

Operational Instructions
for
Walter Dividing Head
Universal – Dividers

UTA 80 N

UTA 100 E

UTA 125 N

UTA 150 E

UTA 160 N

UTA 200 E

UTA 200 N

UTA 250 E

UTA 320 N

1. Before starting up, carefully read these operating instructions prior to commissioning. The dividing head is filled with oil by us upon delivery. From time to time, the oil level at the oil stand must be checked. Only use special oil with approx. 115 cSt (50 Celsius) for any filling or refilling. B. Gosolin TU 558). Generously lubricate all areas with oil nipples with the supplied oil press.

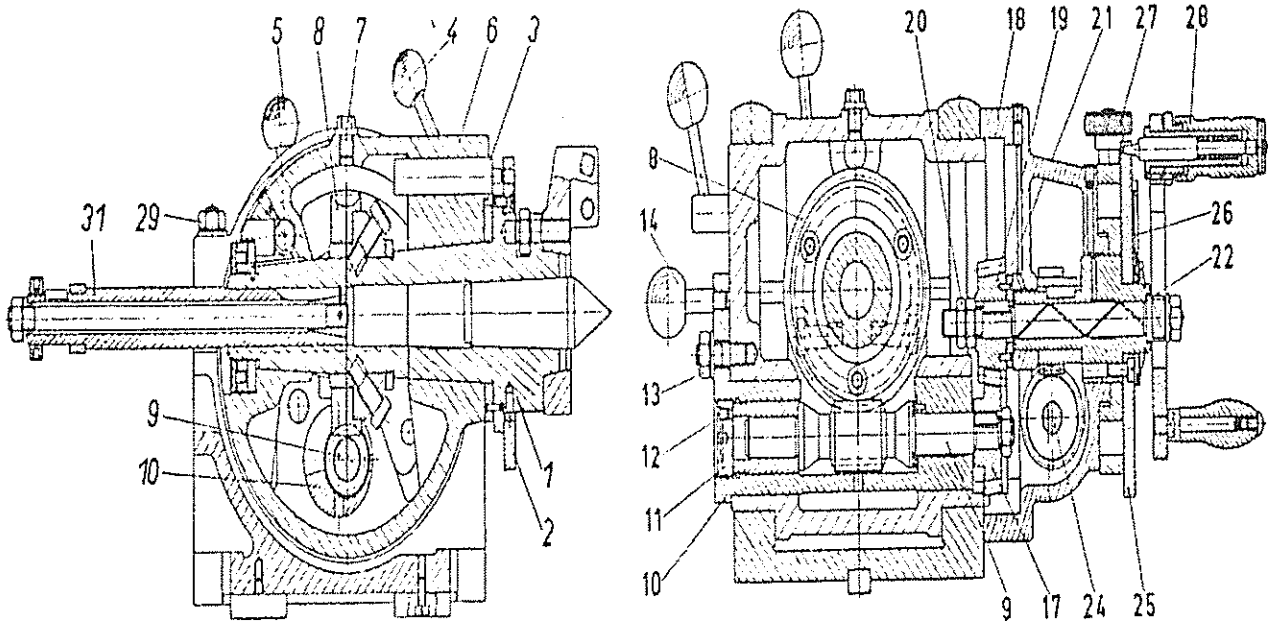


Figure 1 is Longitudinal and figure 2 is cross section through the universal dividing attachment

2. Direct division: the eccentric worm shaft 9 in the worm housing 10 is swiveled out here. The division takes place by means of the indexing disk 2 attached directly to the indexing spindle 1 and the index bolt 3, with the sub-spindle is rotated by hand and the index bolt is engaged or disengaged with the lever 4. Before working, the sub-spindle 1 is clamped by means of the locking lever 5. Division possibilities: 2, 3, 4, 6, 8, 12 and 24.

3. Indirect division: The worm shaft 9 must be swiveled in, the index bolt 3 disengaged and the perforated disk 25 clamped by means of the clamping screw 27. The prescribed bolt circle for the desired number of parts is taken from the parts table. 1st the mandatory The hole circle is not present on the plugged-on perforated disk 25, so it must be replaced. Then the index of the partial crank 28 is set to the corresponding bolt circle, the left leg of the pointer pair 26 struck on the left side of the index and the right leg set so that the pointer pair includes the prescribed number of holes, whereby the hole in which the index is placed is not included in the payment. When dividing, when the first full revolutions are made, then the part crank is turned further to the hole in front of the right leg of the pair of hands and the index is locked. Before starting work, the sub-spindle 1 fixed by means of locking the lever 5. Then turn the pair of hands to the right until the left leg hits the index again.

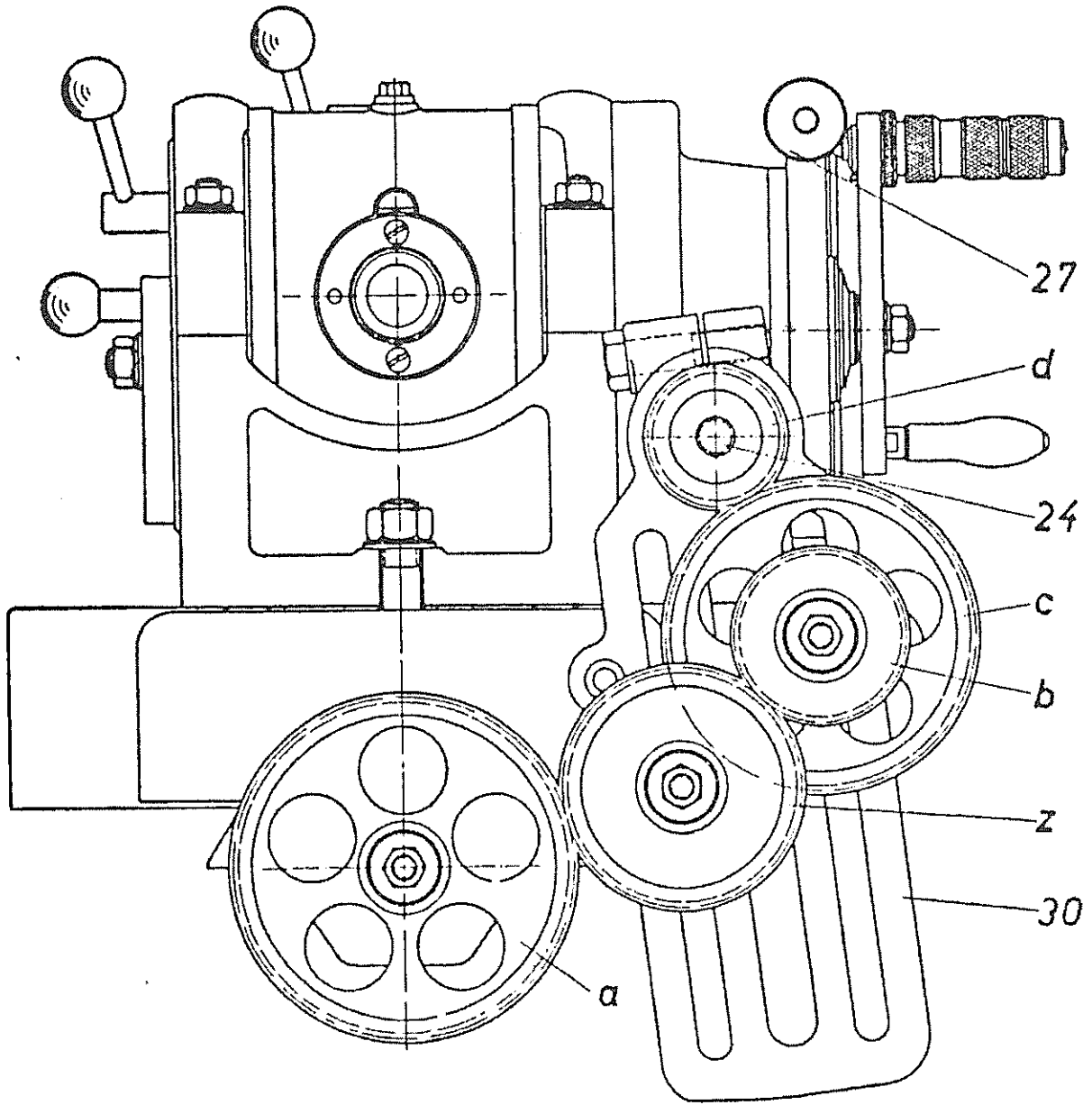


Figure 4: Change gears with (double transmission with 1 spiral milling intermediate gear)

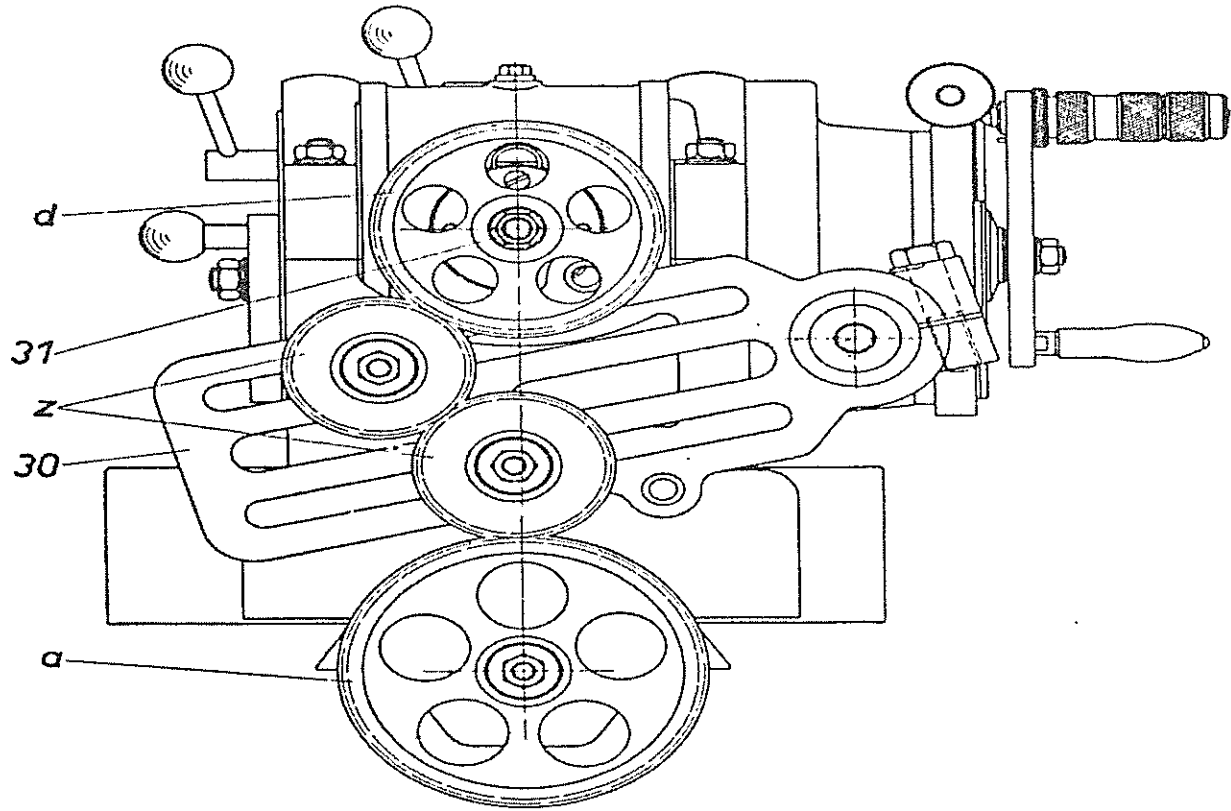


Figure 5: Change gears in spiral milling with direct drive of the part spindle (single gear ratio with 2 intermediate gears)

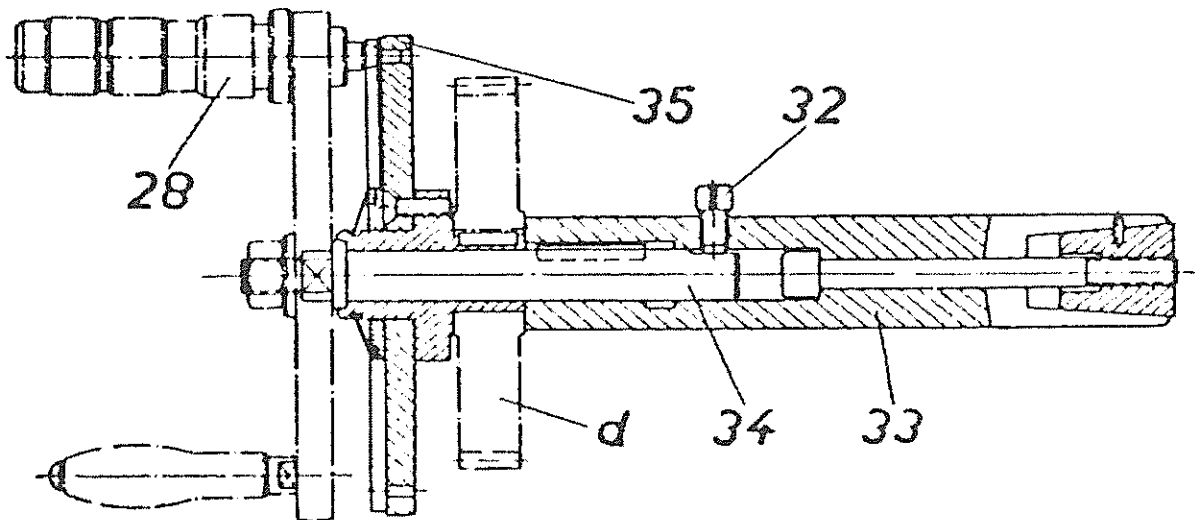


Figure 6: Mandrel with dividing device

5. Milling spirals (turns): Here, the worm shaft 9 must be pivoted and the index bolt 3 must be disengaged, the perforated disk 25 must be solved by opening the clamping screw 27 and the Sub-spindle 1 must not be clamped. When milling spirals (turns) is in addition to the longitudinal movement of the work piece a simultaneous rotation of the same necessary. To achieve this rotation, the dividing head bolt 24 through change gears a-d and possibly 1 or 2 intermediate gears z coupled to the milling table spindle, the index of the partial crank 28 in the perforated disk 25 is back. The change gear ratio, for the different spiral pitches and the number of intermediate gears, according to the applied translation and the desired spiral direction is taken from the table. The number of teeth on the intermediate gears is arbitrary. With spiral milling, only the indirect indexing method can be used to be worked.

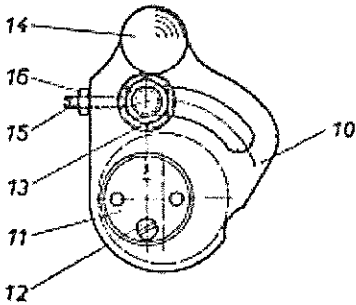
6. Milling spirals (turns) with small slopes: (Pitch less than or equal to 10 milling table spindle pitch) Here, the worm shaft 9 must be swung out and the index bolt 3 may be backed out, the sub-spindle 1 must not be tightened. With these small inclines the sub-spindle 1 via change gears a-d driven directly by the milling table spindle, including the expanding mandrel 31 is to be used. The calculation of the change gears takes place according to the formula sheet provided. With multiple turns, the mandrel is with partial device (special accessory) instead of the expanding mandrel 31 used. To insert the mandrel, after loosening the four-contact screws 32, the part shaft 34 with takeout perforated disk 35 and the change gear to put on. Then the expansion sleeve 33 is in the partial spindle 1 inserted, clamped with a socket wrench and the removed parts, including the change gear, are reinstated. The square screw 32 is to tighten again. The part crank is then used by the apparatus 28 removed and placed on the partial shaft 34, wherein the index is locked into the perforated disk 35. After milling the first turn, the part crank 28 rotated further by one division. For divisions that are not with the 24 mm perforated disc 35 can be implemented, the two perforated disks 25 be used.

7. Swiveling the worm shaft out and in: By turning the worm housing 10 on the ball knob 14 in the opposite direction. The screw shaft 9 is swiveled out in the direction of the arrow up to the stop. Before that, the hex nut is 13 to solve. The screw housing is then secured against accidental pivoting by tightening the hexagon nut 13. It is swiveled in the direction of the arrow up to the stop. When swiveling in and out, adjust the indexing head spindle so that the index bolt 3 comes to rest on the notch hole 24 of the indexing disk 2, so that damage to the worm wheel is impossible. Part crank 28 when pivoting turn slowly.

8. Pivoting the part-head housing 6: Loosen the hexagon nuts 29, precisely adjust the pivoting according to the vernier scale and tighten the hexagon nuts again.

9. Play-free resetting of the screw shaft / Backlash-free readjustment of the worm shaft: Adjusting the screw shaft 9 is provided in the following way: After loosening the nuts 13 and 16 and turning back the thread lift 15, the screw house 10 is rotated in the direction of the arrow, thereby making the eccentric in the screw house 10 stored screw 9 in closer intervention with the worm wheel 8 comes. By Loosening the vertical screw 1 and pre-twisting the two-hole nut 11, the screw shaft 9 is in the axial direction

recreated. If, after possible more frequent re-endiment of the screw 9, the spur gears 19 and 17 between partial and screw shafts should be too much interference, the spur wheel 19 must be adjusted; which is carried through in the following way is:



The gear housing 18 is opened after loosening the allen screws pulled forward. Then the two hexagon nuts 20 removed and the front rod 19 is removed from the partial wave. Now a (possibly also two) between the spur gear and the running disc placed washers 21 removed, whereby the spur gears due to the wedge-shaped teeth disengage. When installing the spur gear 19 the hexagon nuts 20 are to be adjusted and counteracted so that the partial shaft 22 can still turn easily, however, there is no axial play. Before the gear housing 18 is put on, the contact surface is with to spread liquid sealant.

10. Maintenance: In not too long intervals thoroughly lubricate the apparatus (with Machine oil, not with grease!) and check the oil level (Oil eye only shows when the indexing spindle correctly).

Teiltabelle für Indirekteilen mit Getriebe-Übersetzung: 1:40



Indexing table for indirect indexing with gear-transmission: 1:40

Tableau de division pour divisions indirectes avec l'engrenage de transmission: 1:40

Lochkreise: 16, 30, 33, 36, 39, 51, 57, 63
 Hole circles: 23, 25, 28, 31, 41, 47, 53, 61
 Cercles des trous: 22, 24, 27, 29, 37, 43, 49, 59

x Sonder-Lochkreise: 35, 71, 77, 83, 91
 x Special Hole circles: 67, 73, 79, 89, 97
 x Cercles des trous spéciaux: 69, 81, 87, 93, 99

Teilzahl Index number Nombre division	Umdrehung der Kurbel Revolution of crank Tour de la manivelle	Löcher im Lochkreis Holes in the circle Trous dans le cercle des trous	Teilzahl Index number Nombre division	Umdrehung der Kurbel Revolution of crank Tour de la manivelle	Löcher im Lochkreis Holes in the circle Trous dans le cercle des trous	Teilzahl Index number Nombre division	Löcher im Lochkreis Holes in the circle Trous dans le cercle des trous	Teilzahl Index number Nombre division	Löcher im Lochkreis Holes in the circle Trous dans le cercle des trous	Teilzahl Index number Nombre division	Löcher im Lochkreis Holes in the circle Trous dans le cercle des trous	Teilzahl Index number Nombre division	Löcher im Lochkreis Holes in the circle Trous dans le cercle des trous	Teilzahl Index number Nombre division	Löcher im Lochkreis Holes in the circle Trous dans le cercle des trous
2	20		35	1	4/28	76	30/57	138x	20/69	232	5/29	380	6/57	670x	4/67
3	13	21/63		1	7/49	77x	40/77	140	18/63	235	8/47	385x	8/77	680	3/51
	13	9/27	36	1	7/63	78	20/39		8/28	236	10/59	388x	10/97	690x	4/69
4	10			1	3/27	79x	40/79		14/49	240	6/36	390	4/39	696x	5/87
5	8		37	1	3/37	80	18/36	142x	20/71		4/24	392	5/49	700x	2/35
6	6	42/63	38	1	3/57		14/28	144	10/36	244	10/61	395x	8/79	710x	4/71
	6	18/27	39	1	1/39		12/24	145	8/29	245	8/49	396x	10/99	712x	5/89
7	5	45/63	40	1		81x	40/81	146x	20/73	248	5/31	400	3/30	720	2/36
	5	20/28	41		40/41	82	20/41	148	10/37	250	4/25	405x	8/81	728x	5/91
	5	35/49	42		60/63	83x	40/83	150	8/30	252	10/63	408	5/51	730x	4/73
8	5		43		40/43	84	30/63	152	15/57	255	8/51	410	4/41	740	2/37
9	4	28/63	44		30/33	85	24/51	154x	20/77	260	6/39	415x	8/83	744x	5/93
	4	12/27			20/22	86	20/43	155	8/31	264	5/33	420	6/63	760	3/57
10	4		45		56/63	87x	40/87	156	10/39	265	8/53	424	5/53	770x	4/77
11	3	21/33			24/27	88	15/33	158x	20/79	268x	10/67	430	4/43	776x	5/97
	3	14/22	46		20/23		10/22	160	9/36	270	4/27	435x	8/87	780	2/39
12	3	21/63	47		40/47	89x	40/89		7/28	276x	10/69	440	3/33	790x	4/79
	3	9/27	48		30/36	90	28/63		6/24	280	9/63		2/22	792x	5/99
13	3	3/39			20/24		12/27	162x	20/81		4/28	445x	8/89	810x	4/81
14	2	54/63	49		40/49	91x	40/91	164	10/41		7/49	455x	8/91	820	2/41
	2	24/28	50		24/30	92	10/23	165	8/33	284x	10/71	456	5/57	830x	4/83
	2	42/49			20/25	93x	40/93	166x	20/83	285	8/57	460	2/23	840	3/63
15	2	42/63	51		40/51	94	20/47	168	15/63	288	5/36	465x	8/93	860	2/43
	2	18/27	52		30/39	95	24/57	170	12/51	290	4/29	470	4/47	870x	4/87
16	2	18/36	53		40/53	96	15/36	172	10/43	292x	10/73	472	5/59	880	1/22
	2	14/28	54		20/27		10/24	174x	20/87	295	8/59	480	3/36	890x	4/89
	2	12/24	55		24/33	97x	40/97	175x	8/35	296	5/37		2/24	910x	4/91
17	2	18/51			16/22	98	20/49	176	5/22	300	4/30	485x	8/97	920	1/23
18	2	14/63	56		45/63	99x	40/99	178x	20/89	305	8/61	488	5/61	930x	4/93
	2	6/27			20/28	100	12/30	180	14/63	308x	10/77	490	4/49	940	2/47
19	2	6/57			35/49		10/25	182x	6/27	310	4/31	495x	8/99	960	1/24
20	2		57		40/57	102	20/51	182x	20/91	312	5/39	500	2/25	970x	4/97
21	1	57/63	58		20/29	104	15/39	184	5/23	315	8/63	504	5/63	980	2/49
22	1	27/33	59		40/59	105	24/63	185	8/37	316x	10/79	510	4/51	990x	4/99
	1	18/22	60		42/63	106	20/53	186x	20/93	320	2/16	520	3/39	1000	1/25
23	1	17/23			18/27	108	10/27	188	10/47		3/24	530	4/53	1020	2/51
24	1	42/63	61		40/61	110	12/33	190	12/57	324x	10/81	536x	5/67	1060	2/53
	1	18/27	62		20/31		8/22	192	5/24	328	5/41	540	2/27	1080	1/27
25	1	18/30	63		40/63	112	10/28	194x	20/97	330	4/33	552x	5/69	1120	1/28
	1	15/25	64		10/16	114	20/57	195	8/39	332x	10/83	560	2/28	1140	2/57
26	1	21/39			15/24	115	8/23	196	10/49	335x	8/67	568x	5/71	1160	1/29
27	1	13/27	65		24/39	116	10/29	198x	20/99	340	6/51	570	4/57	1180	2/59
28	1	27/63	66		20/33	118	20/59	200	6/30	344	5/43	580	2/29	1200	1/30
	1	12/28	67x		40/67	120	21/63		5/25	345x	8/69	584x	5/73	1220	2/61
	1	21/49	68		30/51		9/27	204	10/51	348x	10/87	590	4/59	1240	1/31
29	1	11/29	69x		40/69	122	20/61	205	8/41	350x	4/35	600	2/30	1260	2/63
30	1	21/63	70		36/63	124	10/31	210	12/63	355x	8/71	610	4/61	1320	1/33
	1	9/27			16/28	125	8/25	212	10/53	356x	10/89	616x	5/77	1340x	2/67
31	1	9/31			28/49	126	20/63	215	8/43	360	7/63	620	2/31	1380x	2/69
32	1	9/36	71x		40/71	128	5/16	216	5/27		3/27	630	4/63	1400x	1/35
	1	7/28	72		35/63	130	12/39	220	6/33	364x	10/91	632x	5/79	1420x	2/71
	1	6/24			15/27	132	10/33		4/22	365x	8/73	640	1/16	1440	1/36
33	1	7/33	73x		40/73	134x	20/67	224	5/28	370	4/37	648x	5/81	1460x	2/73
34	1	9/51	74		20/37	135	8/27	228	10/57	372x	10/93	660	2/33	1480	1/37
35	1	9/63	75		16/30	136	15/51	230	4/23	376	5/47	664x	5/83	1540x	2/77