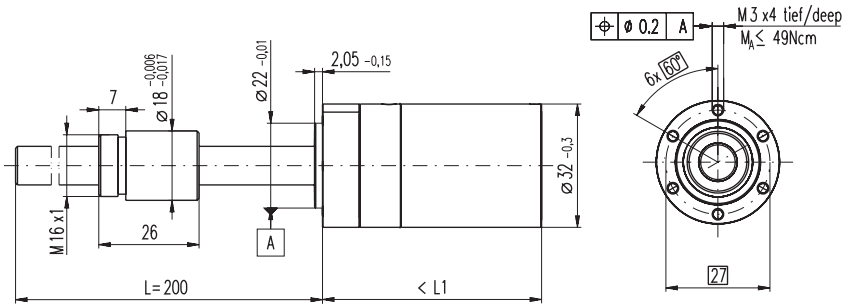
Spindle Drive GP 32 S Ø32 mm, Ball Screw



M 1:2

Technical Data

Spindle	Ø10 x 2, stainless steel
Standard length	200 mm
Special length (5 mm steps)	max. 600 mm
Max. efficiency	94%
Mass inertia	9 gcm²
Nut (standard)	thread nut
Material	100CR6, hardened
Axial play	< 0.01 mm
Planetary gearhead	straight teeth
Bearing	ball bearing / thrust roller bearing
Radial play, 5 mm from flange	< 0.05 mm
Axial play	preloaded
Recommended input speed [4]	< 8000 rpm
Recommended temperature range	-15 ... +80°C
Max. radial load, 15 mm from flange	200 N
Max. axial load (static)[1]	2700 N

Stock program
Standard program
Special program (on request)

			Order Number							
			363970	363974	363979	363980	363985	363990	363995	364000
Spindle Drive Data (provisional)										
1	Reduction		1 : 1	14 : 1	33 : 1	51 : 1	111 : 1	246 : 1	492 : 1	762 : 1
2	Reduction absolute		$^{1}/_{1}$	$^{676}/_{49}$	$^{529}/_{16}$	$^{17576}/_{343}$	$^{13824}/_{125}$	$^{421824}/_{1715}$	$^{86112}/_{175}$	$^{19044}/_{25}$
20	Max. feed velocity [1]	mm/s	133	19	8.1	5.2	2.4	1.1	0.5	0.3
21	Max. feed force (continuous) [1]	N	386	739	983	1137	1473	1921	2420	2700
22	Max. feed force (intermittent) [1]	N	1023	1956	2604	2700	2700	2700	2700	2700
Order Number			363971	363975		363981	363986	363991	363996	364001
1	Reduction		3.7 : 1	18 : 1		66 : 1	123 : 1	295 : 1	531 : 1	913: 1
2	Reduction absolute		$^{26}/_{7}$	$^{624}/_{35}$		$^{16224}/_{245}$	$^{6877}/_{56}$	$^{101062}/_{343}$	$^{331776}/_{625}$	$^{36501}/_{40}$
20	Max. feed velocity [1]	mm/s	72	15		4.0	2.2	0.9	0.5	0.3
21	Max. feed force (continuous) [1]	N	474	803		1239	1524	2041	2482	2700
22	Max. feed force (intermittent) [1]	N	1255	2127		2700	2700	2700	2700	2700
Order Number			363972	363976		363982	363987	363992	363997	364002
1	Reduction		4.8 : 1	21 : 1		79 : 1	132 : 1	318 : 1	589 : 1	1093 : 1
2	Reduction absolute		$^{24}/_{5}$	$^{299}/_{14}$		$^{3887}/_{49}$	$^{3312}/_{25}$	$^{389376}/_{1225}$	$^{20631}/_{35}$	$^{279841}/_{256}$
20	Max. feed velocity [1]	mm/s	56	13		3.4	2.0	0.8	0.5	0.2
21	Max. feed force (continuous) [1]	N	517	846		1315	1561	2092	2569	2700
22	Max. feed force (intermittent) [1]	N	1369	2239		2700	2700	2700	2700	2700
Order Number			363973	363977		363983	363988	363993	363998	
1	Reduction		5.8 : 1	23 : 1		86 : 1	159 : 1	411 : 1	636 : 1	
2	Reduction absolute		$^{23}/_{4}$	$^{576}/_{25}$		$^{14976}/_{175}$	$^{1587}/_{10}$	$^{359424}/_{875}$	$^{79488}/_{125}$	
20	Max. feed velocity [1]	mm/s	46	12		3.1	1.7	0.6	0.4	
21	Max. feed force (continuous) [1]	N	551	872		1353	1661	2279	2636	
22	Max. feed force (intermittent) [1]	N	1458	2308		2700	2700	2700	2700	
Order Number				363978		363984	363989	363994	363999	
1	Reduction			28 : 1		103 : 1	190 : 1	456 : 1	706 : 1	
2	Reduction absolute			$^{138}/_{5}$		$^{3588}/_{35}$	$^{12167}/_{64}$	$^{89401}/_{196}$	$^{15817}/_{224}$	
20	Max. feed velocity [1]	mm/s		9.5		2.6	1.4	0.6	0.4	
21	Max. feed force (continuous) [1]	N		931		1437	1762	2359	2700	
22	Max. feed force (intermittent) [1]	N		2465		2700	2700	2700	2700	
4	Number of stages		1	2	2	3	3	4	4	4
7	Max. efficiency gearhead incl. spindle	%	75[2]	71	71	66	66	56	56	56
8	Weight [1]	g	304	331	331	359	359	387	387	387
9	Average backlash no load	°	0.7	0.8	0.8	1.0	1.0	1.0	1.0	1.0
23	Mechanical positioning accuracy [1]	mm	0.037	0.037	0.037	0.039	0.039	0.039	0.039	0.039
10	Mass inertia gearhead incl. spindle [1]	gcm²	4.2	0.9	0.9	0.7	0.7	0.7	0.7	0.7
11	Gearhead length L1	mm	51.0	57.7	57.7	64.4	64.4	71.1	71.1	71.1

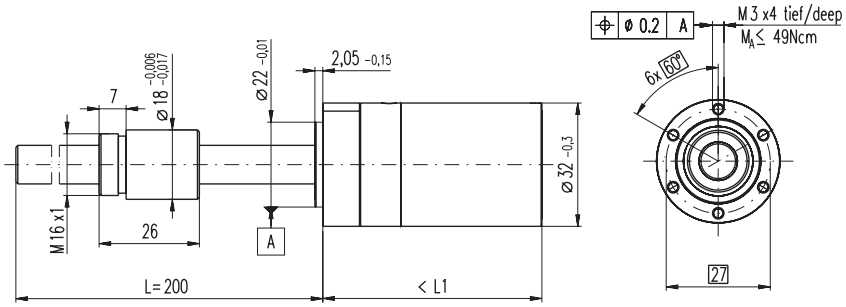
[1] based on spindle length 200 mm (standard length) [2] for reduction 1:1 = 94% [3] for reduction 1:1 = 42.3 gcm² [4] for reduction 1:1 = 4000 rpm

maxon Modular System

+ Motor	Page	+ Sensor/Brake	Page	Overall length [mm] = Motor length + gearhead length + (sensor / brake) + assembly parts							
RE 25	77/79			105.6	112.3	112.3	119.0	119.0	125.7	125.7	125.7
RE 25	77/79	MR	262	116.6	123.3	123.3	130.0	130.0	136.7	136.7	136.7
RE 25	77/79	Enc 22	264	119.7	126.4	126.4	133.1	133.1	139.8	139.8	139.8
RE 25	77/79	HED_5540	266/268	126.4	133.1	133.1	139.8	139.8	146.5	146.5	146.5
RE 25	77/79	DCT 22	276	127.9	134.6	134.6	141.3	141.3	148.0	148.0	148.0
RE 25, 20 W	78			94.1	100.8	100.8	107.5	107.5	114.2	114.2	114.2
RE 25, 20 W	78	MR	262	105.1	111.8	111.8	118.5	118.5	125.2	125.2	125.2
RE 25, 20 W	78	HED_5540	266/268	114.9	121.6	121.6	128.3	128.3	135.0	135.0	135.0
RE 25, 20 W	78	DCT 22	276	116.4	123.1	123.1	129.8	129.8	136.5	136.5	136.5
RE 25, 20 W	78	AB 28	318	128.2	134.9	134.9	141.6	141.6	148.3	148.3	148.3
RE 25, 20 W	78	HED_5540/AB 28	266/318	145.4	152.1	152.1	158.8	158.8	165.5	165.5	165.5
RE 25, 20 W	79	AB 28	318	139.7	146.4	146.4	153.1	153.1	159.8	159.8	159.8
RE 25, 20 W	79	HED_5540/AB 28	266/318	156.8	163.5	163.5	170.2	170.2	176.9	176.9	176.9
RE 30, 60 W	80			119.1	125.8	125.8	132.5	132.5	139.2	139.2	139.2
RE 30, 60 W	80	MR	263	130.5	137.2	137.2	143.9	143.9	150.6	150.6	150.6
RE 35, 90 W	81			122.1	128.8	128.8	135.5	135.5	142.2	142.2	142.2
RE 35, 90 W	81	MR	263	133.5	140.2	140.2	146.9	146.9	153.6	153.6	153.6
RE 35, 90 W	81	HED_5540	266/268	142.8	149.5	149.5	156.2	156.2	162.9	162.9	162.9
RE 35, 90 W	81	DCT 22	276	140.2	146.9	146.9	153.6	153.6	160.3	160.3	160.3
RE 35, 90 W	81	AB 28	318	158.2	164.9	164.9	171.6	171.6	178.3	178.3	178.3
RE 35, 90 W	81	HEDS 5540/AB 28	266/318	175.3	182.0	182.0	188.7	188.7	195.4	195.4	195.4

Continuation of the modular system (irrespective of the spindle) on pages 250 and 251

Spindle Drive GP 32 S Ø32 mm, Metric spindle



M 1:2

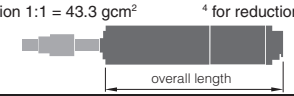
Technical Data

Spindle	M10 x 1, stainless steel
Option	M10 x 1, ceramic
Standard length	200 mm
Special length (5 mm steps)	max. 600 mm
Max. efficiency	27.0%
Mass inertia	9 gcm²
Nut (standard)	thread nut
Material	CuSn12
Axial play	< 0.008 mm
Planetary gearhead	straight teeth
Bearing	ball bearing / thrust roller bearing
Radial play, 5 mm from flange	< 0.05 mm
Axial play	preloaded
Recommended input speed [4]	< 8000 rpm
Recommended temperature range	-15 ... +80°C
Max. radial load, 15 mm from flange	200 N
Max. axial load (static) [1]	2700 N

Stock program
Standard program
Special program (on request)

			Order Number							
			363900	363904	363909	363910	363915	363920	363925	363930
Spindle Drive Data (provisional)										
1	Reduction		1 : 1	14 : 1	33 : 1	51 : 1	111 : 1	246 : 1	492 : 1	762 : 1
2	Reduction absolute		$^{1}/_{1}$	$^{676}/_{49}$	$^{529}/_{16}$	$^{17576}/_{343}$	$^{13824}/_{125}$	$^{421824}/_{1715}$	$^{86112}/_{175}$	$^{19044}/_{25}$
20	Max. feed velocity [1]	mm/s	100	9.5	4.0	2.6	1.2	0.5	0.3	0.2
21	Max. feed force (continuous) [1]	N	183	400	533	616	798	1040	1311	1350
22	Max. feed force (intermittent) [1]	N	455	995	1324	1350	1350	1350	1350	1350
Order Number			363901	363905		363911	363916	363921	363926	363931
1	Reduction		3.7 : 1	18 : 1		66 : 1	123 : 1	295 : 1	531 : 1	913: 1
2	Reduction absolute		$^{26}/_{7}$	$^{624}/_{35}$		$^{16224}/_{245}$	$^{6877}/_{56}$	$^{101062}/_{343}$	$^{331776}/_{625}$	$^{36501}/_{40}$
20	Max. feed velocity [1]	mm/s	36	7.4		2.0	1.1	0.5	0.3	0.1
21	Max. feed force (continuous) [1]	N	257	435		671	826	1105	1345	1350
22	Max. feed force (intermittent) [1]	N	638	1082		1350	1350	1350	1350	1350
Order Number			363902	363906		363912	363917	363922	363927	363932
1	Reduction		4.8 : 1	21 : 1		79 : 1	132 : 1	318 : 1	589 : 1	1093 : 1
2	Reduction absolute		$^{24}/_{5}$	$^{299}/_{14}$		$^{3887}/_{49}$	$^{3312}/_{25}$	$^{389376}/_{1225}$	$^{20631}/_{35}$	$^{279841}/_{256}$
20	Max. feed velocity [1]	mm/s	28	6.3		1.7	1.0	0.4	0.2	0.1
21	Max. feed force (continuous) [1]	N	280	458		712	845	1133	1350	1350
22	Max. feed force (intermittent) [1]	N	696	1139		1350	1350	1350	1350	1350
Order Number			363903	363907		363913	363918	363923	363928	
1	Reduction		5.8 : 1	23 : 1		86 : 1	159 : 1	411 : 1	636 : 1	
2	Reduction absolute		$^{23}/_{4}$	$^{576}/_{25}$		$^{14976}/_{175}$	$^{1587}/_{10}$	$^{359424}/_{875}$	$^{79488}/_{125}$	
20	Max. feed velocity [1]	mm/s	23	5.8		1.6	0.8	0.3	0.2	
21	Max. feed force (continuous) [1]	N	298	472		733	899	1234	1350	
22	Max. feed force (intermittent) [1]	N	742	1174		1350	1350	1350	1350	
Order Number				363908		363914	363919	363924	363929	
1	Reduction			28 : 1		103 : 1	190 : 1	456 : 1	706 : 1	
2	Reduction absolute			$^{138}/_{5}$		$^{3588}/_{35}$	$^{12167}/_{64}$	$^{89401}/_{196}$	$^{15817}/_{224}$	
20	Max. feed velocity [1]	mm/s		4.8		1.3	0.7	0.3	0.2	
21	Max. feed force (continuous) [1]	N		504		778	955	1278	1350	
22	Max. feed force (intermittent) [1]	N		1253		1350	1350	1350	1350	
4	Number of stages		1	2	2	3	3	4	4	4
7	Max. efficiency gearhead incl. spindle	%	22[2]	20	20	19	19	16	16	16
8	Weight [1]	g	304	331	331	359	359	387	387	387
9	Average backlash no load	°	0.7	0.8	0.8	1.0	1.0	1.0	1.0	1.0
23	Mechanical positioning accuracy [1]	mm	0.033	0.033	0.033	0.034	0.034	0.034	0.034	0.034
10	Mass inertia gearhead incl. spindle [1]	gcm²	3.0	0.9	0.9	0.7	0.7	0.7	0.7	0.7
11	Gearhead length L1	mm	51.0	57.7	57.7	64.4	64.4	71.1	71.1	71.1

[1] based on Spindle length 200 mm (standard length) [2] for reduction 1:1 = 27% [3] for reduction 1:1 = 43.3 gcm² [4] for reduction 1:1 = 4000 rpm

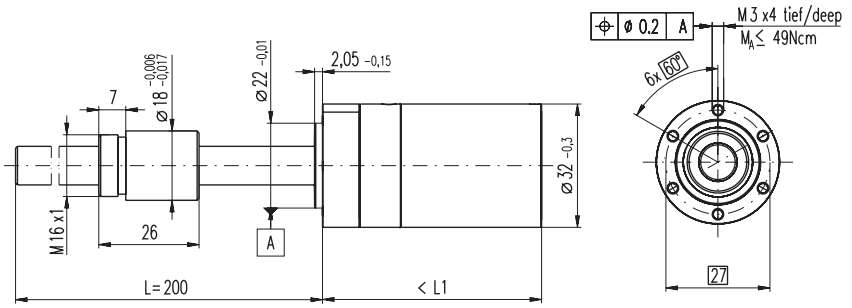


maxon Modular System

+ Motor	Page	+ Sensor/Brake	Page	Overall length [mm] = Motor length + gearhead length + (sensor / brake) + assembly parts							
A-max 26	101-108			95.8	102.5	102.5	109.2	109.2	115.9	115.9	115.9
A-max 26	102-108	MEnc 13	274	102.9	109.6	109.6	116.3	116.3	123.0	123.0	123.0
A-max 26	102-108	MR	262	104.6	111.3	111.3	118.0	118.0	124.7	124.7	124.7
A-max 26	102-108	Enc 22	265	110.2	116.9	116.9	123.6	123.6	130.3	130.3	130.3
A-max 26	102-108	HED_5540	266/268	114.6	121.3	121.3	128.0	128.0	134.7	134.7	134.7
A-max 32	109/111			114.0	120.7	120.7	127.4	127.4	134.1	134.1	134.1
A-max 32	110/112			112.6	119.3	119.3	126.0	126.0	132.7	132.7	132.7
A-max 32	110/112	MR	263	123.8	130.5	130.5	137.2	137.2	143.9	143.9	143.9
A-max 32	110/112	HED_5540	266/268	133.4	140.1	140.1	146.8	146.8	153.5	153.5	153.5
RE-max 29	131-134			95.8	102.5	102.5	109.2	109.2	115.9	115.9	115.9
RE-max 29	132/134	MR	262	104.6	111.3	111.3	118.0	118.0	124.7	124.7	124.7
EC 32, 80 W	153			111.1	117.8	117.8	124.5	124.5	131.2	131.2	131.2
EC 32, 80 W	153	HED_ 5540	267/269	129.5	136.2	136.2	142.9	142.9	149.6	149.6	149.6
EC 32, 80 W	153	Res 26	277	131.2	137.9	137.9	144.6	144.6	151.3	151.3	151.3
MCD EPOS, 60 W	313			171.1	177.8	177.8	184.5	184.5	191.2	191.2	191.2
MCD EPOS P 60 W	313			171.1	177.8	177.8	184.5	184.5	191.2	191.2	191.2

Continuation of the modular system (irrespective of the spindle) on pages 249 and 251

Spindle Drive GP 32 S Ø32 mm, trapezoidal spindle



M 1:2

Technical Data

Spindle	TR10 x 2, stainless steel
Standard length	200 mm
Special length (5 mm steps)	max. 600 mm
Max. efficiency	47.0%
Mass inertia	9 gcm²
Nut (standard)	thread nut
Material	CuSn12
Axial play	< 0.008 mm
Planetary gearhead	straight teeth
Bearing	ball bearing / thrust roller bearing
Radial play, 5 mm from flange	< 0.05 mm
Axial play	preloaded
Recommended input speed [4]	< 8000 rpm
Recommended temperature range	-15 ... +80°C
Max. radial load, 15 mm from flange	200 N
Max. axial load (static) [1]	2700 N

Stock program
Standard program
Special program (on request)

			Order Number							
			363936	363940	363945	363946	363951	363956	363961	363966
Spindle Drive Data (provisional)										
1	Reduction		1 : 1	14 : 1	33 : 1	51 : 1	111 : 1	246 : 1	492 : 1	762 : 1
2	Reduction absolute		1/1	676/49	529/16	17576/343	13824/125	421824/1715	86112/175	19044/25
20	Max. feed velocity [1]	mm/s	186	19	8.1	5.2	2.4	1.1	0.5	0.3
21	Max. feed force (continuous) [1]	N	216	462	614	710	921	1200	1512	1530
22	Max. feed force (intermittent) [1]	N	528	1127	1500	1530	1530	1530	1530	1530
Order Number			363937	363941		363947	363952	363957	363962	363967
1	Reduction		3.7 : 1	18 : 1		66 : 1	123 : 1	295 : 1	531 : 1	913: 1
2	Reduction absolute		26/7	624/35		16224/245	6877/56	101062/343	331776/625	36501/40
20	Max. feed velocity [1]	mm/s	72	15		4.0	2.2	0.9	0.5	0.3
21	Max. feed force (continuous) [1]	N	296	502		774	953	1275	1530	1530
22	Max. feed force (intermittent) [1]	N	723	1226		1530	1530	1530	1530	1530
Order Number			363938	363942		363948	363953	363958	363963	363968
1	Reduction		4.8 : 1	21 : 1		79 : 1	132 : 1	318 : 1	589 : 1	1093 : 1
2	Reduction absolute		24/5	299/14		3887/49	3312/25	389376/1225	20631/35	279841/256
20	Max. feed velocity [1]	mm/s	56	13		3.4	2.0	0.8	0.5	0.2
21	Max. feed force (continuous) [1]	N	323	529		822	975	1308	1530	1530
22	Max. feed force (intermittent) [1]	N	789	1291		1530	1530	1530	1530	1530
Order Number			363939	363943		363949	363954	363959	363964	
1	Reduction		5.8 : 1	23 : 1		86 : 1	159 : 1	411 : 1	636 : 1	
2	Reduction absolute		23/4	576/25		14976/175	1587/10	359424/875	79488/125	
20	Max. feed velocity [1]	mm/s	46	12		3.1	1.7	0.6	0.4	
21	Max. feed force (continuous) [1]	N	344	545		846	1038	1424	1530	
22	Max. feed force (intermittent) [1]	N	840	1330		1530	1530	1530	1530	
Order Number				363944		363950	363955	363960	363965	
1	Reduction			28 : 1		103 : 1	190 : 1	456 : 1	706 : 1	
2	Reduction absolute			138/5		3588/35	12167/64	89401/196	15817/224	
20	Max. feed velocity [1]	mm/s		9.5		1.3	0.7	0.3	0.2	
21	Max. feed force (continuous) [1]	N		582		898	1101	1475	1530	
22	Max. feed force (intermittent) [1]	N		1420		1530	1530	1530	1530	
4	Number of stages		1	2	2	3	3	4	4	4
7	Max. efficiency gearhead incl. spindle	%	38[2]	35	35	33	33	28	28	28
8	Weight [1]	g	304	331	331	359	359	387	387	387
9	Average backlash no load	°	0.7	0.8	0.8	1.0	1.0	1.0	1.0	1.0
23	Mechanical positioning accuracy [1]	mm	0.035	0.035	0.035	0.037	0.037	0.037	0.037	0.037
10	Mass inertia gearhead incl. spindle [1]	gcm²	2.4	0.9	0.9	1.0	1.0	1.0	1.0	1.0
11	Gearhead length L1	mm	51.0	57.7	57.7	64.4	64.4	71.1	71.1	71.1

[1] based on spindle length 200 mm (standard length) [2] for reduction 1:1 = 47% 3 for reduction 1:1 = 42.3 gcm² [4] for reduction 1:1 = 5569 rpm

maxon Modular System

+ Motor	Page	+ Sensor/Brake	Page	Overall length [mm] = Motor length + gearhead length + (sensor / brake) + assembly parts							
EC-max 22, 25 W	165			99.6	106.3	106.3	113.0	113.0	119.7	119.7	119.7
EC-max 22, 25 W	165	MR	261	109.3	116.0	116.0	122.7	122.7	129.4	129.4	129.4
EC-max 22, 25 W	165	AB 20	316	135.4	142.1	142.1	148.8	148.8	155.5	155.5	155.5
EC-max 30, 40 W	166			93.1	99.8	99.8	106.5	106.5	113.2	113.2	113.2
EC-max 30, 40 W	166	MR	262	105.3	112.0	112.0	118.7	118.7	125.4	125.4	125.4
EC-max 30, 40 W	166	HEDL5540	269	113.7	120.4	120.4	127.1	127.1	133.8	133.8	133.8
EC-max 30, 40 W	166	AB 20	316	128.9	135.6	135.6	142.3	142.3	149.0	149.0	149.0
EC-max 30, 40 W	166	HEDL 5540 / AB	269/316	149.5	156.2	156.2	162.9	162.9	169.6	169.6	169.6
EC-4pole 22, 90 W	173			99.7	106.4	106.4	113.1	113.1	119.8	119.8	119.8
EC-4pole 22, 90 W	173	HEDL 5540	270	121.2	127.9	127.9	134.6	134.6	141.3	141.3	141.3
EC-4pole 22,120 W	174			117.1	123.8	123.8	130.5	130.5	137.2	137.2	137.2
EC-4pole 22,120 W	174	HEDL 5540	270	138.6	145.3	145.3	152.0	152.0	158.7	158.7	158.7
EC-i 40, 50 W	190			82.7	89.4	89.4	96.1	96.1	102.8	102.8	102.8
EC-i 40, 50 W	190	MR	263	98.4	105.1	105.1	111.8	111.8	118.5	118.5	118.5
EC-i 40, 50 W	190	HEDL 5540	270	106.1	112.8	112.8	119.5	119.5	126.2	126.2	126.2
EC-i 40, 70 W	191			92.7	99.4	99.4	106.1	106.1	112.8	112.8	112.8
EC-i 40, 70 W	191	MR	263	108.4	115.1	115.1	121.8	121.8	128.5	128.5	128.5
EC-i 40, 70 W	191	HEDL 5540	270	116.1	122.8	122.8	129.5	129.5	136.2	136.2	136.2

Continuation of the modular system (irrespective of the spindle) on pages 249 and 250