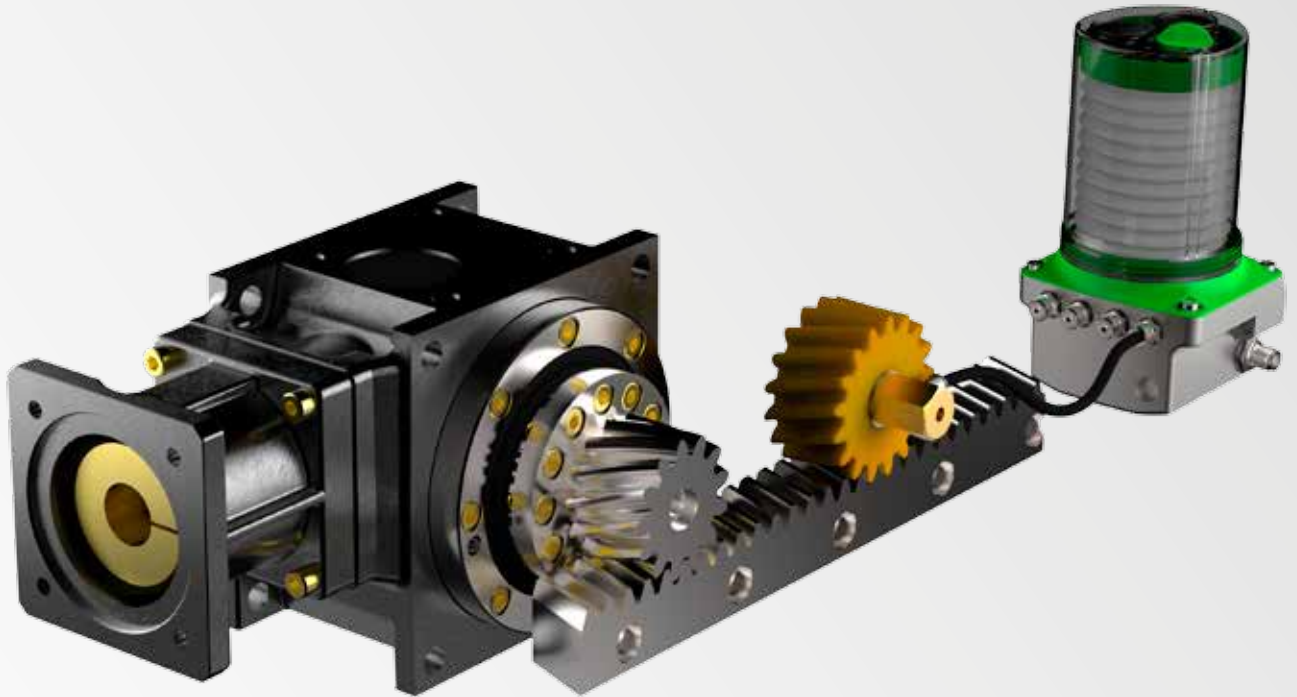
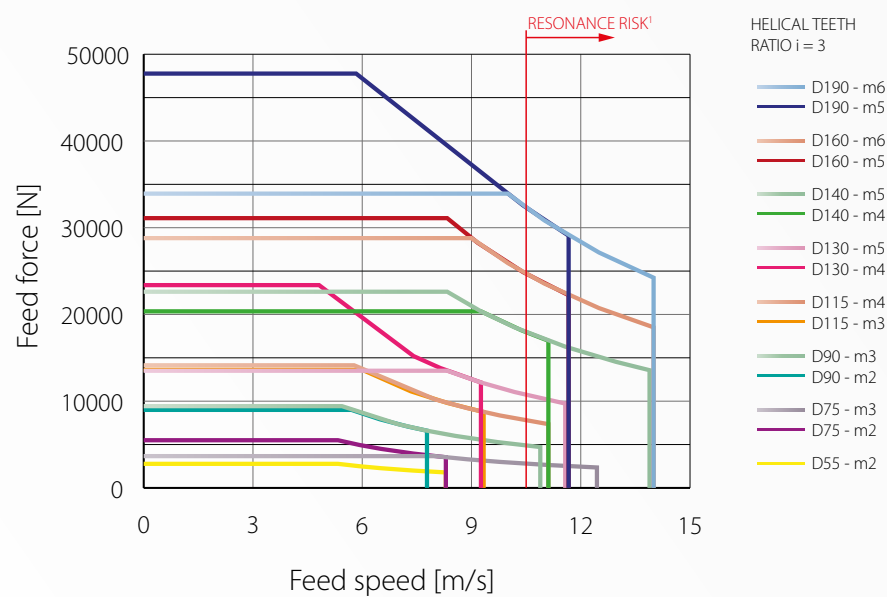




DYNAGEAR^{SYSTEM} - FORCES AND SPEEDS with helical teeth and ratio $i=3$



¹ We ask that you contact us concerning feed speeds of 10 m/s and higher



TECHNICAL DATA

GEAR	Ratio i	[1]	3	4	5	6	8	10	12	15	18	24	30	40	50	60	80	100
	n_{1MAX}	[min ⁻¹]	8000															
	n_{1N}	[min ⁻¹]	3500															
	T_{2N}	[Nm]	35															
	T_{2B}	[Nm]	53															
	T_{2NOT}	[Nm]	70															
	Weight	[kg]	3,5															
	η^2	[%]	>96															
			>93															
			>92															

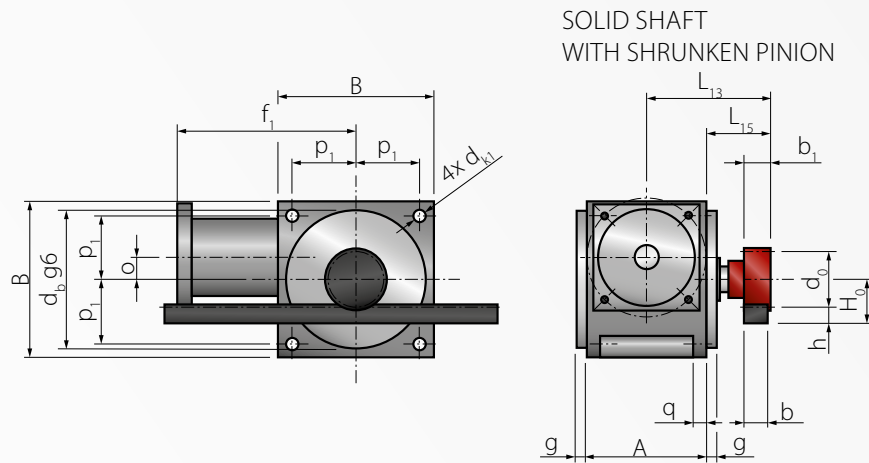
PROFESSIONAL	Module m		STRAIGHT					HELICAL				
			2					2				
	Teeth z	[1]	18	20	22	25	28	18	20	22	25	28
	F_{vMAX}^3	[N]	2650	2409	2208	1963	1767	2512	2282	2091	1858	1671
	V_{MAX}^3	[m/s]	5,0	5,6	6,1	7,0	7,8	5,3	5,9	6,5	7,4	8,3
	T_{2N}^1	[Nm]	35	35	35	35	35	35	35	35	35	35
	T_{2B}^1	[Nm]	53	53	53	53	53	53	53	53	53	53
	T_{2NOT}^1	[Nm]	70	70	70	70	70	70	70	70	70	70
	$P_{A MAX}$	[μm]	188	191	194	201	206	188	191	197	201	206
	$P_{R MAX}$	[μm]	26	29	32	36	41	26	29	32	36	41

ULTIMATE	Module m		STRAIGHT					HELICAL				
			2					2				
	Teeth z	[1]	18	20	22	25	28	18	20	22	25	28
	F_{vMAX}^3	[N]	2944	2650	2409	2120	1893	2775	2498	2271	1998	1784
	V_{MAX}^3	[m/s]	5,0	5,6	6,1	7,0	7,8	5,3	5,9	6,5	7,4	8,3
	T_{2N}^1	[Nm]	35	35	35	35	35	35	35	35	35	35
	T_{2B}^1	[Nm]	53	53	53	53	53	53	53	53	53	53
	T_{2NOT}^1	[Nm]	70	70	70	70	70	70	70	70	70	70
	$P_{A MAX}$	[μm]	76	79	82	89	94	76	79	85	89	94
	$P_{R MAX}$	[μm]	26	29	32	36	41	26	29	32	36	41

ULTIMATE ^{PLUS}	Module m		STRAIGHT					HELICAL				
			2					2				
	Teeth z	[1]	18	20	22	25	28	18	20	22	25	28
	F_{vMAX}^3	[N]	2944	2650	2409	2120	1893	2775	2498	2271	1998	1784
	V_{MAX}^3	[m/s]	5,0	5,6	6,1	7,0	7,8	5,3	5,9	6,5	7,4	8,3
	T_{2N}^1	[Nm]	35	35	35	35	35	35	35	35	35	35
	T_{2B}^1	[Nm]	53	53	53	53	53	53	53	53	53	53
	T_{2NOT}^1	[Nm]	70	70	70	70	70	70	70	70	70	70
	$P_{A MAX}$	[μm]	58	59	61	67	69	58	59	64	67	69
	$P_{R MAX}$	[μm]	16	17	19	22	24	16	17	19	22	24

An explanation of how to use the tables can be found on pages 4-7.

DIMENSIONS



Module m	[mm]	2				
Teeth z	[1]	18	20	22	25	28
A	[mm]	60				
b	[mm]	24				
b_1	[mm]	25				
B	[mm]	90				
d_0 straight	[mm]	36	40	44	50	56
d_0 helical	[mm]	38,20	42,44	46,69	53,05	59,42
$d_{b,g6}$	[mm]	89				
d_{k1}	[mm]	6,6				
g	[mm]	13,5				
h	[mm]	22				
H_0 straight	[mm]	40	42	44	47	50
H_0 helical	[mm]	41,10	43,22	45,34	48,53	51,71
L_{13}	[mm]	80				
L_{15}	[mm]	50				
o	[mm]	9				
p_1	[mm]	39				
q	[mm]	8				

MOTOR ATTACHMENT

Ratio i	[1]	3-15						18-100				
Flange		V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11
Shaft - $\varnothing d_1$	[mm]	9	11	14	14	14	19	9	11	14	14	14
Shaft length l	[mm]	23	26	30	30	30	40	25	25	30	30	30
Square u_1	[mm]	55	75	75	90	90	90	65	70	60	90	90
Pitch circle - $\varnothing v_1$	[mm]	63	75	75	95	100	100	63	75	75	95	100
Centering - $\varnothing w_1$	[mm]	40	60	60	50	80	80	40	60	60	50	80
Threads $4 \times s_1$	[mm]	M5	M5	M5	M6	M6	M6	M5	M5	M5	M6	M6
f_1	[mm]	130	140	140	143	143	153	153,3	153,3	158,3	158,3	158,3

¹ Reduced torques apply to the ratios 12 and 15. See the gear data for additional technical details.

² For bearing lifespan and gear efficiency calculations, visit www.gearfox.com

³ Values were determined at a ratio of 3:1.

All values assume sufficient lubrication and a well adjusted tooth contact pattern. Additional axial forces reduce the torque values.

NOTE: For optimal adjustment of the backlash, it is recommended that the connection structure is designed at least 1-2 mm larger.



TECHNICAL DATA

GEAR	Ratio i	[1]	3	4	5	6	8	10	12	15	18	24	30	40	50	60	80	100		
	n _{1MAX}	[min ⁻¹]	8000										6000							
	n _{1N}	[min ⁻¹]	1800				2700			3300		3000								
	T _{2N}	[Nm]	70						50	39	70									
	T _{2B}	[Nm]	105						75	58	105									
	T _{2NOT}	[Nm]	140						100	78	140									
	Weight	[kg]	5,5										6,5							
	η ²	[%]	>96						>93		>92									

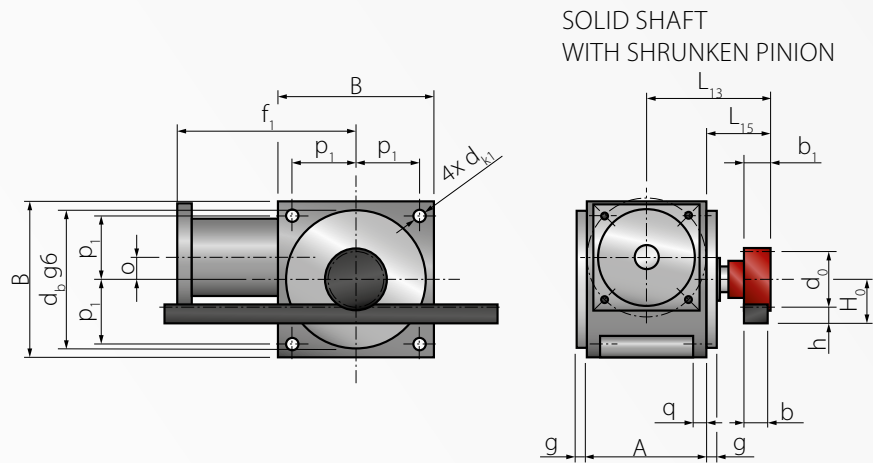
PROFESSIONAL	Module m	[mm]	STRAIGHT										HELICAL									
			2					3					2					3				
	Teeth z	[1]	18	20	22	25	28	18	20	22	25	28	18	20	22	25	28	18	20	22	25	28
	F_{vMAX}^3	[N]	3400	2955	2875	2778	2533	3500	3182	2917	2593	2333	4834	3704	3670	3506	3311	3318	3015	2762	2454	2208
	v_{MAX}^3	[m/s]	5,0	5,6	6,1	7,0	7,8	7,5	8,4	9,2	10,5	11,7	5,3	5,9	6,5	7,4	8,3	8,0	8,9	9,8	11,1	12,4
	T_{2N}^1	[Nm]	60	64	67	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
	T_{2B}^1	[Nm]	68	65	69	75	76	105	105	105	105	105	102	86	93	100	105	105	105	105	105	105
	T_{2NOT}^1	[Nm]	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140
	$P_{A MAX}$	[μm]	188	191	194	201	206	204	209	216	223	229	188	191	197	201	206	204	212	216	223	229
	$P_{R MAX}$	[μm]	26	29	32	36	41	39	44	48	55	61	26	29	32	36	41	39	44	48	55	61

ULTIMATE	Module m	[mm]	STRAIGHT										HELICAL									
			2					3					2					3				
	Teeth z	[1]	18	20	22	25	28	18	20	22	25	28	18	20	22	25	28	18	20	22	25	28
	F_{vMAX}^3	[N]	5833	5250	4773	4200	3750	3889	3500	3182	2800	2500	5498	4948	4498	3958	3534	3665	3299	2999	2639	2356
	v_{MAX}^3	[m/s]	5,0	5,6	6,1	7,0	7,8	7,5	8,4	9,2	10,5	11,7	5,3	5,9	6,5	7,4	8,3	8,0	8,9	9,8	11,1	12,4
	T_{2N}^1	[Nm]	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
	T_{2B}^1	[Nm]	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
	T_{2NOT}^1	[Nm]	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140
	$P_{A MAX}$	[μm]	76	79	82	89	94	92	97	104	111	117	76	79	85	89	94	92	100	104	111	117
	$P_{R MAX}$	[μm]	26	29	32	36	41	39	44	48	55	61	26	29	32	36	41	39	44	48	55	61

ULTIMATEplus	Module m	[mm]	STRAIGHT										HELICAL									
			2					3					2					3				
	Teeth z	[1]	18	20	22	25	28	18	20	22	25	28	18	20	22	25	28	18	20	22	25	28
	F_{vMAX}^3	[N]	5833	5250	4773	4200	3750	3889	3500	3182	2800	2500	5498	4948	4498	3958	3534	3665	3299	2999	2639	2356
	v_{MAX}^3	[m/s]	5,0	5,6	6,1	7,0	7,8	7,5	8,4	9,2	10,5	11,7	5,3	5,9	6,5	7,4	8,3	8,0	8,9	9,8	11,1	12,4
	T_{2N}^1	[Nm]	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
	T_{2B}^1	[Nm]	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
	T_{2NOT}^1	[Nm]	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140
	$P_{A MAX}$	[μm]	58	59	61	67	69	69	71	77	81	85	58	59	64	67	69	69	74	77	81	85
	$P_{R MAX}$	[μm]	16	17	19	22	24	24	26	29	33	37	16	17	19	22	24	24	26	29	33	37

An explanation of how to use the tables can be found on pages 4-7.

DIMENSIONS



Module m	[mm]	2					3				
Teeth z	[1]	18	20	22	25	28	18	20	22	25	28
A	[mm]	80					80				
b	[mm]	24					29				
b ₁	[mm]	25					30				
B	[mm]	115					115				
d ₀ straight	[mm]	36	40	44	50	56	54	60	66	75	84
d ₀ helical	[mm]	38,20	42,44	46,69	53,05	59,42	57,30	63,66	70,03	79,58	89,13
d _b g6	[mm]	105					105				
d _{k1}	[mm]	9					9				
g	[mm]	8,5					8,5				
h	[mm]	22					26				
H ₀ straight	[mm]	40	42	44	47	50	53	56	59	64	68
H ₀ helical	[mm]	41,10	43,22	45,34	48,53	51,71	54,65	57,83	61,01	65,79	70,56
L ₁₃	[mm]	90					90				
L ₁₅	[mm]	50					50				
o	[mm]	14					14				
p ₁	[mm]	49					49				
q	[mm]	10					10				

MOTOR ATTACHMENT

Ratio i	[1]	3-15								18-100							
Flange		V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16
Shaft-Ø d ₁	[mm]	11	14	14	19	19	19	19	24	14	14	14	19	19	19	19	24
Shaft length l	[mm]	26	30	30	40	40	40	40	50	30	30	30	40	40	40	40	50
Square u ₁	[mm]	75	75	90	90	90	115	115	115	75	90	90	90	90	115	115	115
Pitch circle-Ø v ₁	[mm]	75	75	95	95	100	130	115	130	75	95	100	95	100	130	115	130
Centering-Ø w ₁	[mm]	60	60	70	70	80	95	95	110	60	70	80	70	80	95	95	110
Threads 4x s ₁	[mm]	M5	M5	M6	M6	M6	M8	M8	M8	M5	M6	M6	M6	M8	M8	M8	M8
f ₁	[mm]	168	168	168	168	168	180	180	180	186,6	187	187	196,6	196,6	196,6	196,6	206,6

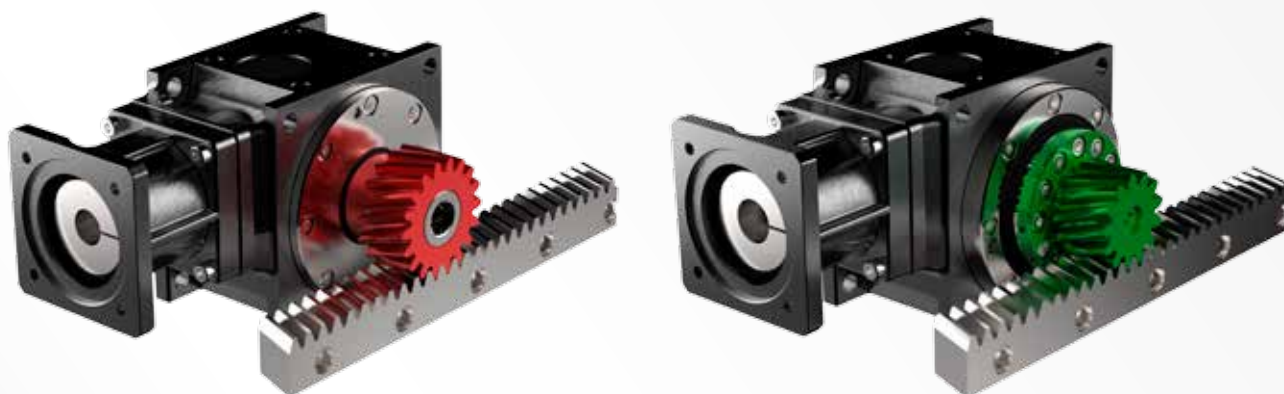
¹ Reduced torques apply to the ratios 12 and 15. See the gear data for additional technical details.

² For bearing lifespan and gear efficiency calculations, visit www.gearfox.com

³ Values were determined at a ratio of 3:1.

All values assume sufficient lubrication and a well adjusted tooth contact pattern. Additional axial forces reduce the torque values.

NOTE: For optimal adjustment of the backlash, it is recommended that the connection structure is designed at least 1-2 mm larger.



TECHNICAL DATA

GEAR	Ratio i	[1]	3	4	5	6	8	10	12	15	18	24	30	40	50	60	80	100			
	n _{1MAX}	[min ⁻¹]	7000											6000							
	n _{1N}	[min ⁻¹]	1500				2200				2800			3000							
	T _{2N}	[Nm]	140						95		66		140								
	T _{2B}	[Nm]	210						143		99		210								
	T _{2NOT}	[Nm]	280						190		132		280								
	Weight	[kg]	9,5											12,5							
	n ²	[%]	>96							>93				>92							

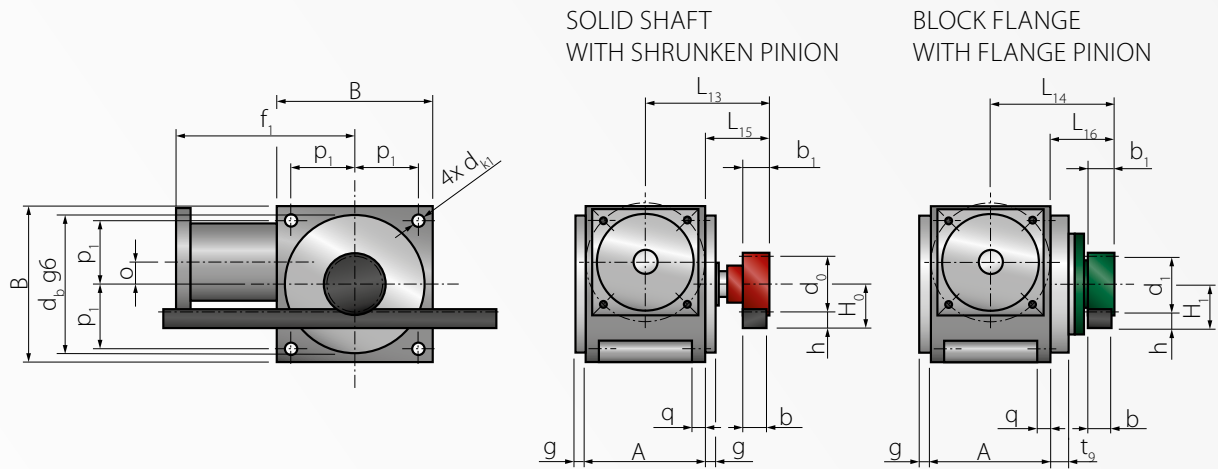
PROFESSIONAL	Module m	[mm]	STRAIGHT										HELICAL									
			2					3					2					3				
	Teeth z	[1]	22	25	28	30	15	18	20	22	25	28	22	25	28	30	14	18	20	22	25	28
	F_{vMAX}^3	[N]	2875	2778	2533	2469	6667	7000	6364	5833	5185	4667	3078	3506	3438	3429	8306	6636	6029	5524	4908	4415
	v_{MAX}^3	[m/s]	5,4	6,1	6,8	7,3	5,5	6,6	7,3	8,1	9,2	10,3	5,7	6,5	7,3	7,8	5,4	7,0	7,8	8,6	9,7	10,9
	T_{2N}^1	[Nm]	67	72	73	75	140	140	140	140	140	140	91	97	106	112	140	140	140	140	140	140
	T_{2B}^1	[Nm]	69	75	76	79	170	210	210	210	210	210	98	100	109	116	210	210	210	210	210	210
	T_{2NOT}^1	[Nm]	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280
	$P_{A MAX}$	[μm]	188	194	198	200	191	196	200	206	212	217	188	194	198	200	189	196	203	206	212	217
	$P_{R MAX}$	[μm]	26	29	33	35	26	31	35	38	44	49	26	29	33	35	24	31	35	38	44	49

ULTIMATE	Module m	[mm]	STRAIGHT										HELICAL									
			2					3					2					3				
	Teeth z	[1]	22	25	28	30	15	18	20	22	25	28	22	25	28	30	14	18	20	22	25	28
	F_{vMAX}^3	[N]	6636	6680	6679	6667	9333	7778	7000	6364	5600	5000	7797	7804	7069	6597	9425	7330	6597	5998	5278	4712
	v_{MAX}^3	[m/s]	5,4	6,1	6,8	7,3	5,5	6,6	7,3	8,1	9,2	10,3	5,7	6,5	7,3	7,8	5,4	7,0	7,8	8,6	9,7	10,9
	T_{2N}^1	[Nm]	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140
	T_{2B}^1	[Nm]	146	167	187	200	210	210	210	210	210	210	182	207	210	210	210	210	210	210	210	210
	T_{2NOT}^1	[Nm]	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280
	$P_{A MAX}$	[μm]	76	82	86	88	79	84	88	94	100	105	76	82	86	88	77	84	91	94	100	105
	$P_{R MAX}$	[μm]	26	29	33	35	26	31	35	38	44	49	26	29	33	35	24	31	35	38	44	49

ULTIMATEPLUS	Module m	[mm]	STRAIGHT										HELICAL									
			2					3					2					3				
	Teeth z	[1]	22	25	28	30	15	18	20	22	25	28	22	25	28	30	14	18	20	22	25	28
	F_{vMAX}^3	[N]	6636	6680	6679	6667	9333	7778	7000	6364	5600	5000	7797	7804	7069	6597	9425	7330	6597	5998	5278	4712
	v_{MAX}^3	[m/s]	5,4	6,1	6,8	7,3	5,5	6,6	7,3	8,1	9,2	10,3	5,7	6,5	7,3	7,8	5,4	7,0	7,8	8,6	9,7	10,9
	T_{2N}^1	[Nm]	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140
	T_{2B}^1	[Nm]	146	167	187	200	210	210	210	210	210	210	210	207	210	210	210	210	210	210	210	210
	T_{2NOT}^1	[Nm]	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280	280
	$P_{A MAX}$	[μm]	55	60	61	62	58	61	62	67	70	72	55	60	61	62	57	61	65	67	70	72
	$P_{R MAX}$	[μm]	13	15	16	17	13	16	17	19	22	24	13	15	16	17	12	16	17	19	22	24

An explanation of how to use the tables can be found on pages 4-7.

DIMENSIONS



Module m	[mm]	2				3							
Teeth z	[1]	22	25	28	30	14	15	18	20	22	25	28	
A	[mm]	100				100							
b	[mm]	24				29							
b ₁	[mm]	25				30							
B	[mm]	140				140							
d ₀	straight	[mm]	-	50	56	60	-		54	60	66	75	84
	helical	[mm]	-	53,05	59,42	63,66	-		57,30	63,66	70,03	79,58	89,13
d ₁	straight	[mm]	46	-			-	46	-				
	helical	[mm]	48	-			46	-					
d _g g6	[mm]	125				125							
d _{k1}	[mm]	9				9							
g	[mm]	8				8							
h	[mm]	22				26							
H ₀	straight	[mm]	-	47	50	52	-		53	56	59	64	68
	helical	[mm]	-	48,53	51,71	53,83	-		54,65	57,83	61,01	65,79	70,56
H ₁	straight	[mm]	45	-			-	49	-				
	helical	[mm]	46	-			49	-					
L ₁₃	[mm]	-	110			-		110					
L ₁₄	[mm]	113	-			118		-					
L ₁₅	[mm]	-	60			-		60					
L ₁₆	[mm]	63	-			68		-					
o	[mm]	18				18							
p ₁	[mm]	49				49							
q	[mm]	11				11							
t ₉	[mm]	16	-			16		-					

MOTOR ATTACHMENT

Ratio i	[1]	3-15										18-100									
Flange		V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	
Shaft -Ø d ₁	[mm]	14	14	19	19	19	19	24	24	24	32	14	14	19	19	19	19	24	24	24	
Shaft length l	[mm]	30	30	40	40	40	40	50	50	50	60	30	30	40	40	40	40	50	50	50	
Square u ₁	[mm]	90	90	90	115	115	115	115	140	140	140	90	90	90	115	115	115	115	140	140	
Pitch circle -Ø v ₁	[mm]	100	95	100	130	115	130	130	165	165	165	100	95	100	130	115	130	130	165	165	
Centering -Ø w ₁	[mm]	80	80	80	95	95	110	110	110	130	130	80	80	80	95	95	110	110	110	130	
Threads 4x s ₁	[mm]	M6	M6	M6	M8	M8	M8	M8	M10	M10	M10	M6	M6	M6	M8	M8	M8	M8	M10	M10	
f ₁	[mm]	191	191	191	191	191	191	201	201	201	201	202,6	202,6	212,6	212,6	212,6	212,6	222,6	222,6	222,6	

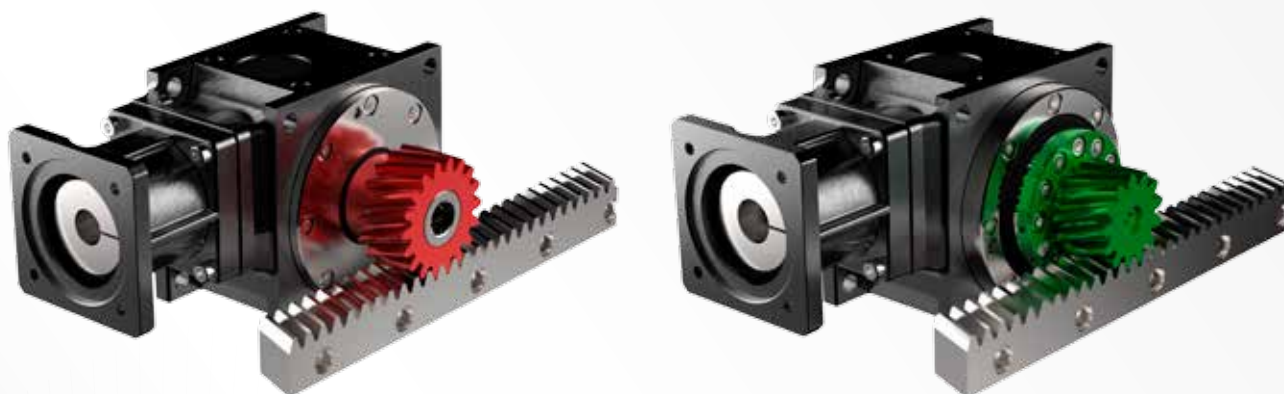
¹ Reduced torques apply to the ratios 12 and 15. See the gear data for additional technical details.

² For bearing lifespan and gear efficiency calculations, visit www.gearfox.com

³ Values were determined at a ratio of 3:1.

All values assume sufficient lubrication and a well adjusted tooth contact pattern. Additional axial forces reduce the torque values.

NOTE: For optimal adjustment of the backlash, it is recommended that the connection structure is designed at least 1-2 mm larger.



TECHNICAL DATA

GEAR	Ratio i	[1]	3	4	5	6	8	10	12	15	18	24	30	40	50	60	80	100		
	n _{1MAX}	[min ⁻¹]	6000										6000							
	n _{1N}	[min ⁻¹]	1150				1800			2300			2500							
	T _{2N}	[Nm]	260						180		130		260							
	T _{2B}	[Nm]	390						270		195		390							
	T _{2NOT}	[Nm]	520						360		260		520							
	Weight	[kg]	15,5										19,5							
	n ²	[%]	>96						>93				>92							

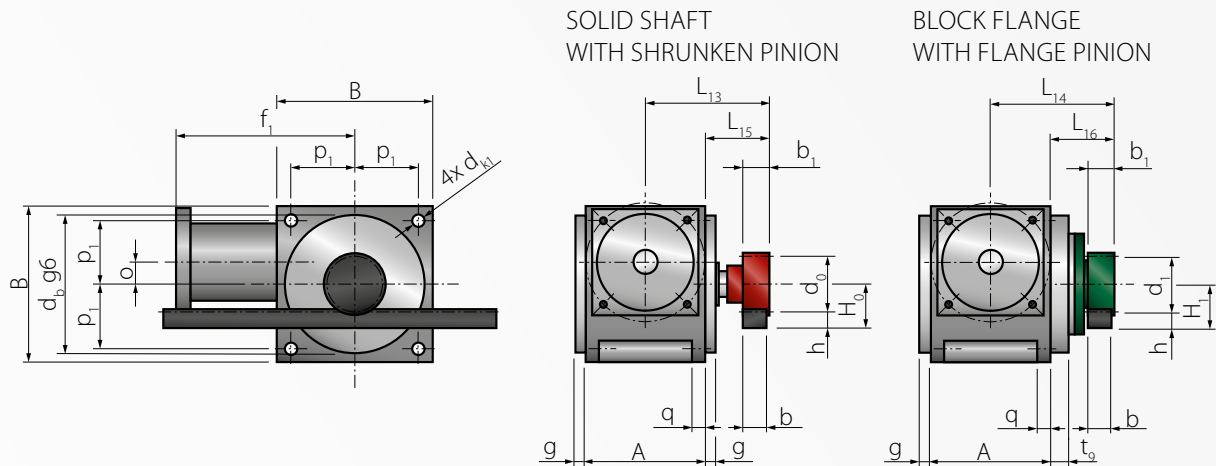
PROFESSIONAL			STRAIGHT										HELICAL									
	Module m	[mm]	3				4						3					4				
	Teeth z	[1]	19	22	25	28	14	18	20	22	25	18	22	25	28	13	18	20	22	25		
	F _{vMAX} ³	[N]	10730	7722	7556	7400	11125	9750	8864	8125	7222	12323	9418	9115	8200	12347	9242	8398	7695	6836		
	V _{MAX} ³	[m/s]	6,0	6,9	7,9	8,8	5,9	7,5	8,4	9,2	10,5	6,0	7,3	8,3	9,3	5,8	8,0	8,9	9,8	11,1		
	T _{2N} ¹	[Nm]	249	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260		
	T _{2B} ¹	[Nm]	338	278	306	333	356	390	390	390	390	390	358	390	390	390	390	390	390	390		
	T _{2NOT} ¹	[Nm]	520	520	520	520	520	520	520	520	520	520	520	520	520	520	520	520	520	520		
	P _{A MAX}	[μm]	198	206	212	217	201	210	215	219	226	196	206	212	217	195	210	215	219	230		
	P _{R MAX}	[μm]	33	38	44	49	33	42	47	51	58	31	38	44	49	30	42	47	51	58		

ULTIMATE			STRAIGHT										HELICAL									
	Module m	[mm]	3					4					3					4				
	Teeth z	[1]	19	22	25	28	14	18	20	22	25	18	22	25	28	13	18	20	22	25		
	F_{vMAX}^3	[N]	13684	11818	10400	9286	13929	10833	9750	8864	7800	13614	11138	9802	8752	14137	10210	9189	8354	7351		
	V_{MAX}^3	[m/s]	6,0	6,9	7,9	8,8	5,9	7,5	8,4	9,2	10,5	6,0	7,3	8,3	9,3	5,8	8,0	8,9	9,8	11,1		
	T_{2N}^1	[Nm]	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260		
	T_{2B}^1	[Nm]	390	390	390	390	390	390	390	390	390	390	390	390	390	390	390	390	390	390		
	T_{2NOT}^1	[Nm]	520	520	520	520	520	520	520	520	520	520	520	520	520	520	520	520	520	520		
	$P_{A MAX}$	[μm]	86	94	100	105	89	98	103	107	114	84	94	100	105	83	98	103	107	118		
	$P_{R MAX}$	[μm]	33	38	44	49	33	42	47	51	58	31	38	44	49	30	42	47	51	58		

ULTIMATE ^{PLUS}			STRAIGHT										HELICAL									
	Module m	[mm]	3				4						3					4				
	Teeth z	[1]	19	22	25	28	14	18	20	22	25	18	22	25	28	13	18	20	22	25		
	F _{vMAX} ³	[N]	13684	11818	10400	9286	13929	10833	9750	8864	7800	13614	11138	9802	8752	14137	10210	9189	8354	7351		
	v _{MAX} ³	[m/s]	6,0	6,9	7,9	8,8	5,9	7,5	8,4	9,2	10,5	6,0	7,3	8,3	9,3	5,8	8,0	8,9	9,8	11,1		
	T _{2N} ¹	[Nm]	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260		
	T _{2B} ¹	[Nm]	390	390	390	390	390	390	390	390	390	390	390	390	390	390	390	390	390	390		
	T _{2NOT} ¹	[Nm]	520	520	520	520	520	520	520	520	520	520	520	520	520	520	520	520	520	520		
	P _{A MAX}	[μm]	62	67	70	72	66	71	73	76	79	61	67	70	72	62	71	73	76	83		
	P _{R MAX}	[μm]	17	19	22	24	16	21	23	26	29	16	19	22	24	15	21	23	26	29		

An explanation of how to use the tables can be found on pages 4-7.

DIMENSIONS



Module m	[mm]	3					4					
Teeth z	[1]	18	19	22	25	28	13	14	18	20	22	25
A	[mm]	120					120					
b	[mm]	29					29					
b ₁	[mm]	30					30					
B	[mm]	170					170					
d ₀	straight	[mm]	-	66	75	84	-		72	80	88	100
	helical	[mm]	-	70,03	79,58	89,13	-		76,39	84,88	93,37	106,10
d ₁	straight	[mm]	-	60	-		-	58	-			
	helical	[mm]	60	-			58	-				
d _b g6	[mm]	150					150					
d _{k1}	[mm]	13,5					-					
g	[mm]	8					-					
h	[mm]	26					-					
H ₀	straight	[mm]	-	55,5	57,8	60	-		71	75	79	85
	helical	[mm]	-	56,51	58,89	61,28	-		73,20	77,44	81,69	88,05
H ₁	straight	[mm]	-	56	-		-	64	-			
	helical	[mm]	56	-			64	-				
L ₁₃	[mm]	-	130			-		130				
L ₁₄	[mm]	145	-			145		-				
L ₁₅	[mm]	-	70			-		70				
L ₁₆	[mm]	85	-			85		-				
o	[mm]	23					-					
p ₁	[mm]	72					-					
q	[mm]	13					-					
t ₉	[mm]	17	-			17		-				

MOTOR ATTACHMENT

Ratio i	[1]	3-15										18-100									
Flange		V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20
Shaft-Ø d ₁	[mm]	19	19	24	24	24	32	32	32	38	38	19	19	24	24	24	32	32	32	36	36
Shaft length l	[mm]	40	40	50	50	50	60	60	60	80	80	40	40	50	50	50	60	60	60	80	80
Square u ₁	[mm]	115	115	115	140	140	140	190	190	190	190	115	115	115	140	140	140	190	190	190	190
Pitch circle-Ø v ₁	[mm]	115	130	130	165	165	165	215	215	215	215	115	130	130	165	165	165	215	215	215	215
Centering-Ø w ₁	[mm]	95	95	110	110	130	130	180	130	180	130	95	95	110	110	130	130	180	130	180	130
Threads 4x s ₁	[mm]	M8	M8	M8	M10	M10	M10	M12	M12	M12	M12	M8	M8	M8	M10	M10	M10	M12	M12	M12	M12
f ₁	[mm]	220	220	220	220	220	235	235	235	245	245	241	241	251	251	251	261	261	261	281	281

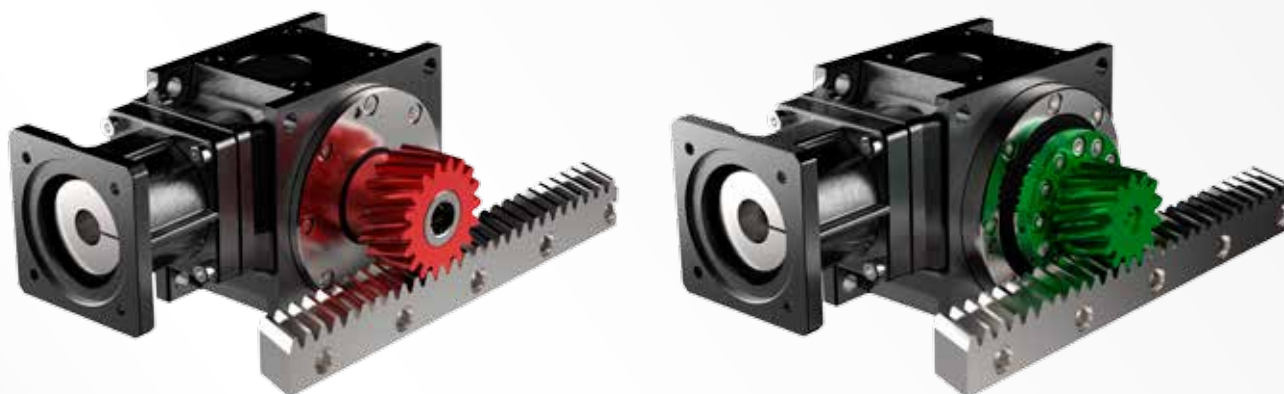
¹ Reduced torques apply to the ratios 12 and 15. See the gear data for additional technical details.

² For bearing lifespan and gear efficiency calculations, visit www.gearfox.com

³ Values were determined at a ratio of 3:1.

All values assume sufficient lubrication and a well adjusted tooth contact pattern. Additional axial forces reduce the torque values.

NOTE: For optimal adjustment of the backlash, it is recommended that the connection structure is designed at least 1-2 mm larger.



TECHNICAL DATA

GEAR	Ratio i	[1]	3	4	5	6	8	10	12	15	18	24	30	40	50	60	80	100				
	n_{1MAX}	[min ⁻¹]	5000										5000									
	n_{1N}	[min ⁻¹]	1000				1500				2000				2500							
	T_{2N}	[Nm]	430						300		215		430									
	T_{2B}	[Nm]	645						450		322		645									
	T_{2NOT}	[Nm]	860						600		430		860									
	Weight	[kg]	23,5										27									
	η^2	[%]	>96						>93				>92									

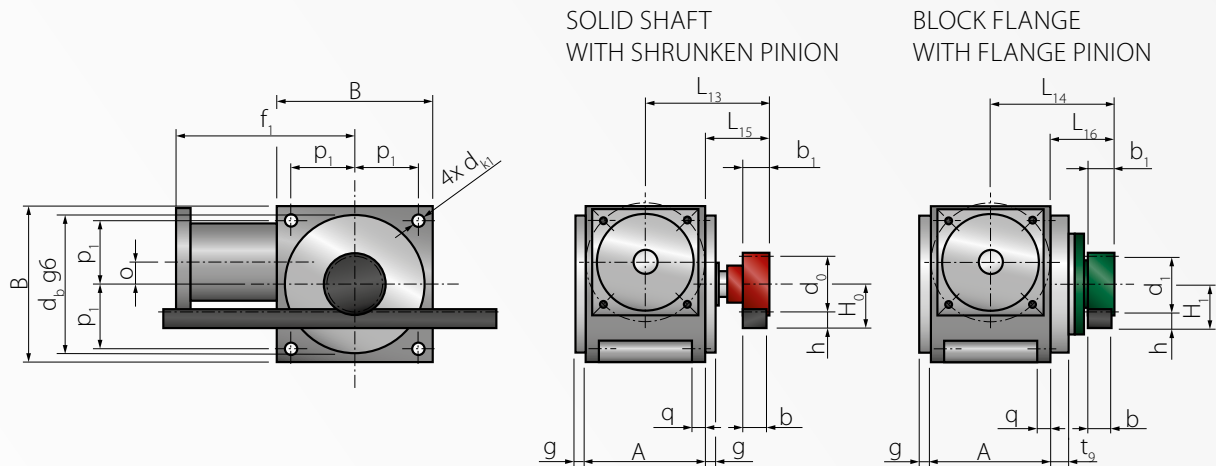
PROFESSIONAL	Module m	[mm]	STRAIGHT								HELICAL							
			4				5				4				5			
	Teeth z	[1]	14	20	22	25	18	20	22	25	13	20	22	25	18	20	22	25
	F_{vMAX}^3	[N]	11125	14659	13438	11944	12900	11727	10750	9556	19185	13888	12726	11306	12228	11111	10180	9044
	V_{MAX}^3	[m/s]	4,9	7,0	7,7	8,7	7,9	8,7	9,6	10,9	5,8	7,4	8,1	9,3	8,3	9,3	10,2	11,6
	T_{2N}^1	[Nm]	362	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430
	T_{2B}^1	[Nm]	356	645	645	645	645	645	645	645	606	645	645	645	645	645	645	645
	T_{2NOT}^1	[Nm]	860	860	860	860	860	860	860	860	860	860	860	860	860	860	860	860
	$P_{A MAX}$	[μm]	201	215	219	226	244	250	256	265	195	215	219	230	244	250	256	265
	$P_{R MAX}$	[μm]	33	47	51	58	52	58	64	73	30	47	51	58	52	58	64	73

ULTIMATE	Module m	[mm]	STRAIGHT								HELICAL							
			4				5				4				5			
	Teeth z	[1]	14	20	22	25	18	20	22	25	13	20	22	25	18	20	22	25
	F_{vMAX}^3	[N]	15393	16125	14659	12900	14333	12900	11727	10320	23381	15197	13816	12158	13509	12158	11053	9726
	V_{MAX}^3	[m/s]	4,9	7,0	7,7	8,7	7,9	8,7	9,6	10,9	5,8	7,4	8,1	9,3	8,3	9,3	10,2	11,6
	T_{2N}^1	[Nm]	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430
	T_{2B}^1	[Nm]	431	645	645	645	645	645	645	645	645	645	645	645	645	645	645	645
	T_{2NOT}^1	[Nm]	860	860	860	860	860	860	860	860	860	860	860	860	860	860	860	860
	$P_{A MAX}$	[μm]	89	103	107	114	116	122	128	137	83	103	107	118	116	122	128	137
	$P_{R MAX}$	[μm]	33	47	51	58	52	58	64	73	30	47	51	58	52	58	64	73

ULTIMATEPLUS	Module m	[mm]	STRAIGHT								HELICAL							
			4				5				4				5			
	Teeth z	[1]	14	20	22	25	18	20	22	25	13	20	22	25	18	20	22	25
	F_{vMAX}^3	[N]	15393	16125	14659	12900	14333	12900	11727	10320	23381	15197	13816	12158	13509	12158	11053	9726
	V_{MAX}^3	[m/s]	4,9	7,0	7,7	8,7	7,9	8,7	9,6	10,9	5,8	7,4	8,1	9,3	8,3	9,3	10,2	11,6
	T_{2N}^1	[Nm]	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430
	T_{2B}^1	[Nm]	431	645	645	645	645	645	645	645	645	645	645	645	645	645	645	645
	T_{2NOT}^1	[Nm]	860	860	860	860	860	860	860	860	860	860	860	860	860	860	860	860
	$P_{A MAX}$	[μm]	66	73	76	79	80	83	86	90	62	73	76	83	80	83	86	90
	$P_{R MAX}$	[μm]	16	23	26	29	26	29	32	36	15	23	26	29	26	29	32	36

An explanation of how to use the tables can be found on pages 4-7.

DIMENSIONS



Module m	[mm]	4					5			
Teeth z	[1]	13	14	20	22	25	18	20	22	25
A	[mm]	138					138			
b	[mm]	39					49			
b ₁	[mm]	40					50			
B	[mm]	192					192			
d ₀ straight	[mm]	-	-	80	88	100	90	100	110	125
d ₀ helical	[mm]	-	-	84,88	93,37	106,10	95,49	106,10	116,71	132,63
d ₁ straight	[mm]	-	58	-	-	-	-	-	-	-
d ₁ helical	[mm]	58	-	-	-	-	-	-	-	-
d ₀ g6	[mm]	173					173			
d _{k1}	[mm]	13,5					13,5			
g	[mm]	10					10			
h	[mm]	35					34			
H ₀ straight	[mm]	-	-	75	79	85	79	84	89	96,5
H ₀ helical	[mm]	-	-	77,44	81,69	88,05	81,75	87,05	92,36	100,31
H ₁ straight	[mm]	-	64	-	-	-	-	-	-	-
H ₁ helical	[mm]	64	-	-	-	-	-	-	-	-
L ₁₃	[mm]	-	-	156	-	-	-	-	-	-
L ₁₄	[mm]	154,5	-	-	-	-	-	-	-	-
L ₁₅	[mm]	-	-	87	-	-	-	-	-	-
L ₁₆	[mm]	85,5	-	-	-	-	-	-	-	-
o	[mm]	27					27			
p ₁	[mm]	82					82			
q	[mm]	14					14			
t ₉	[mm]	17,5	-	-	-	-	-	-	-	-

MOTOR ATTACHMENT

Ratio i	[1]	3-15					18-100						
Flange		V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12
Shaft -Ø d ₁	[mm]	24	24	32	32	32	19	19	24	24	32	32	32
Shaft length l	[mm]	50	50	60	60	60	40	40	50	50	60,0	60,0	60
Square u ₁	[mm]	140	140	140	190	190	115	115	140	140	140	190	190
Pitch circle -Ø v ₁	[mm]	165	165	165	215	215	115	130	165	165	165	215	215
Centering -Ø w ₁	[mm]	110	130	130	180	130	95	95	110	130	130	180	130
Threads 4x s ₁	[mm]	M10	M10	M10	M12	M12	M8	M8	M10	M10	M10	M12	M12
f ₁	[mm]	245	245	245	245	245	257	257	267	267	277	277	277

¹ Reduced torques apply to the ratios 12 and 15. See the gear data for additional technical details.

² For bearing lifespan and gear efficiency calculations, visit www.gearfox.com

³ Values were determined at a ratio of 3:1.

All values assume sufficient lubrication and a well adjusted tooth contact pattern. Additional axial forces reduce the torque values.

NOTE: For optimal adjustment of the backlash, it is recommended that the connection structure is designed at least 1-2 mm larger.



TECHNICAL DATA

GEAR	Ratio i	[1]	3	4	5	6	8	10	12	15	18	24	30	40	50	60	80	100
	n_{1MAX}	[min ⁻¹]	5000															
	n_{1N}	[min ⁻¹]	700															
	T_{2N}	[Nm]	720															
	T_{2B}	[Nm]	1080															
	T_{2NOT}	[Nm]	1440															
	Weight	[kg]	32,5															
	η^2	[%]	>96															
			>93															

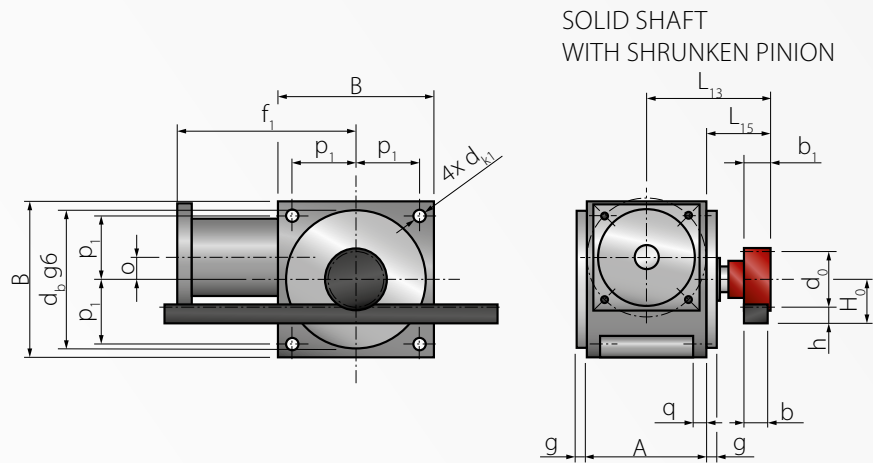
PROFESSIONAL			STRAIGHT										HELICAL									
	Module m	[mm]	4			5							4			5						
	Teeth z	[1]	25	28	30	18	20	22	25	28	30	25	28	30	18	20	22	25	28	30		
	F ³ _{vMAX}	[N]	14519	14267	14125	21600	19636	18000	16000	14400	13500	17773	17030	15962	20475	18604	17046	15144	13624	12769		
	V ³ _{MAX}	[m/s]	8,7	9,8	10,5	7,9	8,7	9,6	10,9	12,2	13,1	9,3	10,4	11,1	8,3	9,3	10,2	11,6	13,0	13,9		
	T ¹ _{2N}	[Nm]	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720		
	T ¹ _{2B}	[Nm]	784	856	904	1080	1080	1080	1080	1080	1080	1014	1080	1080	1080	1080	1080	1080	1080	1080		
	T ¹ _{2NOT}	[Nm]	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440		
	P _{A MAX}	[μm]	226	237	242	244	250	256	265	273	279	230	237	242	244	250	256	265	273	279		
	P _{R MAX}	[μm]	58	65	70	52	58	64	73	81	87	58	65	70	52	58	64	73	81	87		

ULTIMATE			STRAIGHT										HELICAL									
	Module m	[mm]	4			5							4			5						
	Teeth z	[1]	25	28	30	18	20	22	25	28	30	25	28	30	18	20	22	25	28	30		
	F_{vMAX}^3	[N]	21600	19286	18000	24000	21600	19636	17280	15429	14400	20357	18176	16965	22619	20357	18507	16286	14541	13572		
	V_{MAX}^3	[m/s]	8,7	9,8	10,5	7,9	8,7	9,6	10,9	12,2	13,1	9,3	10,4	11,1	8,3	9,3	10,2	11,6	13,0	13,9		
	T_{2N}^1	[Nm]	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720		
	T_{2B}^1	[Nm]	1080	1080	1080	1080	1080	1080	1080	1080	1080	1080	1080	1080	1080	1080	1080	1080	1080	1080		
	T_{2NOT}^1	[Nm]	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440		
	$P_{A MAX}$	[μm]	114	125	130	116	122	128	137	145	151	118	125	130	116	122	128	137	145	151		
	$P_{R MAX}$	[μm]	58	65	70	52	58	64	73	81	87	58	65	70	52	58	64	73	81	87		

			STRAIGHT										HELICAL									
ULTIMATE ^{PLUS}	Module m	[mm]	4			5							4			5						
	Teeth z	[1]	25	28	30	18	20	22	25	28	30	25	28	30	18	20	22	25	28	30		
	F ³ _{vMAX}	[N]	21600	19286	18000	24000	21600	19636	17280	15429	14400	20357	18176	16965	22619	20357	18507	16286	14541	13572		
	V ³ _{MAX}	[m/s]	8,7	9,8	10,5	7,9	8,7	9,6	10,9	12,2	13,1	9,3	10,4	11,1	8,3	9,3	10,2	11,6	13,0	13,9		
	T ¹ _{2N}	[Nm]	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720	720		
	T ¹ _{2B}	[Nm]	1080	1080	1080	1080	1080	1080	1080	1080	1080	1080	1080	1080	1080	1080	1080	1080	1080	1080		
	T ¹ _{2NOT}	[Nm]	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440		
	P _{A MAX}	[μm]	79	87	89	80	83	86	90	95	98	83	87	89	80	83	86	90	95	98		
	P _{R MAX}	[μm]	29	33	35	26	29	32	36	41	44	29	33	35	26	29	32	36	41	44		

An explanation of how to use the tables can be found on pages 4-7.

DIMENSIONS



Module m	[mm]	4			5					
Teeth z	[1]	25	28	30	18	20	22	25	28	30
A	[mm]	146			146					
b	[mm]	39			49					
b ₁	[mm]	40			50					
B	[mm]	215			215					
d ₀ straight	[mm]	100	112	120	90	100	110	125	140	150
d ₀ helical	[mm]	106,10	118,84	127,32	95,49	106,10	116,71	132,63	148,54	159,16
d _b g6	[mm]	195			195					
d _{k1}	[mm]	17,5			17,5					
g	[mm]	10			10					
h	[mm]	35			34					
H ₀ straight	[mm]	85,00	91,00	95,00	79,00	84,00	89,00	96,50	104,00	109,00
H ₀ helical	[mm]	88,05	94,42	98,66	81,75	87,05	92,36	100,31	108,27	113,58
L ₁₃	[mm]	175			175					
L ₁₅	[mm]	102			102					
o	[mm]	32			32					
p ₁	[mm]	91			91					
q	[mm]	15			15					

MOTOR ATTACHMENT

Ratio i	[1]	3-15						18-100					
Flange		V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12
Shaft -Ø d ₁	[mm]	24	24	32	32	32	38	24	24	32	32	32	38
Shaft length l	[mm]	50	50	60	60	60	80	50	50	60	60	60	80
Square u ₁	[mm]	140	140	140	190	190	190	140	140	140	190	190	190
Pitch circle -Ø v ₁	[mm]	165	165	165	215	215	215	165	165	165	215	215	215
Centering -Ø w ₁	[mm]	110	130	130	180	130	180	110	130	130	180	130	180
Threads 4x s ₁	[mm]	M10	M10	M10	M12	M12	M12	M10	M10	M10	M12	M12	M12
f ₁	[mm]	260	260	280	265	265	280	300	300	310	310	310	330

¹ Reduced torques apply to the ratios 12 and 15. See the gear data for additional technical details.

² For bearing lifespan and gear efficiency calculations, visit www.gearfox.com

³ Values were determined at a ratio of 3:1.

All values assume sufficient lubrication and a well adjusted tooth contact pattern. Additional axial forces reduce the torque values.

NOTE: For optimal adjustment of the backlash, it is recommended that the connection structure is designed at least 1-2 mm larger.



TECHNICAL DATA

GEAR	Ratio i	[1]	3	4	5	6	8	10	12	15	18	24	30	40	50	60	80	100
	n_{1MAX}	[min ⁻¹]	4500															
	n_{1N}	[min ⁻¹]	600															
	T_{2N}	[Nm]	1100															
	T_{2B}	[Nm]	1650															
	T_{2NOT}	[Nm]	2200															
	Weight	[kg]	46,5															
	η^2	[%]	>96															
			>93															

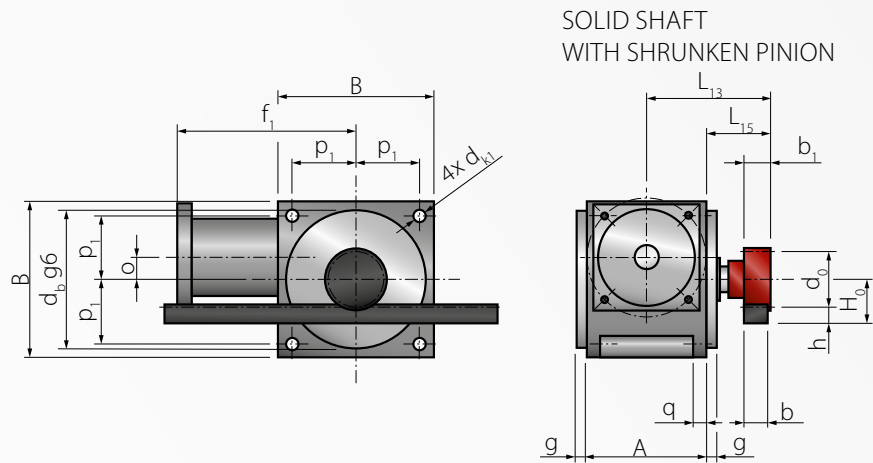
PROFESSIONAL	Module m	[mm]	STRAIGHT								HELICAL								
	Teeth z	[1]	5			6					5				6				
	F ³ _{vMAX}	[N]	22	25	28	18	20	22	25	28	20	22	25	28	18	20	22	25	28
	V ³ _{MAX}	[m/s]	26650	24444	22000	27500	25000	22917	20370	18333	28423	26043	23137	20814	26068	23686	21702	19281	17345
	T ¹ _{2N}	[Nm]	8,6	9,8	11,0	8,5	9,4	10,4	11,8	13,2	8,3	9,2	10,4	11,7	9,0	10,0	11,0	12,5	14,0
	T ¹ _{2B}	[Nm]	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
	T ¹ _{2NOT}	[Nm]	1599	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
	P ¹ _{A MAX}	[μm]	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
	P ¹ _{R MAX}	[μm]	256	265	273	255	262	269	283	294	250	256	265	273	255	262	273	283	294
				64	73	81	63	70	77	87	98	58	64	73	81	63	70	77	87

ULTIMATE	Module m	[mm]	STRAIGHT								HELICAL								
			5			6					5				6				
	Teeth z	[1]	22	25	28	18	20	22	25	28	20	22	25	28	18	20	22	25	28
	F_{vMAX}^3	[N]	30000	26400	23571	30556	27500	25000	22000	19643	31102	28274	24881	22216	28798	25918	23562	20734	18513
	V_{MAX}^3	[m/s]	8,6	9,8	11,0	8,5	9,4	10,4	11,8	13,2	8,3	9,2	10,4	11,7	9,0	10,0	11,0	12,5	14,0
	T_{2N}^1	[Nm]	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
	T_{2B}^1	[Nm]	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
	T_{2NOT}^1	[Nm]	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
	$P_{A MAX}$	[μm]	128	137	145	127	134	141	155	166	122	128	137	145	127	134	145	155	166
	$P_{R MAX}$	[μm]	64	73	81	63	70	77	87	98	58	64	73	81	63	70	77	87	98

ULTIMATE ^{PLUS}			STRAIGHT												HELICAL					
	Module m	[mm]	5			6					5						6			
	Teeth z	[1]	22	25	28	18	20	22	25	28	20	22	25	28	18	20	22	25	28	
	F ³ _{vMAX}	[N]	30000	26400	23571	30556	27500	25000	22000	19643	31102	28274	24881	22216	28798	25918	23562	20734	18513	
	V ³ _{MAX}	[m/s]	8,6	9,8	11,0	8,5	9,4	10,4	11,8	13,2	8,3	9,2	10,4	11,7	9,0	10,0	11,0	12,5	14,0	
	T ¹ _{2N}	[Nm]	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	
	T ¹ _{2B}	[Nm]	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	
	T ¹ _{2NOT}	[Nm]	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	
	P _{A MAX}	[μm]	86	90	95	85	89	92	102	107	83	86	90	95	85	89	96	102	107	
	P _{R MAX}	[μm]	32	36	41	31	35	38	44	49	29	32	36	41	31	35	38	44	49	

An explanation of how to use the tables can be found on pages 4-7.

DIMENSIONS



Module m	[mm]	5				6				
Teeth z	[1]	20	22	25	28	18	20	22	25	28
A	[mm]	166				166				
b	[mm]	49				59				
b ₁	[mm]	50				60				
B	[mm]	240				240				
d ₀ straight	[mm]	-	110	125	140	108	120	132	150	168
d ₀ helical	[mm]	106,10	116,71	132,63	148,54	114,59	127,32	140,06	159,16	178,25
d _b g6	[mm]	225				225				
d _{k1}	[mm]	17,5				17,5				
g	[mm]	10				10				
h	[mm]	34				43				
H ₀ straight	[mm]	-	89	97	104	97	103	109	118	127
H ₀ helical	[mm]	87,05	92,36	100,31	108,27	100,30	106,66	113,03	122,58	132,13
L ₁₃	[mm]	195				195				
L ₁₅	[mm]	112				112				
o	[mm]	38				38				
p ₁	[mm]	103				103				
q	[mm]	16				16				

MOTOR ATTACHMENT

Ratio i	[1]	3-15				18-100				
Flange		V1	V2	V3	V4	V5	V6	V7	V8	V9
Shaft -Ø d ₁	[mm]	32	32	38	48	24	24	32	32	38
Shaft length l	[mm]	60	60	80	85	50	50	60	60	80
Square u ₁	[mm]	190	190	190	260	140	140	190	190	190
Pitch circle -Ø v ₁	[mm]	215	215	215	300	165	165	215	215	215
Centering -Ø w ₁	[mm]	180	130	180	250	110	130	180	130	180
Threads 4x s ₁	[mm]	M12	M12	M12	M16	M12	M12	M12	M12	M12
f ₁	[mm]	298	298	308	308	320	320	330	330	350

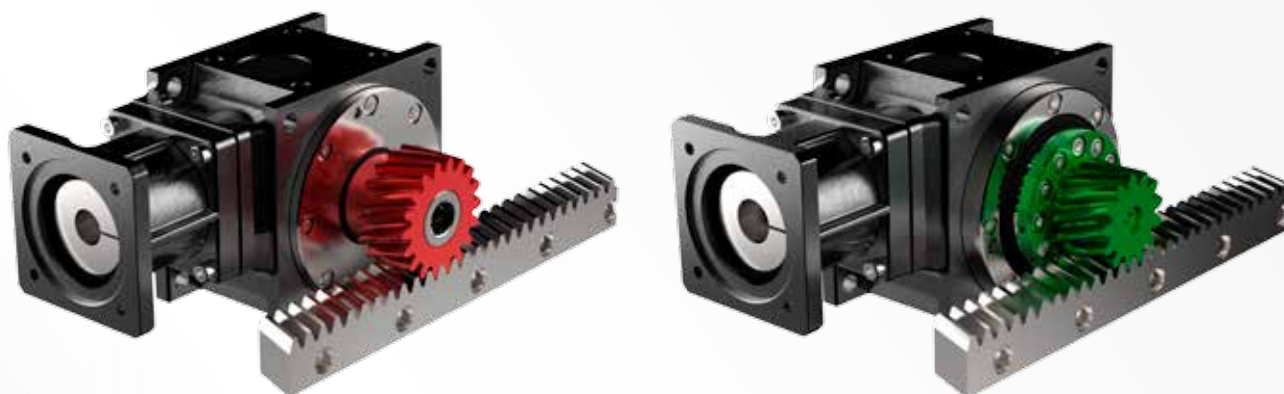
¹ Reduced torques apply to the ratios 12 and 15. See the gear data for additional technical details.

² For bearing lifespan and gear efficiency calculations, visit www.gearfox.com

³ Values were determined at a ratio of 3:1.

All values assume sufficient lubrication and a well adjusted tooth contact pattern. Additional axial forces reduce the torque values.

NOTE: For optimal adjustment of the backlash, it is recommended that the connection structure is designed at least 1-2 mm larger.



TECHNICAL DATA

GEAR	Ratio i	[1]	3	4	5	6	8	10	12	15	18	24	30	40	50	60	80	100	
	n _{1MAX}	[min ⁻¹]	4500											4500					
	n _{1N}	[min ⁻¹]	550			1000			1300			2500							
	T _{2N}	[Nm]	1440						1020		735		1440						
	T _{2B}	[Nm]	2160						1530		1102		2160						
	T _{2NOT}	[Nm]	2880						2040		1470		2880						
	Weight	[kg]	60											61,5					
	n ²	[%]	>96						>93			>92							

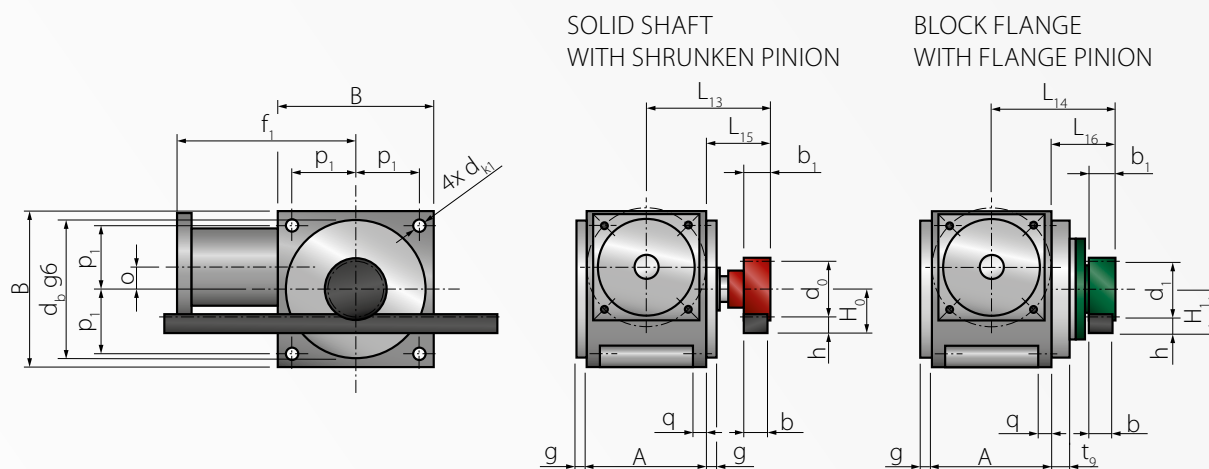
PROFESSIONAL			STRAIGHT							HELICAL						
	Module m	[mm]	5			6				5			6			
	Teeth z	[1]	15	25	28	20	22	25	28	14	25	28	20	22	25	28
	F_{vMAX}^3	[N]	22212	26326	26000	32727	30000	26667	24000	29618	30288	27248	31007	28410	25240	22707
	V_{MAX}^3	[m/s]	5,9	9,8	11,0	9,4	10,4	11,8	13,2	5,8	10,4	11,7	10,0	11,0	12,5	14,0
	T_{2N}^1	[Nm]	961	1440	1440	1440	1440	1440	1440	1154	1440	1440	1440	1440	1440	1440
	T_{2B}^1	[Nm]	944	1777	1950	2160	2160	2160	2160	1248	2160	2160	2160	2160	2160	2160
	T_{2NOT}^1	[Nm]	2377	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880
	$P_{A MAX}$	[μm]	232	265	273	262	269	283	294	229	265	273	262	273	283	294
	$P_{R MAX}$	[μm]	44	73	81	70	77	87	98	41	73	81	70	77	87	98

ULTIMATE			STRAIGHT								HELICAL							
	Module m	[mm]	5			6					5			6				
	Teeth z	[1]	15	25	28	20	22	25	28	14	25	28	20	22	25	28		
	F_{vMAX}^3	[N]	29147	34560	30857	36000	32727	28800	25714	47770	32572	29082	33929	30845	27143	24235		
	V_{MAX}^3	[m/s]	5,9	9,8	11,0	9,4	10,4	11,8	13,2	5,8	10,4	11,7	10,0	11,0	12,5	14,0		
	T_{2N}^1	[Nm]	1113	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440		
	T_{2B}^1	[Nm]	1093	2160	2160	2160	2160	2160	2160	1774	2160	2160	2160	2160	2160	2160		
	T_{2NOT}^1	[Nm]	2451	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880		
	$P_{A MAX}$	[μm]	104	137	145	134	141	155	166	101	137	145	134	145	155	166		
	$P_{R MAX}$	[μm]	44	73	81	70	77	87	98	41	73	81	70	77	87	98		

ULTIMATE ^{PLUS}			STRAIGHT							HELICAL						
	Module m	[mm]	5			6				5			6			
	Teeth z	[1]	15	25	28	20	22	25	28	14	25	28	20	22	25	28
	F ³ _{vMAX}	[N]	29147	34560	30857	36000	32727	28800	25714	47770	32572	29082	33929	30845	27143	24235
	V ³ _{MAX}	[m/s]	5,9	9,8	11,0	9,4	10,4	11,8	13,2	5,8	10,4	11,7	10,0	11,0	12,5	14,0
	T ¹ _{2N}	[Nm]	1113	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440	1440
	T ¹ _{2B}	[Nm]	1093	2160	2160	2160	2160	2160	2160	1774	2160	2160	2160	2160	2160	2160
	T ¹ _{2NOT}	[Nm]	2451	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880	2880
	P ¹ _{A MAX}	[μm]	72	90	95	89	92	102	107	70	90	95	99	106	112	117
	P ¹ _{R MAX}	[μm]	22	36	41	35	38	44	49	20	36	41	35	38	44	49

An explanation of how to use the tables can be found on pages 4-7.

DIMENSIONS



Module m	[mm]	5				6			
Teeth z	[1]	14	15	25	28	20	22	25	28
A	[mm]	196				196			
b	[mm]	49				59			
b_1	[mm]	50				60			
B	[mm]	260				260			
d_0 straight	[mm]	-	-	125	140	120	132	150	168
d_0 helical	[mm]	-	-	132,63	148,54	127,32	140,06	159,16	178,25
d_1 straight	[mm]	-	80	-	-	-	-	-	-
d_1 helical	[mm]	80	-	-	-	-	-	-	-
$d_b g_6$	[mm]	245				245			
d_{k1}	[mm]	17,5				18			
g	[mm]	10				10			
h	[mm]	34				43			
H_0 straight	[mm]	-	-	96,5	104	103	109	118	127
H_0 helical	[mm]	-	-	100,31	108,27	106,66	113,03	122,58	132,13
H_1 straight	[mm]	-	74	-	-	-	-	-	-
H_1 helical	[mm]	74	-	-	-	-	-	-	-
L_{13}	[mm]	-	-	220	-	-	-	-	-
L_{14}	[mm]	207,5	-	-	-	-	-	-	-
L_{15}	[mm]	-	-	122	-	-	-	-	-
L_{16}	[mm]	109,5	-	-	-	-	-	-	-
o	[mm]	42				42			
p_1	[mm]	112				112			
q	[mm]	17				17			
t_9	[mm]	22,5	-	-	-	-	-	-	-

MOTOR ATTACHMENT

Ratio i	[1]	3-15				18-100				
Flange		V1	V2	V3	V4	V5	V6	V7	V8	V9
Shaft - $\varnothing d_1$	[mm]	32	32	38	48	24	24	32	32	38
Shaft length l	[mm]	60	60	80	85	50	50	60	60	80
Square u_1	[mm]	190	190	190	260	140	140	190	190	190
Pitch circle - $\varnothing v_1$	[mm]	215	215	215	300	165	165	215	215	215
Centering - $\varnothing w_1$	[mm]	180	130	180	250	110	130	180	130	180
Threads $4 \times s_1$	[mm]	M12	M12	M12	M16	M12	M12	M12	M12	M12
f_1	[mm]	335	335	335	345	339	339	349	349	369

¹ Reduced torques apply to the ratios 12 and 15. See the gear data for additional technical details.

² For bearing lifespan and gear efficiency calculations, visit www.gearfox.com

³ Values were determined at a ratio of 3:1.

All values assume sufficient lubrication and a well adjusted tooth contact pattern. Additional axial forces reduce the torque values.

NOTE: For optimal adjustment of the backlash, it is recommended that the connection structure is designed at least 1-2 mm larger.

D90 - ULP - 080 - 1 3 2 03 - SS 030 18

Size

D55DynaGear D55
D75DynaGear D75
D90DynaGear D90
D115 ...DynaGear D115
D130 ...DynaGear D130
D140 ...DynaGear D140
D160 ...DynaGear D160
D190 ...DynaGear D190

Precision class

PRO.....Professional
ULTUltimate
ULPUltimate^{PLUS}

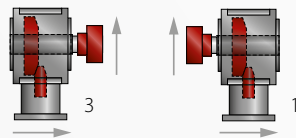
Ratio

003 $i = 3^1$
010 $i = 10^1$
etc.

¹ available ratios
one-stage
3, 4, 5, 6, 8, 10, 12, 15, 30
two-stage
18, 24, 30, 40, 50, 60, 80, 100

Direction of rotation / pinion location

1Pinion on side 1
3Pinion on side 3



Max. input speed

1< 250 min⁻¹
2< 1000 min⁻¹
3< 2000 min⁻¹
4< 3500 min⁻¹
5≥ 3500 min⁻¹

Number of teeth pinion

13, 14, 15,, 28, 30²
² available numbers of teeth
see catalogue pages
Additional executions on request

Module

020Module 2
030Module 3
040Module 4
050Module 5
060Module 6

Pinion

SG Straight pinion
SS Helical pinion
FH Straight flange pinion
FS Helical flange pinion

Motor attachment

03V3 (V1...V20³, VX⁴)

³ See catalogue for available flange
⁴ Additional flange dimensions on request

Mounting position

1MP1
2MP2
3MP3
4MP4
5MP5
6MP6

