

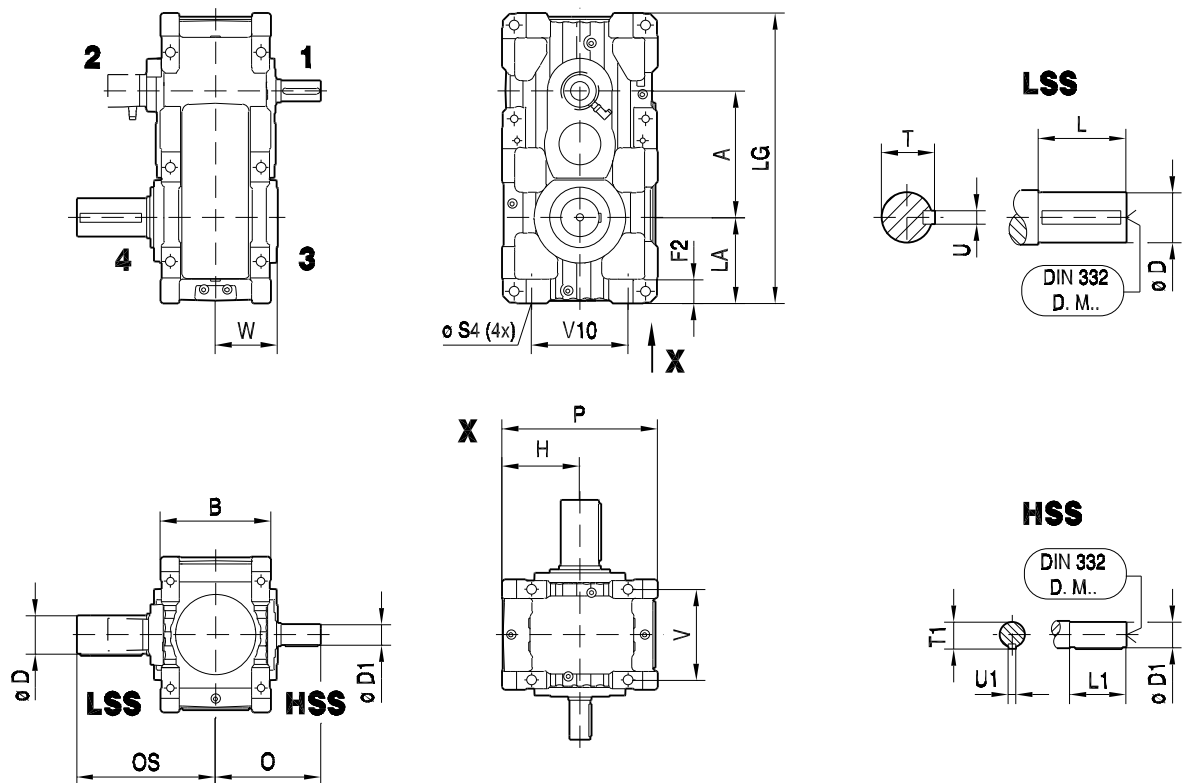
14 Dimension Sheets: Upright Gear Units M4 Mounting Position

14.1 X.F.. helical gear units [mm]

X2F100 - 210

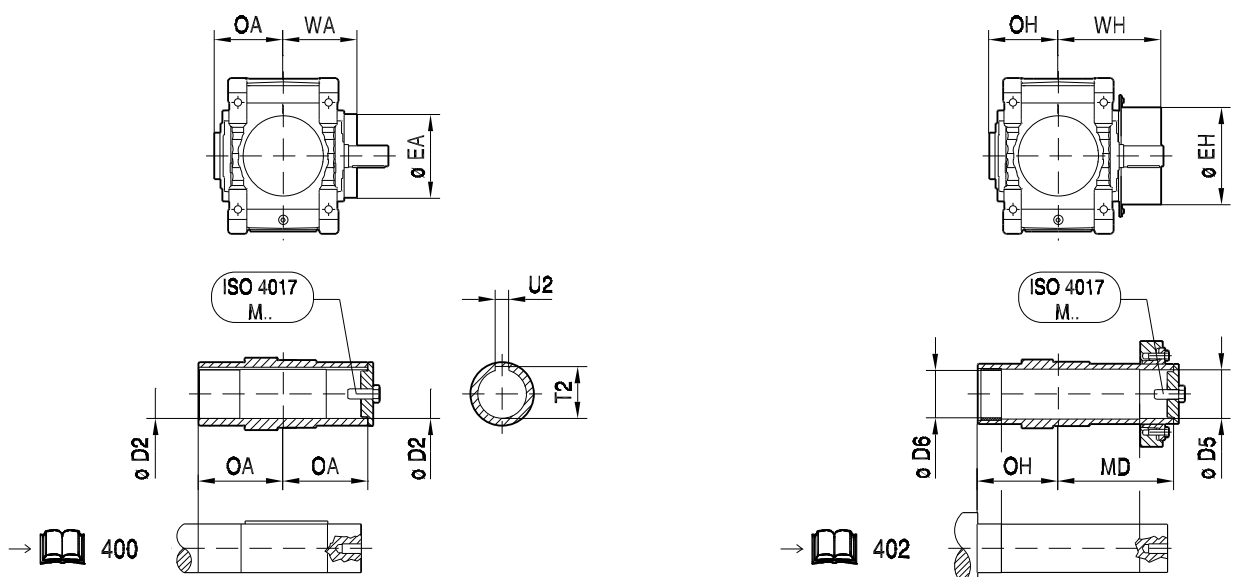
X2FS..

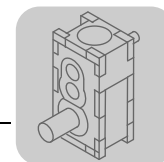
48 033 00 09



X2FA..

X2FH..

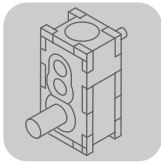




X.F.. 												X.FS.. LSS 						
X2F..	A	B	F2	H	LA	LG	P	Ø S4 (4x)	V	V10	W	Ø D	L	OS	T	U	DIN 332 D. M..	
X2F.100	278	260	62	190 _{0.5}	190 _{0.5}	658	380	24	210	250	153	80 _{m6}	170	343	85	22 _{h9}	M20	220
X2F.110	298	260	62	190 _{0.5}	215 _{0.5}	703	380	24	210	250	153	90 _{m6}	170	346	95	25 _{h9}	M24	235
X2F.120	327	300	68	225 _{0.5}	215 _{0.5}	767	450	28	245	300	174	100 _{m6}	210	401	106	28 _{h9}	M24	320
X2F.130	363	300	68	225 _{0.5}	250 _{0.5}	838	450	28	245	300	174	110 _{m6}	210	404	116	28 _{h9}	M24	340
X2F.140	388	360	86	265 _{0.5}	250 _{0.5}	903	530	35	290	335	202	120 _{m6}	210	432	127	32 _{h9}	M24	530
X2F.150	430	360	86	265 _{0.5}	295 _{0.5}	990	530	35	290	335	202	130 _{m6}	250	475	137	32 _{h9}	M24	570
X2F.160	474	425	105	315 _{0.5}	355 _{0.5}	1144	630	42	340	400	240	140 _{m6}	250	506	148	36 _{h9}	M30	875
X2F.170	525	425	105	315 _{0.5}	355 _{0.5}	1195	630	42	340	400	240	160 _{m6}	300	556	169	40 _{h9}	M30	940
X2F.180	544	475	107	335 _{0.5}	370 _{0.5}	1249	670	42	390	415	277	170 _{m6}	300	592	179	40 _{h9}	M30	1230
X2F.190	576	475	107	335 _{0.5}	370 _{0.5}	1281	670	42	390	415	277	170 _{m6}	300	592	179	40 _{h9}	M30	1290
X2F.200	614	515	128	375 _{0.5}	420 _{0.5}	1409	750	48	420	455	298	180 _{m6}	300	612	190	45 _{h9}	M30	1690
X2F.210	650	515	128	375 _{0.5}	420 _{0.5}	1445	750	48	420	455	298	190 _{m6}	350	662	200	45 _{h9}	M30	1800

HSS	i = 6.3 ... 11.2* / i = 7.1 ... 12.5** / i = 8 ... 14***						i = 12.5 ... 18* / i = 14 ... 20** / i = 16 ... 22.4***					
	Ø D1	L1	O	T1	U1	DIN 332 D. M..	Ø D1	L1	O	T1	U1	DIN 332 D. M..
X2F.100**	42 _{k6}	110	274	45	12 _{h9}	M16	32 _{k6}	80	244	35	10 _{h9}	M12
X2F.110***	42 _{k6}	110	274	45	12 _{h9}	M16	32 _{k6}	80	244	35	10 _{h9}	M12
X2F.120*	55 _{m6}	110	290	59	16 _{h9}	M20	42 _{k6}	110	290	45	12 _{h9}	M16
X2F.130***	55 _{m6}	110	290	59	16 _{h9}	M20	42 _{k6}	110	290	45	12 _{h9}	M16
X2F.140*	70 _{m6}	140	348	74.5	20 _{h9}	M20	55 _{m6}	110	318	59	16 _{h9}	M20
X2F.150***	70 _{m6}	140	348	74.5	20 _{h9}	M20	55 _{m6}	110	318	59	16 _{h9}	M20
X2F.160*	80 _{m6}	170	412	85	22 _{h9}	M20	70 _{m6}	140	382	74.5	20 _{h9}	M20
X2F.170***	80 _{m6}	170	412	85	22 _{h9}	M20	70 _{m6}	140	382	74.5	20 _{h9}	M20
X2F.180*	90 _{m6}	170	445	95	25 _{h9}	M24	75 _{m6}	140	415	79.5	20 _{h9}	M20
X2F.190**	90 _{m6}	170	445	95	25 _{h9}	M24	75 _{m6}	140	415	79.5	20 _{h9}	M20
X2F.200*	100 _{m6}	210	504	106	28 _{h9}	M24	90 _{m6}	170	464	95	25 _{h9}	M24
X2F.210**	100 _{m6}	210	504	106	28 _{h9}	M24	90 _{m6}	170	464	95	25 _{h9}	M24

X.FA.. 								X.FH.. 							
LSS	Ø D2	Ø EA	OA	T2	U2	WA	ISO 4017 M..	LSS	Ø D5	Ø D6	Ø EH	MD	OH	WH	ISO 4017 M..
X2FA100	75 ^{H8}	165	173	80.4	22 ^{JS9}	195	M20x60-8.8	X2FH100	80 ^{H7}	81 ^{H9}	214	261	173	282	M24x70-8.8
X2FA110	85 ^{H8}	175	176	90.4	22 ^{JS9}	197	M24x70-8.8	X2FH110	90 ^{H7}	91 ^{H9}	224	265	176	286	M24x70-8.8
X2FA120	95 ^{H8}	202	190.5	100.4	25 ^{JS9}	212	M24x70-8.8	X2FH120	100 ^{H7}	101 ^{H9}	272	286.5	190.5	308	M24x70-8.8
X2FA130	105 ^{H8}	223	194	111.4	28 ^{JS9}	216	M24x70-8.8	X2FH130	110 ^{H7}	111 ^{H9}	289	297	194	323	M24x70-8.8
X2FA140	115 ^{H8}	223	222	122.4	32 ^{JS9}	244	M24x70-8.8	X2FH140	120 ^{H7}	121 ^{H9}	289	329	222	351	M24x70-8.8
X2FA150	125 ^{H8}	250	224.5	132.4	32 ^{JS9}	246	M24x70-8.8	X2FH150	130 ^{H7}	131 ^{H9}	319	337.5	224.5	359	M24x70-8.8
X2FA160	135 ^{H8}	269	256	143.4	36 ^{JS9}	301	M30x90-8.8	X2FH160	140 ^{H7}	141 ^{H9}	372	375	256	409	M30x90-8.8
X2FA170	150 ^{H8}	269	256	158.4	36 ^{JS9}	301	M30x90-8.8	X2FH170	150 ^{H7}	151 ^{H9}	372	364	256	409	M30x90-8.8
X2FA180	165 ^{H8}	263	292	174.4	40 ^{JS9}	339	M30x90-8.8	X2FH180	165 ^{H7}	166 ^{H9}	379	400	292	448	M30x90-8.8
X2FA190	165 ^{H8}	263	292	174.4	40 ^{JS9}	339	M30x90-8.8	X2FH190	165 ^{H7}	166 ^{H9}	379	400	292	448	M30x90-8.8
X2FA200	180 ^{H8}	313	319.5	190.4	45 ^{JS9}	371	M30x90-8.8	X2FH200	180 ^{H7}	181 ^{H9}	439	450.5	319.5	502	M30x90-8.8
X2FA210	190 ^{H8}	313	319.5	200.4	45 ^{JS9}	371	M30x90-8.8	X2FH210	190 ^{H7}	191 ^{H9}	439	453.5	319.5	502	M30x90-8.8



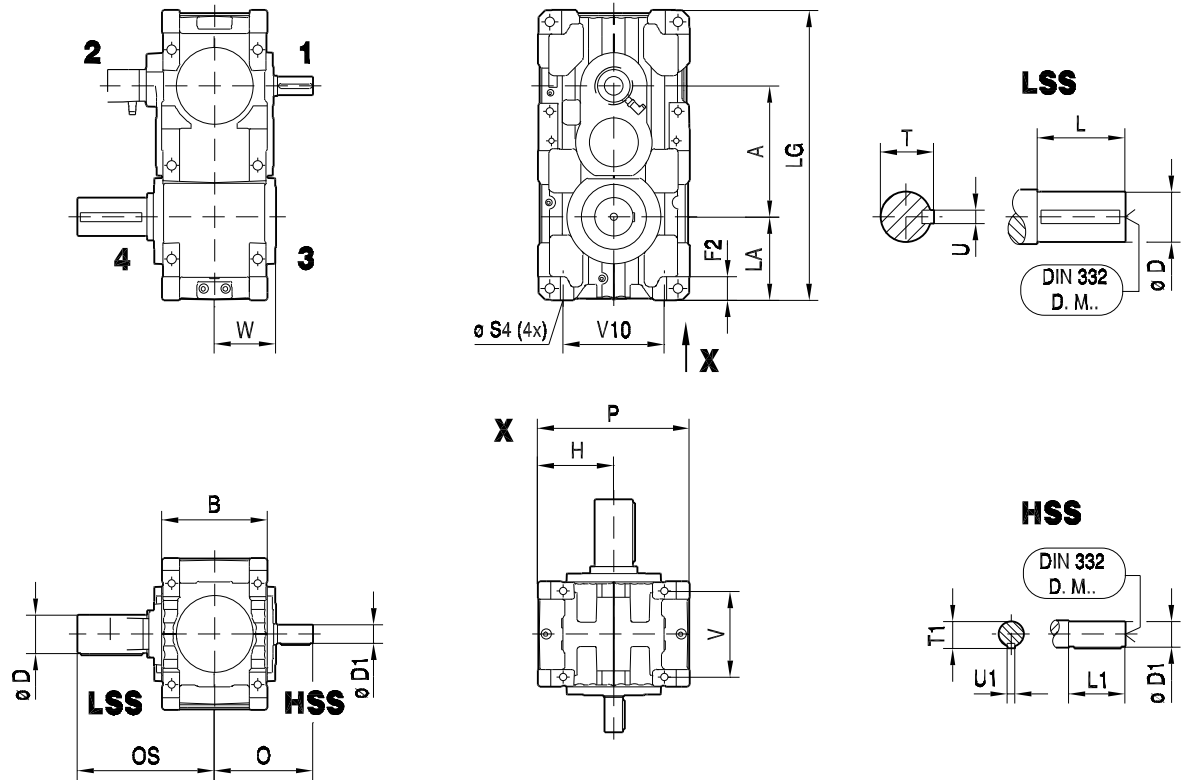
Dimension Sheets: Upright Gear Units M4 Mounting Position

X.F.. helical gear units [mm]

X2F220 - 320

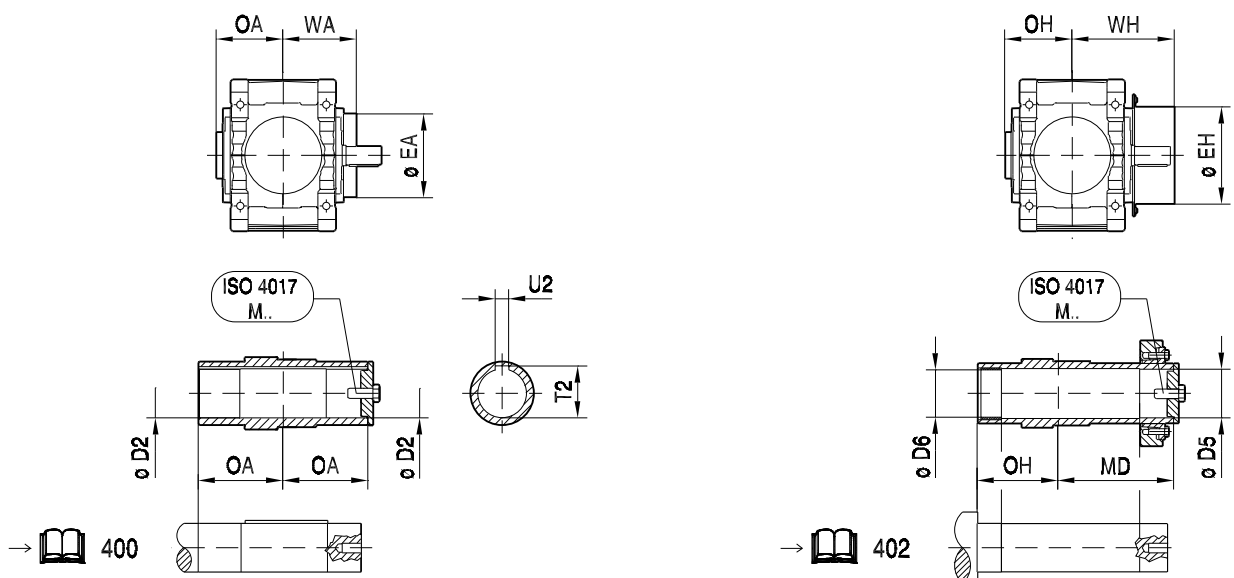
X2FS..

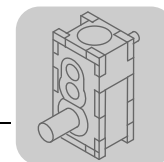
48 034 00 09



X2FA..

X2FH..



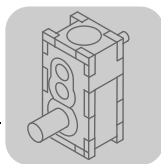


X.F.. 												X.FS.. LSS 							
X2F..	A	B	F2	H	LA	LG	P	Ø S4 (4x)	V	V10	W	Ø D	L	OS	T	U	DIN 332 D. M..	 kg	
X2F.220	694	540	128	425 _{-0.5}	465 _{-0.5}	1584	850	M42	440	610	331	210 _{m6}	350	703	221	50 _{h9}	M30	2430	
X2F.230	734	540	128	425 _{-0.5}	465 _{-0.5}	1624	850	M42	440	610	331	230 _{m6}	410	763	241	50 _{h9}	M36	2550	
X2F.240	776	625	146	450 _{-0.5}	495 _{-0.5}	1721	900	M48	510	600	377	230 _{m6}	410	811	241	50 _{h9}	M36	3320	
X2F.250	799	625	146	450 _{-0.5}	495 _{-0.5}	1744	900	M48	510	600	377	240 _{m6}	410	811	252	56 _{h9}	M36	3510	
X2F.260	855	705	146	500 _{-0.5}	545 _{-0.5}	1900	1000	M48	590	710	417	250 _{m6}	410	847	262	56 _{h9}	M36	4450	
X2F.270	890	705	146	500 _{-0.5}	545 _{-0.5}	1935	1000	M48	590	710	419	270 _{m6}	470	920	282	63 _{h9}	M36	4900	
X2F.280	942	705	146	555 _{-0.5}	610 _{-0.5}	2052	1110	M48	590	710	419	290 _{m6}	470	920	302	63 _{h9}	M36	5350	
X2F.290	987	785	172	580 _{-0.5}	620 _{-0.5}	2187	1160	M48	655	765	465	290 _{m6}	470	962	302	63 _{h9}	M36	6550	
X2F.300	1016	785	172	580 _{-0.5}	620 _{-0.5}	2216	1160	M48	655	765	465	300 _{m6}	470	962	314	70 _{h9}	M36	7250	
X2F.310	1100	850	172	630 _{-0.5}	680 _{-0.5}	2410	1260	M48	720	860	499	320 _{m6}	470	999	334	70 _{h9}	M42	7500	
X2F.320	1134	850	172	630 _{-0.5}	680 _{-0.5}	2444	1260	M48	720	860	499	340 _{m6}	550	1079	355	80 _{h9}	M42	8300	

HSS 	i = 6.3 ... 11.2* / i = 7.1 ... 12.5** / i = 8 ... 14***						i = 12.5 ... 18* / i = 14 ... 20** / i = 16 ... 22.4***					
	Ø D1	L1	O	T1	U1	DIN 332 D. M..	Ø D1	L1	O	T1	U1	DIN 332 D. M..
X2F.220*	110 _{m6}	210	538	116	28 _{h9}	M24	100 _{m6}	210	538	106	28 _{h9}	M24
X2F.230**	110 _{m6}	210	538	116	28 _{h9}	M24	100 _{m6}	210	538	106	28 _{h9}	M24
X2F.240*	120 _{m6}	210	583	127	32 _{h9}	M24	110 _{m6}	210	583	116	28 _{h9}	M24
X2F.250**	120 _{m6}	210	583	127	32 _{h9}	M24	110 _{m6}	210	583	116	28 _{h9}	M24
X2F.260*	130 _{m6}	250	673	137	32 _{h9}	M24	120 _{m6}	210	633	127	32 _{h9}	M24
X2F.270**	130 _{m6}	250	673	137	32 _{h9}	M24	120 _{m6}	210	633	127	32 _{h9}	M24
X2F.280***	130 _{m6}	250	673	137	32 _{h9}	M24	120 _{m6}	210	633	127	32 _{h9}	M24
X2F.290*	150 _{m6}	250	713	158	36 _{h9}	M30	150 _{m6}	250	713	158	36 _{h9}	M30
X2F.300**	150 _{m6}	250	713	158	36 _{h9}	M30	150 _{m6}	250	713	158	36 _{h9}	M30
X2F.310*	170 _{m6}	300	795	179	40 _{h9}	M30	170 _{m6}	300	795	179	40 _{h9}	M30
X2F.320**	170 _{m6}	300	795	179	40 _{h9}	M30	170 _{m6}	300	795	179	40 _{h9}	M30

X.FA.. 							
LSS	Ø D2	Ø EA	OA	T2	U2	WA	ISO 4017 M..
X2FA220	210 ^{H8}	334	352.5	221.4	50 ^{JS9}	397	M30x90-8.8
X2FA230	210 ^{H8}	334	352.5	221.4	50 ^{JS9}	397	M30x90-8.8
X2FA240	230 ^{H8}	404	400.5	241.4	50 ^{JS9}	457	M36x110-8.8
X2FA250	240 ^{H8}	404	400.5	252.4	56 ^{JS9}	457	M36x110-8.8
X2FA260	240 ^{H8}	404	437	252.4	56 ^{JS9}	497	M36x110-8.8
X2FA270	275 ^{H8}	633	450	287.4	63 ^{JS9}	521	M36x110-8.8
X2FA280	275 ^{H8}	633	450	287.4	63 ^{JS9}	521	M36x110-8.8
X2FA290	290 ^{H8}	633	492	302.4	63 ^{JS9}	563	M36x110-8.8
X2FA300	290 ^{H8}	633	492	302.4	63 ^{JS9}	563	M36x110-8.8
X2FA310	320 ^{H8}	713	528.5	334.4	70 ^{JS9}	613	M42x130-8.8
X2FA320	320 ^{H8}	713	528.5	334.4	70 ^{JS9}	613	M42x130-8.8

X.FH.. 							
LSS	Ø D5	Ø D6	Ø EH	MD	OH	WH	ISO 4017 M..
X2FH220	210 ^{H7}	211 ^{H9}	482	497.5	352.5	549	M30x90-8.8
X2FH230	210 ^{H7}	211 ^{H9}	482	497.5	352.5	549	M30x90-8.8
X2FH240	230 ^{H7}	231 ^{H9}	542	571.5	400.5	628	M36x110-8.8
X2FH250	240 ^{H7}	241 ^{H9}	542	571.5	400.5	628	M36x110-8.8
X2FH260	250 ^{H7}	255 ^{H9}	542	608	437	668	M36x110-8.8
X2FH270	280 ^{H7}	285 ^{H9}	633	630	450	706	M36x110-8.8
X2FH280	280 ^{H7}	285 ^{H9}	633	630	450	706	M36x110-8.8
X2FH290	300 ^{H7}	305 ^{H9}	633	679	492	748	M36x110-8.8
X2FH300	300 ^{H7}	305 ^{H9}	633	679	492	748	M36x110-8.8
X2FH310	320 ^{H7}	325 ^{H9}	713	740.5	528.5	821	M42x130-8.8
X2FH320	320 ^{H7}	325 ^{H9}	713	740.5	528.5	821	M42x130-8.8

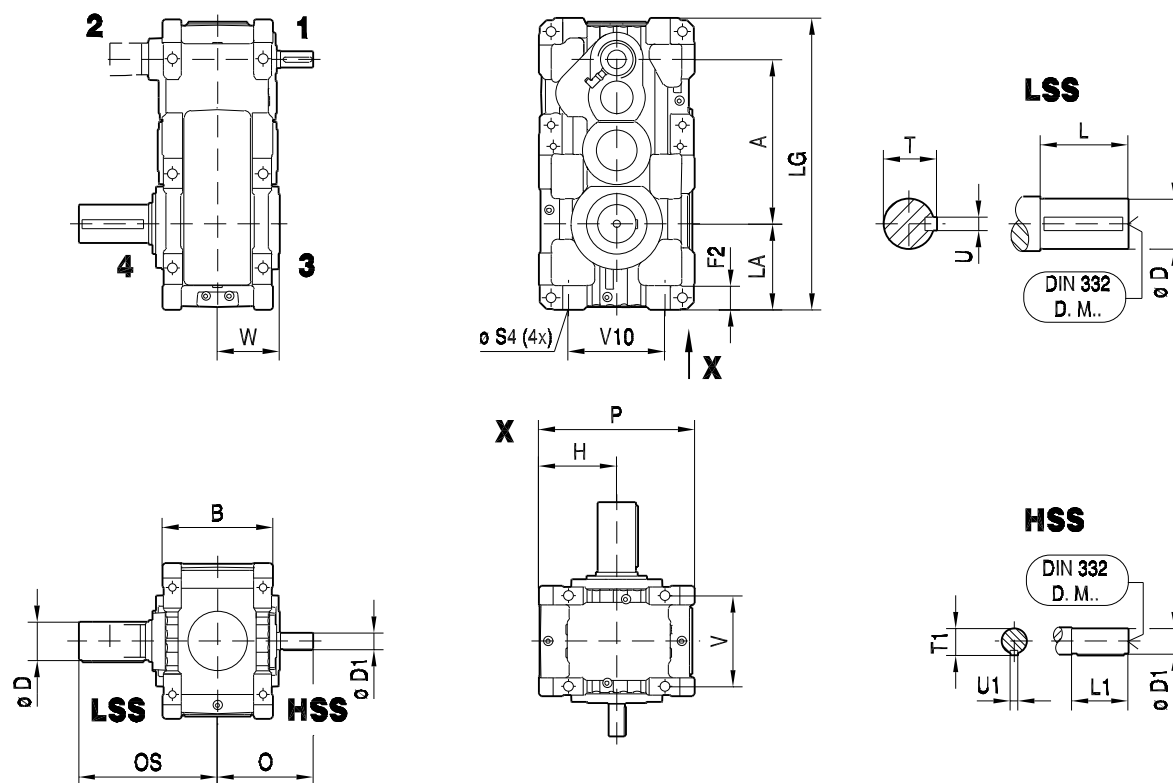
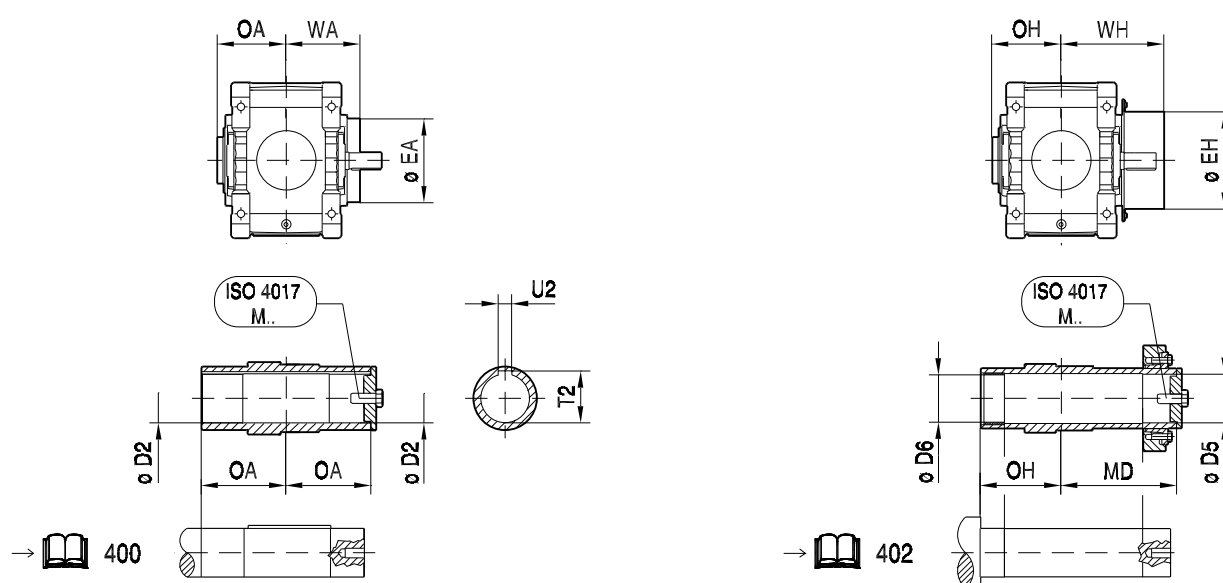


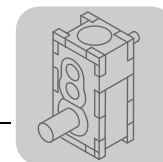
Dimension Sheets: Upright Gear Units M4 Mounting Position X.F.. helical gear units [mm]

X3F100 - 210

X3FS..

48 035 00 09

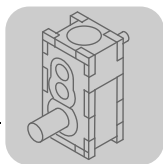
**X3FA..****X3FH..**



X.F.. 												X.FS.. LSS 						
X3F..	A	B	F2	H	LA	LG	P	Ø S4 (4x)	V	V10	W	Ø D	L	OS	T	U	DIN 332 D. M..	kg
X3F.100	360	260	62	190 _{-0.5}	190 _{-0.5}	663	380	24	210	250	153	80 _{m6}	170	343	85	22 _{h9}	M20	220
X3F.110	380	260	62	190 _{-0.5}	215 _{-0.5}	708	380	24	210	250	153	90 _{m6}	170	346	95	25 _{h9}	M24	225
X3F.120	427	300	68	225 _{-0.5}	215 _{-0.5}	767	450	28	245	300	174	100 _{m6}	210	401	106	28 _{h9}	M24	390
X3F.130	463	300	68	225 _{-0.5}	250 _{-0.5}	838	450	28	245	300	174	110 _{m6}	210	404	116	28 _{h9}	M24	420
X3F.140	502	360	86	265 _{-0.5}	250 _{-0.5}	903	530	35	290	335	202	120 _{m6}	210	432	127	32 _{h9}	M24	565
X3F.150	544	360	86	265 _{-0.5}	295 _{-0.5}	990	530	35	290	335	202	130 _{m6}	250	475	137	32 _{h9}	M24	610
X3F.160	611	425	105	315 _{-0.5}	355 _{-0.5}	1144	630	42	340	400	240	140 _{m6}	250	506	148	36 _{h9}	M30	920
X3F.170	662	425	105	315 _{-0.5}	355 _{-0.5}	1195	630	42	340	400	240	160 _{m6}	300	556	169	40 _{h9}	M30	995
X3F.180	707	475	107	335 _{-0.5}	370 _{-0.5}	1249	670	42	390	415	277	170 _{m6}	300	592	179	40 _{h9}	M30	1340
X3F.190	739	475	107	335 _{-0.5}	370 _{-0.5}	1281	670	42	390	415	277	170 _{m6}	300	592	179	40 _{h9}	M30	1400
X3F.200	794	515	128	375 _{-0.5}	420 _{-0.5}	1409	750	48	420	455	298	180 _{m6}	300	612	190	45 _{h9}	M30	1690
X3F.210	830	515	128	375 _{-0.5}	420 _{-0.5}	1445	750	48	420	455	298	190 _{m6}	350	662	200	45 _{h9}	M30	1800

HSS 	i = 20 ... 56* / i = 22.4 ... 63** / i = 25 ... 71***						i = 63 ... 90* / i = 71 ... 100** / i = 80 ... 112***					
	Ø D1	L1	O	T1	U1	DIN 332 D. M..	Ø D1	L1	O	T1	U1	DIN 332 D. M..
X3F.100**	32 _{k6}	80	244	35	10 _{h9}	M12	32 _{k6}	80	244	35	10 _{h9}	M12
X3F.110***	32 _{k6}	80	244	35	10 _{h9}	M12	32 _{k6}	80	244	35	10 _{h9}	M12
X3F.120*	38 _{k6}	80	258	41	10 _{h9}	M12	38 _{k6}	80	258	41	10 _{h9}	M12
X3F.130***	38 _{k6}	80	258	41	10 _{h9}	M12	38 _{k6}	80	258	41	10 _{h9}	M12
X3F.140*	45 _{k6}	110	318	48.5	14 _{h9}	M16	45 _{k6}	110	318	48.5	14 _{h9}	M16
X3F.150***	45 _{k6}	110	318	48.5	14 _{h9}	M16	45 _{k6}	110	318	48.5	14 _{h9}	M16
X3F.160*	60 _{m6}	140	381	64	18 _{h9}	M20	50 _{k6}	110	351	53.5	14 _{h9}	M16
X3F.170***	60 _{m6}	140	381	64	18 _{h9}	M20	50 _{k6}	110	351	53.5	14 _{h9}	M16
X3F.180*	70 _{m6}	140	411	74.5	20 _{h9}	M20	55 _{m6}	110	381	59	16 _{h9}	M20
X3F.190**	70 _{m6}	140	411	74.5	20 _{h9}	M20	55 _{m6}	110	381	59	16 _{h9}	M20
X3F.200*	75 _{m6}	140	430	79.5	20 _{h9}	M20	60 _{m6}	140	430	64	18 _{h9}	M20
X3F.210**	75 _{m6}	140	430	79.5	20 _{h9}	M20	60 _{m6}	140	430	64	18 _{h9}	M20

X.FA.. 									X.FH.. 								
LSS	Ø D2	Ø EA	OA	T2	U2	WA	ISO 4017 M..	kg	LSS	Ø D5	Ø D6	Ø EH	MD	OH	WH	ISO 4017 M..	kg
X3FA100	75 ^{H8}	165	173	80.4	22 ^{JS9}	195	M20x60-8.8	210	X3FH100	80 ^{H7}	81 ^{H9}	214	261	173	282	M24x70-8.8	220
X3FA110	85 ^{H8}	175	176	90.4	22 ^{JS9}	197	M24x70-8.8	215	X3FH110	90 ^{H7}	91 ^{H9}	224	265	176	286	M24x70-8.8	225
X3FA120	95 ^{H8}	202	190.5	100.4	25 ^{JS9}	212	M24x70-8.8	370	X3FH120	100 ^{H7}	101 ^{H9}	272	286.5	190.5	308	M24x70-8.8	380
X3FA130	105 ^{H8}	223	194	111.4	28 ^{JS9}	216	M24x70-8.8	395	X3FH130	110 ^{H7}	111 ^{H9}	289	297	194	323	M24x70-8.8	405
X3FA140	115 ^{H8}	223	222	122.4	32 ^{JS9}	244	M24x70-8.8	530	X3FH140	120 ^{H7}	121 ^{H9}	289	329	222	351	M24x70-8.8	540
X3FA150	125 ^{H8}	250	224.5	132.4	32 ^{JS9}	246	M24x70-8.8	560	X3FH150	130 ^{H7}	131 ^{H9}	319	337.5	224.5	359	M24x70-8.8	575
X3FA160	135 ^{H8}	269	256	143.4	36 ^{JS9}	301	M30x90-8.8	850	X3FH160	140 ^{H7}	141 ^{H9}	372	375	256	409	M30x90-8.8	880
X3FA170	150 ^{H8}	269	256	158.4	36 ^{JS9}	301	M30x90-8.8	985	X3FH170	150 ^{H7}	151 ^{H9}	372	364	256	409	M30x90-8.8	1040
X3FA180	165 ^{H8}	263	292	174.4	40 ^{JS9}	339	M30x90-8.8	1230	X3FH180	165 ^{H7}	166 ^{H9}	379	400	292	448	M30x90-8.8	1240
X3FA190	165 ^{H8}	263	292	174.4	40 ^{JS9}	339	M30x90-8.8	1290	X3FH190	165 ^{H7}	166 ^{H9}	379	400	292	448	M30x90-8.8	1300
X3FA200	180 ^{H8}	313	319.5	190.4	45 ^{JS9}	371	M30x90-8.8	1590	X3FH200	180 ^{H7}	181 ^{H9}	439	450.5	319.5	502	M30x90-8.8	1620
X3FA210	190 ^{H8}	313	319.5	200.4	45 ^{JS9}	371	M30x90-8.8	1670	X3FH210	190 ^{H7}	191 ^{H9}	439	453.5	319.5	502	M30x90-8.8	1710

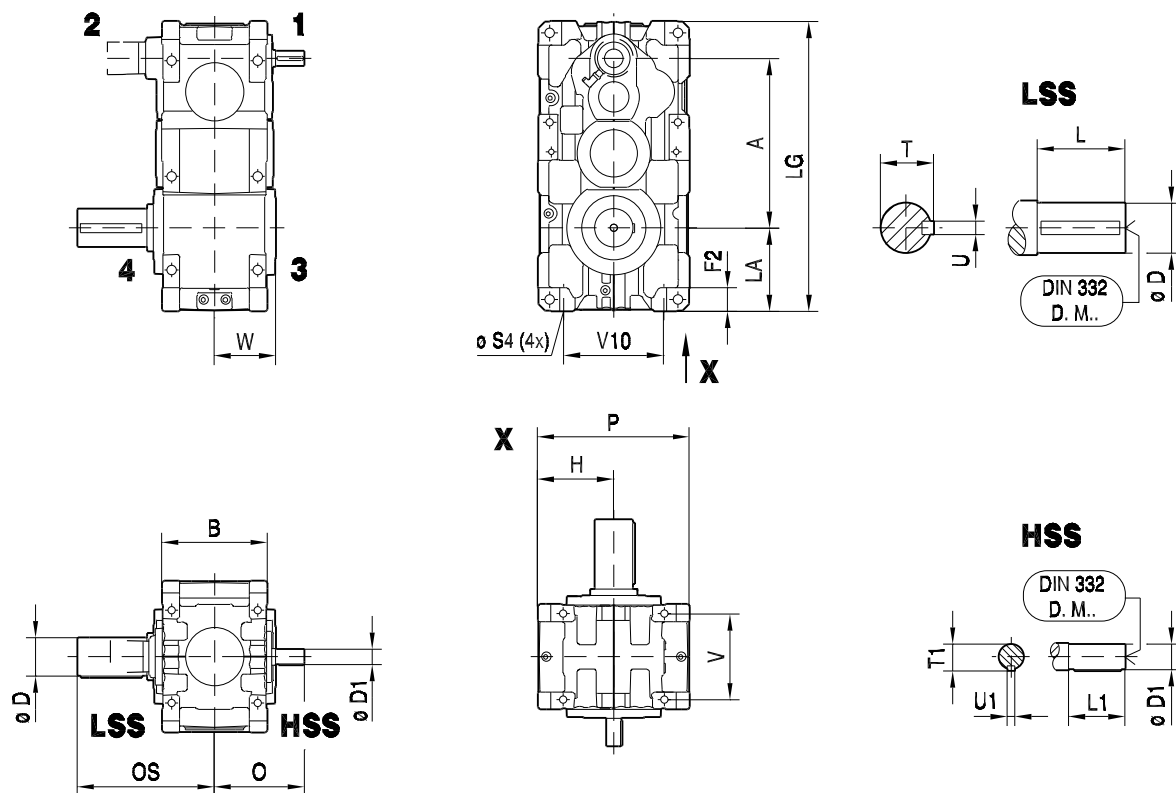


Dimension Sheets: Upright Gear Units M4 Mounting Position X.F.. helical gear units [mm]

X3F220 - 320

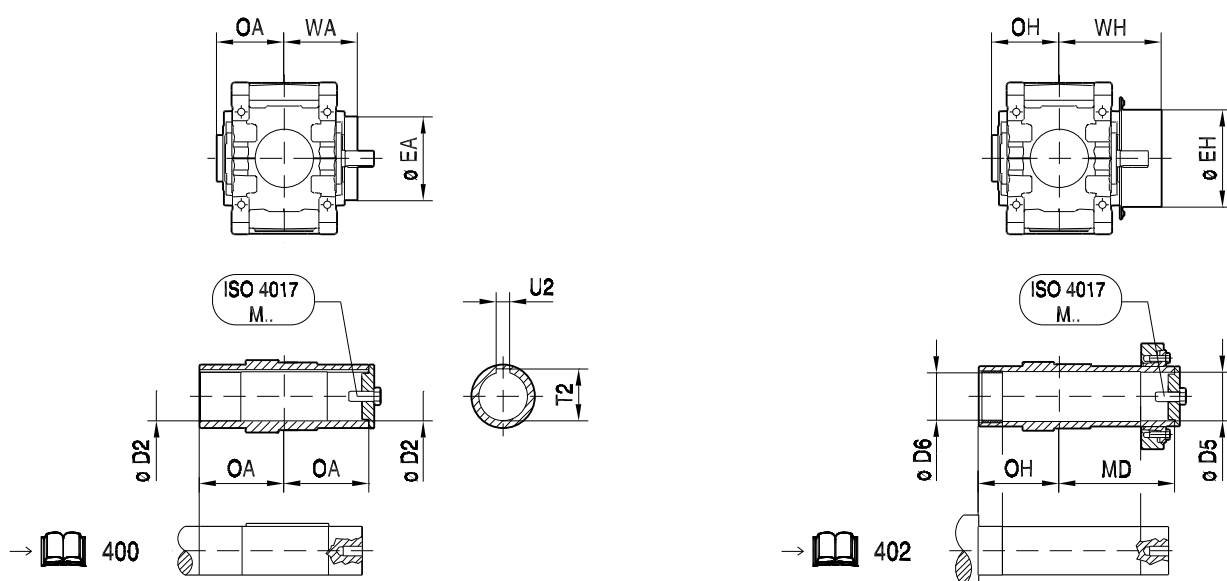
X3FS..

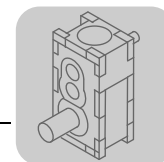
48 036 00 09



X3FA..

X3FH..



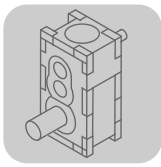


X.F.. 											X.FS.. LSS 							
X3F...	A	B	F2	H	LA	LG	P	Ø S4 (4x)	V	V10	W	Ø D	L	OS	T	U	DIN 332 D. M.. 	
X3F.220	894	540	128	425 _{-0.5}	465 _{-0.5}	1584	850	M42	440	610	331	210 _{m6}	350	703	221	50 _{h9}	M30	2460
X3F.230	934	540	128	425 _{-0.5}	465 _{-0.5}	1624	850	M42	440	610	331	230 _{m6}	410	763	241	50 _{h9}	M36	2620
X3F.240	1004	625	146	450 _{-0.5}	495 _{-0.5}	1721	900	M48	510	600	377	230 _{m6}	410	811	241	50 _{h9}	M36	3300
X3F.250	1027	625	146	450 _{-0.5}	495 _{-0.5}	1744	900	M48	510	600	377	240 _{m6}	410	811	252	56 _{h9}	M36	3500
X3F.260	1113	705	146	500 _{-0.5}	545 _{-0.5}	1900	1000	M48	590	710	417	250 _{m6}	410	847	262	56 _{h9}	M36	4500
X3F.270	1148	705	146	500 _{-0.5}	545 _{-0.5}	1935	1000	M48	590	710	419	270 _{m6}	470	920	282	63 _{h9}	M36	5000
X3F.280	1200	705	146	555 _{-0.5}	610 _{-0.5}	2052	1110	M48	590	710	419	290 _{m6}	470	920	302	63 _{h9}	M36	5485
X3F.290	1279	785	172	580 _{-0.5}	620 _{-0.5}	2187	1160	M48	655	765	465	290 _{m6}	470	962	302	63 _{h9}	M36	6900
X3F.300	1308	785	172	580 _{-0.5}	620 _{-0.5}	2216	1160	M48	655	765	465	300 _{m6}	470	962	314	70 _{h9}	M36	7600
X3F.310	1435	850	172	630 _{-0.5}	680 _{-0.5}	2410	1260	M48	720	860	499	320 _{m6}	470	999	334	70 _{h9}	M42	8450
X3F.320	1469	850	172	630 _{-0.5}	680 _{-0.5}	2444	1260	M48	720	860	499	340 _{m6}	550	1079	355	80 _{h9}	M42	9350

HSS 	i = 20 ... 50* / i = 22.4 ... 56** / i = 25 ... 63***						i = 56 ... 90* / i = 63 ... 100** / i = 71 ... 112***					
	Ø D1	L1	O	T1	U1	DIN 332 D. M.. 	Ø D1	L1	O	T1	U1	DIN 332 D. M.. 
X3F.220*	80 _{m6}	170	487	85	22 _{h9}	M20	70 _{m6}	140	457	74.5	20 _{h9}	M20
X3F.230**	80 _{m6}	170	487	85	22 _{h9}	M20	70 _{m6}	140	457	74.5	20 _{h9}	M20
X3F.240*	90 _{m6}	170	532	95	25 _{h9}	M24	75 _{m6}	140	502	79.5	20 _{h9}	M20
X3F.250**	90 _{m6}	170	532	95	25 _{h9}	M24	75 _{m6}	140	502	79.5	20 _{h9}	M20
X3F.260*	100 _{m6}	210	613	106	28 _{h9}	M24	80 _{m6}	170	573	85	22 _{h9}	M20
X3F.270**	100 _{m6}	210	613	106	28 _{h9}	M24	80 _{m6}	170	573	85	22 _{h9}	M20
X3F.280***	100 _{m6}	210	613	106	28 _{h9}	M24	80 _{m6}	170	573	85	22 _{h9}	M20
X3F.290*	100 _{m6}	210	661	106	28 _{h9}	M24	100 _{m6}	210	661	106	28 _{h9}	M24
X3F.300**	100 _{m6}	210	661	106	28 _{h9}	M24	100 _{m6}	210	661	106	28 _{h9}	M24
X3F.310*	110 _{m6}	210	694	116	28 _{h9}	M24	110 _{m6}	210	694	116	28 _{h9}	M24
X3F.320**	110 _{m6}	210	694	116	28 _{h9}	M24	110 _{m6}	210	694	116	28 _{h9}	M24

X.FA..								
LSS	Ø D2	Ø EA	OA	T2	U2	WA	ISO 4017 M..	
								
X3FA220	210 ^{H8}	334	352.5	221.4	50 ^{JS9}	397	M30x90-8.8	2230
X3FA230	210 ^{H8}	334	352.5	221.4	50 ^{JS9}	397	M30x90-8.8	2390
X3FA240	230 ^{H8}	404	400.5	241.4	50 ^{JS9}	457	M36x110-8.8	3010
X3FA250	240 ^{H8}	404	400.5	252.4	56 ^{JS9}	457	M36x110-8.8	3190
X3FA260	240 ^{H8}	404	437	252.4	56 ^{JS9}	497	M36x110-8.8	4050
X3FA270	275 ^{H8}	633	450	287.4	63 ^{JS9}	521	M36x110-8.8	4450
X3FA280	275 ^{H8}	633	450	287.4	63 ^{JS9}	521	M36x110-8.8	4950
X3FA290	290 ^{H8}	633	492	302.4	63 ^{JS9}	563	M36x110-8.8	6250
X3FA300	290 ^{H8}	633	492	302.4	63 ^{JS9}	563	M36x110-8.8	6850
X3FA310	320 ^{H8}	713	528.5	334.4	70 ^{JS9}	613	M42x130-8.8	7650
X3FA320	320 ^{H8}	713	528.5	334.4	70 ^{JS9}	613	M42x130-8.8	8450

X.FH..								
LSS	Ø D5	Ø D6	Ø EH	MD	OH	WH	ISO 4017 M..	
								
X3FH220	210 ^{H7}	211 ^{H9}	482	497.5	352.5	549	M30x90-8.8	2320
X3FH230	210 ^{H7}	211 ^{H9}	482	497.5	352.5	549	M30x90-8.8	2480
X3FH240	230 ^{H7}	231 ^{H9}	542	571.5	400.5	628	M36x110-8.8	3090
X3FH250	240 ^{H7}	241 ^{H9}	542	571.5	400.5	628	M36x110-8.8	3260
X3FH260	250 ^{H7}	255 ^{H9}	542	608	437	668	M36x110-8.8	4200
X3FH270	280 ^{H7}	285 ^{H9}	633	630	450	706	M36x110-8.8	4750
X3FH280	280 ^{H7}	285 ^{H9}	633	630	450	706	M36x110-8.8	5300
X3FH290	300 ^{H7}	305 ^{H9}	633	679	492	748	M36x110-8.8	6500
X3FH300	300 ^{H7}	305 ^{H9}	633	679	492	748	M36x110-8.8	7100
X3FH310	320 ^{H7}	325 ^{H9}	713	740.5	528.5	821	M42x130-8.8	8000
X3FH320	320 ^{H7}	325 ^{H9}	713	740.5	528.5	821	M42x130-8.8	8300



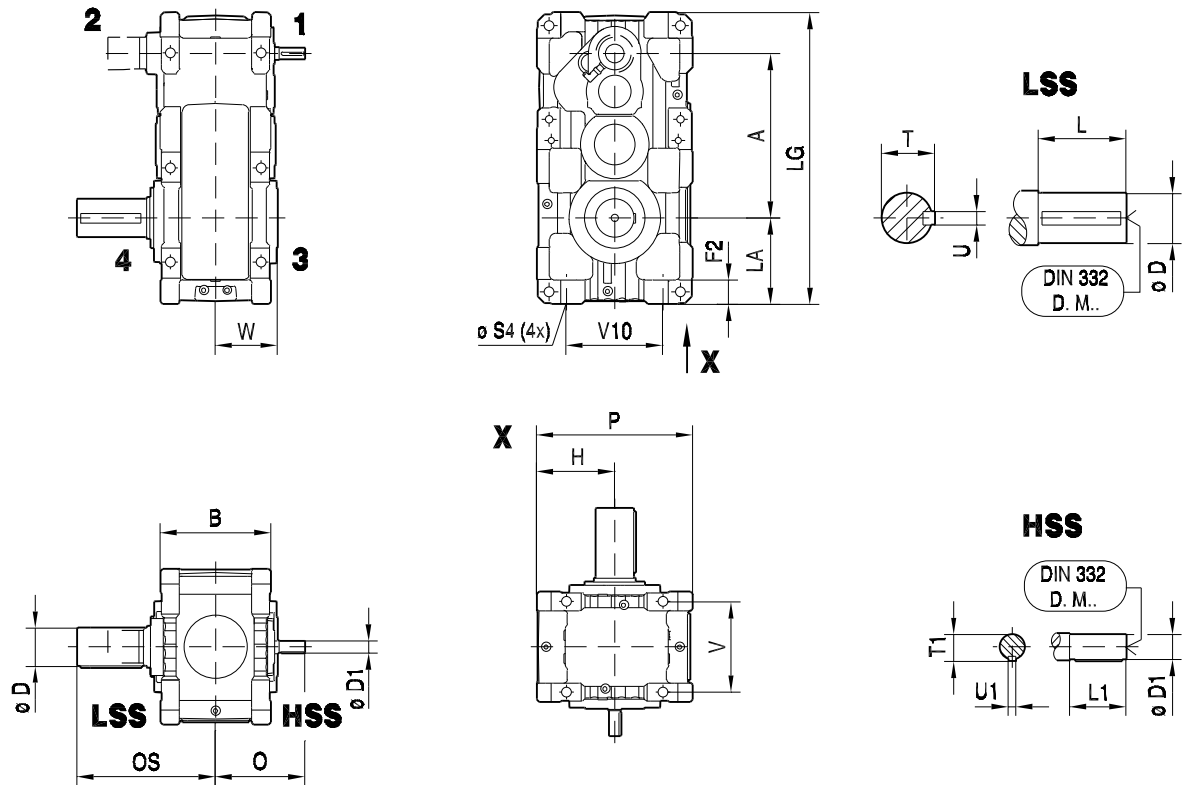
Dimension Sheets: Upright Gear Units M4 Mounting Position

X.F.. helical gear units [mm]

X4F120 - 210

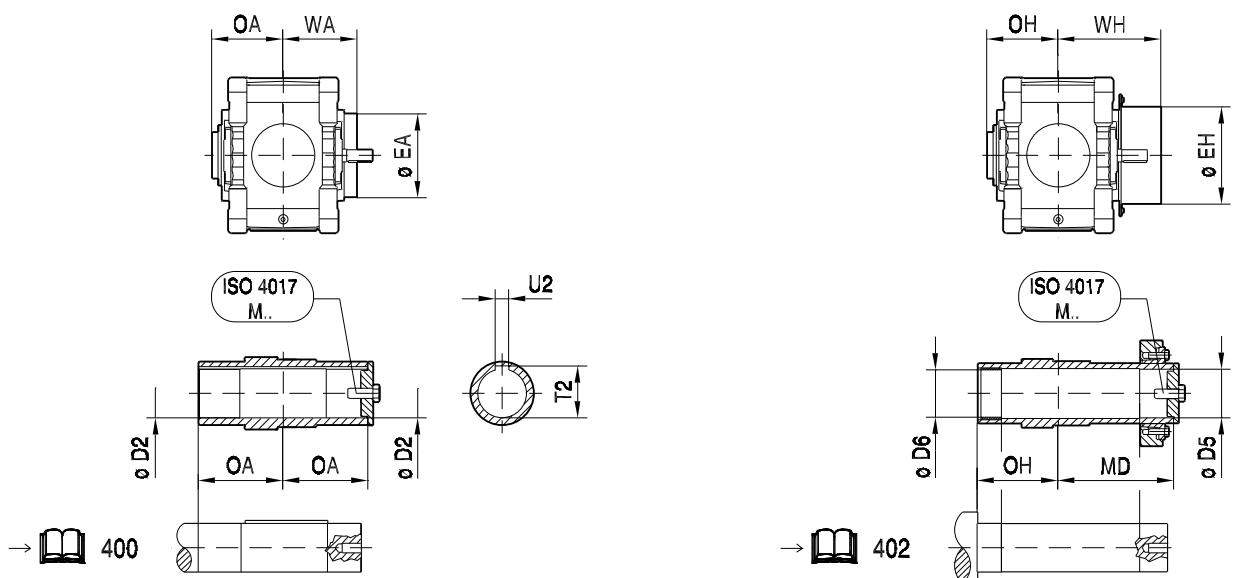
X4FS..

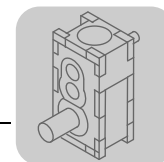
48 037 00 09



X4FA..

X4FH..



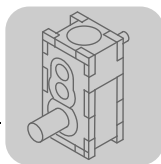


X.F.. 												X.FS.. LSS 						
X4F..	A	B	F2	H	LA	LG	P	Ø S4 (4x)	V	V10	W	Ø D	L	OS	T	U	DIN 332 D. M..	
X4F.120	427	300	68	225 _{-0,5}	215 _{-0,5}	772	450	28	245	300	174	100 _{m6}	210	401	106	28 _{h9}	M24	370
X4F.130	463	300	68	225 _{-0,5}	250 _{-0,5}	843	450	28	245	300	174	110 _{m6}	210	404	116	28 _{h9}	M24	390
X4F.140	502	360	86	265 _{-0,5}	250 _{-0,5}	908	530	35	290	335	202	120 _{m6}	210	432	127	32 _{h9}	M24	565
X4F.150	544	360	86	265 _{-0,5}	295 _{-0,5}	995	530	35	290	335	202	130 _{m6}	250	475	137	32 _{h9}	M24	605
X4F.160	611	425	105	315 _{-0,5}	355 _{-0,5}	1149	630	42	340	400	240	140 _{m6}	250	506	148	36 _{h9}	M30	925
X4F.170	662	425	105	315 _{-0,5}	355 _{-0,5}	1200	630	42	340	400	240	160 _{m6}	300	556	169	40 _{h9}	M30	995
X4F.180	707	475	107	335 _{-0,5}	370 _{-0,5}	1254	670	42	390	415	277	170 _{m6}	300	592	179	40 _{h9}	M30	1360
X4F.190	739	475	107	335 _{-0,5}	370 _{-0,5}	1287	670	42	390	415	277	170 _{m6}	300	592	179	40 _{h9}	M30	1420
X4F.200	794	515	128	375 _{-0,5}	420 _{-0,5}	1415	750	48	420	455	298	180 _{m6}	300	612	190	45 _{h9}	M30	1790
X4F.210	830	515	128	375 _{-0,5}	420 _{-0,5}	1451	750	48	420	455	298	190 _{m6}	350	662	200	45 _{h9}	M30	1900

HSS	i = 100 ... 180* / i = 112 ... 200** / i = 125 ... 224***						i = 200 ... 355* / i = 224 ... 400** / i = 250 ... 450***					
	Ø D1	L1	O	T1	U1	DIN 332 D. M..	Ø D1	L1	O	T1	U1	DIN 332 D. M..
X4F.120*	28 _{k6}	60	238	31	8 _{h9}	M10	28 _{k6}	60	238	31	8 _{h9}	M10
X4F.130***	28 _{k6}	60	238	31	8 _{h9}	M10	28 _{k6}	60	238	31	8 _{h9}	M10
X4F.140*	32 _{k6}	80	288	35	10 _{h9}	M12	32 _{k6}	80	288	35	10 _{h9}	M12
X4F.150***	32 _{k6}	80	288	35	10 _{h9}	M12	32 _{k6}	80	288	35	10 _{h9}	M12
X4F.160*	38 _{k6}	80	320	41	10 _{h9}	M12	38 _{k6}	80	320	41	10 _{h9}	M12
X4F.170***	38 _{k6}	80	320	41	10 _{h9}	M12	38 _{k6}	80	320	41	10 _{h9}	M12
X4F.180*	50 _{k6}	110	381	53.5	14 _{h9}	M16	38 _{k6}	80	351	41	10 _{h9}	M12
X4F.190**	50 _{k6}	110	381	53.5	14 _{h9}	M16	38 _{k6}	80	351	41	10 _{h9}	M12
X4F.200*	55 _{m6}	110	400	59	16 _{h9}	M20	42 _{k6}	110	400	45	12 _{h9}	M16
X4F.210**	55 _{m6}	110	400	59	16 _{h9}	M20	42 _{k6}	110	400	45	12 _{h9}	M16

X.FA..								
LSS	Ø D2	Ø EA	OA	T2	U2	WA	ISO 4017 M..	
								
X4FA120	95 ^{H8}	202	190.5	100.4	25 ^{JS9}	212	M24x70-8.8	335
X4FA130	105 ^{H8}	223	194	111.4	28 ^{JS9}	216	M24x70-8.8	355
X4FA140	115 ^{H8}	223	222	122.4	32 ^{JS9}	244	M24x70-8.8	510
X4FA150	125 ^{H8}	250	224.5	132.4	32 ^{JS9}	246	M24x70-8.8	545
X4FA160	135 ^{H8}	269	256	143.4	36 ^{JS9}	301	M30x90-8.8	835
X4FA170	150 ^{H8}	269	256	158.4	36 ^{JS9}	301	M30x90-8.8	900
X4FA180	165 ^{H8}	263	292	174.4	40 ^{JS9}	339	M30x90-8.8	1250
X4FA190	165 ^{H8}	263	292	174.4	40 ^{JS9}	339	M30x90-8.8	1310
X4FA200	180 ^{H8}	313	319.5	190.4	45 ^{JS9}	371	M30x90-8.8	1690
X4FA210	190 ^{H8}	313	319.5	200.4	45 ^{JS9}	371	M30x90-8.8	1770

X.FH..									
LSS	Ø D5	Ø D6	Ø EH	MD	OH	WH	ISO 4017 M..		
									
X4FH120	100 ^{H7}	101 ^{H9}	272	286.5	190.5	308	M24x70-8.8	345	
X4FH130	110 ^{H7}	111 ^{H9}	289	297	194	323	M24x70-8.8	370	
X4FH140	120 ^{H7}	121 ^{H9}	289	329	222	351	M24x70-8.8	535	
X4FH150	130 ^{H7}	131 ^{H9}	319	337.5	224.5	359	M24x70-8.8	575	
X4FH160	140 ^{H7}	141 ^{H9}	372	375	256	409	M30x90-8.8	865	
X4FH170	150 ^{H7}	151 ^{H9}	372	364	256	409	M30x90-8.8	955	
X4FH180	165 ^{H7}	166 ^{H9}	379	400	292	448	M30x90-8.8	1260	
X4FH190	165 ^{H7}	166 ^{H9}	379	400	292	448	M30x90-8.8	1320	
X4FH200	180 ^{H7}	181 ^{H9}	439	450.5	319.5	502	M30x90-8.8	1720	
X4FH210	190 ^{H7}	191 ^{H9}	439	453.5	319.5	502	M30x90-8.8	1800	

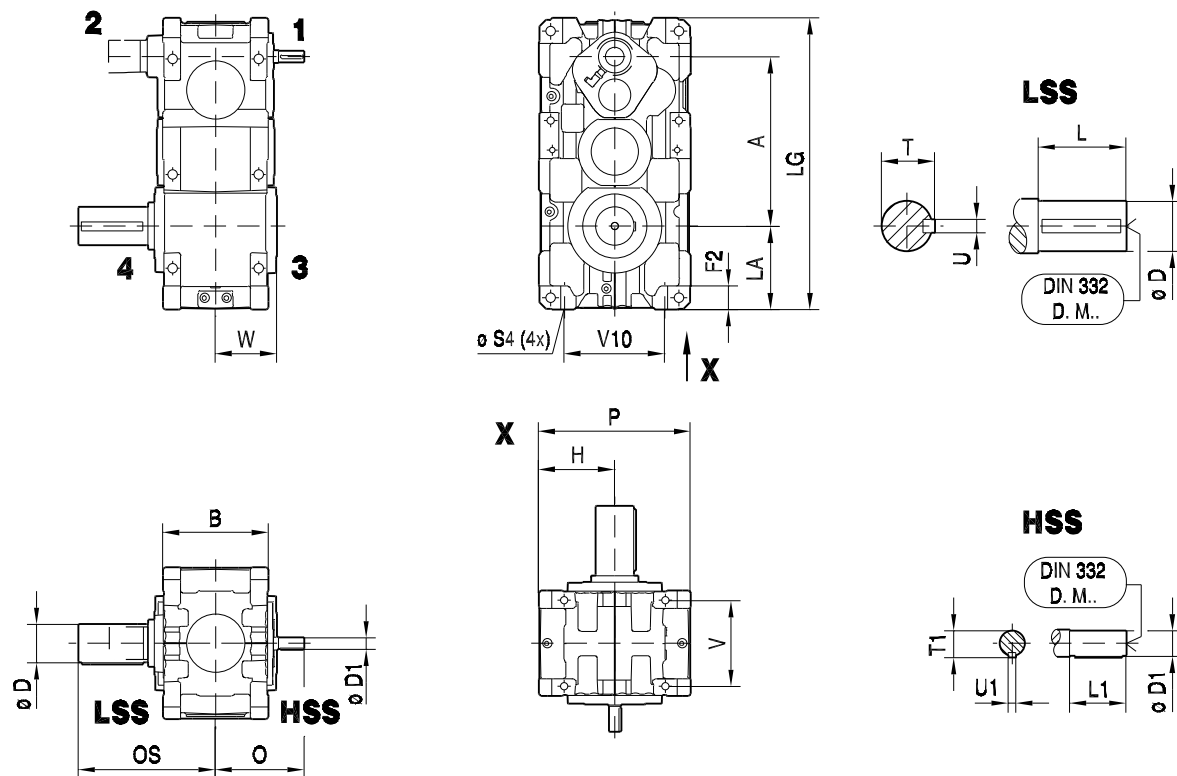


Dimension Sheets: Upright Gear Units M4 Mounting Position X.F.. helical gear units [mm]

X4F220 - 320

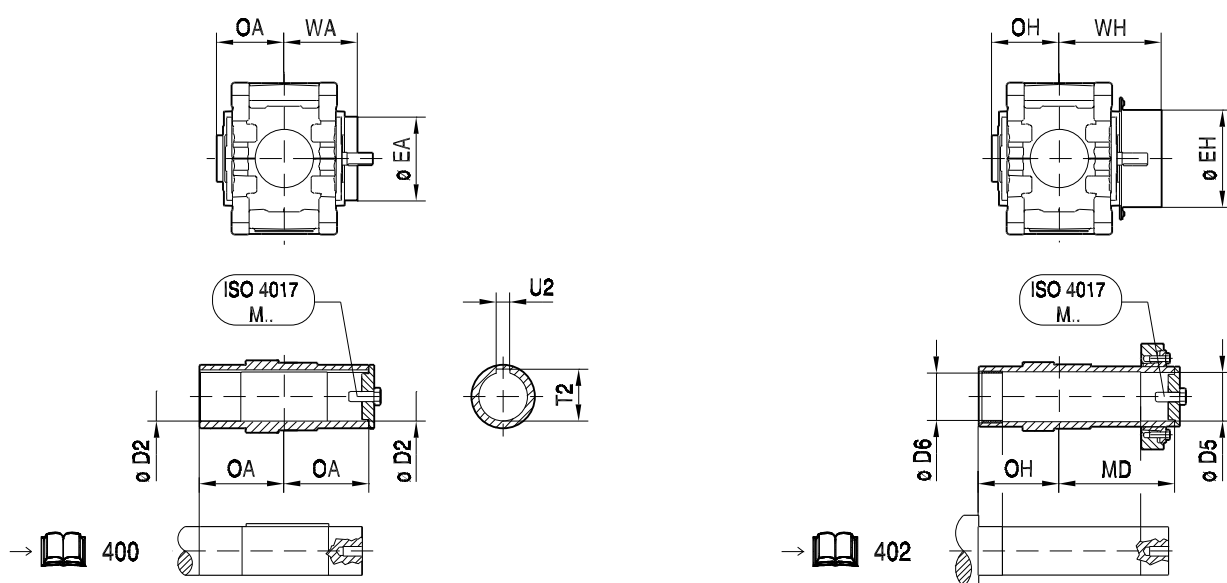
X4FS..

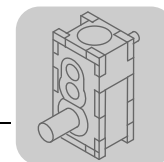
48 038 00 09



X4FA..

X4FH..

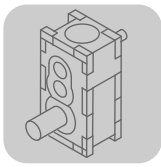




X.F.. 												X.FS.. LSS 						
X4F..	A	B	F2	H	LA	LG	P	Ø S4 (4x)	V	V10	W	Ø D	L	OS	T	U	DIN 332 D. M..	
X4F.220	894	540	128	425 _{-0.5}	465 _{-0.5}	1591	850	M42	440	610	331	210 _{m6}	350	703	221	50 _{h9}	M30	2490
X4F.230	934	540	128	425 _{-0.5}	465 _{-0.5}	1631	850	M42	440	610	331	230 _{m6}	410	763	241	50 _{h9}	M36	2920
X4F.240	1004	625	146	450 _{-0.5}	495 _{-0.5}	1729	900	M48	510	600	377	230 _{m6}	410	811	241	50 _{h9}	M36	3370
X4F.250	1027	625	146	450 _{-0.5}	495 _{-0.5}	1752	900	M48	510	600	377	240 _{m6}	410	811	252	56 _{h9}	M36	3560
X4F.260	1113	705	146	500 _{-0.5}	545 _{-0.5}	1909	1000	M48	590	710	417	250 _{m6}	410	847	262	56 _{h9}	M36	4600
X4F.270	1148	705	146	500 _{-0.5}	545 _{-0.5}	1941	1000	M48	590	710	419	270 _{m6}	470	920	282	63 _{h9}	M36	5100
X4F.280	1200	705	146	555 _{-0.5}	610 _{-0.5}	2058	1110	M48	590	710	419	290 _{m6}	470	920	302	63 _{h9}	M36	5650
X4F.290	1279	785	172	580 _{-0.5}	620 _{-0.5}	2196	1160	M48	655	765	465	290 _{m6}	470	962	302	63 _{h9}	M36	7050
X4F.300	1308	785	172	580 _{-0.5}	620 _{-0.5}	2225	1160	M48	655	765	465	300 _{m6}	470	962	314	70 _{h9}	M36	7800
X4F.310	1435	850	172	630 _{-0.5}	680 _{-0.5}	2419	1260	M48	720	860	499	320 _{m6}	470	999	334	70 _{h9}	M42	8650
X4F.320	1469	850	172	630 _{-0.5}	680 _{-0.5}	2453	1260	M48	720	860	499	340 _{m6}	550	1079	355	80 _{h9}	M42	9600

HSS	i = 100 ... 180* / i = 112 ... 200** / i = 125 ... 224***						i = 200 ... 355* / i = 224 ... 400** / i = 250 ... 450***					
	Ø D1	L1	O	T1	U1	DIN 332 D. M..	Ø D1	L1	O	T1	U1	DIN 332 D. M..
X4F.220*	60 _{m6}	140	457	64	18 _{h9}	M20	50 _{k6}	110	427	53.5	14 _{h9}	M16
X4F.230**	60 _{m6}	140	457	64	18 _{h9}	M20	50 _{k6}	110	427	53.5	14 _{h9}	M16
X4F.240*	70 _{m6}	140	502	74.5	20 _{h9}	M20	55 _{m6}	110	472	59	16 _{h9}	M20
X4F.250**	70 _{m6}	140	502	74.5	20 _{h9}	M20	55 _{m6}	110	472	59	16 _{h9}	M20
X4F.260*	75 _{m6}	140	543	79.5	20 _{h9}	M20	60 _{m6}	140	543	64	18 _{h9}	M20
X4F.270**	75 _{m6}	140	543	79.5	20 _{h9}	M20	60 _{m6}	140	543	64	18 _{h9}	M20
X4F.280***	75 _{m6}	140	543	79.5	20 _{h9}	M20	60 _{m6}	140	543	64	18 _{h9}	M20
X4F.290*	80 _{m6}	170	614	85	22 _{h9}	M20	80 _{m6}	170	614	85	22 _{h9}	M20
X4F.300**	80 _{m6}	170	614	85	22 _{h9}	M20	80 _{m6}	170	614	85	22 _{h9}	M20
X4F.310*	90 _{m6}	170	645	95	25 _{h9}	M24	90 _{m6}	170	645	95	25 _{h9}	M24
X4F.320**	90 _{m6}	170	645	95	25 _{h9}	M24	90 _{m6}	170	645	95	25 _{h9}	M24

X.FA..									X.FH..								
LSS	Ø D2	Ø EA	OA	T2	U2	WA	ISO 4017 M..		LSS	Ø D5	Ø D6	Ø EH	MD	OH	WH	ISO 4017 M..	
X4FA220	210 ^{H8}	334	352.5	221.4	50 ^{JS9}	397	M30x90-8.8	2270	X4FH220	210 ^{H7}	211 ^{H9}	482	497.5	352.5	549	M30x90-8.8	2350
X4FA230	210 ^{H8}	334	352.5	221.4	50 ^{JS9}	397	M30x90-8.8	2690	X4FH230	210 ^{H7}	211 ^{H9}	482	497.5	352.5	549	M30x90-8.8	2780
X4FA240	230 ^{H8}	404	400.5	241.4	50 ^{JS9}	457	M36x110-8.8	3070	X4FH240	230 ^{H7}	231 ^{H9}	542	571.5	400.5	628	M36x110-8.8	3150
X4FA250	240 ^{H8}	404	400.5	252.4	56 ^{JS9}	457	M36x110-8.8	3250	X4FH250	240 ^{H7}	241 ^{H9}	542	571.5	400.5	628	M36x110-8.8	3320
X4FA260	240 ^{H8}	404	437	252.4	56 ^{JS9}	497	M36x110-8.8	4150	X4FH260	250 ^{H7}	255 ^{H9}	542	608	437	668	M36x110-8.8	4300
X4FA270	275 ^{H8}	633	450	287.4	63 ^{JS9}	521	M36x110-8.8	4600	X4FH270	280 ^{H7}	285 ^{H9}	633	630	450	706	M36x110-8.8	4850
X4FA280	275 ^{H8}	633	450	287.4	63 ^{JS9}	521	M36x110-8.8	5100	X4FH280	280 ^{H7}	285 ^{H9}	633	630	450	706	M36x110-8.8	5350
X4FA290	290 ^{H8}	633	492	302.4	63 ^{JS9}	563	M36x110-8.8	6350	X4FH290	300 ^{H7}	305 ^{H9}	633	679	492	748	M36x110-8.8	6600
X4FA300	290 ^{H8}	633	492	302.4	63 ^{JS9}	563	M36x110-8.8	7050	X4FH300	300 ^{H7}	305 ^{H9}	633	679	492	748	M36x110-8.8	7300
X4FA310	320 ^{H8}	713	528.5	334.4	70 ^{JS9}	613	M42x130-8.8	7800	X4FH310	320 ^{H7}	325 ^{H9}	713	740.5	528.5	821	M42x130-8.8	8150
X4FA320	320 ^{H8}	713	528.5	334.4	70 ^{JS9}	613	M42x130-8.8	8450	X4FH320	320 ^{H7}	325 ^{H9}	713	740.5	528.5	821	M42x130-8.8	8800

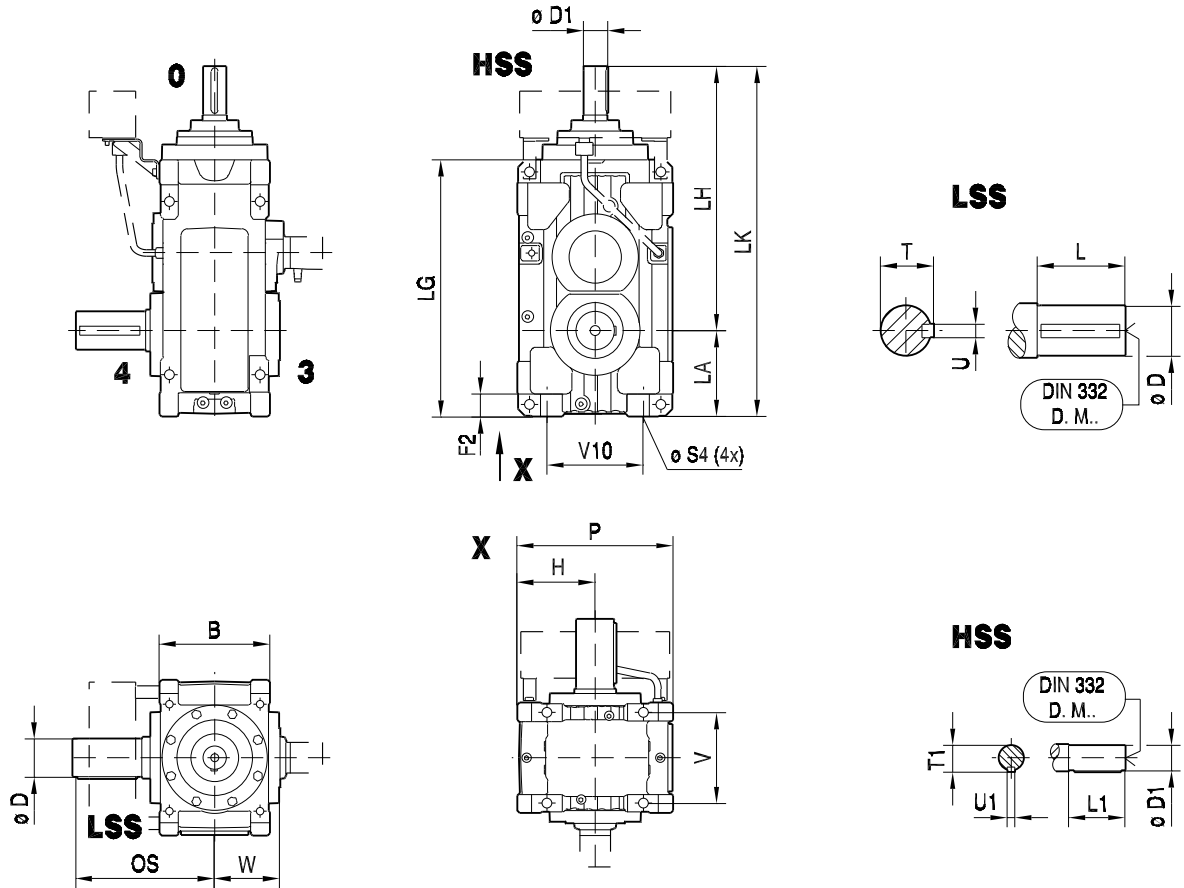


14.2 X.K.. bevel-helical gear units [mm]

X2K100 - 210

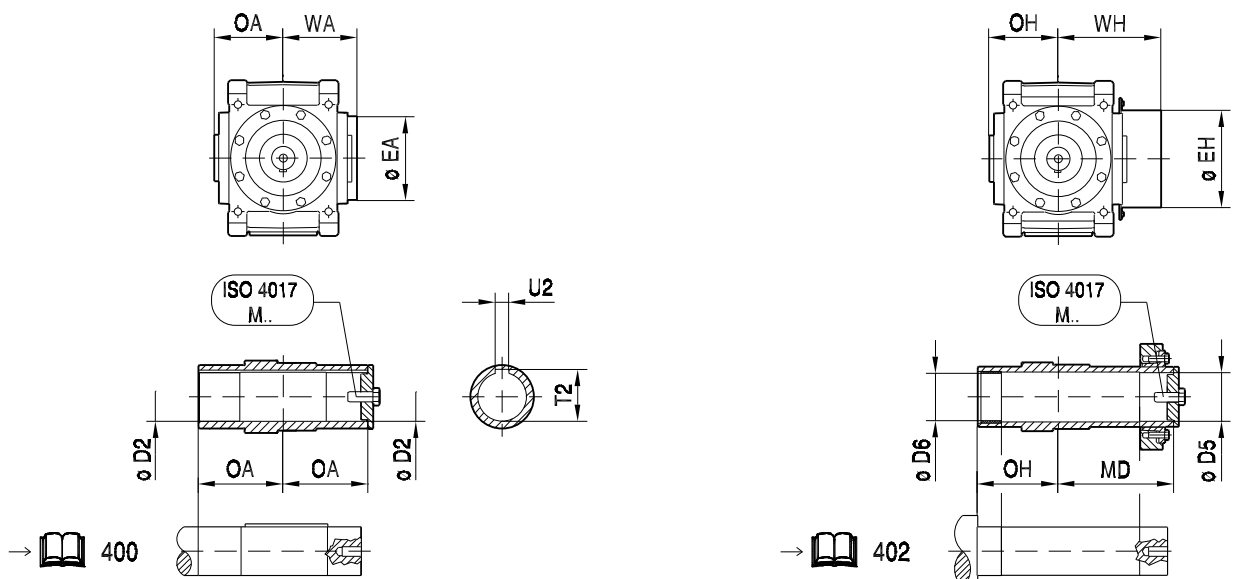
X2KS..

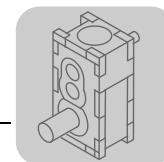
48 039 00 09



X2KA..

X2KH..





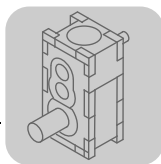
X.K..													
													
X2K..	B	F2	H	LA	LG	LH	LK	P	Ø S4 (4x)	V	V10	W	
X2K.100	260	62	190 _{0.5}	190 _{0.5}	601	655	845	380	24	210	250	153	335
X2K.110	260	62	190 _{0.5}	215 _{0.5}	646	675	890	380	24	210	250	153	350
X2K.120	300	68	225 _{0.5}	215 _{0.5}	697	752	967	450	28	245	300	174	430
X2K.130	300	68	225 _{0.5}	250 _{0.5}	768	788	1038	450	28	245	300	174	465
X2K.140	360	86	265 _{0.5}	250 _{0.5}	784	816	1066	530	35	290	335	202	520
X2K.150	360	86	265 _{0.5}	295 _{0.5}	871	858	1153	530	35	290	335	202	550
X2K.160	425	105	315 _{0.5}	355 _{0.5}	1023	1010	1365	630	42	340	400	240	825
X2K.170	425	105	315 _{0.5}	355 _{0.5}	1074	1061	1416	630	42	340	400	240	885
X2K.180	475	107	335 _{0.5}	370 _{0.5}	1105	1137	1507	670	42	390	415	277	1280
X2K.190	475	107	335 _{0.5}	370 _{0.5}	1137	1169	1539	670	42	390	415	277	1400
X2K.200	515	128	375 _{0.5}	420 _{0.5}	1241	1268	1688	750	48	420	455	298	1720
X2K.210	515	128	375 _{0.5}	420 _{0.5}	1277	1304	1724	750	48	420	455	298	1840

LSS	Ø D	L	OS	T	U	DIN 332 D. M..
						
X2KS100	80 _{m6}	170	343	85	22 _{h9}	M20
X2KS110	90 _{m6}	170	346	95	25 _{h9}	M24
X2KS120	100 _{m6}	210	401	106	28 _{h9}	M24
X2KS130	110 _{m6}	210	404	116	28 _{h9}	M24
X2KS140	120 _{m6}	210	432	127	32 _{h9}	M24
X2KS150	130 _{m6}	250	475	137	32 _{h9}	M24
X2KS160	140 _{m6}	250	506	148	36 _{h9}	M30
X2KS170	160 _{m6}	300	556	169	40 _{h9}	M30
X2KS180	170 _{m6}	300	592	179	40 _{h9}	M30
X2KS190	170 _{m6}	300	592	179	40 _{h9}	M30
X2KS200	180 _{m6}	300	612	190	45 _{h9}	M30
X2KS210	190 _{m6}	350	662	200	45 _{h9}	M30

HSS	Ø D1	L1	T1	U1	DIN 332 D. M..
					
X2K.100	50 _{k6}	110	53.5	14 _{h9}	M16
X2K.110	50 _{k6}	110	53.5	14 _{h9}	M16
X2K.120	60 _{m6}	140	64	18 _{h9}	M20
X2K.130	60 _{m6}	140	64	18 _{h9}	M20
X2K.140	70 _{m6}	140	74.5	20 _{h9}	M20
X2K.150	70 _{m6}	140	74.5	20 _{h9}	M20
X2K.160	85 _{m6}	170	90	22 _{h9}	M20
X2K.170	85 _{m6}	170	90	22 _{h9}	M20
X2K.180	100 _{m6}	210	106	28 _{h9}	M24
X2K.190	100 _{m6}	210	106	28 _{h9}	M24
X2K.200	110 _{m6}	210	116	28 _{h9}	M24
X2K.210	110 _{m6}	210	116	28 _{h9}	M24

X.KA..							
LSS	Ø D2	Ø EA	OA	T2	U2	WA	ISO 4017 M..
							
X2KA100	75 ^{H8}	165	173	80.4	22 ^{JS9}	195	M20x60-8.8
X2KA110	85 ^{H8}	175	176	90.4	22 ^{JS9}	197	M24x70-8.8
X2KA120	95 ^{H8}	202	190.5	100.4	25 ^{JS9}	212	M24x70-8.8
X2KA130	105 ^{H8}	223	194	111.4	28 ^{JS9}	216	M24x70-8.8
X2KA140	115 ^{H8}	223	222	122.4	32 ^{JS9}	244	M24x70-8.8
X2KA150	125 ^{H8}	250	224.5	132.4	32 ^{JS9}	246	M24x70-8.8
X2KA160	135 ^{H8}	269	256	143.4	36 ^{JS9}	301	M30x90-8.8
X2KA170	150 ^{H8}	269	256	158.4	36 ^{JS9}	301	M30x90-8.8
X2KA180	165 ^{H8}	263	292	174.4	40 ^{JS9}	339	M30x90-8.8
X2KA190	165 ^{H8}	263	292	174.4	40 ^{JS9}	339	M30x90-8.8
X2KA200	180 ^{H8}	313	319.5	190.4	45 ^{JS9}	371	M30x90-8.8
X2KA210	190 ^{H8}	313	319.5	200.4	45 ^{JS9}	371	M30x90-8.8

X.KH..							
LSS	Ø D5	Ø D6	Ø EH	MD	OH	WH	ISO 4017 M..
							
X2KH100	80 ^{H7}	81 ^{H9}	214	261	173	282	M24x70-8.8
X2KH110	90 ^{H7}	91 ^{H9}	224	265	176	286	M24x70-8.8
X2KH120	100 ^{H7}	101 ^{H9}	272	286.5	190.5	308	M24x70-8.8
X2KH130	110 ^{H7}	111 ^{H9}	289	297	194	318	M24x70-8.8
X2KH140	120 ^{H7}	121 ^{H9}	289	329	222	351	M24x70-8.8
X2KH150	130 ^{H7}	131 ^{H9}	319	337.5	224.5	359	M24x70-8.8
X2KH160	140 ^{H7}	141 ^{H9}	372	375	256	409	M30x90-8.8
X2KH170	150 ^{H7}	151 ^{H9}	372	364	256	409	M30x90-8.8
X2KH180	165 ^{H7}	166 ^{H9}	379	400	292	448	M30x90-8.8
X2KH190	165 ^{H7}	166 ^{H9}	379	400	292	448	M30x90-8.8
X2KH200	180 ^{H7}	181 ^{H9}	439	450.5	319.5	502	M30x90-8.8
X2KH210	190 ^{H7}	191 ^{H9}	439	453.5	319.5	502	M30x90-8.8

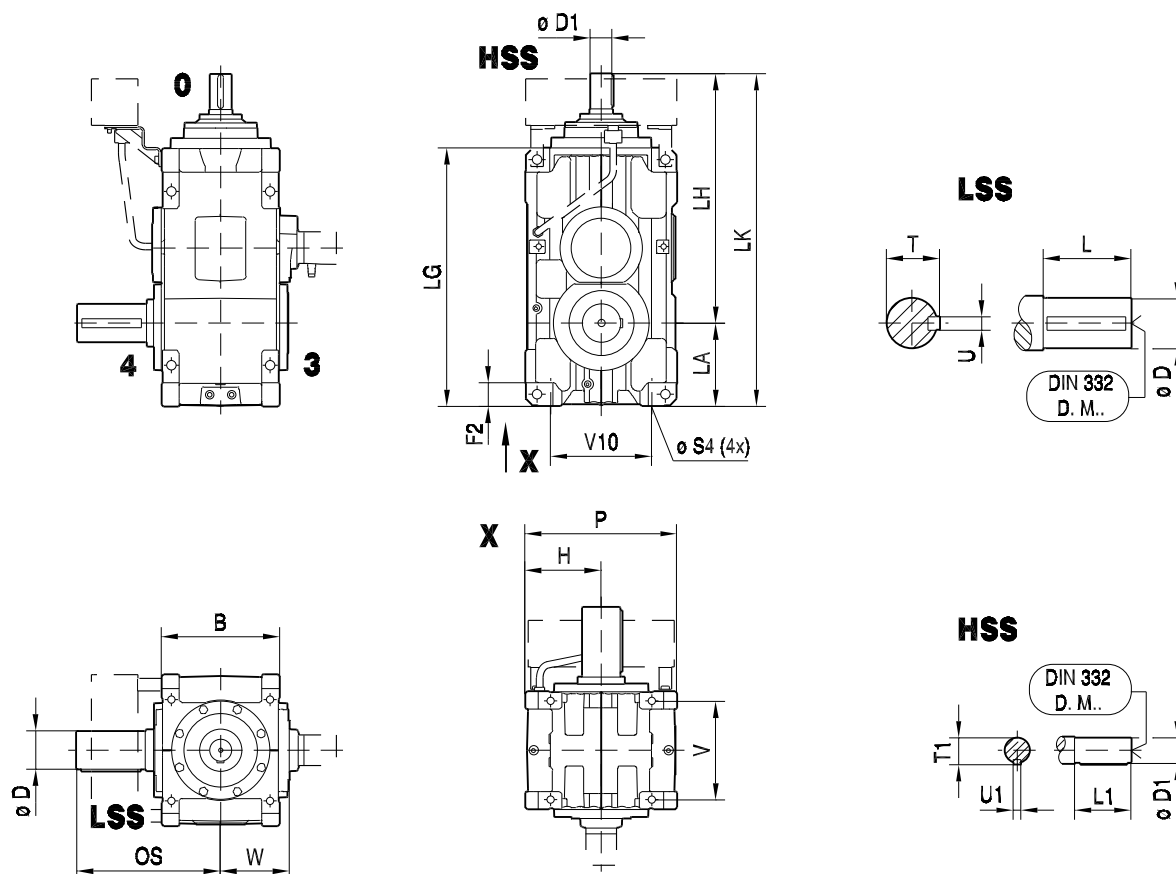


Dimension Sheets: Upright Gear Units M4 Mounting Position X.K.. bevel-helical gear units [mm]

X2K220 - 250

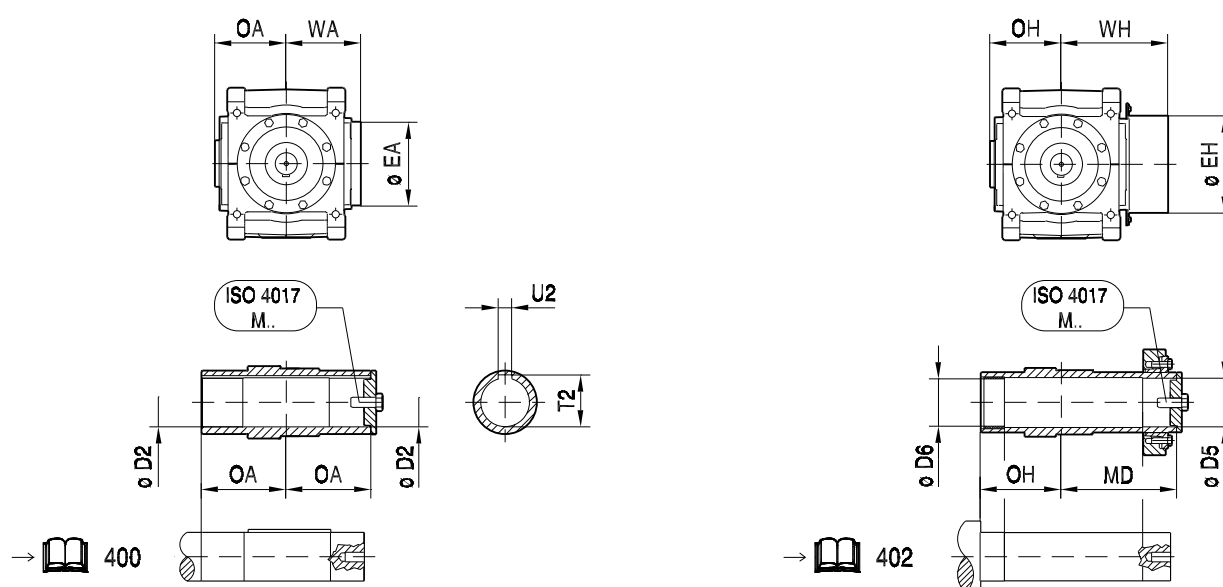
X2KS..

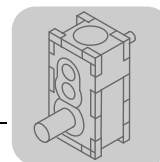
48 040 00 09

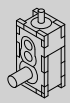


X2KA..

X2KH..





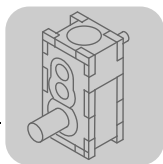
X.K..													
													
X2K..	B	F2	H	LA	LG	LH	LK	P	Ø S4 (4x)	V	V10	W	
X2K.220	610	128	425 _{-0.5}	465 _{-0.5}	1412	1436	1901	850	M42	510	610	366	2520
X2K.230	610	128	425 _{-0.5}	465 _{-0.5}	1452	1476	1941	850	M42	510	610	366	2690
X2K.240	700	146	450 _{-0.5}	495 _{-0.5}	1531	1476	1971	900	M48	585	600	415	3520
X2K.250	700	146	450 _{-0.5}	495 _{-0.5}	1554	1499	1994	900	M48	585	600	415	3700

LSS	Ø D	L	OS	T	U	DIN 332 D. M..
						
X2KS220	210 _{m6}	350	738	221	50 _{h9}	M30
X2KS230	230 _{m6}	410	798	241	50 _{h9}	M36
X2KS240	230 _{m6}	410	848	241	50 _{h9}	M36
X2KS250	240 _{m6}	410	848	252	56 _{h9}	M36

HSS	Ø D1	L1	T1	U1	DIN 332 D. M..
					
X2K.220	120 _{m6}	210	127	32 _{h9}	M24
X2K.230	120 _{m6}	210	127	32 _{h9}	M24
X2K.240	130 _{m6}	210	137	32 _{h9}	M24
X2K.250	130 _{m6}	210	137	32 _{h9}	M24

X.KA..								
LSS	Ø D2	Ø EA	OA	T2	U2	WA	ISO 4017 M..	
								
X2KA220	210 ^{H8}	334	387.5	221.4	50 ^{JS9}	432	M30x90-8.8	2390
X2KA230	210 ^{H8}	334	387.5	221.4	50 ^{JS9}	432	M30x90-8.8	2570
X2KA240	230 ^{H8}	404	438	241.4	50 ^{JS9}	495	M36x110-8.8	3190
X2KA250	240 ^{H8}	404	438	252.4	56 ^{JS9}	495	M36x110-8.8	3270

X.KH..								
LSS	Ø D5	Ø D6	Ø EH	MD	OH	WH	ISO 4017 M..	
								
X2KH220	210 ^{H7}	211 ^{H9}	482	533	387.5	584	M30x90-8.8	2430
X2KH230	210 ^{H7}	211 ^{H9}	482	533	387.5	584	M30x90-8.8	2610
X2KH240	230 ^{H7}	231 ^{H9}	542	609	438	666	M36x110-8.8	3260
X2KH250	240 ^{H7}	241 ^{H9}	542	609	438	666	M36x110-8.8	3340



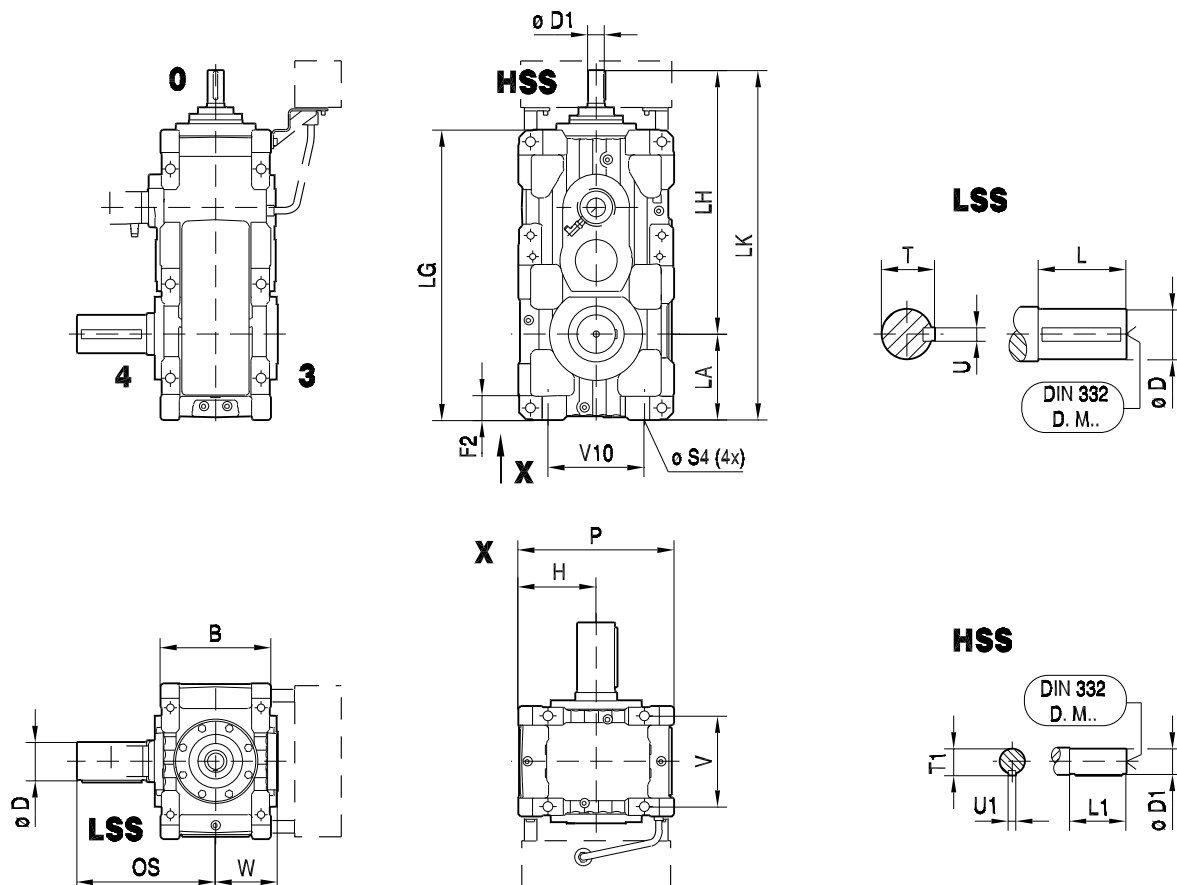
Dimension Sheets: Upright Gear Units M4 Mounting Position

X.K.. bevel-helical gear units [mm]

X3K100 - 210

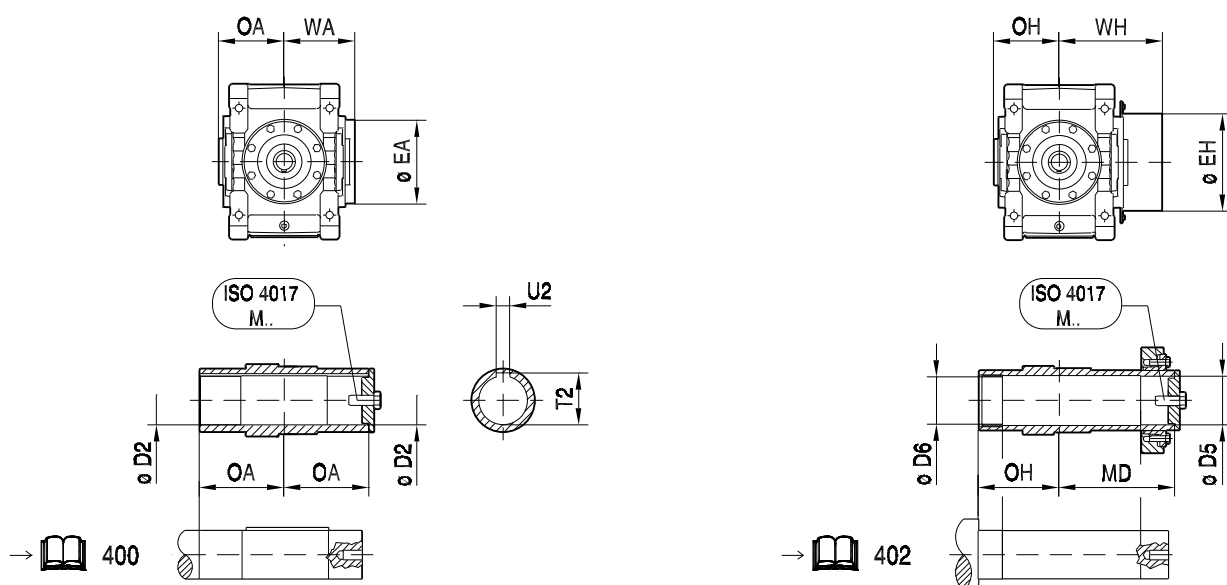
X3KS..

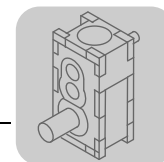
48 041 00 09

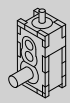


X3KA..

X3KH..





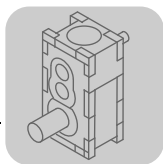
X.K..													
													
X3K..	B	F2	H	LA	LG	LH	LK	P	Ø S4 (4x)	V	V10	W	
X3K.100	260	62	190 _{0.5}	190 _{0.5}	658	632	822	380	24	210	250	153	255
X3K.110	260	62	190 _{0.5}	215 _{0.5}	703	652	867	380	24	210	250	153	275
X3K.120	300	68	225 _{0.5}	215 _{0.5}	767	745	960	450	28	245	300	174	360
X3K.130	300	68	225 _{0.5}	250 _{0.5}	838	781	1031	450	28	245	300	174	385
X3K.140	360	86	265 _{0.5}	250 _{0.5}	903	879	1129	530	35	290	335	202	560
X3K.150	360	86	265 _{0.5}	295 _{0.5}	990	921	1216	530	35	290	335	202	605
X3K.160	425	105	315 _{0.5}	355 _{0.5}	1144	1036	1391	630	42	340	400	240	925
X3K.170	425	105	315 _{0.5}	355 _{0.5}	1195	1087	1442	630	42	340	400	240	995
X3K.180	475	107	335 _{0.5}	370 _{0.5}	1249	1135	1505	670	42	390	415	277	1230
X3K.190	475	107	335 _{0.5}	370 _{0.5}	1281	1167	1537	670	42	390	415	277	1420
X3K.200	515	128	375 _{0.5}	420 _{0.5}	1409	1286	1706	750	48	420	455	298	1950
X3K.210	515	128	375 _{0.5}	420 _{0.5}	1445	1322	1742	750	48	420	455	298	2080

LSS	Ø D	L	OS	T	U	DIN 332 D. M..
						
X3KS100	80 _{m6}	170	343	85	22 _{h9}	M20
X3KS110	90 _{m6}	170	346	95	25 _{h9}	M24
X3KS120	100 _{m6}	210	401	106	28 _{h9}	M24
X3KS130	110 _{m6}	210	404	116	28 _{h9}	M24
X3KS140	120 _{m6}	210	432	127	32 _{h9}	M24
X3KS150	130 _{m6}	250	475	137	32 _{h9}	M24
X3KS160	140 _{m6}	250	506	148	36 _{h9}	M30
X3KS170	160 _{m6}	300	556	169	40 _{h9}	M30
X3KS180	170 _{m6}	300	592	179	40 _{h9}	M30
X3KS190	170 _{m6}	300	592	179	40 _{h9}	M30
X3KS200	180 _{m6}	300	612	190	45 _{h9}	M30
X3KS210	190 _{m6}	350	662	200	45 _{h9}	M30

HSS	Ø D1	L1	T1	U1	DIN 332 D. M..
					
X3K.100	32 _{k6}	80	35	10 _{h9}	M12
X3K.110	32 _{k6}	80	35	10 _{h9}	M12
X3K.120	38 _{k6}	100	41	10 _{h9}	M12
X3K.130	38 _{k6}	100	41	10 _{h9}	M12
X3K.140	50 _{k6}	110	53.5	14 _{h9}	M16
X3K.150	50 _{k6}	110	53.5	14 _{h9}	M16
X3K.160	60 _{m6}	140	64	18 _{h9}	M20
X3K.170	60 _{m6}	140	64	18 _{h9}	M20
X3K.180	70 _{m6}	140	74.5	20 _{h9}	M20
X3K.190	70 _{m6}	140	74.5	20 _{h9}	M20
X3K.200	80 _{m6}	170	85	22 _{h9}	M20
X3K.210	80 _{m6}	170	85	22 _{h9}	M20

X.KA..							
LSS	Ø D2	Ø EA	OA	T2	U2	WA	ISO 4017 M..
							
X3KA100	75 ^{H8}	165	173	80.4	22 ^{JS9}	195	M20x60-8.8
X3KA110	85 ^{H8}	175	176	90.4	22 ^{JS9}	197	M24x70-8.8
X3KA120	95 ^{H8}	202	190.5	100.4	25 ^{JS9}	212	M24x70-8.8
X3KA130	105 ^{H8}	223	194	111.4	28 ^{JS9}	216	M24x70-8.8
X3KA140	115 ^{H8}	223	222	122.4	32 ^{JS9}	244	M24x70-8.8
X3KA150	125 ^{H8}	250	224.5	132.4	32 ^{JS9}	246	M24x70-8.8
X3KA160	135 ^{H8}	269	256	143.4	36 ^{JS9}	301	M30x90-8.8
X3KA170	150 ^{H8}	269	256	158.4	36 ^{JS9}	301	M30x90-8.8
X3KA180	165 ^{H8}	263	292	174.4	40 ^{JS9}	339	M30x90-8.8
X3KA190	165 ^{H8}	263	292	174.4	40 ^{JS9}	339	M30x90-8.8
X3KA200	180 ^{H8}	313	319.5	190.4	45 ^{JS9}	371	M30x90-8.8
X3KA210	190 ^{H8}	313	319.5	200.4	45 ^{JS9}	371	M30x90-8.8

X.KH..							
LSS	Ø D5	Ø D6	Ø EH	MD	OH	WH	ISO 4017 M..
							
X3KH100	80 ^{H7}	81 ^{H9}	214	261	173	282	M24x70-8.8
X3KH110	90 ^{H7}	91 ^{H9}	224	265	176	286	M24x70-8.8
X3KH120	100 ^{H7}	101 ^{H9}	272	286.5	190.5	308	M24x70-8.8
X3KH130	110 ^{H7}	111 ^{H9}	289	297	194	323	M24x70-8.8
X3KH140	120 ^{H7}	121 ^{H9}	289	329	222	351	M24x70-8.8
X3KH150	130 ^{H7}	131 ^{H9}	319	337.5	224.5	359	M24x70-8.8
X3KH160	140 ^{H7}	141 ^{H9}	372	375	256	409	M30x90-8.8
X3KH170	150 ^{H7}	151 ^{H9}	372	364	256	409	M30x90-8.8
X3KH180	165 ^{H7}	166 ^{H9}	379	400	292	448	M30x90-8.8
X3KH190	165 ^{H7}	166 ^{H9}	379	400	292	448	M30x90-8.8
X3KH200	180 ^{H7}	181 ^{H9}	439	450.5	319.5	502	M30x90-8.8
X3KH210	190 ^{H7}	191 ^{H9}	439	453.5	319.5	502	M30x90-8.8



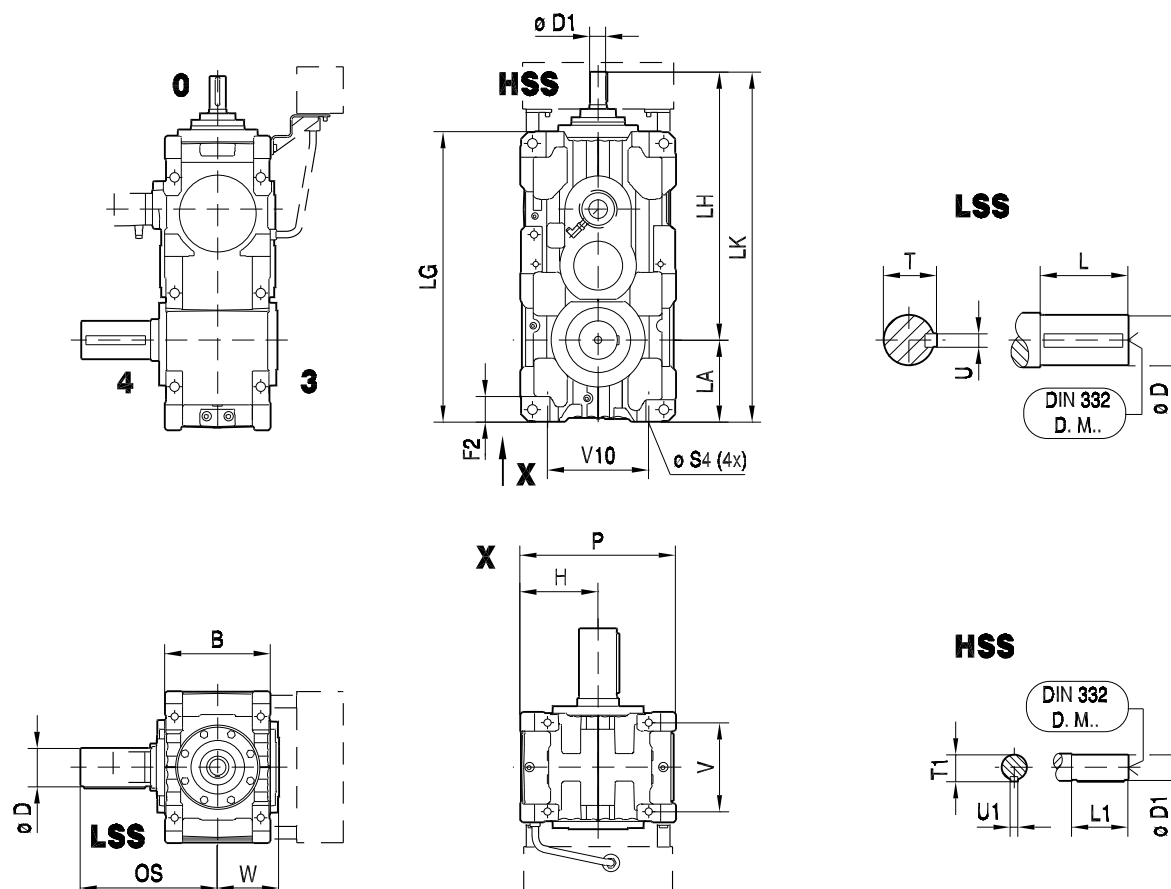
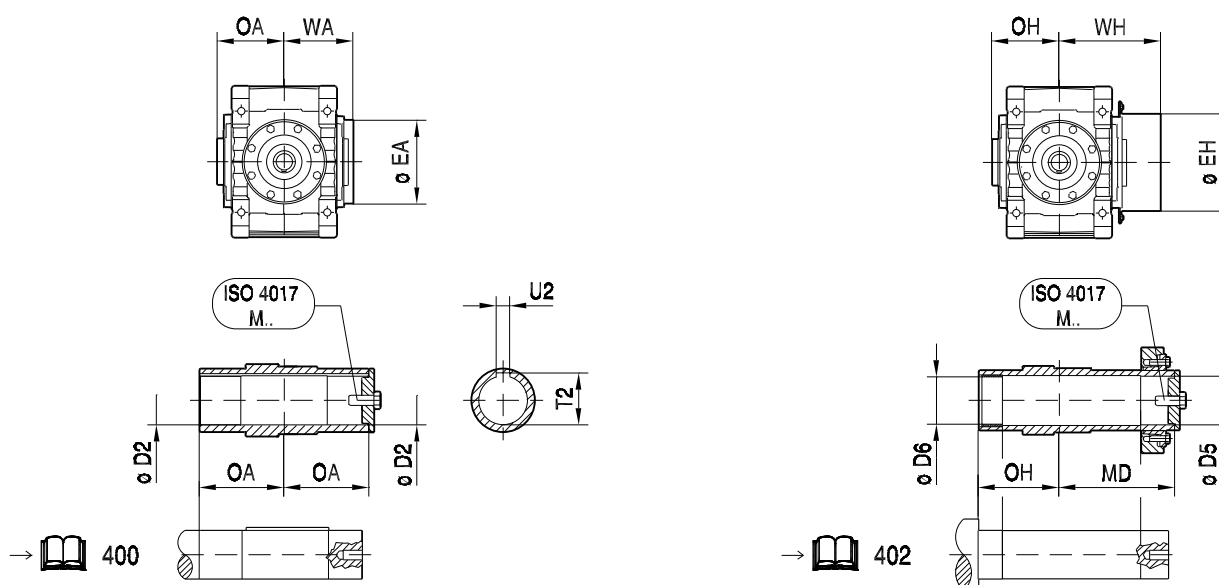
Dimension Sheets: Upright Gear Units M4 Mounting Position

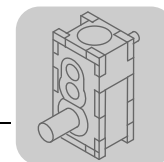
X.K.. bevel-helical gear units [mm]

X3K220 - 320

X3KS..

48 042 00 09

**X3KA..****X3KH..**



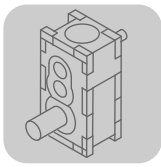
X.K..													
													
X3K..	B	F2	H	LA	LG	LH	LK	P	Ø S4 (4x)	V	V10	W	 kg
X3K.220	540	128	425 _{-0.5}	465 _{-0.5}	1584	1430	1895	850	M42	440	610	331	2560
X3K.230	540	128	425 _{-0.5}	465 _{-0.5}	1624	1470	1935	850	M42	440	610	331	2690
X3K.240	625	146	450 _{-0.5}	495 _{-0.5}	1721	1597	2092	900	M48	510	600	377	3500
X3K.250	625	146	450 _{-0.5}	495 _{-0.5}	1744	1620	2115	900	M48	510	600	377	3600
X3K.260	705	146	500 _{-0.5}	545 _{-0.5}	1900	1767	2312	1017	M48	590	710	417	4850
X3K.270	705	146	500 _{-0.5}	545 _{-0.5}	1935	1802	2347	1017	M48	590	710	419	5350
X3K.280	705	146	555 _{-0.5}	610 _{-0.5}	2052	1854	2464	1127	M48	590	710	419	5850
X3K.290	785	172	580 _{-0.5}	620 _{-0.5}	2187	2021	2641	1177	M48	655	765	465	7000
X3K.300	785	172	580 _{-0.5}	620 _{-0.5}	2216	2050	2670	1177	M48	655	765	465	7700
X3K.310	850	172	630 _{-0.5}	680 _{-0.5}	2410	2135	2815	1277	M48	720	860	499	8550
X3K.320	850	172	630 _{-0.5}	680 _{-0.5}	2444	2169	2849	1277	M48	720	860	499	9450

LSS	Ø D	L	OS	T	U	DIN 332 D. M..
						
X3KS220	210 _{m6}	350	703	221	50 _{h9}	M30
X3KS230	230 _{m6}	410	763	241	50 _{h9}	M36
X3KS240	230 _{m6}	410	811	241	50 _{h9}	M36
X3KS250	240 _{m6}	410	811	252	56 _{h9}	M36
X3KS260	250 _{m6}	410	847	262	56 _{h9}	M36
X3KS270	270 _{m6}	470	920	282	63 _{h9}	M36
X3KS280	290 _{m6}	470	920	302	63 _{h9}	M36
X3KS290	290 _{m6}	470	962	302	63 _{h9}	M36
X3KS300	300 _{m6}	470	962	314	70 _{h9}	M36
X3KS310	320 _{m6}	470	999	334	70 _{h9}	M42
X3KS320	340 _{m6}	550	1079	355	80 _{h9}	M42

HSS	Ø D1	L1	T1	U1	DIN 332 D. M..	i
						
X3K.220	85 _{m6}	170	90	22 _{h9}	M20	-
X3K.230	85 _{m6}	170	90	22 _{h9}	M20	-
X3K.240	100 _{m6}	210	106	28 _{h9}	M24	-
X3K.250	100 _{m6}	210	106	28 _{h9}	M24	-
X3K.260	110 _{m6}	210	116	28 _{h9}	M24	-
X3K.270	110 _{m6}	210	116	28 _{h9}	M24	-
X3K.280	110 _{m6}	210	116	28 _{h9}	M24	-
X3K.290	120 _{m6}	210	127	32 _{h9}	M24	-
X3K.300	120 _{m6}	210	127	32 _{h9}	M24	-
X3K.310	130 _{m6}	250	137	32 _{h9}	M24	i = 12.5 ... 35.5*
	130 _{m6}	210	137	32 _{h9}	M24	i = 40 ... 71**
X3K.320	130 _{m6}	250	137	32 _{h9}	M24	i = 14 ... 40*
	130 _{m6}	210	137	32 _{h9}	M24	i = 45 ... 80**

X.KA..							
LSS	Ø D2	Ø EA	OA	T2	U2	WA	ISO 4017 M.. 
							
X3KA220	210 ^{H8}	334	352.5	221.4	50 ^{JS9}	397	M30x90-8.8 2330
X3KA230	210 ^{H8}	334	352.5	221.4	50 ^{JS9}	397	M30x90-8.8 2470
X3KA240	230 ^{H8}	404	400.5	241.4	50 ^{JS9}	457	M36x110-8.8 3200
X3KA250	240 ^{H8}	404	400.5	252.4	56 ^{JS9}	457	M36x110-8.8 3280
X3KA260	240 ^{H8}	404	437	252.4	56 ^{JS9}	497	M36x110-8.8 4400
X3KA270	275 ^{H8}	633	450	287.4	63 ^{JS9}	521	M36x110-8.8 4850
X3KA280	275 ^{H8}	633	450	287.4	63 ^{JS9}	521	M36x110-8.8 5300
X3KA290	290 ^{H8}	633	492	302.4	63 ^{JS9}	563	M36x110-8.8 6350
X3KA300	290 ^{H8}	633	492	302.4	63 ^{JS9}	563	M36x110-8.8 6950
X3KA310	320 ^{H8}	713	528.5	334.4	70 ^{JS9}	613	M42x130-8.8 7700
X3KA320	320 ^{H8}	713	528.5	334.4	70 ^{JS9}	613	M42x130-8.8 8400

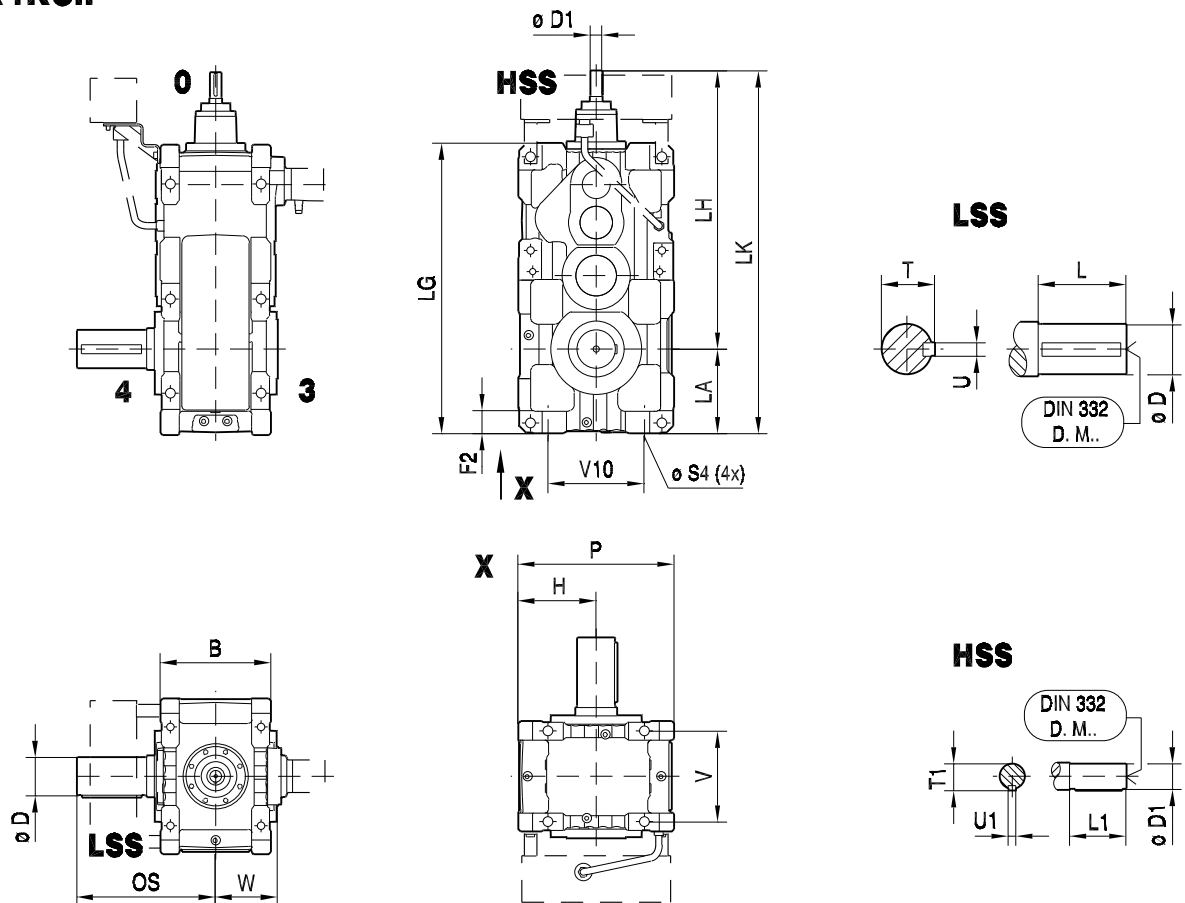
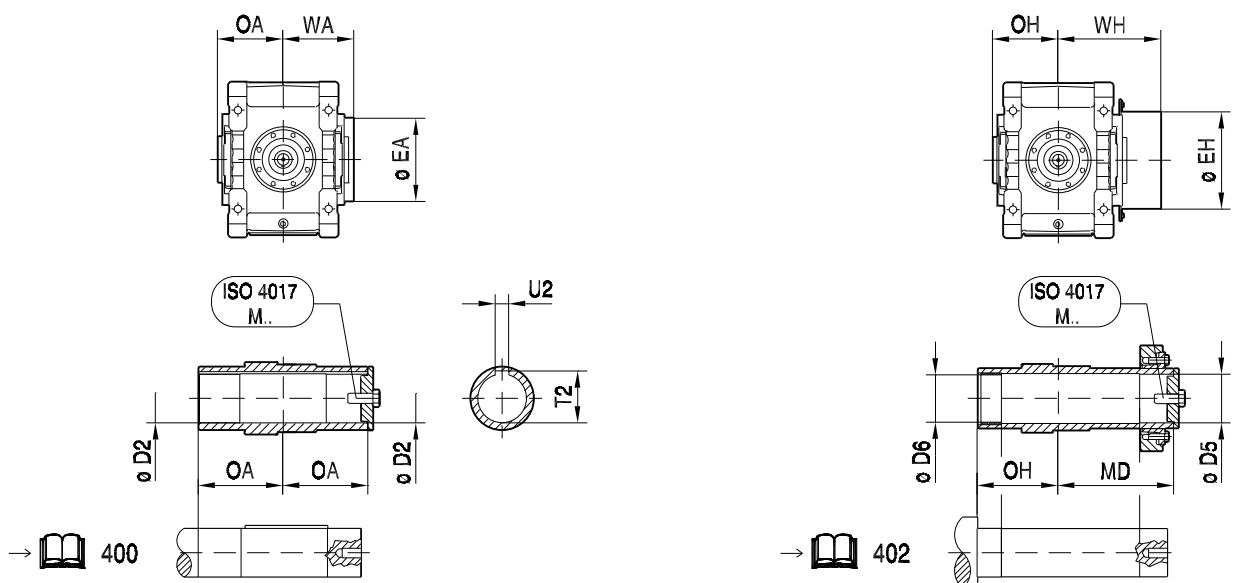
X.KH..								
LSS	Ø D5	Ø D6	Ø EH	MD	OH	WH	ISO 4017 M..	
								
X3KH220	210 ^{H7}	211 ^{H9}	482	497.5	352.5	549	M30x90-8.8	2410
X3KH230	210 ^{H7}	211 ^{H9}	482	497.5	352.5	549	M30x90-8.8	2550
X3KH240	230 ^{H7}	231 ^{H9}	542	571.5	400.5	628	M36x110-8.8	3280
X3KH250	240 ^{H7}	241 ^{H9}	542	571.5	400.5	628	M36x110-8.8	3350
X3KH260	250 ^{H7}	255 ^{H9}	542	608	437	668	M36x110-8.8	4550
X3KH270	280 ^{H7}	285 ^{H9}	633	630	450	706	M36x110-8.8	5100
X3KH280	280 ^{H7}	285 ^{H9}	633	630	450	706	M36x110-8.8	5550
X3KH290	300 ^{H7}	305 ^{H9}	633	679	492	748	M36x110-8.8	6400
X3KH300	300 ^{H7}	305 ^{H9}	633	679	492	748	M36x110-8.8	7200
X3KH310	320 ^{H7}	325 ^{H9}	713	740.5	528.5	821	M42x130-8.8	8050
X3KH320	320 ^{H7}	325 ^{H9}	713	740.5	528.5	821	M42x130-8.8	8750

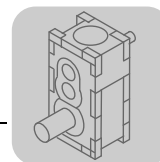


X4K120 - 210

X4KS..

48 043 00 09

**X4KA..****X4KH..**



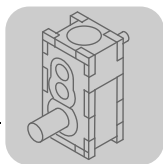
X.K..												
												
X4K..	B	F2	H	LA	LG	LH	LK	P	Ø S4 (4x)	V	V10	W 
X4K.120	300	68	225 _{0.5}	215 _{0.5}	767	710	925	450	28	245	300	174 405
X4K.130	300	68	225 _{0.5}	250 _{0.5}	838	746	996	450	28	245	300	174 435
X4K.140	360	86	265 _{0.5}	250 _{0.5}	903	856	1106	530	35	290	335	202 590
X4K.150	360	86	265 _{0.5}	295 _{0.5}	990	898	1193	530	35	290	335	202 635
X4K.160	425	105	315 _{0.5}	355 _{0.5}	1144	1029	1384	630	42	340	400	240 985
X4K.170	425	105	315 _{0.5}	355 _{0.5}	1195	1080	1435	630	42	340	400	240 1035
X4K.180	475	107	335 _{0.5}	370 _{0.5}	1249	1198	1568	670	42	390	415	277 1170
X4K.190	475	107	335 _{0.5}	370 _{0.5}	1281	1230	1600	670	42	390	415	277 1360
X4K.200	515	128	375 _{0.5}	420 _{0.5}	1409	1285	1705	750	48	420	455	298 1720
X4K.210	515	128	375 _{0.5}	420 _{0.5}	1445	1321	1741	750	48	420	455	298 1850

LSS 	Ø D	L	OS	T	U	DIN 332 D. M..
X4KS120	100 _{m6}	210	401	106	28 _{h9}	M24
X4KS130	110 _{m6}	210	404	116	28 _{h9}	M24
X4KS140	120 _{m6}	210	432	127	32 _{h9}	M24
X4KS150	130 _{m6}	250	475	137	32 _{h9}	M24
X4KS160	140 _{m6}	250	506	148	36 _{h9}	M30
X4KS170	160 _{m6}	300	556	169	40 _{h9}	M30
X4KS180	170 _{m6}	300	592	179	40 _{h9}	M30
X4KS190	170 _{m6}	300	592	179	40 _{h9}	M30
X4KS200	180 _{m6}	300	612	190	45 _{h9}	M30
X4KS210	190 _{m6}	350	662	200	45 _{h9}	M30

HSS 	Ø D1	L1	T1	U1	DIN 332 D. M..
X4K.120	28 _{k6}	60	31	8 _{h9}	M10
X4K.130	28 _{k6}	60	31	8 _{h9}	M10
X4K.140	32 _{k6}	80	35	10 _{h9}	M12
X4K.150	32 _{k6}	80	35	10 _{h9}	M12
X4K.160	38 _{k6}	100	41	10 _{h9}	M12
X4K.170	38 _{k6}	100	41	10 _{h9}	M12
X4K.180	50 _{k6}	110	53.5	14 _{h9}	M16
X4K.190	50 _{k6}	110	53.5	14 _{h9}	M16
X4K.200	50 _{k6}	110	53.5	14 _{h9}	M16
X4K.210	50 _{k6}	110	53.5	14 _{h9}	M16

X.KA..							
LSS 	Ø D2	Ø EA	OA	T2	U2	WA	ISO 4017 M.. 
X4KA120	95 ^{H8}	202	190.5	100.4	25 ^{JS9}	212	M24x70-8.8 365
X4KA130	105 ^{H8}	223	194	111.4	28 ^{JS9}	216	M24x70-8.8 395
X4KA140	115 ^{H8}	223	222	122.4	32 ^{JS9}	244	M24x70-8.8 535
X4KA150	125 ^{H8}	250	224.5	132.4	32 ^{JS9}	246	M24x70-8.8 575
X4KA160	135 ^{H8}	269	256	143.4	36 ^{JS9}	301	M30x90-8.8 890
X4KA170	150 ^{H8}	269	256	158.4	36 ^{JS9}	301	M30x90-8.8 935
X4KA180	165 ^{H8}	263	292	174.4	40 ^{JS9}	339	M30x90-8.8 1060
X4KA190	165 ^{H8}	263	292	174.4	40 ^{JS9}	339	M30x90-8.8 1250
X4KA200	180 ^{H8}	313	319.5	190.4	45 ^{JS9}	371	M30x90-8.8 1620
X4KA210	190 ^{H8}	313	319.5	200.4	45 ^{JS9}	371	M30x90-8.8 1720

X.KH..							
LSS 	Ø D5	Ø D6	Ø EH	MD	OH	WH	ISO 4017 M.. 
X4KH120	100 ^{H7}	101 ^{H9}	272	286.5	190.5	308	M24x70-8.8 375
X4KH130	110 ^{H7}	111 ^{H9}	289	297	194	323	M24x70-8.8 410
X4KH140	120 ^{H7}	121 ^{H9}	289	329	222	351	M24x70-8.8 560
X4KH150	130 ^{H7}	131 ^{H9}	319	337.5	224.5	359	M24x70-8.8 605
X4KH160	140 ^{H7}	141 ^{H9}	372	375	256	409	M30x90-8.8 920
X4KH170	150 ^{H7}	151 ^{H9}	372	364	256	409	M30x90-8.8 990
X4KH180	165 ^{H7}	166 ^{H9}	379	400	292	448	M30x90-8.8 1070
X4KH190	165 ^{H7}	166 ^{H9}	379	400	292	448	M30x90-8.8 1270
X4KH200	180 ^{H7}	181 ^{H9}	439	450.5	319.5	502	M30x90-8.8 1640
X4KH210	190 ^{H7}	191 ^{H9}	439	453.5	319.5	502	M30x90-8.8 1760



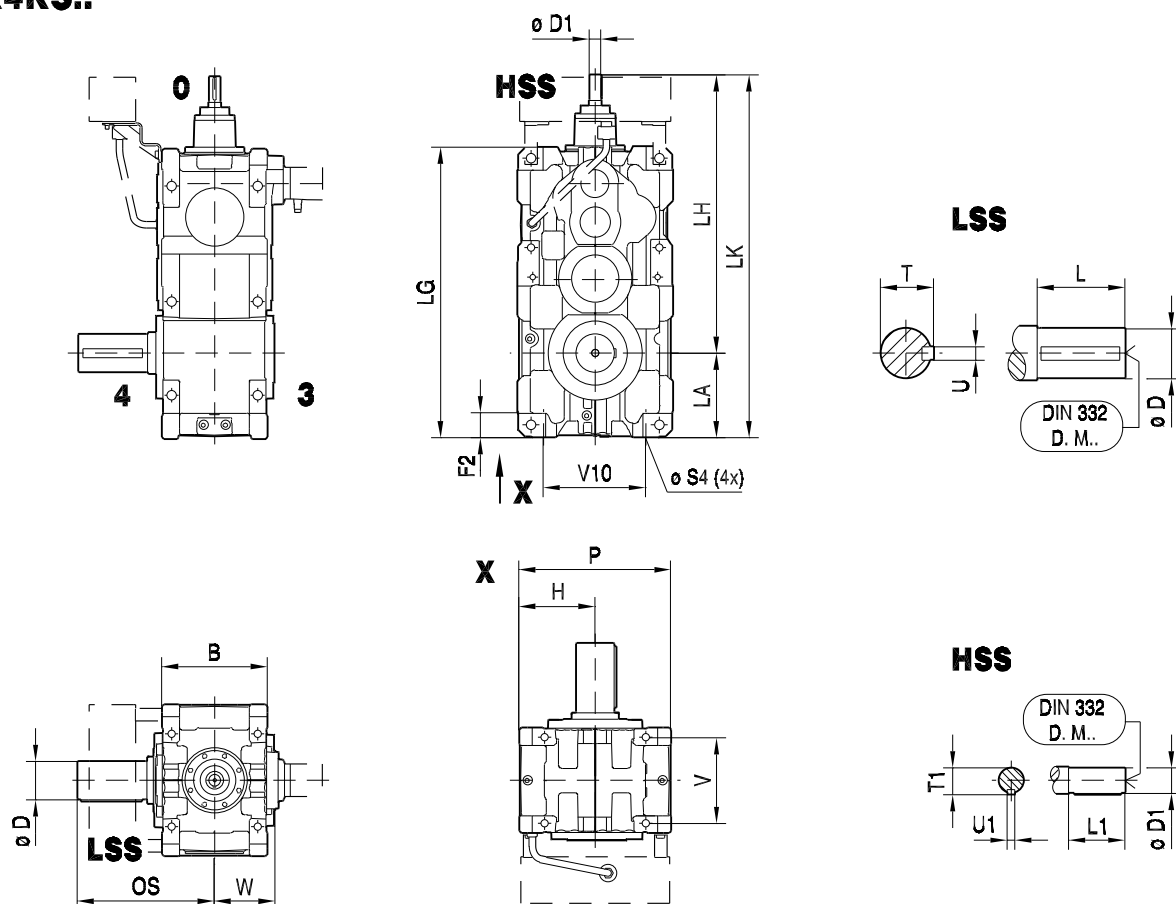
Dimension Sheets: Upright Gear Units M4 Mounting Position

X.K.. bevel-helical gear units [mm]

X4K220 - 320

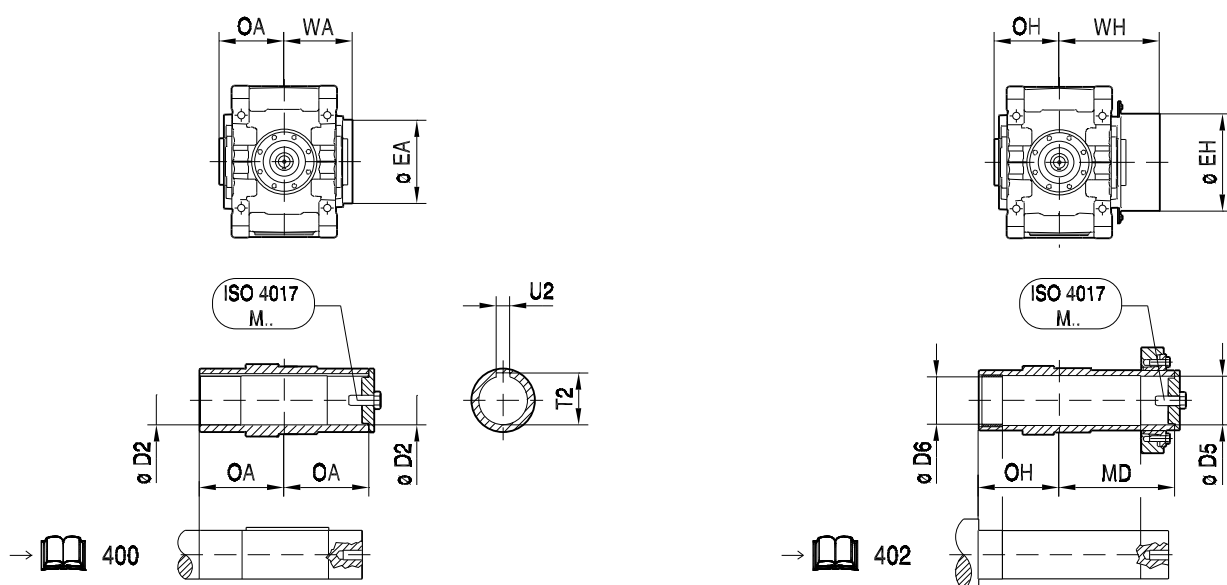
X4KS..

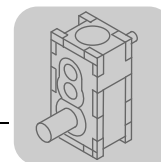
48 044 00 09



X4KA..

X4KH..





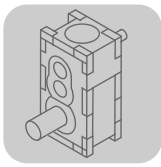
X.K..													
													
X4K..	B	F2	H	LA	LG	LH	LK	P	Ø S4 (4x)	V	V10	W	
X4K.220	540	128	425 _{0.5}	465 _{0.5}	1584	1456	1921	850	M42	440	610	331	2520
X4K.230	540	128	425 _{0.5}	465 _{0.5}	1624	1498	1963	850	M42	440	610	331	2670
X4K.240	625	146	450 _{0.5}	495 _{0.5}	1721	1595	2090	900	M48	510	600	377	3490
X4K.250	625	146	450 _{0.5}	495 _{0.5}	1744	1618	2113	900	M48	510	600	377	3590
X4K.260	705	146	500 _{0.5}	545 _{0.5}	1900	1785	2330	1000	M48	590	710	417	4600
X4K.270	705	146	500 _{0.5}	545 _{0.5}	1935	1820	2365	1000	M48	590	710	419	5100
X4K.280	705	146	555 _{0.5}	610 _{0.5}	2052	1872	2482	1110	M48	590	710	419	5650
X4K.290	785	172	580 _{0.5}	620 _{0.5}	2187	2015	2635	1160	M48	655	765	465	7050
X4K.300	785	172	580 _{0.5}	620 _{0.5}	2216	2044	2664	1160	M48	655	765	465	7800
X4K.310	850	172	630 _{0.5}	680 _{0.5}	2410	2256	2936	1260	M48	720	860	499	8650
X4K.320	850	172	630 _{0.5}	680 _{0.5}	2444	2290	2970	1260	M48	720	860	499	9600

LSS	Ø D	L	OS	T	U	DIN 332 D. M..
						
X4KS220	210 _{m6}	350	703	221	50 _{h9}	M30
X4KS230	230 _{m6}	410	763	241	50 _{h9}	M36
X4KS240	230 _{m6}	410	811	241	50 _{h9}	M36
X4KS250	240 _{m6}	410	811	252	56 _{h9}	M36
X4KS260	250 _{m6}	410	847	262	56 _{h9}	M36
X4KS270	270 _{m6}	470	920	282	63 _{h9}	M36
X4KS280	290 _{m6}	470	920	302	63 _{h9}	M36
X4KS290	290 _{m6}	470	962	302	63 _{h9}	M36
X4KS300	300 _{m6}	470	962	314	70 _{h9}	M36
X4KS310	320 _{m6}	470	999	334	70 _{h9}	M42
X4KS320	340 _{m6}	550	1079	355	80 _{h9}	M42

HSS	Ø D1	L1	T1	U1	DIN 332 D. M..
					
X4K.220	60 _{m6}	140	64	18 _{h9}	M20
X4K.230	60 _{m6}	140	64	18 _{h9}	M20
X4K.240	70 _{m6}	140	74.5	20 _{h9}	M20
X4K.250	70 _{m6}	140	74.5	20 _{h9}	M20
X4K.260	80 _{m6}	170	85	22 _{h9}	M20
X4K.270	80 _{m6}	170	85	22 _{h9}	M20
X4K.280	80 _{m6}	170	85	22 _{h9}	M20
X4K.290	85 _{m6}	170	90	22 _{h9}	M20
X4K.300	85 _{m6}	170	90	22 _{h9}	M20
X4K.310	100 _{m6}	210	106	28 _{h9}	M24
X4K.320	100 _{m6}	210	106	28 _{h9}	M24

X.KA..								
LSS	Ø D2	Ø EA	OA	T2	U2	WA	ISO 4017 M..	
								
X4KA220	210 ^{H8}	334	352.5	221.4	50 ^{JS9}	397	M30x90-8.8	2300
X4KA230	210 ^{H8}	334	352.5	221.4	50 ^{JS9}	397	M30x90-8.8	2450
X4KA240	230 ^{H8}	404	400.5	241.4	50 ^{JS9}	457	M36x110-8.8	3200
X4KA250	240 ^{H8}	404	400.5	252.4	56 ^{JS9}	457	M36x110-8.8	3280
X4KA260	240 ^{H8}	404	437	252.4	56 ^{JS9}	497	M36x110-8.8	4150
X4KA270	275 ^{H8}	633	450	287.4	63 ^{JS9}	521	M36x110-8.8	4600
X4KA280	275 ^{H8}	633	450	287.4	63 ^{JS9}	521	M36x110-8.8	5100
X4KA290	290 ^{H8}	633	492	302.4	63 ^{JS9}	563	M36x110-8.8	6350
X4KA300	290 ^{H8}	633	492	302.4	63 ^{JS9}	563	M36x110-8.8	7050
X4KA310	320 ^{H8}	713	528.5	334.4	70 ^{JS9}	613	M42x130-8.8	7800
X4KA320	320 ^{H8}	713	528.5	334.4	70 ^{JS9}	613	M42x130-8.8	8450

X.KH..								
LSS	Ø D5	Ø D6	Ø EH	MD	OH	WH	ISO 4017 M..	
								
X4KH220	210 ^{H7}	211 ^{H9}	482	497.5	352.5	549	M30x90-8.8	2380
X4KH230	210 ^{H7}	211 ^{H9}	482	497.5	352.5	549	M30x90-8.8	2530
X4KH240	230 ^{H7}	231 ^{H9}	542	571.5	400.5	628	M36x110-8.8	3270
X4KH250	240 ^{H7}	241 ^{H9}	542	571.5	400.5	628	M36x110-8.8	3340
X4KH260	250 ^{H7}	255 ^{H9}	542	608	437	668	M36x110-8.8	4300
X4KH270	280 ^{H7}	285 ^{H9}	633	630	450	706	M36x110-8.8	4850
X4KH280	280 ^{H7}	285 ^{H9}	633	630	450	706	M36x110-8.8	5350
X4KH290	300 ^{H7}	305 ^{H9}	633	679	492	748	M36x110-8.8	6600
X4KH300	300 ^{H7}	305 ^{H9}	633	679	492	748	M36x110-8.8	7300
X4KH310	320 ^{H7}	325 ^{H9}	713	740.5	528.5	821	M42x130-8.8	8150
X4KH320	320 ^{H7}	325 ^{H9}	713	740.5	528.5	821	M42x130-8.8	8800



Dimension Sheets: Upright Gear Units M4 Mounting Position

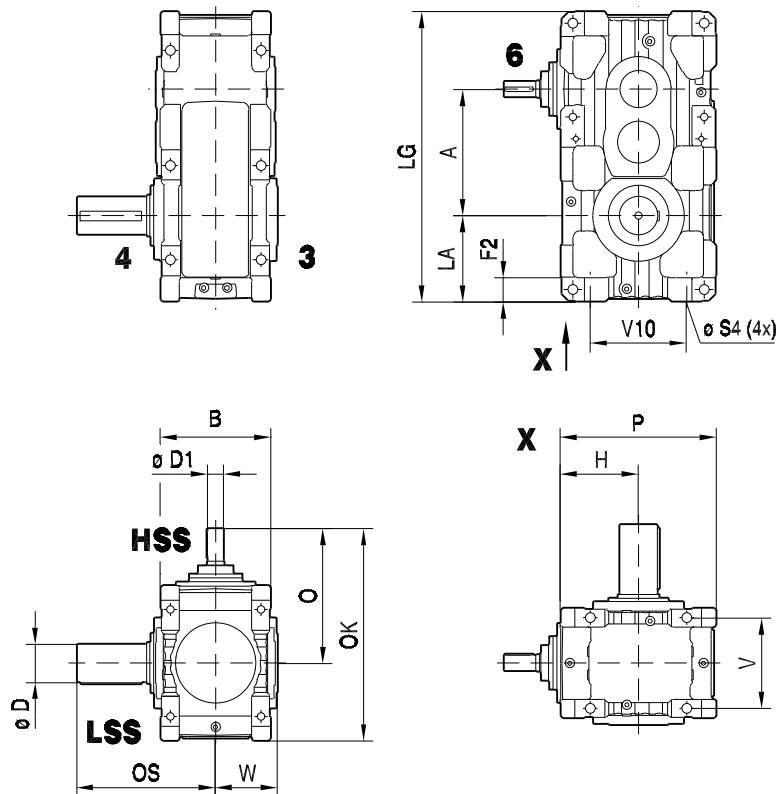
X.T.. bevel-helical gear units [mm]

14.3 X.T.. bevel-helical gear units [mm]

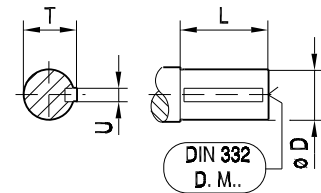
X3T100 - 210

X3TS..

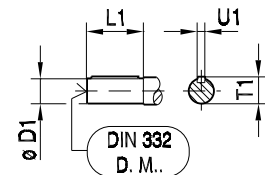
48 045 00 09



LSS

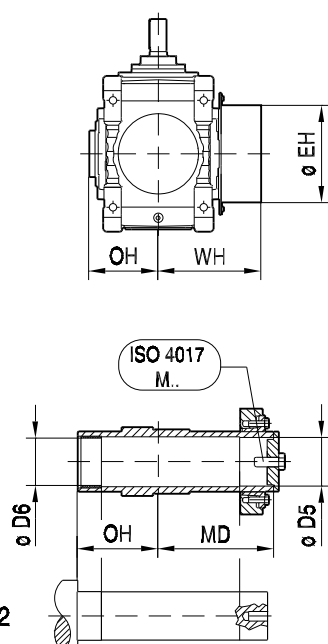
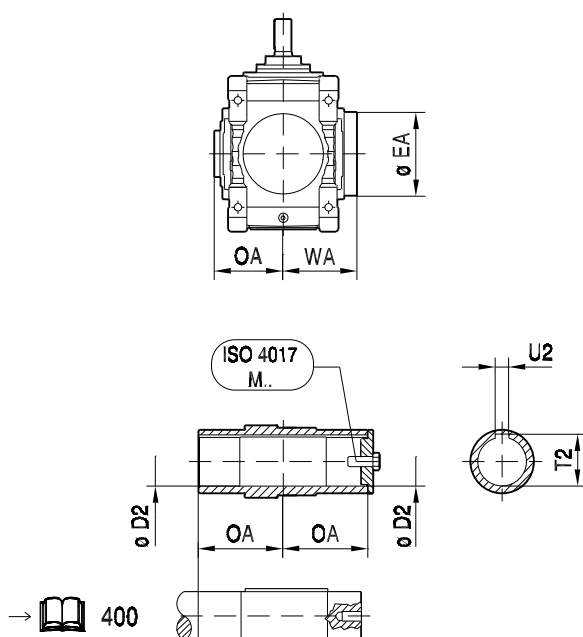


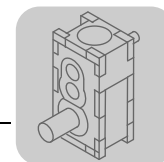
HSS



X3TA..

X3TH..





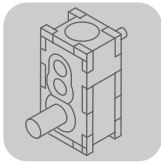
X.T..														
														
X3T..	A	B	F2	H	LA	LG	O	OK	P	Ø S4 (4x)	V	V10	W	
X3T.100	278	260	62	190 _{-0.5}	190 _{-0.5}	658	354	544	380	24	210	250	153	260
X3T.110	298	260	62	190 _{-0.5}	215 _{-0.5}	703	354	544	380	24	210	250	153	280
X3T.120	327	300	68	225 _{-0.5}	215 _{-0.5}	767	418	643	450	28	245	300	174	370
X3T.130	363	300	68	225 _{-0.5}	250 _{-0.5}	838	418	643	450	28	245	300	174	395
X3T.140	388	360	86	265 _{-0.5}	250 _{-0.5}	903	491	756	530	35	290	335	202	570
X3T.150	430	360	86	265 _{-0.5}	295 _{-0.5}	990	491	756	530	35	290	335	202	615
X3T.160	474	425	105	315 _{-0.5}	355 _{-0.5}	1144	562	877	630	42	340	400	240	945
X3T.170	525	425	105	315 _{-0.5}	355 _{-0.5}	1195	562	877	630	42	340	400	240	1015
X3T.180	544	475	107	335 _{-0.5}	370 _{-0.5}	1249	591	926	670	42	390	415	277	1326
X3T.190	576	475	107	335 _{-0.5}	370 _{-0.5}	1281	591	926	670	42	390	415	277	1397
X3T.200	614	515	128	375 _{-0.5}	420 _{-0.5}	1409	672	1047	750	48	420	455	298	1847
X3T.210	650	515	128	375 _{-0.5}	420 _{-0.5}	1445	672	1047	750	48	420	455	298	1975

LSS	Ø D	L	OS	T	U	DIN 332 D. M..
						
X3TS100	80 _{m6}	170	343	85	22 _{h9}	M20
X3TS110	90 _{m6}	170	346	95	25 _{h9}	M24
X3TS120	100 _{m6}	210	401	106	28 _{h9}	M24
X3TS130	110 _{m6}	210	404	116	28 _{h9}	M24
X3TS140	120 _{m6}	210	432	127	32 _{h9}	M24
X3TS150	130 _{m6}	250	475	137	32 _{h9}	M24
X3TS160	140 _{m6}	250	506	148	36 _{h9}	M30
X3TS170	160 _{m6}	300	556	169	40 _{h9}	M30
X3TS180	170 _{m6}	300	592	179	40 _{h9}	M30
X3TS190	170 _{m6}	300	592	179	40 _{h9}	M30
X3TS200	180 _{m6}	300	612	190	45 _{h9}	M30
X3TS210	190 _{m6}	350	662	200	45 _{h9}	M30

HSS	Ø D1	L1	T1	U1	DIN 332 D. M..
					
X3T.100	32 _{k6}	80	35	10 _{h9}	M12
X3T.110	32 _{k6}	80	35	10 _{h9}	M12
X3T.120	38 _{k6}	100	41	10 _{h9}	M12
X3T.130	38 _{k6}	100	41	10 _{h9}	M12
X3T.140	50 _{k6}	110	53.5	14 _{h9}	M16
X3T.150	50 _{k6}	110	53.5	14 _{h9}	M16
X3T.160	60 _{m6}	140	64	18 _{h9}	M20
X3T.170	60 _{m6}	140	64	18 _{h9}	M20
X3T.180	70 _{m6}	140	74.5	20 _{h9}	M20
X3T.190	70 _{m6}	140	74.5	20 _{h9}	M20
X3T.200	80 _{m6}	170	85	22 _{h9}	M20
X3T.210	80 _{m6}	170	85	22 _{h9}	M20

X.TA..							
LSS	Ø D2	Ø EA	OA	T2	U2	WA	ISO 4017 M..
							
X3TA100	75 ^{H8}	165	173	80.4	22 ^{JS9}	195	M20x60-8.8
X3TA110	85 ^{H8}	175	176	90.4	22 ^{JS9}	197	M24x70-8.8
X3TA120	95 ^{H8}	202	190.5	100.4	25 ^{JS9}	212	M24x70-8.8
X3TA130	105 ^{H8}	223	194	111.4	28 ^{JS9}	216	M24x70-8.8
X3TA140	115 ^{H8}	223	222	122.4	32 ^{JS9}	244	M24x70-8.8
X3TA150	125 ^{H8}	250	224.5	132.4	32 ^{JS9}	246	M24x70-8.8
X3TA160	135 ^{H8}	269	256	143.4	36 ^{JS9}	301	M30x90-8.8
X3TA170	150 ^{H8}	269	256	158.4	36 ^{JS9}	301	M30x90-8.8
X3TA180	165 ^{H8}	263	292	174.4	40 ^{JS9}	339	M30x90-8.8
X3TA190	165 ^{H8}	263	292	174.4	40 ^{JS9}	339	M30x90-8.8
X3TA200	180 ^{H8}	313	319.5	190.4	45 ^{JS9}	371	M30x90-8.8
X3TA210	190 ^{H8}	313	319.5	200.4	45 ^{JS9}	371	M30x90-8.8

X.TH..								
LSS	Ø D5	Ø D6	Ø EH	MD	OH	WH	ISO 4017 M..	
								
X3TH100	80 ^{H7}	81 ^{H9}	214	261	173	282	M24x70-8.8	260
X3TH110	90 ^{H7}	91 ^{H9}	224	265	176	286	M24x70-8.8	280
X3TH120	100 ^{H7}	101 ^{H9}	272	286.5	190.5	308	M24x70-8.8	360
X3TH130	110 ^{H7}	111 ^{H9}	289	297	194	323	M24x70-8.8	380
X3TH140	120 ^{H7}	121 ^{H9}	289	329	222	351	M24x70-8.8	545
X3TH150	130 ^{H7}	131 ^{H9}	319	337.5	224.5	359	M24x70-8.8	575
X3TH160	140 ^{H7}	141 ^{H9}	372	375	256	409	M30x90-8.8	900
X3TH170	150 ^{H7}	151 ^{H9}	372	364	256	409	M30x90-8.8	1060
X3TH180	165 ^{H7}	166 ^{H9}	379	400	292	448	M30x90-8.8	1229
X3TH190	165 ^{H7}	166 ^{H9}	379	400	292	448	M30x90-8.8	1300
X3TH200	180 ^{H7}	181 ^{H9}	439	450.5	319.5	502	M30x90-8.8	1776
X3TH210	190 ^{H7}	191 ^{H9}	439	453.5	319.5	502	M30x90-8.8	1880



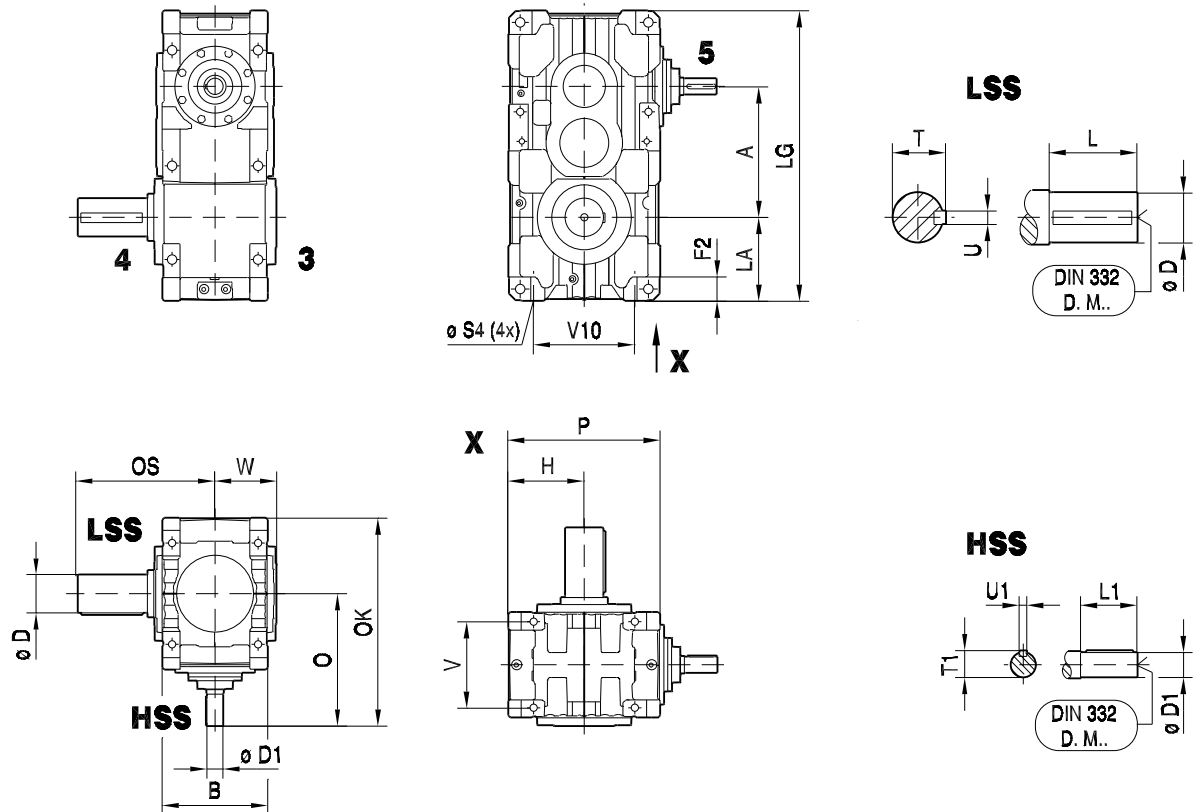
Dimension Sheets: Upright Gear Units M4 Mounting Position

X.T.. bevel-helical gear units [mm]

X3T220 - 250

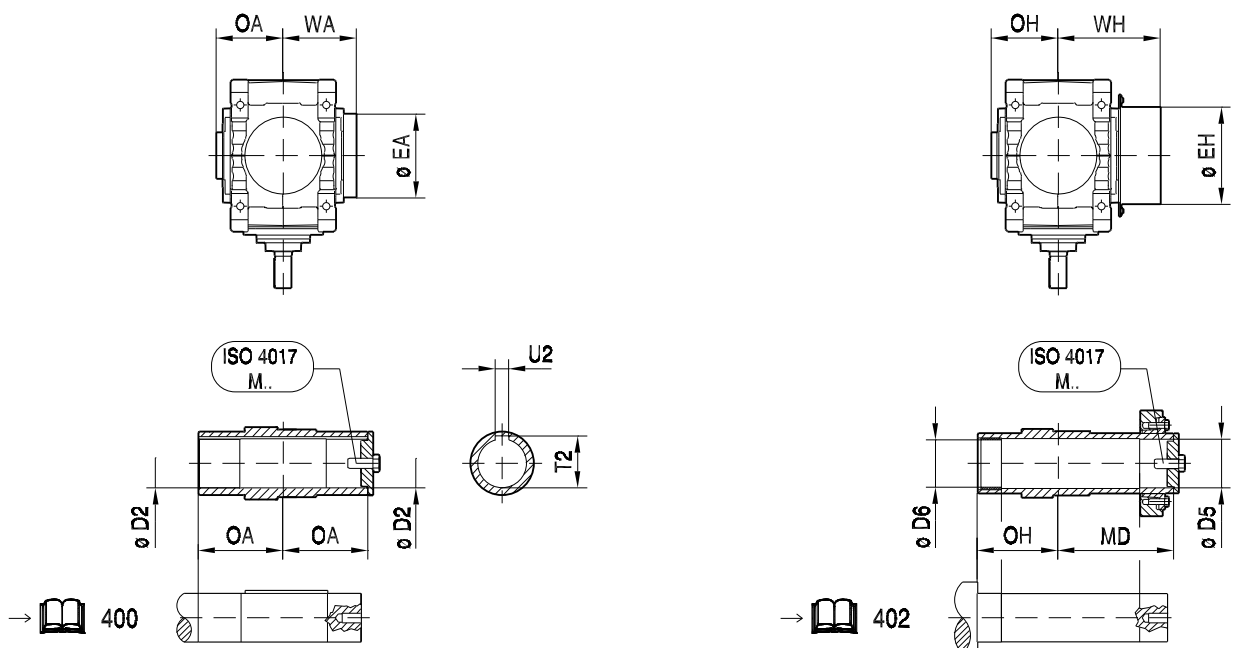
X3TS..

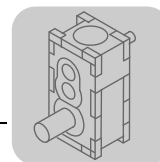
48 046 00 09

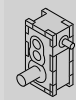


X3TA..

X3TH..





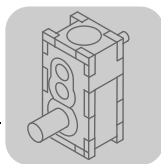
X.T.. 														
X3T..	A	B	F2	H	LA	LG	O	OK	P	Ø S4 (4x)	V	V10	W	
X3T.220	694	540	128	425 _{-0,5}	465 _{-0,5}	1584	736	1161	850	M42	440	610	331	2548
X3T.230	734	540	128	425 _{-0,5}	465 _{-0,5}	1624	736	1161	850	M42	440	610	331	2718
X3T.240	776	625	146	450 _{-0,5}	495 _{-0,5}	1721	821	1271	900	M48	510	600	377	3556
X3T.250	799	625	146	450 _{-0,5}	495 _{-0,5}	1744	821	1271	900	M48	510	600	377	3655

LSS	Ø D	L	OS	T	U	DIN 332 D. M..
						
X3TS220	210 _{m6}	350	703	221	50 _{h9}	M30
X3TS230	230 _{m6}	410	763	241	50 _{h9}	M36
X3TS240	230 _{m6}	410	811	241	50 _{h9}	M36
X3TS250	240 _{m6}	410	811	252	56 _{h9}	M36

HSS	Ø D1	L1	T1	U1	DIN 332 D. M..
					
X3T.220	85 _{m6}	170	90	22 _{h9}	M20
X3T.230	85 _{m6}	170	90	22 _{h9}	M20
X3T.240	100 _{m6}	210	106	28 _{h9}	M24
X3T.250	100 _{m6}	210	106	28 _{h9}	M24

X.TA..								
LSS	Ø D2	Ø EA	OA	T2	U2	WA	ISO 4017 M..	
								
X3TA220	210 ^{H8}	334	352.5	221.4	50 ^{JS9}	397	M30x90-8.8	2323
X3TA230	210 ^{H8}	334	352.5	221.4	50 ^{JS9}	397	M30x90-8.8	2493
X3TA240	230 ^{H8}	404	400.5	241.4	50 ^{JS9}	457	M36x110-8.8	3265
X3TA250	240 ^{H8}	404	400.5	252.4	56 ^{JS9}	457	M36x110-8.8	3342

X.TH..								
LSS	Ø D5	Ø D6	Ø EH	MD	OH	WH	ISO 4017 M..	
								
X3TH220	210 ^{H7}	211 ^{H9}	482	497.5	352.5	549	M30x90-8.8	2405
X3TH230	210 ^{H7}	211 ^{H9}	482	497.5	352.5	549	M30x90-8.8	2575
X3TH240	230 ^{H7}	231 ^{H9}	542	571.5	400.5	628	M36x110-8.8	3338
X3TH250	240 ^{H7}	241 ^{H9}	542	571.5	400.5	628	M36x110-8.8	3411



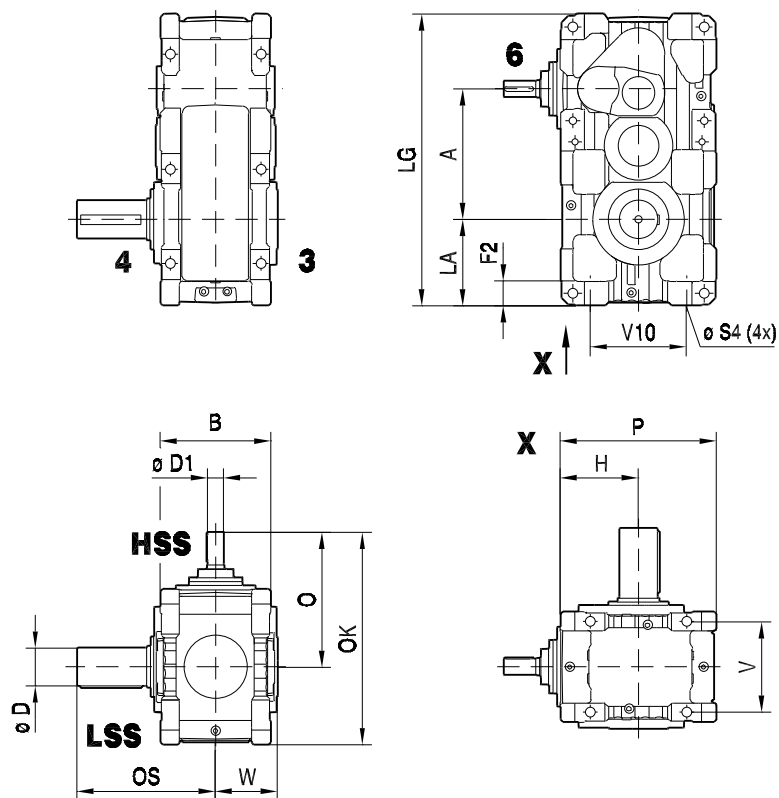
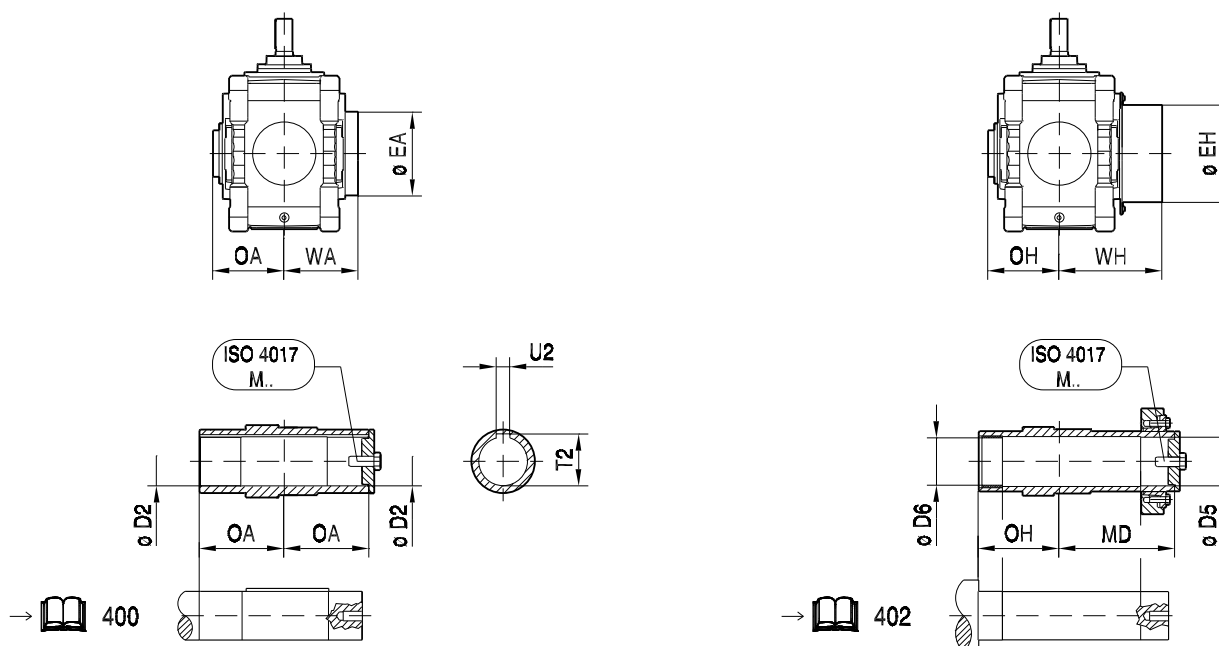
Dimension Sheets: Upright Gear Units M4 Mounting Position

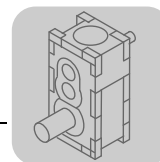
X.T.. bevel-helical gear units [mm]

X4T120 - 210

X4TS..

48 047 00 09

**X4TA..****X4TH..**



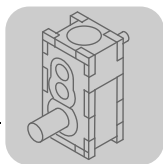
X.T.. 														
X4T..	A	B	F2	H	LA	LG	O	OK	P	∅ S4 (4x)	V	V10	W	
X4T.120	336	300	68	225 _{-0.5}	215 _{-0.5}	767	383	608	450	28	245	300	174	420
X4T.130	372	300	68	225 _{-0.5}	250 _{-0.5}	838	383	608	450	28	245	300	174	450
X4T.140	403	360	86	265 _{-0.5}	250 _{-0.5}	903	467	732	530	35	290	335	202	605
X4T.150	445	360	86	265 _{-0.5}	295 _{-0.5}	990	467	732	530	35	290	335	202	650
X4T.160	490	425	105	315 _{-0.5}	355 _{-0.5}	1144	554	869	630	42	340	400	240	1010
X4T.170	541	425	105	315 _{-0.5}	355 _{-0.5}	1195	554	869	630	42	340	400	240	1060
X4T.180	562	475	107	335 _{-0.5}	370 _{-0.5}	1249	653	988	670	42	390	415	277	1359
X4T.190	594	475	107	335 _{-0.5}	370 _{-0.5}	1281	653	988	670	42	390	415	277	1422
X4T.200	627	515	128	375 _{-0.5}	420 _{-0.5}	1409	671	1046	750	48	420	455	298	1811
X4T.210	663	515	128	375 _{-0.5}	420 _{-0.5}	1445	671	1046	750	48	420	455	298	1950

LSS	Ø D	L	OS	T	U	DIN 332 D. M..
						
X4TS120	100 _{m6}	210	401	106	28 _{h9}	M24
X4TS130	110 _{m6}	210	404	116	28 _{h9}	M24
X4TS140	120 _{m6}	210	432	127	32 _{h9}	M24
X4TS150	130 _{m6}	250	475	137	32 _{h9}	M24
X4TS160	140 _{m6}	250	506	148	36 _{h9}	M30
X4TS170	160 _{m6}	300	556	169	40 _{h9}	M30
X4TS180	170 _{m6}	300	592	179	40 _{h9}	M30
X4TS190	170 _{m6}	300	592	179	40 _{h9}	M30
X4TS200	180 _{m6}	300	612	190	45 _{h9}	M30
X4TS210	190 _{m6}	350	662	200	45 _{h9}	M30

HSS	Ø D1	L1	T1	U1	DIN 332 D. M..
					
X4T.120	28 _{k6}	60	31	8 _{h9}	M10
X4T.130	28 _{k6}	60	31	8 _{h9}	M10
X4T.140	32 _{k6}	80	35	10 _{h9}	M12
X4T.150	32 _{k6}	80	35	10 _{h9}	M12
X4T.160	38 _{k6}	100	41	10 _{h9}	M12
X4T.170	38 _{k6}	100	41	10 _{h9}	M12
X4T.180	50 _{k6}	110	53.5	14 _{h9}	M16
X4T.190	50 _{k6}	110	53.5	14 _{h9}	M16
X4T.200	50 _{k6}	110	53.5	14 _{h9}	M16
X4T.210	50 _{k6}	110	53.5	14 _{h9}	M16

X.TA..							
LSS	Ø D2	Ø EA	OA	T2	U2	WA	ISO 4017 M..
							
X4TA120	95 ^{H8}	202	190.5	100.4	25 ^{JS9}	212	M24x70-8.8
X4TA130	105 ^{H8}	223	194	111.4	28 ^{JS9}	216	M24x70-8.8
X4TA140	115 ^{H8}	223	222	122.4	32 ^{JS9}	244	M24x70-8.8
X4TA150	125 ^{H8}	250	224.5	132.4	32 ^{JS9}	246	M24x70-8.8
X4TA160	135 ^{H8}	269	256	143.4	36 ^{JS9}	301	M30x90-8.8
X4TA170	150 ^{H8}	269	256	158.4	36 ^{JS9}	301	M30x90-8.8
X4TA180	165 ^{H8}	263	292	174.4	40 ^{JS9}	339	M30x90-8.8
X4TA190	165 ^{H8}	263	292	174.4	40 ^{JS9}	339	M30x90-8.8
X4TA200	180 ^{H8}	313	319.5	190.4	45 ^{JS9}	371	M30x90-8.8
X4TA210	190 ^{H8}	313	319.5	200.4	45 ^{JS9}	371	M30x90-8.8

X.TH..							
LSS	Ø D5	Ø D6	Ø EH	MD	OH	WH	ISO 4017 M..
							
X4TH120	100 ^{H7}	101 ^{H9}	272	286.5	190.5	308	M24x70-8.8
X4TH130	110 ^{H7}	111 ^{H9}	289	297	194	323	M24x70-8.8
X4TH140	120 ^{H7}	121 ^{H9}	289	329	222	351	M24x70-8.8
X4TH150	130 ^{H7}	131 ^{H9}	319	337.5	224.5	359	M24x70-8.8
X4TH160	140 ^{H7}	141 ^{H9}	372	375	256	409	M30x90-8.8
X4TH170	150 ^{H7}	151 ^{H9}	372	364	256	409	M30x90-8.8
X4TH180	165 ^{H7}	166 ^{H9}	379	400	292	448	M30x90-8.8
X4TH190	165 ^{H7}	166 ^{H9}	379	400	292	448	M30x90-8.8
X4TH200	180 ^{H7}	181 ^{H9}	439	450.5	319.5	502	M30x90-8.8
X4TH210	190 ^{H7}	191 ^{H9}	439	453.5	319.5	502	M30x90-8.8

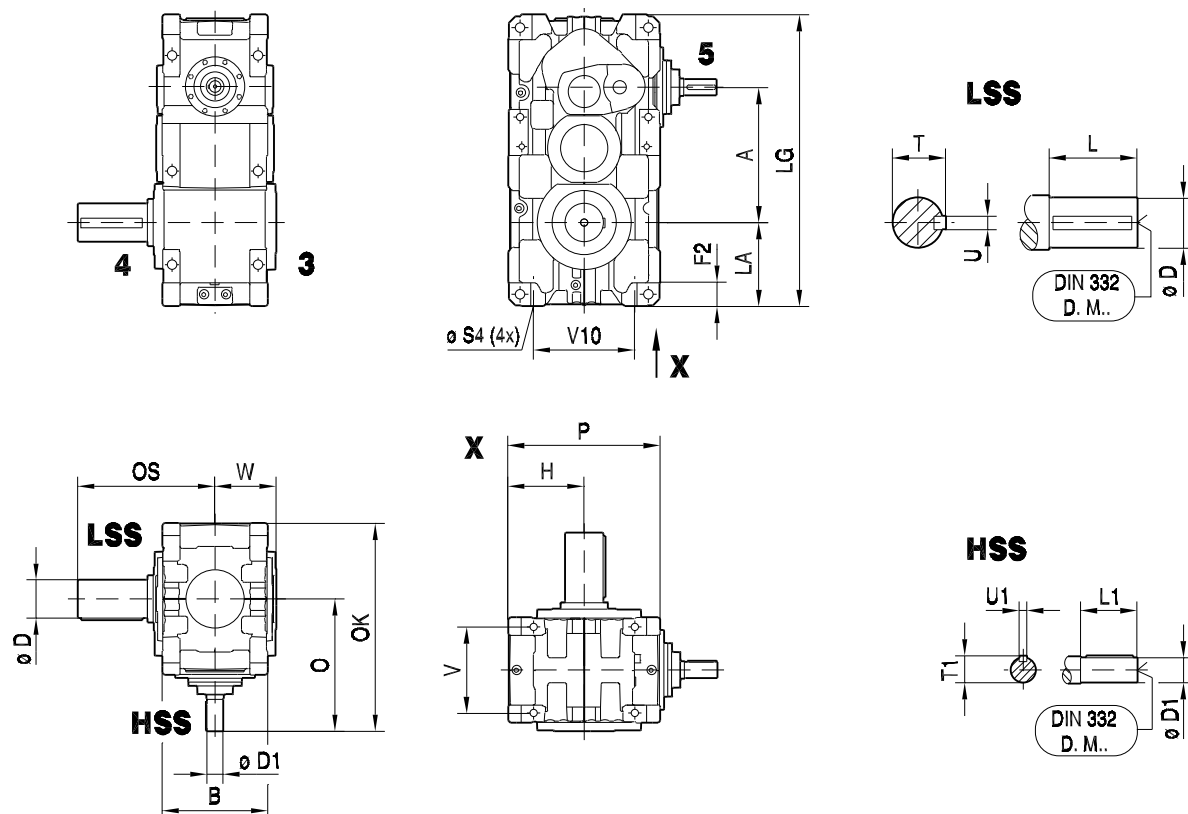


Dimension Sheets: Upright Gear Units M4 Mounting Position X.T.. bevel-helical gear units [mm]

X4T220 - 250

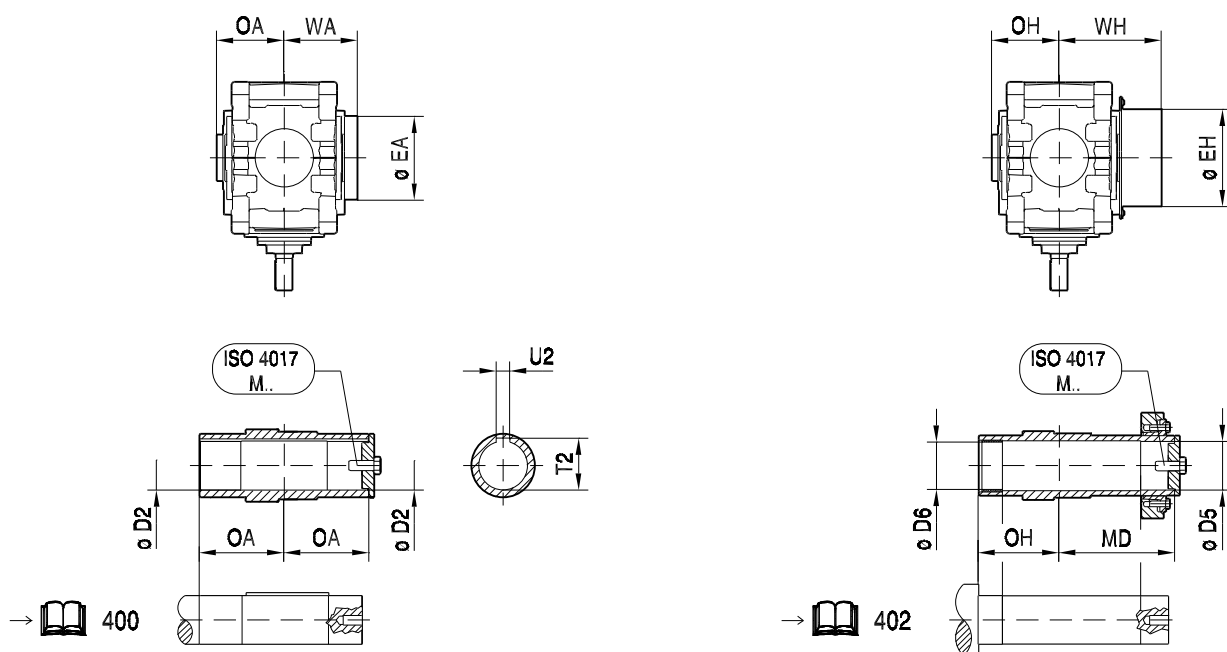
X4TS..

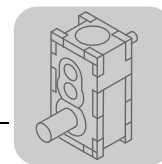
48 048 00 09



X4TA..

X4TH..





X.T..														
														
X4T..	A	B	F2	H	LA	LG	O	OK	P	Ø S4 (4x)	V	V10	W	
X4T.220	718	540	128	425 _{-0.5}	465 _{-0.5}	1584	761	1186	850	M42	440	610	331	2468
X4T.230	758	540	128	425 _{-0.5}	465 _{-0.5}	1624	761	1186	850	M42	440	610	331	2725
X4T.240	806	625	146	450 _{-0.5}	495 _{-0.5}	1721	817	1267	900	M48	510	600	377	3467
X4T.250	829	625	146	450 _{-0.5}	495 _{-0.5}	1744	817	1267	900	M48	510	600	377	3566

LSS	Ø D	L	OS	T	U	DIN 332 D. M..
						
X4TS220	210 _{m6}	350	703	221	50 _{h9}	M30
X4TS230	230 _{m6}	410	763	241	50 _{h9}	M36
X4TS240	230 _{m6}	410	811	241	50 _{h9}	M36
X4TS250	240 _{m6}	410	811	252	56 _{h9}	M36

HSS	Ø D1	L1	T1	U1	DIN 332 D. M..
					
X4T.220	60 _{m6}	140	64	18 _{h9}	M20
X4T.230	60 _{m6}	140	64	18 _{h9}	M20
X4T.240	70 _{m6}	140	74.5	20 _{h9}	M20
X4T.250	70 _{m6}	140	74.5	20 _{h9}	M20

X.TA..								
LSS	Ø D2	Ø EA	OA	T2	U2	WA	ISO 4017 M..	
								
X4TA220	210 ^{H8}	334	352.5	221.4	50 ^{JS9}	397	M30x90-8.8	2243
X4TA230	210 ^{H8}	334	352.5	221.4	50 ^{JS9}	397	M30x90-8.8	2500
X4TA240	230 ^{H8}	404	400.5	241.4	50 ^{JS9}	457	M36x110-8.8	3176
X4TA250	240 ^{H8}	404	400.5	252.4	56 ^{JS9}	457	M36x110-8.8	3253

X.TH..								
LSS	Ø D5	Ø D6	Ø EH	MD	OH	WH	ISO 4017 M..	
								
X4TH220	210 ^{H7}	211 ^{H9}	482	497.5	352.5	549	M30x90-8.8	2325
X4TH230	210 ^{H7}	211 ^{H9}	482	497.5	352.5	549	M30x90-8.8	2582
X4TH240	230 ^{H7}	231 ^{H9}	542	571.5	400.5	628	M36x110-8.8	3249
X4TH250	240 ^{H7}	241 ^{H9}	542	571.5	400.5	628	M36x110-8.8	3322