Our Production Program

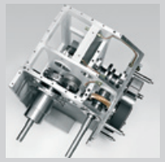
ZZ Bevel Gear Units
up to 7000 Nm nominal torque
or 500 kW power. ZZ Servoline® series
for high-dynamic drives

ZZ Screw Jack Units
with trapezoidal or
ball screw spindle
for loading up to 1000 kN

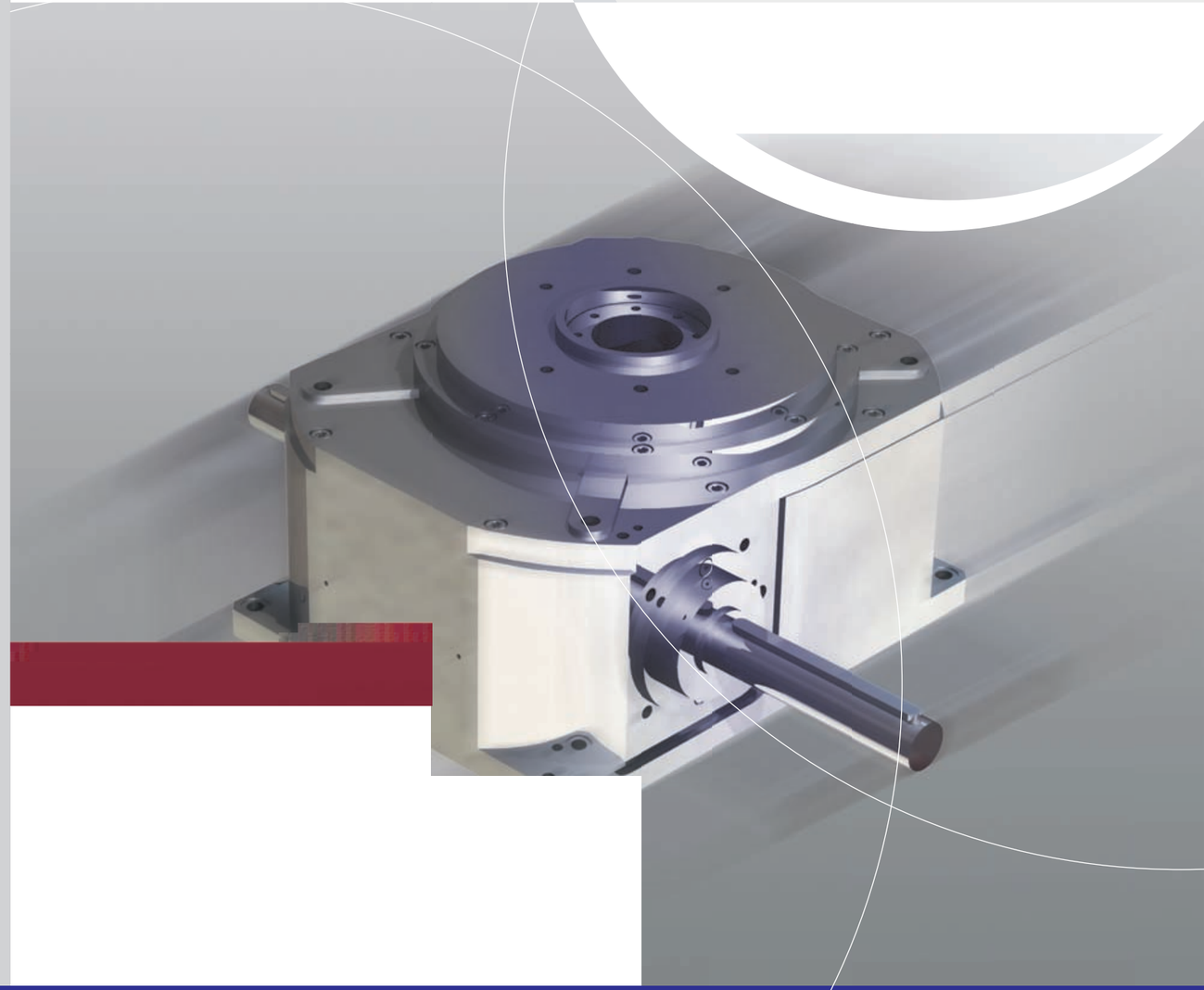
ZZ Indexing Units
as globoid, cylinder- or
radial cam gear units
with pendular or stepping function

ZZ Spiral Bevel Gears
with - palloid gear tooth system
- Cyclo-palloid gear tooth system
- HPG-S gear tooth system

ZZ Cams
as - Globoid cams
- Axial cams
- Radial cams

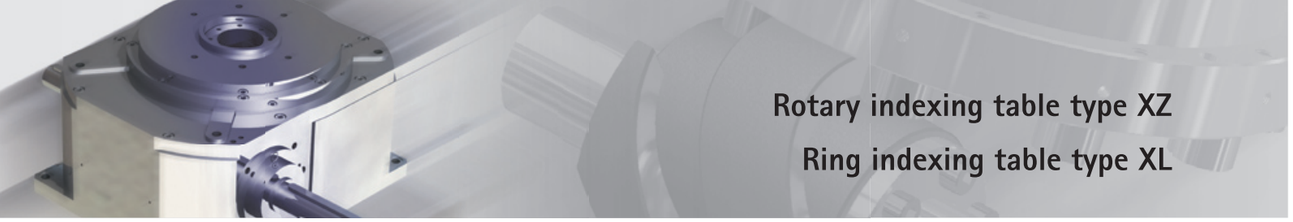


ZZ Special Gear Units
for versatile use in many
different types of application



ZZ-Antriebe GmbH
An der Tagweide 12
76139 Karlsruhe
Telefon +(49) 7 21.62 05-0
Telefax +(49) 7 21.62 05-10
info@zz-antriebe.de
www.zz-antriebe.de

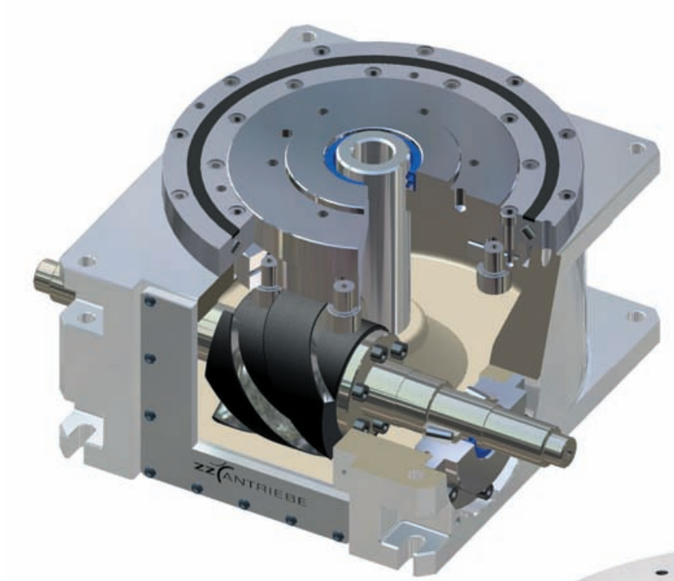
Rotary indexing table · Type XZ

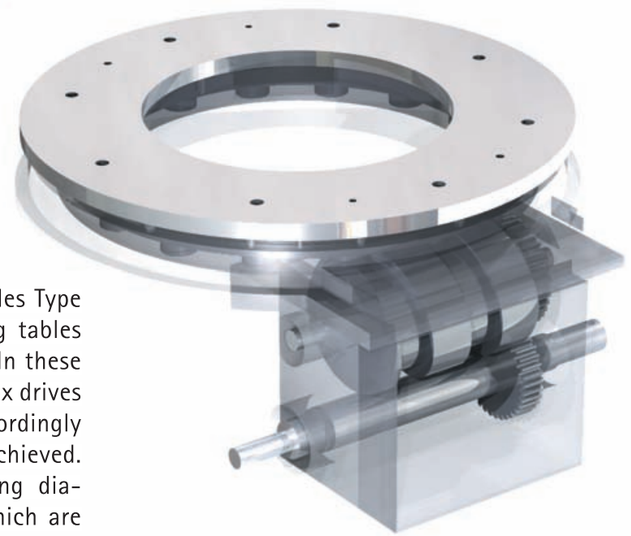


Rotary indexing table type XZ
Ring indexing table type XL

Rotary indexing table type XZ

Rotary indexing tables type XZ are based on a cylindrical cam in which the cam follower intervenes perpendicularly. Thus the output-hollow shaft, on which the cam follower is mounted, can be designed with large diameters.





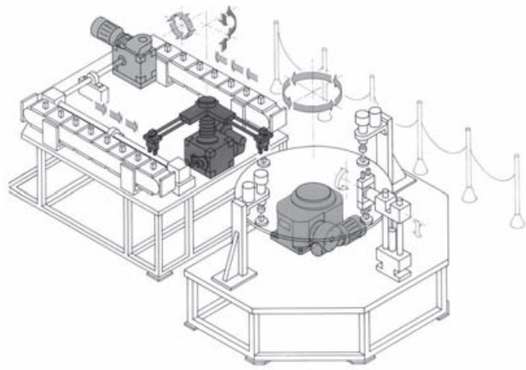
Ring indexing table type XL

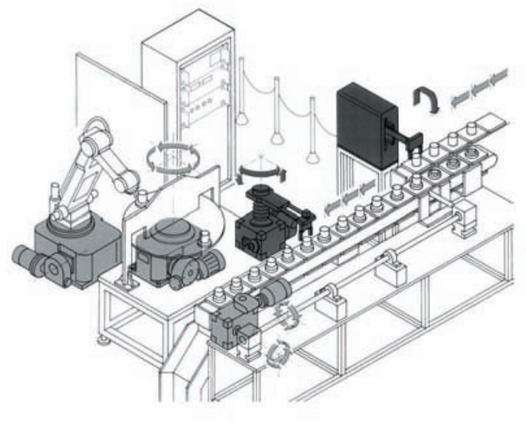
Alternatively to the rotary indexing tables Type XZ of this catalogue also ring indexing tables type XL can be offered by ZZ-Antriebe. In these ring indexing tables the indexing gear box drives the ring at its outer diameter and accordingly extremely large diameters can be achieved. The standard product range covers ring diameters from 510mm up to 2100mm which are documented in a separate catalogue.

For further information please visit:
www.zz-antriebe.de

Rotary indexing table type XZ

ZZ cam gears provide a fast mechanical and positional transfer of drive for bulk materials and smaller items. The ZZ rotary indexing table type XZ converts a constant movement of the input shaft to an intermittent movement of the output shaft by way of axles set at right angles to each other. The contour of the cam profile, determines the rotation of the table from specific mathematical rules of acceleration in conjunction with the corresponding dwell phase. Between 2 and 32 stations are possible on the output shaft.





Fields of Application

Mechanical intermittent gears are ideally suited to the requirements of high productivity, in particular to high speeds, accuracy, low noise and minimal running costs. Typical examples of application include:

- Assembly systems
- Packing machines
- Production machines
- Automatic welding machines
- Transport systems
- Processing islands
- Bottling machines
- Printing presses

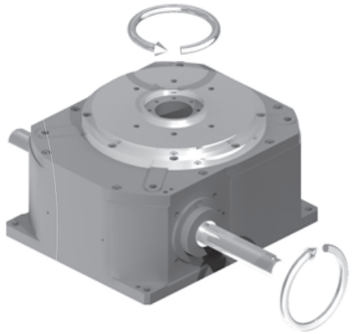
Advantages of ZZ Rotary Indexing Tables

- Precisely controlled clock speed
- Smooth operation, even at high indexing (switching) rates
- Interlocking during the dwell phase
- Accurate repeatability
- Free from any vibration
- Minimum maintenance
- Minimum power consumption

Description:
To achieve a complete working cycle, the input shaft must revolve by 360°. The intermittent movement is given by the shape of the cam path. The input torque is converted to output torque by the cam. During the indexing process, the cam profile-pair moves the rollers through the indexing cam. At least two rollers are always engaged so that at each point of movement, there is no occurrence of play or backlash. The indexing plate is smoothly controlled throughout the entire indexing process,. The shape of the cam transfers the acceleration and movement rules specified in the project phase. During the dwell phase, the profile of the cam is orthogonal to the plane of the cam shaft to ensure self-locking.

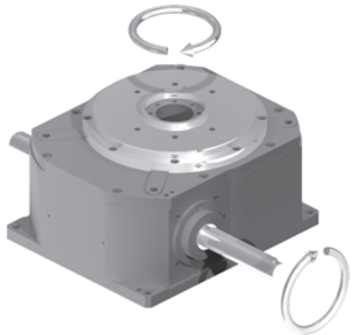
Direction of Rotation

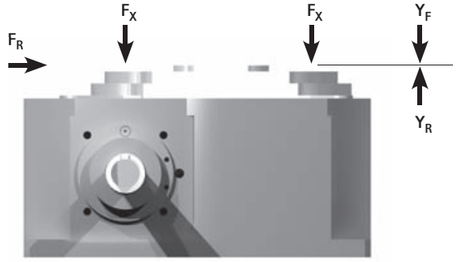
As standard, the ZZ rotary indexing table is manufactured with right-handed cams. A clockwise rotation of the input shaft produces an intermittent rotation of the output shaft in a counter-clockwise direction. To achieve the opposite rotation, simply reverse the movement of the input shaft. As an option, the drive can be supplied with left-handed cams.

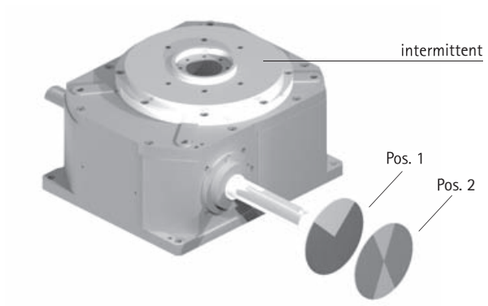


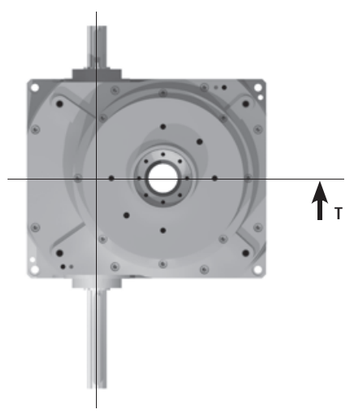
Reference Position

The input shaft of a rotary indexing table incorporates a feather key that can be used as a reference position. When the feather key is uppermost at 90° to the top surface, the drive is in the middle of the latching phase (Pos. 1). With double-indexing, the indexing plate completes two indexing and two latching phases for each revolution of the input shaft (Pos. 2).









Maximum table load

Type	Combination		Bending torque Y_F [daNm]	Overturning torque Y_R [daNm]
	Axial load F_X (daN)	Radial load F_R (daN)		
XZ038	650	650	18	9
XZ050	1100	1100	32	20
XZ080	1800	1800	68	38
XZ100	3000	3000	118	70
XZ140	4300	4300	248	140
XZ165	6000	6000	350	200
XZ210	8000	8000	400	300
XZ270	10000	10000	800	700
XZ380	15000	15000	1100	1000

Permissible Indexing Angle depending on the Number of Stations and the Gear Size

Type	Stat.	Indexing angle 90°	120°	150°	180°	210°	240°	270°	300°	330°
XZ038	2									
XZ050										
XZ080										
XZ100										
XZ140										
XZ165										
XZ210										
XZ270										
XZ380										
XZ038	3									
XZ050										
XZ080										
XZ100										
XZ140										
XZ165										
XZ210										
XZ270										
XZ380										
XZ038	4									
XZ050										
XZ080										
XZ100										
XZ140										
XZ165										
XZ210										
XZ270										
XZ380										
XZ038	5									
XZ050										
XZ080										
XZ100										
XZ140										
XZ165										
XZ210										
XZ270										
XZ380										
XZ038	6									
XZ050										
XZ080										
XZ100										
XZ140										
XZ165										
XZ210										
XZ270										
XZ380										
XZ038	7									
XZ050										
XZ080										
XZ100										
XZ140										
XZ165										
XZ210										
XZ270										
XZ380										
XZ038	8									
XZ050										
XZ080										
XZ100										
XZ140										
XZ165										
XZ210										
XZ270										
XZ380										
XZ038	9									
XZ050										
XZ080										
XZ100										
XZ140										
XZ165										
XZ210										
XZ270										
XZ380										
XZ038	10									
XZ050										
XZ080										
XZ100										
XZ140										
XZ165										
XZ210										
XZ270										
XZ380										
XZ038	12									
XZ050										
XZ080										
XZ100										
XZ140										
XZ165										
XZ210										
XZ270										
XZ380										
XZ038	14									
XZ050										
XZ080										
XZ100										
XZ140										
XZ165										
XZ210										
XZ270										
XZ380										
XZ038	15									
XZ050										
XZ080										
XZ100										
XZ140										
XZ165										
XZ210										
XZ270										
XZ380										

Recommended indexing angle with brake-motors
Recommended indexing angle
Feasible indexing angle

Permissible Indexing Angle depending on the Number of Stations and the Gear Size

Type	Stat.	Indexing angle 90°	120°	150°	180°	210°	240°	270°	300°	330°
XZ038	16									
XZ050										
XZ080										
XZ100										
XZ140										
XZ165										
XZ210										
XZ270										
XZ380										
XZ038	18									
XZ050										
XZ080										
XZ100										
XZ140										
XZ165										
XZ210										
XZ270										
XZ380										
XZ038	20									
XZ050										
XZ080										
XZ100										
XZ140										
XZ165										
XZ210										
XZ270										
XZ380										
XZ038	24									
XZ050										
XZ080										
XZ100										
XZ140										
XZ165										
XZ210										
XZ270										
XZ380										

Type	Stat.	Indexing angle 90°	120°	150°	180°	210°	240°	270°	300°	330°
XZ038	28									
XZ050										
XZ080										
XZ100										
XZ140										
XZ165										
XZ210										
XZ270										
XZ380										
XZ038	30									
XZ050										
XZ080										
XZ100										
XZ140										
XZ165										
XZ210										
XZ270										
XZ380										
XZ038	32									
XZ050										
XZ080										
XZ100										
XZ140										
XZ165										
XZ210										
XZ270										
XZ380										
XZ038	36									
XZ050										
XZ080										
XZ100										
XZ140										
XZ165										
XZ210										
XZ270										
XZ380										

Recommemded indexing angle with brake-motors

Recommended indexing angle

Feasible indexing angle

Internal moment of inertia JA (Kgm²)

Type	Number of stations S 2 - 4 - 8	3 - 6	10 - 20	12 - 24	16	18	32
XZ038	0.00232	0.00226	0.00238	0.00243	0.00232	0.00235	
XZ050	0.00691	0.00678	0.00703	0.00716	0.00691	0.00697	
XZ080	0.02470	0.02430	0.02510	0.02550	0.02620	0.02660	0.02620
XZ100	0.07610	0.07330	0.07890	0.08170	0.08730	0.09010	0.08730
XZ140	0.42900	0.42900	0.46500	0.46950	0.49600	0.51000	0.49600
XZ165	1.63500	1.64800	1.66100	1.68700	1.73900	1.76500	1.73900
XZ210	4.64300	4.64300	4.66300	4.69400	4.74400	4.77600	4.74400
XZ270	10.85000	10.93700	11.01000	11.18000	11.50000	11.67000	11.50000
XZ380	41.30000	41.30000	42.20000	41.30000	41.80000	42.00000	41.80000

Starting friction torque M_a (Nm)								
XZ038	**XZ050**	**XZ080**	**XZ100**	**XZ140**	**XZ165**	**XZ210**	**XZ270**	**XZ380**
6	9	14	20	35	50	55	85	130

Dimensioning

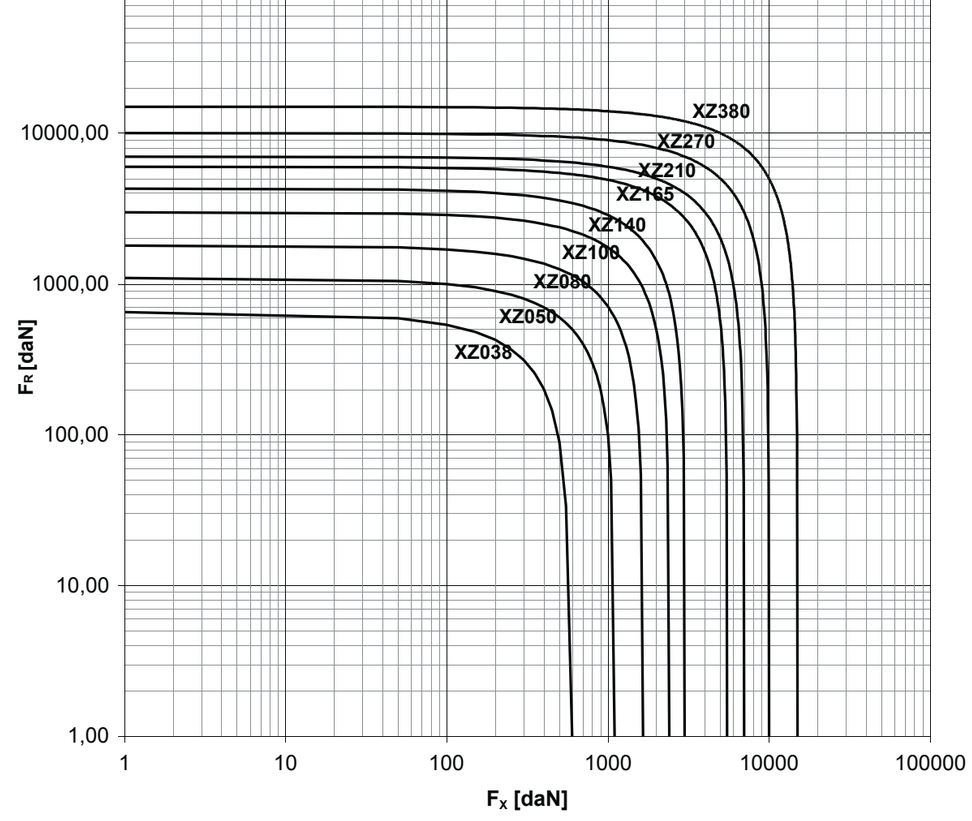
The dynamic and static loading must be taken into account when designing the gear. The dynamic loading is given by the sum of the torque resulting from the forces of inertia of the construction (M_j), the torque due to frictional forces (M_r) and the torque produced by external forces (M_{ext}). Depending on the requirements of the application, this total value of torque must be adjusted by factors for the durability (C_d) and rigidity (C_r). The resulting product must be smaller than the maximum permissible output (or initial) torque (M_{Amax}) of the gear.

$(M_J + M_R + M_{ext}) * C_d * C_r < M_{Amax}$ (refer to table, Technical Data)

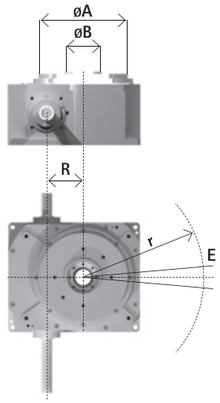
Coefficient of durability C_d							
Lifetime (Mio. Cycles)	30	40	50	60	80	100	120
Coefficient of durability	1	1,14	1,25	1,35	1,55	1,75	2

Coefficient of rigidity C_r							
r_p / R	4	5	6	7	8	9	10
Cr	1,38	1,56	1,75	1,94	2,13	2,31	2,50

Maximum Static Table Loading



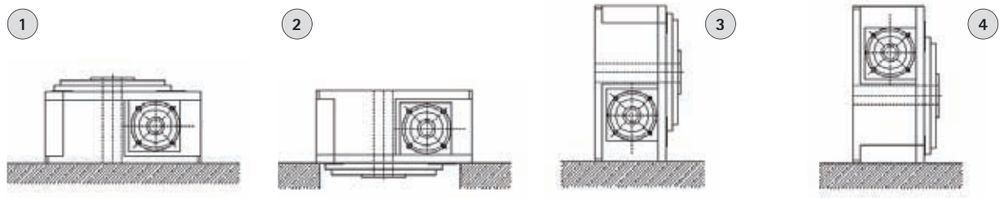
Repeatability



TOLERANCE OF ROTARY INDEXING TABLES							
Type	Repeatability			Table flatness		Table excentricity	
	R (mm)	Standard +/- (mm)	Special +/- (mm)	A (mm)	Total (mm)	B (mm)	Total (mm)
XZ038	37.5	0.015	0.010	120	0.010	30	0.010
XZ050	50.0	0.015	0.010	130	0.010	65	0.010
XZ080	80.0	0.015	0.010	195	0.010	80	0.010
XZ100	100.0	0.015	0.010	250	0.015	130	0.015
XZ140	140.0	0.015	0.010	350	0.015	200	0.015
XZ165	165.0	0.015	0.010	435	0.015	230	0.020
XZ210	210.0	0.015	0.010	535	0.020	230	0.030
XZ270	270.0	0.020	0.010	700	0.030	320	0.030
XZ380	380.0	0.020	0.010	1000	0.030	400	0.030

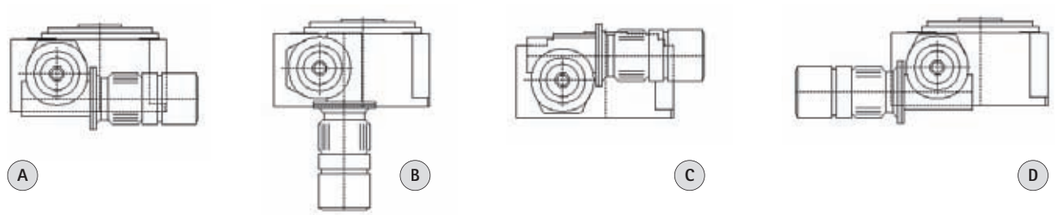
Installation Position

As standard, the housing of the rotary indexing table is finished without shafts on the top and lower sides as well as the end face. The recommended position for installation, together with possible positions for fixing the motor, are shown in the following diagrams. By request, other installation positions are possible.

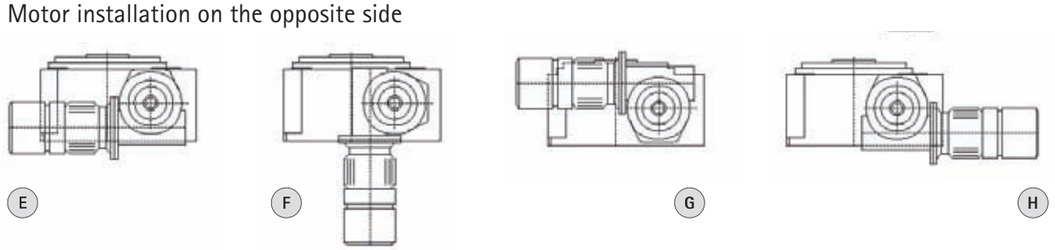


Standard | Overhead | Output shaft horizontal lower | Output shaft horizontal upper

Standard motor installation



Motor installation on the opposite side



Stations (S)		Indexing angle (...°)	Gear type	Statical torque (M_p) [daNm]	Output torque M_A (daNm) Cycles / min. 25	50	75	100	150	200	Std. coefficients Speed C_v	Accel. C_a	Drive K
2		300	XZ038	13	10	10	10	10	9	9	1.13	10.72	0.34
			XZ050	22	17	17	17	16	16	15	1.31	7.43	0.44
			XZ080	45	30	30	30	29	29	28	1.40	6.61	0.47
			XZ100	120	84	84	84	83	82	81	1.40	6.61	0.47
			XZ140	330	180	180	179	178	174	170	1.76	5.53	0.58
			XZ165	574	237	235	231	225	218	186	1.76	5.53	0.26
			XZ210	600	300	296	289	279	254	210	1.40	6.61	0.47
			XZ270	2105	1255	1240	1210	1176	1066	914	1.40	6.61	0.47
			XZ380	2300	1773	1700	1579	1409			1.40	6.61	0.47
		315	XZ038	13	11	11	11	11	10	10	1.13	10.72	0.32
			XZ050	22	18	18	18	18	17	17	1.40	6.61	0.45
			XZ080	45	32	32	32	31	31	30	1.40	6.61	0.45
			XZ100	120	86	86	86	86	84	83	1.40	6.61	0.45
			XZ140	330	187	187	186	185	182	178	1.76	5.53	0.56
			XZ165	574	247	245	241	236	229	201	1.76	5.53	0.23
			XZ210	600	320	317	310	302	278	245	1.40	6.61	0.45
			XZ270	2105	1300	1290	1260	1185	1128	991	1.40	6.61	0.45
			XZ380	2300	1844	1778	1668	1514			1.40	6.61	0.45
		330	XZ038	13	11	11	11	11	10	10	1.13	10.72	0.32
			XZ050	22	19	18	18	18	18	17	1.40	6.61	0.43
			XZ080	45	35	35	35	34	33	33	1.40	6.61	0.43
			XZ100	120	90	90	90	89	88	87	1.40	6.61	0.43
			XZ140	330	195	195	193	192	189	186	1.76	5.53	0.53
			XZ165	574	257	255	251	247	241	214	1.76	5.53	0.22
			XZ210	600	335	331	326	318	298	268	1.40	6.61	0.43
			XZ270	2105	1350	1340	1315	1285	1193	1069	1.40	6.61	0.43
			XZ380	2300	1912	1852	1752	1611	1210		1.40	6.61	0.43
3		240	XZ038	12	8	8	8	8	8	7	1.40	6.61	0.39
			XZ050	20	16	16	16	16	16	15	1.76	5.53	0.48
			XZ080	42	25	25	25	25	24	24	1.76	5.53	0.48
			XZ100	115	71	71	70	70	69	69	1.76	5.53	0.48
			XZ140										
			XZ165										
			XZ210										
			XZ270										
			XZ380										
		270	XZ038	12	8	8	8	8	8	7	1.40	6.61	0.35
			XZ050	20	16	16	16	16	16	15	2.00	6.28	0.58
			XZ080	42	28	28	28	28	27	27	1.76	5.53	0.43
			XZ100	115	89	89	88	88	87	86	1.40	6.61	0.35
			XZ140	300	226	225	224	223	221	217	1.76	5.53	0.43
			XZ165	567	263	261	259	255	250	229	2.00	6.28	0.52
			XZ210	560	300	297	292	284	264	235	2.00	6.28	0.58
			XZ270	2140	1325	1315	1300	1270	1193	1089	1.76	5.53	0.43
			XZ380	2300	1885	1835	1752	1635	1300		1.76	5.53	0.43
		300	XZ038	12	9	9	9	9	9	8	1.40	6.61	0.31
			XZ050	20	17	17	17	16	16	16	2.00	6.28	0.52
			XZ080	42	31	31	30	30	29	29	1.76	5.53	0.39
			XZ100	115	90	90	88	88	87	86	1.76	5.53	0.39
			XZ140	300	242	241	240	239	238	235	1.76	5.53	0.39
			XZ210	560	350	348	344	339	325	305	1.76	5.53	0.39
			XZ270	2140	1435	1425	1410	1390	1329	1244	1.76	5.53	0.39
			XZ380	2300	2040	2000	1930	1838	1567		1.76	5.53	0.39
		315	XZ038	12	10	9	9	9	9	8	1.76	5.53	0.37
			XZ050	20	18	18	18	18	17	17	2.00	6.28	0.49
			XZ080	42	32	32	31	31	30	30	1.76	5.53	0.37
			XZ100	115	86	86	85	85	84	83	2.00	6.28	0.49
			XZ140	300	250	249	248	247	246	243	1.76	5.53	0.37
			XZ210	560	364	362	358	354	341	322	1.76	5.53	0.37
			XZ270	2140	1491	1483	1469	1449	1395	1318	1.76	5.53	0.37
			XZ380	2300	2110	2075	2015	1929	1684	1340	1.76	5.53	0.37
		330	XZ038	12	10	10	10	9	9	8	1.76	5.53	0.35
			XZ050	20	19	19	19	19	18	18	2.00	6.28	0.47
			XZ080	42	33	33	32	32	31	31	1.76	5.53	0.35
			XZ100	115	89	89	89	88	88	87	2.00	6.28	0.47
			XZ140	300	255	254	253	252	250	248	1.76	5.53	0.35
			XZ210	560	376	375	372	367	356	339	1.76	5.53	0.35
			XZ270	2140	1540	1532	1519	1502	1453	1382	1.76	5.53	0.35
			XZ380	2300	2182	2148	2092	2014	1791	1478	1.76	5.53	0.35
4		180	XZ038	13	8	8	8	8	8	7	1.40	6.61	0.39
			XZ050	22	16	16	16	16	16	15	1.76	5.53	0.49
			XZ080	45	25	25	25	25	24	24	1.76	5.53	0.49
			XZ100	120	93	93	93	92	90	89	1.40	6.61	0.39
			XZ140	330	207	206	205	203	199	192	1.76	5.53	0.49
			XZ165	441	185	182	177	171	163	129	1.40	6.61	0.17
			XZ210	600	325	321	313	301	285	260	1.76	5.53	0.49
			XZ270										
			XZ380										
		240	XZ038	13	9	9	9	9	8	7	1.40	6.61	0.29
			XZ050	22	20	20	20	20	19	18	1.40	6.61	0.29
			XZ080	45	29	29	29	28	28	27	2.00	6.28	0.48
			XZ100	120	96	96	95	95	93	92	1.76	5.53	0.36
			XZ140	330	220	219	218	216	214	211	2.00	6.28	0.48
			XZ210	600	340	337	331	324	306	279	2.00	6.28	0.48
			XZ270										
			XZ380										
		270	XZ038	13	10	10	9	9	9	8	1.40	6.61	0.29
			XZ050	22	20	20	20	20	19	19	1.76	5.53	0.32
			XZ080	45	32	32	31	31	30	29	2.00	6.28	0.43
			XZ100	120	96	95	95	94	93	92	2.00	6.28	0.43
			XZ140	330	230	229	228	227	225	222	2.00	6.28	0.43
			XZ165	567	325	323	321	319	315	299	1.76	5.53	0.18
			XZ210	600	375	373	369	363	349	327	2,00	6.28	0.43
			XZ270	2200	1625	1615	1600	1585	1524	1444	1.76	5.53	0.32
			XZ380	2900	2300	2269	2205	2115	1861	1500	1.76	5.53	0.32

Stations (S)		Indexing angle (...°)	Gear type	Statical torque (M_p) [daNm]	Output torque M_A (daNm) Cycles / min. 25	50	75	100	150	200	Std. coefficients Speed C_v	Accel. C_a	Drive K
4		300	XZ038	13	11	11	11	10	10	9	1.76	5.53	0.29
			XZ050	22	22	22	22	22	21	20	1.40	6.61	0.23
			XZ080	45	35	35	34	34	33	32	2.00	6.28	0.39
			XZ100	120	101	101	100	100	99	98	2.00	6.28	0.39
			XZ140	330	265	264	263	262	261	259	2.00	6.28	0.39
			XZ165	567	348	347	345	343	340	327	1.76	5.53	0.17
			XZ210	600	426	424	421	416	376	359	2.00	6.28	0.39
			XZ270	2200	1735	1730	1715	1700	1653	1590	1.76	5.53	0.29
			XZ380	2900	2460	2430	2375	2300	2100	1800	1.76	5.53	0.29
		315	XZ038	13	12	12	11	11	11	10	1.76	5.53	0.28
			XZ050	22	21	21	21	21	21	20	1.76	5.53	0.28
			XZ080	45	38	38	38	37	37	36	1.76	5.53	0.28
			XZ100	120	103	103	102	101	100	99	2.00	6.28	0.37
			XZ140	330	270	269	268	267	266	264	2.00	6.28	0.37
			XZ165	567	358	357	356	354	351	340	1.76	5.53	0.33
			XZ210	600	455	454	453	450	438	426	1.76	5.53	0.28
			XZ270	2200	1785	1779	1770	1756	1710	1652	1.76	5.53	0.28
			XZ380	2900	2530	2500	2450	2390	2200	1940	1.76	5.53	0.28
		330	XZ038	13	12	12	12	12	11	11	1.76	5.53	0.27
			XZ050	22	22	22	22	22	21	21	1.76	5.53	0.27
			XZ080	45	38	38	38	37	37	36	2.00	6.28	0.35
			XZ100	120	105	104	104	103	102	101	2.00	6.28	0.35
			XZ140	330	275	274	274	273	272	271	2.00	6.28	0.35
			XZ165	567	368	367	366	364	362	351	1.76	5.53	0.28
			XZ210	600	469	467	465	462	453	441	1.76	5.53	0.27
			XZ270	2200	1835	1829	1819	1806	1764	1710	1.76	5.53	0.27
			XZ380	2900	2590	2570	2520	2468	2295	2060	1.76	5.53	0.27
6		120	XZ038	12	8	8	8	8	8	7	1.40	6.61	0.39
			XZ050	20	16	16	16	15	15	14	1.76	5.53	0.49
			XZ080	42	25	25	25	25	24	24	1.76	5.53	0.49
			XZ100	115	74	73	73	72	70	69	2.00	6.28	0.65
			XZ140	180	110	109	106	103	93	79	1.27	8.01	0.35
			XZ165	441	220	215	208	196	182	121			
			XZ210										
			XZ270										
			XZ380										
		150	XZ038	12	8	8	7	7	7	6	1.76	5.53	0.39
			XZ050	20	17	17	17	17	16	15	2.00	6.28	0.52
			XZ080	42	31	31	30	30	29	28	1.76	5.53	0.39
			XZ100	115	82	81	81	80	79	78	2.00	6.28	0.52
			XZ140	180	105	104	103	102	97	91	1.76	5.53	0.39
			XZ210										
			XZ270										
			XZ380										
		180	XZ038	12	9	8	8	8	8	7	1.76	5.53	0.32
			XZ050	20	18	18	18	17	17	16	2.00	6.28	0.43
			XZ080	42	32	32	32	31	31	30	2.00	6.28	0.43
			XZ100	115	96	95	94	94	92	91	2.00	6.28	0.43
			XZ140	370	230	229	228	227	223	218	2.00	6.28	0.43
			XZ165	567	324	323	320	316	310	287			
			XZ210										
			XZ270										
			XZ380										
		240	XZ038	12	10	10	9	9	9	8	2.00	6.28	0.32
			XZ050	20	19	19	19	19	18	17	2.00	6.28	0.32
			XZ080	42	38	37	37	37	36	36	2.00	6.28	0.32
			XZ100	115	105	104	103	103	101	100	2.00	6.28	0.32
			XZ140	370	272	271	270	269	267	264	2.00	6.28	0.32
			XZ210										
			XZ270										
			XZ380										
		270	XZ038	12	11	11	11	10	10	9	2.00	6.28	0.29
			XZ050	20	20	20	20	20	19	19	1.76	5.53	0.22
			XZ080	42	40	39	39	39	38	38	2.00	6.28	0.29
			XZ100	115	110	109	108	108	107	106	2.00	6.28	0.29
			XZ140	370	305	304	303	302	300	297	2.00	6.28	0.29
			XZ165	567	410	409	408	406	404	393	2.00	6.28	0.24
			XZ210	635	567	566	563	559	548	533	1.40	6.61	0.17
			XZ270	2200	2025	2015	2010	1995	1945	1881	1.40	6.61	0.17
			XZ380	2900	2710	2685	2650	2595	2435	2215	1.76	5.53	0.22
		300	XZ038	12	12	12	12	11	11	10	2.00	6.28	0.26
			XZ050	20	20	20	20	20	19	19	2.00	6.28	0.26
			XZ080	42	41	41	41	40	40	39	2.00	6.28	0.26
			XZ100	115	113	113	112	111	110	109	2.00	6.28	0.26
			XZ140	370	315	314	313	312	310	307	2.00	6.28	0.26
			XZ165	567	430	429	428	426	425	416	2.00	6.28	0.21
			XZ210	635	550	549	547	544	536	524	2.00	6.28	0.26
			XZ270	2200	2110	2105	2100	2090	2056	2012	1.76	5.53	0.19
			XZ380	3000	2830	2813	2780	2735	2600	2425	1.76	5.53	0.19
		315	XZ038	12	12	12	12	12	11	10	2.00	6.28	0.25
			XZ050	21	21	21	21	20	20	19	2.00	6.28	0.25
			XZ080	42	42	42	41	41	40	40	2.00	6.28	0.25
			XZ100	115	115	114	114	114	113	112	2.00	6.28	0.25
			XZ140	370	320	319	318	317	315	313	1.76	5.53	0.18
			XZ165	567	438	438	437	435	434	426	1.76	5.53	0.14
			XZ210	635	570	569	568	565	544	535	1.76	5.53	0.18
			XZ270	2200	2140	2136	2129	2119	2091	2052	1.76	5.53	0.18
			XZ380	3000	2880	2860	2830	2795	2680	2500	1.76	5.53	0.18
		330	XZ038	12	12	12	12	12	12	11	2.00	6.28	0.23
			XZ050	21	21	21	21	21	20	20	2.00	6.28	0.23
			XZ080	42	42	42	42	42	41	41	2.00	6.28	0.23
			XZ100	115	115	115	115	115	114	114	2.00	6.28	0.23
			XZ140	370	325	324	324	323	322	320	1.76	5.53	0.17
			XZ165	567	446	446	445	444	442	435	2.00	6.28	0.17
			XZ210	635	580	579	578	575	556	547	1.76	5.53	0.17
			XZ270	2200	2170	2166	2159	2150	2124	2088	1.76	5.53	0.17
			XZ380	3000	2930	2910	2885	2850	2745	2595	1.76	5.53	0.17

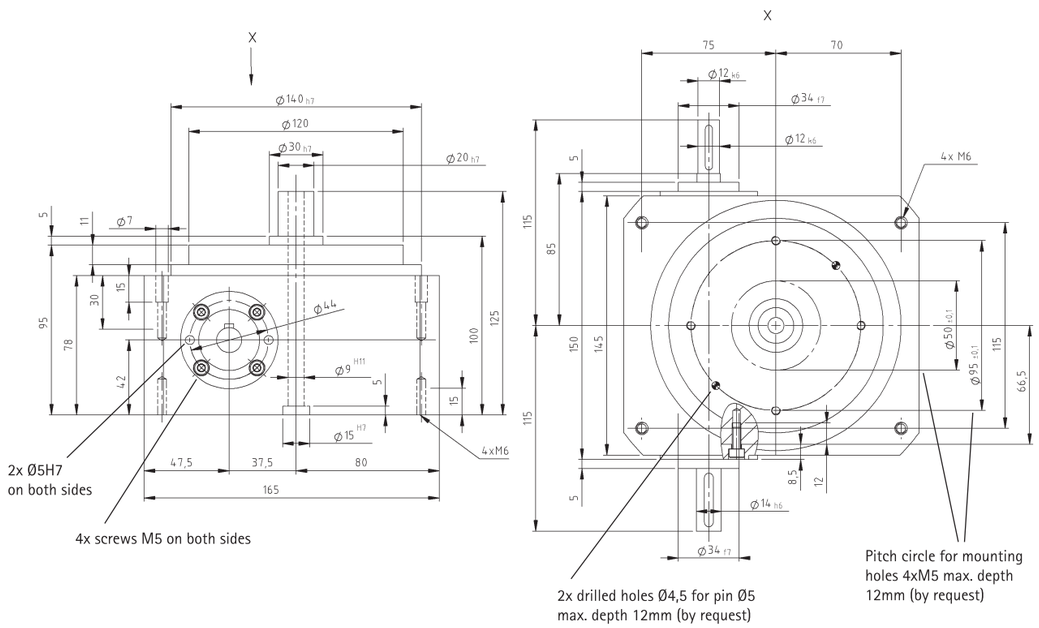
Stations (S)		Indexing angle (...°)	Gear type	Statical torque (M_p) [daNm]	Output torque M_A (daNm) Cycles / min. 25	50	75	100	150	200	Std. coefficients Speed C_v	Accel. C_a	Drive K
8		90	XZ038	13	9	9	8	8	8	7	1.76	5.53	0.49
			XZ050	22	17	17	17	17	16	15	1.40	6.61	0.39
			XZ080	45	22	22	22	22	21	20	2.00	6.28	0.65
			XZ100	120	83	83	82	81	79	78	1.76	5.53	0.49
			XZ140										
			XZ210										
			XZ270										
			XZ380										
		120	XZ038	13	10	10	9	9	9	8	1.76	5.53	0.36
			XZ050	22	18	18	18	18	17	16	1.40	6.61	0.29
			XZ080	45	29	29	28	28	27	26	2.00	6.28	0.49
			XZ100	120	80	79	79	78	76	75	2.00	6.28	0.49
			XZ140	330	252	251	250	248	243	235	1.76	5.53	0.36
			XZ165	441	231	228	223	216	207	168	1.76	5.53	0.11
			XZ210										
			XZ270										
			XZ380										
		150	XZ038	13	11	10	10	10	10	9	1.76	5.53	0.29
			XZ050	22	19	19	19	19	18	17	1.76	5.53	0.29
			XZ080	45	34	34	34	33	33	32	2.00	6.28	0.39
			XZ100	120	91	90	89	89	87	86	2.00	6.28	0.39
			XZ140	330	267	266	264	263	260	254	2.00	6.28	0.30
			XZ210										
			XZ270										
			XZ380										
		180	XZ038	13	12	12	11	11	11	10	1.76	5.53	0.24
			XZ050	22	20	20	20	20	19	18	2.00	6.28	0.32
			XZ080	45	38	37	37	37	36	35	2.00	6.28	0.32
			XZ100	120	99	98	97	97	95	94	2.00	6.28	0.32
			XZ140	330	293	292	290	289	286	284	2.00	6.28	0.32
			XZ165	441	300	298	296	293	289	272			
			XZ210										
			XZ270										
			XZ380										
		240	XZ038	13	12	12	12	12	12	11	2.00	6.28	0.24
			XZ050	22	21	21	21	21	20	19	2.00	6.28	0.24
			XZ080	45	42	42	42	41	41	41	2.00	6.28	0.24
			XZ100	120	115	114	114	113	112	111	2.00	6.28	0.24
			XZ140	355	329	328	327	326	323	320	2.00	6.28	0.24
			XZ210	600	530	528	526	522	512	499	2.00	6.28	0.24
			XZ270										
			XZ380										
		270	XZ038	13	13	13	12	12	12	11	2.00	6.28	0.21
			XZ050	22	22	22	22	21	21	20	2.00	6.28	0.21
			XZ080	45	43	43	43	43	42	42	2.00	6.28	0.21
			XZ100	120	120	119	119	118	117	116	2.00	6.28	0.21
			XZ140	355	341	340	340	339	337	335	2.00	6.28	0.21
			XZ165	567	460	460	459	457	455	447			
			XZ210	600	559	557	555	553	546	535	2.00	6.28	0.21
			XZ270	2235	2052	2047	2038	2026	1993	1946	2.00	6.28	0.21
			XZ380	3000	2840	2825	2795	2755	2640	2480	1.76	5.53	0.16
		300	XZ038	13	13	13	13	13	12	11	2.00	6.28	0.19
			XZ050	22	22	22	22	22	21	21	2.00	6.28	0.19
			XZ080	45	45	44	44	44	43	42	2.00	6.28	0.19
			XZ100	120	120	120	120	120	119	119	2.00	6.28	0.19
			XZ140	355	350	349	349	348	346	345	2.00	6.28	0.19
			XZ165	567	476	475	474	473	472	465			
			XZ210	600	582	581	579	577	571	562	2.00	6.28	0.19
			XZ270	2235	2200	2196	2190	2121	2158	2125	1.76	5.53	0.14
			XZ380	3000	2925	2910	2890	2855	2765	2635	1.76	5.53	0.14
		315	XZ038	13	13	13	13	13	13	12	2.00	6.28	0.18
			XZ050	23	23	23	23	22	22	21	2.00	6.28	0.18
			XZ080	45	45	45	45	44	43	43	2.00	6.28	0.18
			XZ100	130	124	124	123	123	122	122	2.00	6.28	0.18
			XZ140	355	352	351	350	350	348	347	2.00	6.28	0.18
			XZ165	567	482	482	481	480	478	473			
			XZ210	600	592	591	589	588	582	572	2.00	6.28	0.18
			XZ270	2235	2228	2225	2219	2212	2190	2160	1.76	5.53	0.14
			XZ380	3000	2960	2945	2925	2895	2815	2698	1.76	5.53	0.14
		330	XZ038	14	14	14	14	14	13	13	2.00	6.28	0.17
			XZ050	23	23	23	23	23	22	22	2.00	6.28	0.17
			XZ080	45	45	45	45	45	44	43	2.00	6.28	0.17
			XZ100	130	125	125	124	124	123	123	2.00	6.28	0.17
			XZ140	355	355	354	353	352	350	349	2.00	6.28	0.17
			XZ165	567	488	488	487	486	485	479	1.40	6.61	0.26
			XZ210	600	600	599	598	597	592	587	2.00	6.28	0.17
			XZ270	2235	2254	2251	2246	2239	2219	2191	1.76	5.53	0.13
			XZ380	3000	2990	2980	2960	2935	2860	2750	1.76	5.53	0.13
12		90	XZ038	14	11	11	11	10	10	9	1.40	6.61	0.26
			XZ050	25	21	21	21	21	20	19	1.27	8.01	0.23
			XZ080	50	32	32	31	31	30	29	2.00	6.28	0.43
			XZ100	135	102	101	100	100	98	97	1.76	5.53	0.32
			XZ140	160	135	134	133	131	124	116	1.76	5.53	0.32
			XZ210										
			XZ270										
			XZ380										
		120	XZ038	14	12	12	12	12	11	10	1.40	6.61	0.19
			XZ050	25	22	22	22	22	21	20	1.27	8.01	0.18
			XZ080	50	38	37	37	37	36	35	2.00	6.28	0.32
			XZ100	135	114	113	112	112	110	109	1.76	5.53	0.24
			XZ140	160	159	158	157	156	153	148	1.76	5.53	0.24
			XZ210										
			XZ270										
			XZ380										

Stations (S)		Indexing angle (...°)	Gear type	Statical torque (M_p) [daNm]	Output torque M_A (daNm) Cycles / min. 25	50	75	100	150	200	Std. coefficients Speed C_v	Accel. C_a	Drive K
12		150	XZ038	14	12	12	12	12	12	11	1.76	5.53	0.19
			XZ050	25	23	23	23	22	22	21	1.27	8.01	0.14
			XZ080	50	41	41	41	40	40	39	2.00	6.28	0.26
			XZ100	135	117	117	116	116	114	113	2.00	6.28	0.26
			XZ140	375	336	335	334	333	330	327	1.76	5.53	0.19
			XZ210										
			XZ270										
			XZ380										
		180	XZ038	14	13	13	13	13	12	12	1.76	5.53	0.16
			XZ050	25	24	24	23	23	22	22	1.76	5.53	0.16
			XZ080	50	43	43	43	43	42	41	2.00	6.28	0.21
			XZ100	135	123	122	122	121	120	119	2.00	6.28	0.21
			XZ140	375	352	351	350	348	346	344	1.76	5.53	0.16
			XZ210										
			XZ270										
			XZ380										
		240	XZ038	14	14	14	14	13	13	12	1.76	5.53	0.12
			XZ050	25	25	24	24	24	23	23	2.00	6.28	0.16
			XZ080	50	46	46	46	45	44	43	2.00	6.28	0.16
			XZ100	135	129	128	128	127	126	125	2.00	6.28	0.16
			XZ140	375	364	363	361	360	358	356	2.00	6.28	0.16
			XZ210										
			XZ270										
			XZ380										
		270	XZ038	14	14	14	14	14	13	13	1.76	5.53	0.11
			XZ050	25	25	25	25	24	24	23	2.00	6.28	0.14
			XZ080	50	47	47	46	46	45	45	2.00	6.28	0.14
			XZ100	135	130	130	129	129	128	127	2.00	6.28	0.14
			XZ140	375	372	371	370	369	367	365	2.00	6.28	0.14
			XZ210	660	644	643	642	640	635	627	2.00	6.28	0.14
			XZ270	2200	2200	2195	2190	2185	2162	2132	2.00	6.28	0.14
			XZ380	3100	3000	2988	2970	2945	2870	2770	1.76	5.53	0.11
16	•	90	XZ038	14	11	11	11	11	10	9	1.76	5.53	0.09
	•		XZ050	26	22	22	22	21	21	20	1.76	5.53	0.09
			XZ080	50	40	40	40	39	38	37	1.76	5.53	0.09
			XZ100	135	124	123	122	122	120	119	1.27	8.01	0.18
			XZ140	200	159	158	157	155	151	144	1.76	5.53	0.09
			XZ165	441	299	296	292	286	277	242	2.00	6.28	0.19
			XZ210										
			XZ270										
			XZ380										
	•	120	XZ038	14	12	12	12	11	11	10	1.76	5.53	0.37
	•		XZ050	26	23	23	23	22	22	21	2.00	6.28	0.48
			XZ080	50	42	42	42	41	40	39	2.00	6.28	0.24
			XZ100	135	128	127	126	126	124	123	1.40	6.61	0.14
			XZ140	200	175	175	174	174	171	167	1.76	5.53	0.18
			XZ210										
			XZ270										
			XZ380										
	•	150	XZ038	14	13	13	13	12	12	11	2.00	6.28	0.39
	•		XZ050	26	24	23	23	23	22	21	2.00	6.28	0.39
			XZ080	50	45	45	44	44	43	42	2.00	6.28	0.19
			XZ100	135	131	130	130	129	128	127	1.40	6.61	0.12
			XZ140	200	185	185	184	184	182	180	1.76	5.53	0.12
			XZ210										
			XZ270										
			XZ380										
	•	180	XZ038	14	13	13	13	13	12	12	2.00	6.28	0.32
	•		XZ050	26	24	24	24	24	23	22	2.00	6.28	0.32
			XZ080	50	46	46	46	45	44	43	2.00	6.28	0.16
			XZ100	135	131	130	130	129	127	126	1.76	5.53	0.12
			XZ140	200	191	191	191	190	189	187	1.76	5.53	0.12
			XZ210										
			XZ270										
			XZ380										
	•	240	XZ038	14	14	14	14	13	13	12	2.00	6.28	0.24
	•		XZ050	26	25	25	25	24	24	23	2.00	6.28	0.24
			XZ080	50	48	48	47	47	46	45	2.00	6.28	0.12
			XZ100	135	132	131	131	130	130	129	2.00	6.28	0.12
			XZ140	200	195	195	195	195	194	193	2.00	6.28	0.12
			XZ210										
			XZ270										
			XZ380										
	•	270	XZ038	14	14	14	14	14	13	12	2.00	6.28	0.22
	•		XZ050	26	26	26	25	25	24	24	2.00	6.28	0.22
			XZ080	50	48	48	48	48	47	46	2.00	6.28	0.11
			XZ100	135	134	133	133	132	131	130	2.00	6.28	0.11
			XZ140	200	197	197	197	197	196	195	2.00	6.28	0.11
			XZ210	700	679	678	677	676	672	667	2.00	6.28	0.11
			XZ270	2260	2212	2209	2205	2199	2182	2159	2.00	6.28	0.11
			XZ380	3100	3070	3060	3049	3030	2975	2895	1.76	5.53	0.08
24	•	90	XZ038	14	12	11	11	11	11	10	1.76	5.53	0.32
			XZ050	26	23	23	23	23	22	22	1.76	5.53	0.32
			XZ080	50	45	45	45	44	43	42	1.76	5.53	0.32
			XZ100	140	126	125	124	123	122	121	1.76	5.53	0.32
			XZ140	400	350	349	347	346	342	337	1.76	5.53	0.32
			XZ210										
			XZ270										
			XZ380										
	•	120	XZ038	14	13	13	12	12	12	11	1.76	5.53	0.24
			XZ050	26	24	24	23	23	23	22	2.00	6.28	0.32
			XZ080	50	46	46	46	46	45	44	2.00	6.28	0.32
			XZ100	140	129	128	128	127	125	124	2.00	6.28	0.32
			XZ140	400	360	359	368	356	353	349	2.00	6.28	0.32
			XZ210										
			XZ270										
			XZ380										

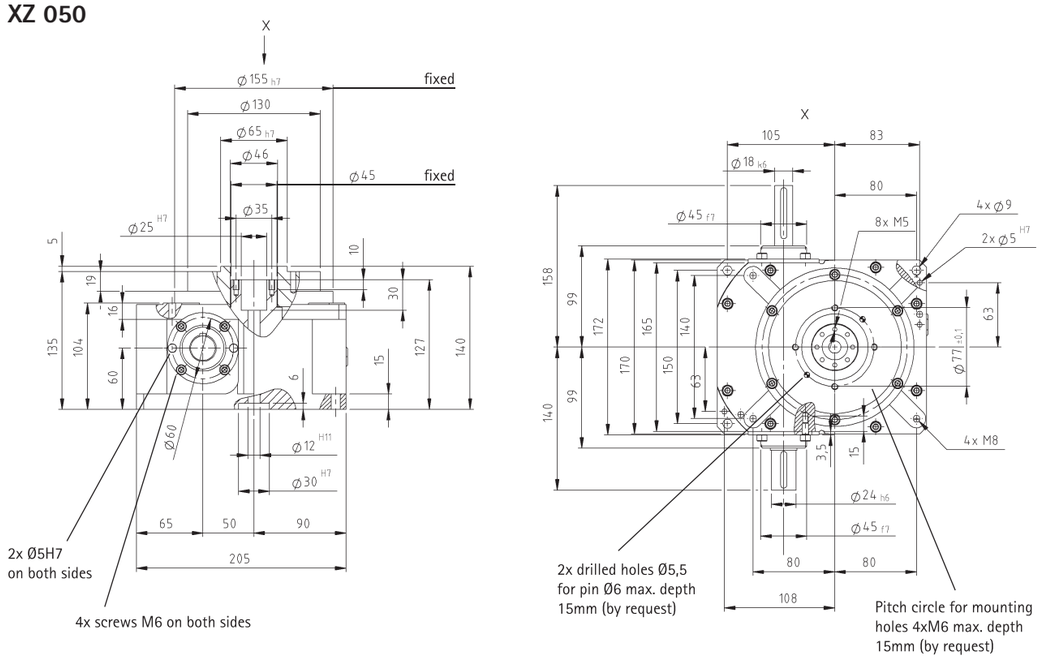
Stations (S)		Indexing angle (...°)	Gear type	Statical torque (M_p) [daNm]	Output torque M_A (daNm) Cycles / min. 25	50	75	100	150	200	Std. coefficients Speed C_v	Accel. C_a	Drive K
24	•	150	XZ038	14	13	13	13	13	13	12	2.00	6.28	0.26
			XZ050	26	24	24	24	24	23	23	2.00	6.28	0.26
			XZ080	50	48	47	47	47	46	45	2.00	6.28	0.26
			XZ100	140	132	131	130	130	129	128	2.00	6.28	0.26
			XZ140	400	375	374	373	372	369	366	2.00	6.28	0.26
			XZ210										
			XZ270										
			XZ380										
	•	180	XZ038	14	14	14	14	13	13	12	2.00	6.28	0.22
			XZ050	26	25	24	24	24	23	23	2.00	6.28	0.22
			XZ080	50	48	48	48	47	46	46	2.00	6.28	0.22
			XZ100	140	134	133	133	132	130	129	2.00	6.28	0.22
			XZ140	400	384	383	382	380	378	376	2.00	6.28	0.22
			XZ210										
			XZ270										
			XZ380										
	•	240	XZ038	15	15	15	14	14	14	13	2.00	6.28	0.16
			XZ050	26	25	25	25	24	24	23	2.00	6.28	0.16
			XZ080	50	49	49	48	48	47	47	2.00	6.28	0.16
			XZ100	140	135	135	134	134	133	132	2.00	6.28	0.16
			XZ140	400	392	391	390	389	387	385	2.00	6.28	0.16
			XZ210										
			XZ270										
			XZ380										
	•	270	XZ038	15	15	15	15	14	14	13	2.00	6.28	0.14
			XZ050	26	26	26	25	25	24	24	2.00	6.28	0.14
			XZ080	50	49	49	49	49	48	47	2.00	6.28	0.14
			XZ100	140	136	136	135	135	134	133	2.00	6.28	0.14
			XZ140	400	394	393	392	391	389	387	2.00	6.28	0.14
			XZ210	720	707	706	705	704	699	696	2.00	6.28	0.14
			XZ270	2320	2300	2298	2295	2291	2280	2265	2.00	6.28	0.14
			XZ380	3200	3155	3150	3140	3129	3090	3040	1.76	5.53	0.11
32	•	90	XZ038										
			XZ050										
			XZ080	50	47	47	47	46	45	44	1.76	5.53	0.24
			XZ100	140	131	130	129	129	127	126	1.76	5.53	0.24
			XZ140	210	191	190	189	187	185	182	1.76	5.53	0.24
			XZ210										
			XZ270										
			XZ380										
	•	120	XZ038										
			XZ050										
			XZ080	50	48	48	47	47	46	45	2.00	6.28	0.24
			XZ100	140	132	131	131	130	129	128	2.00	6.28	0.24
			XZ140	210	193	192	190	189	186	183	2.00	6.28	0.24
			XZ210										
			XZ270										
			XZ380										
	•	150	XZ038										
			XZ050										
			XZ080	50	49	48	48	48	47	46	2.00	6.28	0.20
			XZ100	140	134	133	133	133	132	131	2.00	6.28	0.20
			XZ140	210	199	198	197	195	192	190	2.00	6.28	0.20
			XZ210										
			XZ270										
			XZ380										
	•	180	XZ038										
			XZ050										
			XZ080	50	49	49	49	48	47	47	2.00	6.28	0.16
			XZ100	140	135	135	134	134	133	132	2.00	6.28	0.16
			XZ140	210	201	200	199	198	195	193	2.00	6.28	0.16
			XZ210										
			XZ270										
			XZ380										
	•	240	XZ038										
			XZ050										
			XZ080	50	50	49	49	49	48	47	2.00	6.28	0.12
			XZ100	140	136	136	135	135	134	133	2.00	6.28	0.12
			XZ140	210	204	203	202	200	197	195	2.00	6.28	0.12
			XZ210										
			XZ270										
			XZ380										

• **2 indexes per revolution**

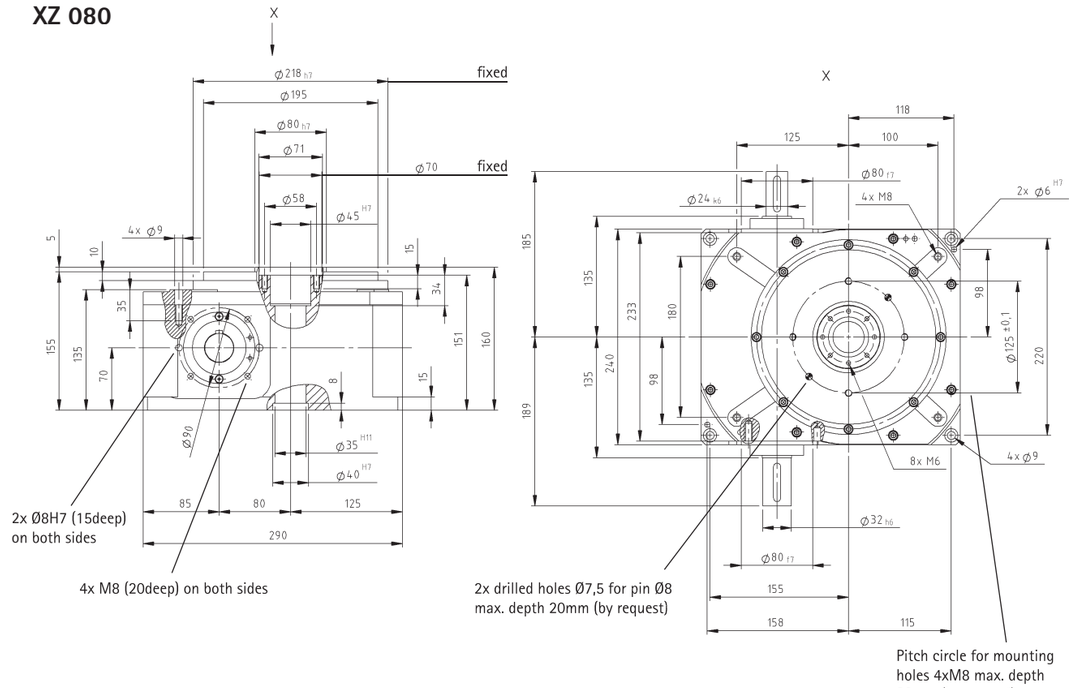
XZ 038



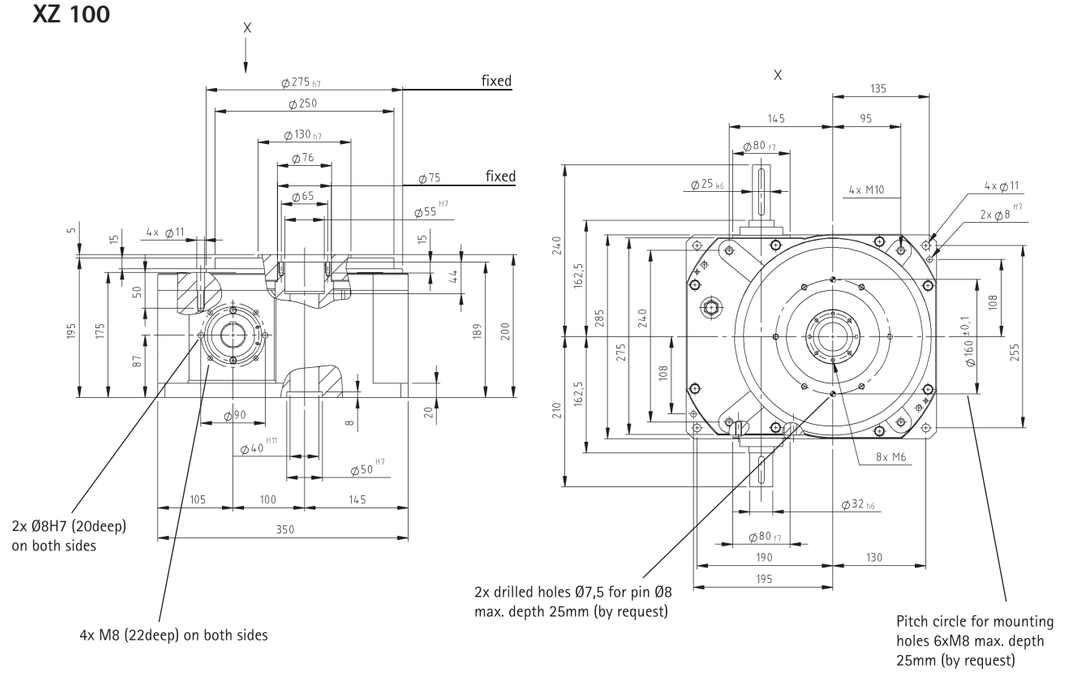
XZ 050



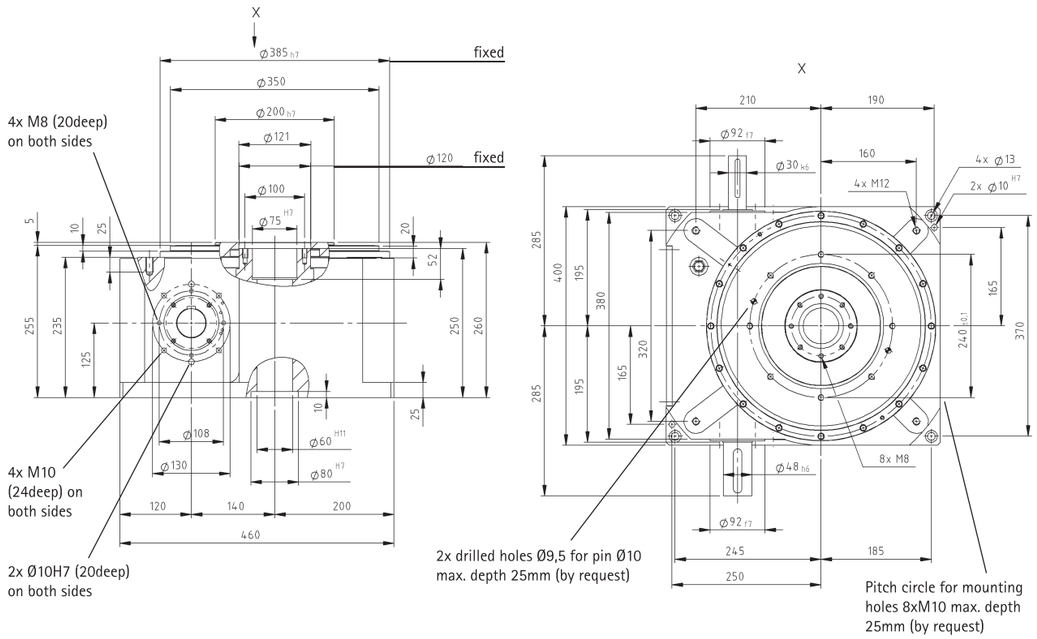
XZ 080



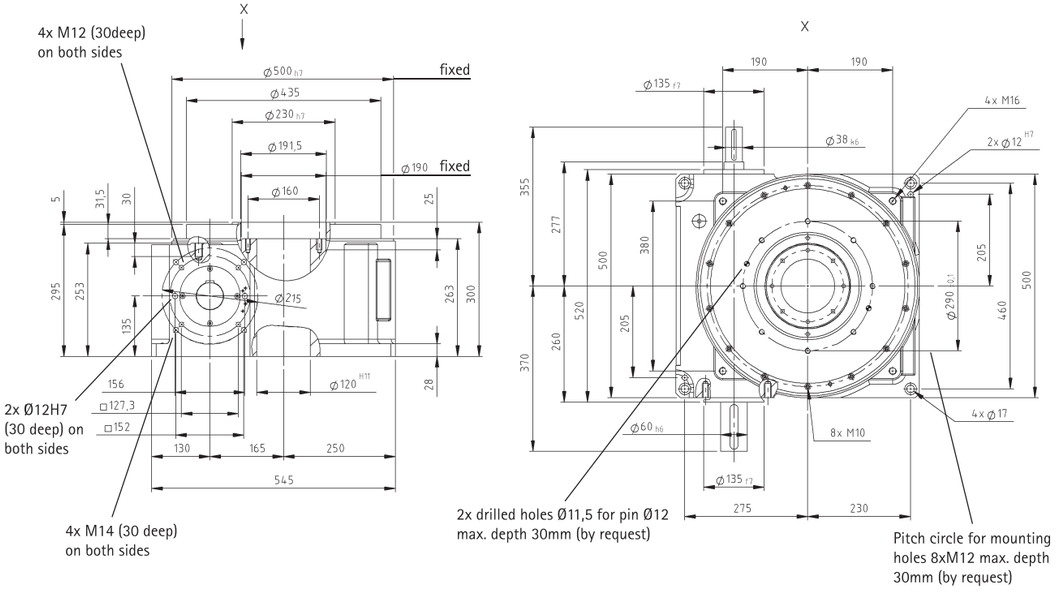
XZ 100



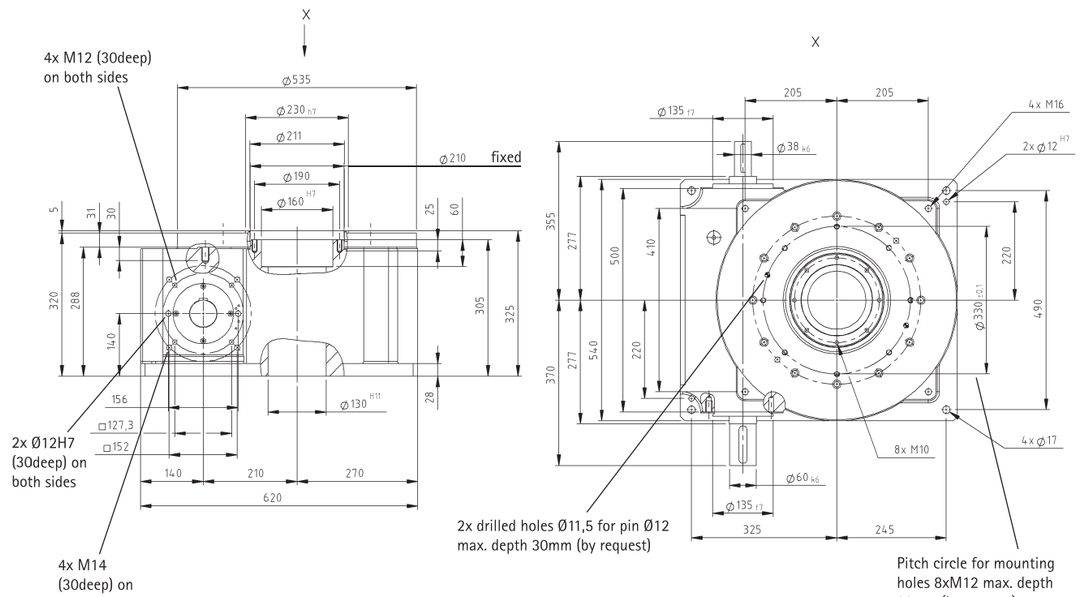
XZ 140



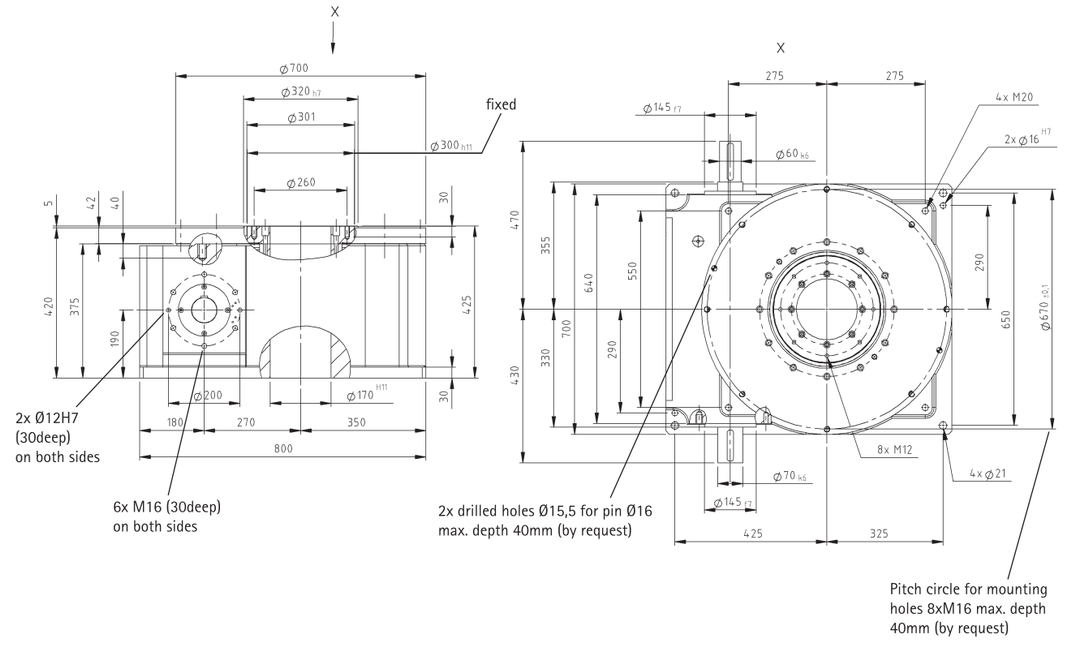
XZ 165



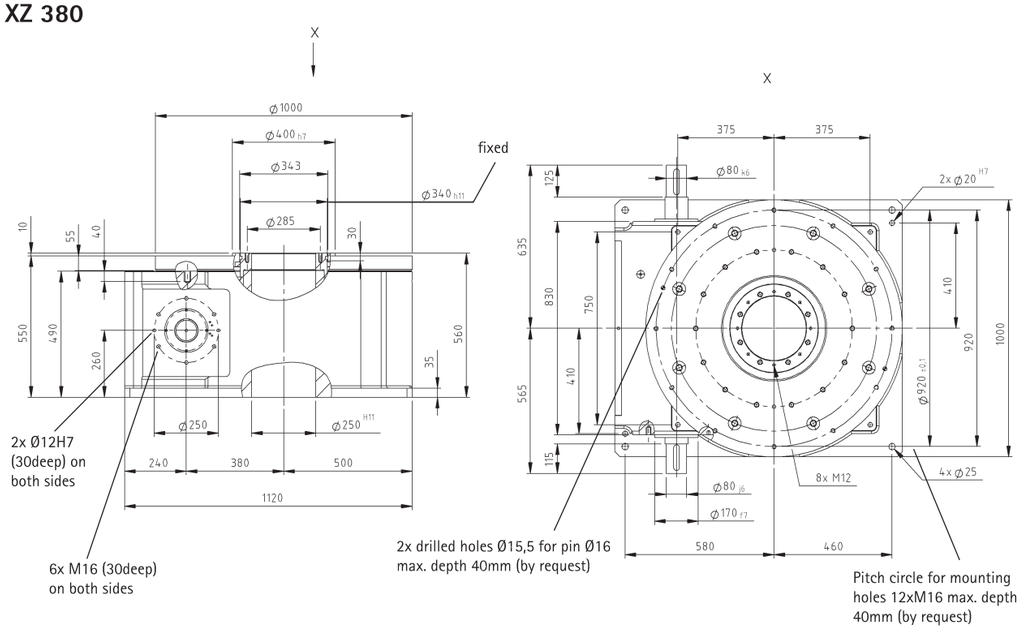
XZ 210



XZ 270



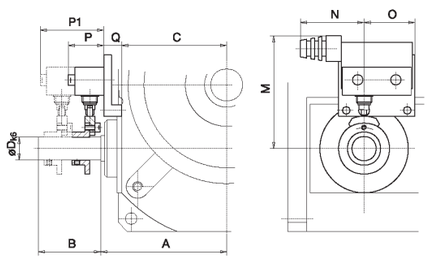
XZ 380



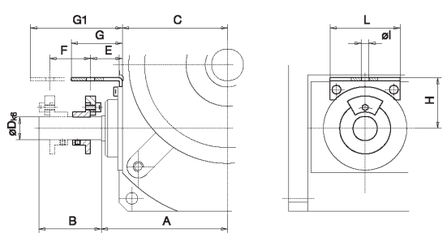
End Switch Dimensions

The rotary indexing table can be fitted with an end switch, activated by a cam mounted on the end of the input shaft. When the dwell angle of the cam is smaller than the dwell time required for the table, the time can be extended by an end switch that controls the (braking) motor.

End Switch, mechanical



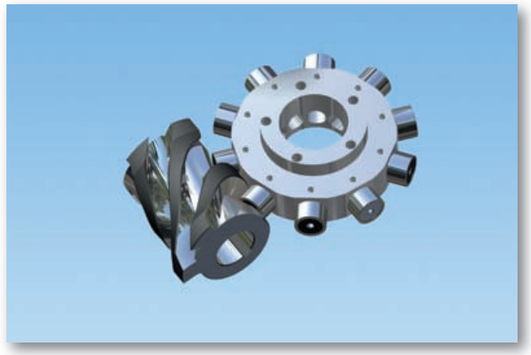
End Switch, inductive



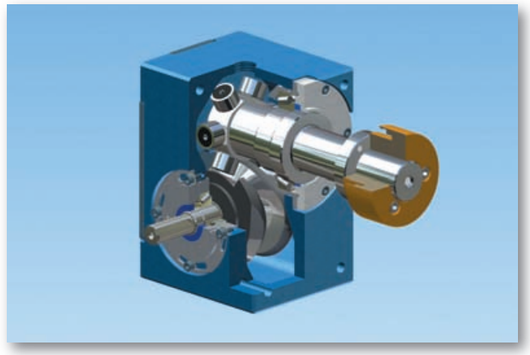
Type	A	B	C	D	E	F	G	G1	H	I	L	M	N	O	P	P1	Q
XZ038	85,0	30,0	75,0	12	15	32	30	60	55	8,5	44	110	50	40	28	55	5
XZ050	99,0	59,0	86,0	18	25	32	40	72	55	8,5	55	110	50	40	28	64	14
XZ080	125,0	50,0	116,5	24	30	35	50	85	55	8,5	50	110	50	40	28	70	20
XZ100	162,5	77,5	137,5	25	30	35	50	85	55	8,5	50	110	50	40	28	70	20
XZ140	195,0	90,0	190,0	30	30	35	50	85	62	8,5	50	115	50	40	28	70	20
XZ165	277,0	78,0	250,0	38	30	35	50	85	70	8,5	50	130	50	40	28	70	20
XZ210	277,0	78,0	250,0	38	30	35	50	85	70	8,5	50	130	50	40	28	70	20
XZ270	355,0	115,0	320,0	60	45	35	65	100	75	8,5	55	130	50	40	28	84	34
XZ380	510,0	125,0	415,0	90	45	35	65	100	88	8,5	55	143	50	40	28	84	34

Globoid Cam Gears

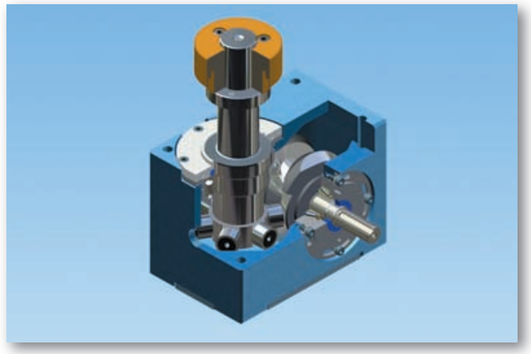
View of the Component Set



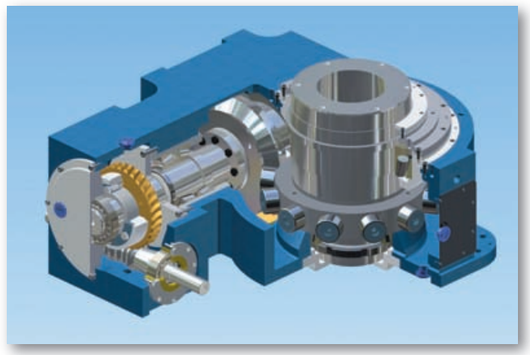
Standard Globoid Cam Gear, Type X



Globoid Cam Gear, Table Version, Type TX

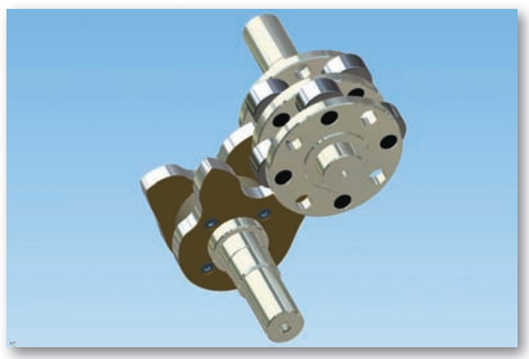


Globoid Cam Gear, Rotary Indexing Table, Type RTX



Disk Cam Gear

View of the Component Set



Disk Cam Gear, Type Y