	747	574	402	229	779	607	434	262	801	628	455	283
D3RST110XO	1680	1292	904	515	1754	1365	977	589	1801	1413	1025	637

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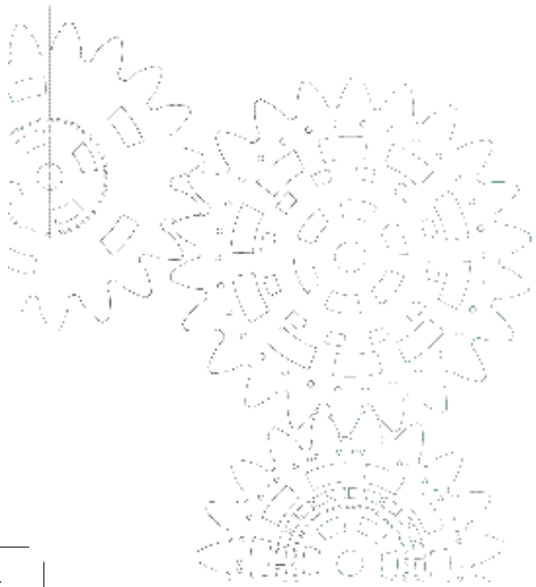

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