

# **Variable speed pulleys**

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## **Variable speed drive type 11.101/104**

### **Type 11.101**

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### **Type 11.104**

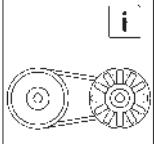
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## **Variable speed pulleys type 11.213/218**

### **Type 11.213/218**

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## Variable speed pulleys

### Product key

#### Variable speed pulleys 11.101

Type	
Sizes 05/10/20/30/40/45/55/65/80	
Spring design	
1 = normal	
2 = reinforced	
Design	
1 = normal	
2 = rustproof	
Hub bore	
<b>11.101.30.1.1./□□</b>	

#### Driven pulleys

Type	
Sizes 05/10/20/40/50/70	
Design	
921 = pre-bored	
922 = ready-bored	
Driven pulley bore	
Rated diameter of the driven pulley	
<b>11.110.05.922/□□/□□□</b>	

#### Variable speed pulleys 11.104

Type 11.108 = with coated belt surfaces	
Type 11.104 = normal	
Sizes 05/10/20/30	
Number of springs	
4 = reduced	
6 = normal	
8 = reinforced	
Design	
Hub bore	
<b>11.104.20.6.1./□□</b>	

#### Variable speed belt

Type	
Sizes 14/22/28/37/47/55/70/72	
Design: electrically conductive	
Inner belt length	
<b>11.110.28.931/□□□□</b>	

#### Variable speed pulleys 11.213

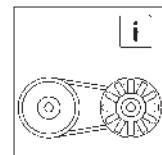
Type 213 = Standard	
Type 218 = with coated belt surfaces	
Sizes 10/13/16/20/25/31/40	
Design	
910 = mechanically adjustable with bearing cover	
911 = mechanically adjustable without bearing cover	
912 = mechanically adjustable for central adjustment	
920 = spring loaded with disc spring	
921 = spring loaded with reinforced disc spring	
926 = spring loaded with 6 cylindrical pressure springs	
928 = spring loaded with 8 cylindrical pressure springs	
<b>11.213.16.926</b>	

#### Motor slide

Type	
Sizes 05/20/40/70	
Design	
911 = normal	
912 = U type	
913 = K type	
914 = L type	
<b>11.110.05.911</b>	

#### Central adjustment

Type	
Sizes 10/13/16/20/25/31/40	
Design	
<b>11.213.16.933</b>	



### Description

Spring-loaded variable speed pulleys types 11.101 and 11.104 are usually mounted onto the input side of the motor shaft end; the driven pulley is mounted onto the driven shaft. The output speed is determined by the diameter of the driven pulleys. Often additional gearboxes are not necessary.

### Speed adjustment

The motor with the variable speed pulley is, for instance, mounted onto an adjustable slide. The variable speed belt is pushed into or pulled out of the spring-loaded variable speed pulley by changing the axis distance between the two shafts. Thus, the effective running diameter of the belt in the variable speed pulley and the speed of the driven pulley are changed. Motor slide, motor rocker and belt tighteners enable adjustment. Fine tuning of the speed is always possible by using a threaded spindle. The output speed range of SIMPLABELT variable speed drives (1 : 3) depends on the effective diameter of the driven pulley. The output speeds possible are indicated on pages 8 and 13. The power to be transmitted of the different pulley sizes at different motor speeds are also indicated on these pages.

For shock loaded operation a higher safety factor must be provided. The use of a larger variable speed pulley can be necessary. In case of doubt, please contact Lenze.

SIMPLABELT has been the name for variable speed belt drives for years and it is well established in national and international engineering.

Well-known machine and system manufacturers have used SIMPLABELT variable speed drives successfully for many years, even under difficult operating conditions.

### Simplabelt variable speed pulleys type 11.101

Power range: 0.37–18.5 kW at  $n_1=1500 \text{ min}^{-1}$

Thanks to their design – cast iron disc pulleys on both ends – and their high rotating mass, the variable speed pulleys type 11.101 provide good damping features which are advantageous for the use with changing loads, for instance for clock-pulse operating machines.

We recommend to use variable speed pulleys, if harsh operating conditions and exposure to humidity or dust are to be expected.

The pretension required for power transmission is generated by the disc springs which are located on both sides of the disc pulleys.

The forces resulting from the torque transmission are taken up by a well dimensioned serration. By this, the surface pressure is far below the permissible limit and thus the service life is very long.

### Variable speed pulleys must be re-lubricated depending on their application.

#### Simplabelt variable speed pulleys type 11.104

Power range: 0.37–3kW at  $n_1=1500 \text{ min}^{-1}$

With this type, the disc pulleys are made of a light-metal alloy especially developed for pulleys. Their main characteristic is a low moment of inertia.

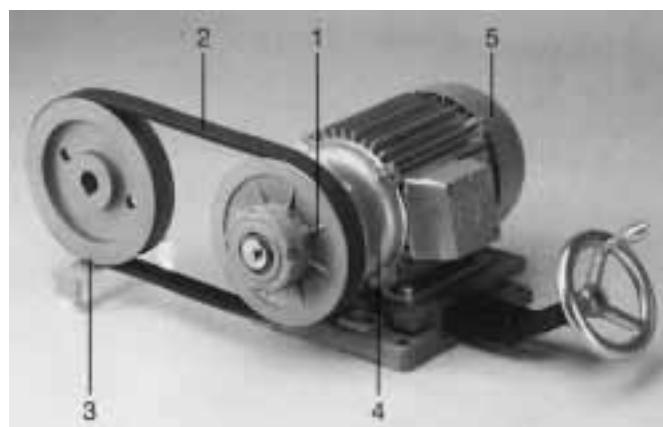
We also offer the economical type 11.104 for operating conditions where a low moment of inertia is favourable because of high switching frequencies or reversing operation.

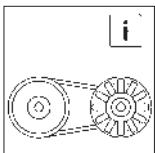
The pretension required for the power transmission is here generated by cylindrical pressure springs which are located rotation-symmetrically on both sides of the disc pulleys.

The variable speed pulleys are life lubricated and do not require further maintenance.

### SIMPLABELT variable speed drives, design 1:3

SIMPLABELT variable speed drives, design 1:3 consist of a spring-loaded pulley (1), a variable speed belt with an especially bendable inner toothed (2), driven pulley (3), motor slide (4) and a three-phase AC motor to IEC standards (5).





## Variable speed pulleys

### Product information

#### Simplabelt variable speed pulleys type 11.213/218

##### Operation principle

The main part of variable speed pulleys type 11.213/218 is the slide fit. The coated hub as four-side polygon profile combined with disc pulleys made of aluminium cast iron is well established in mechanical engineering.

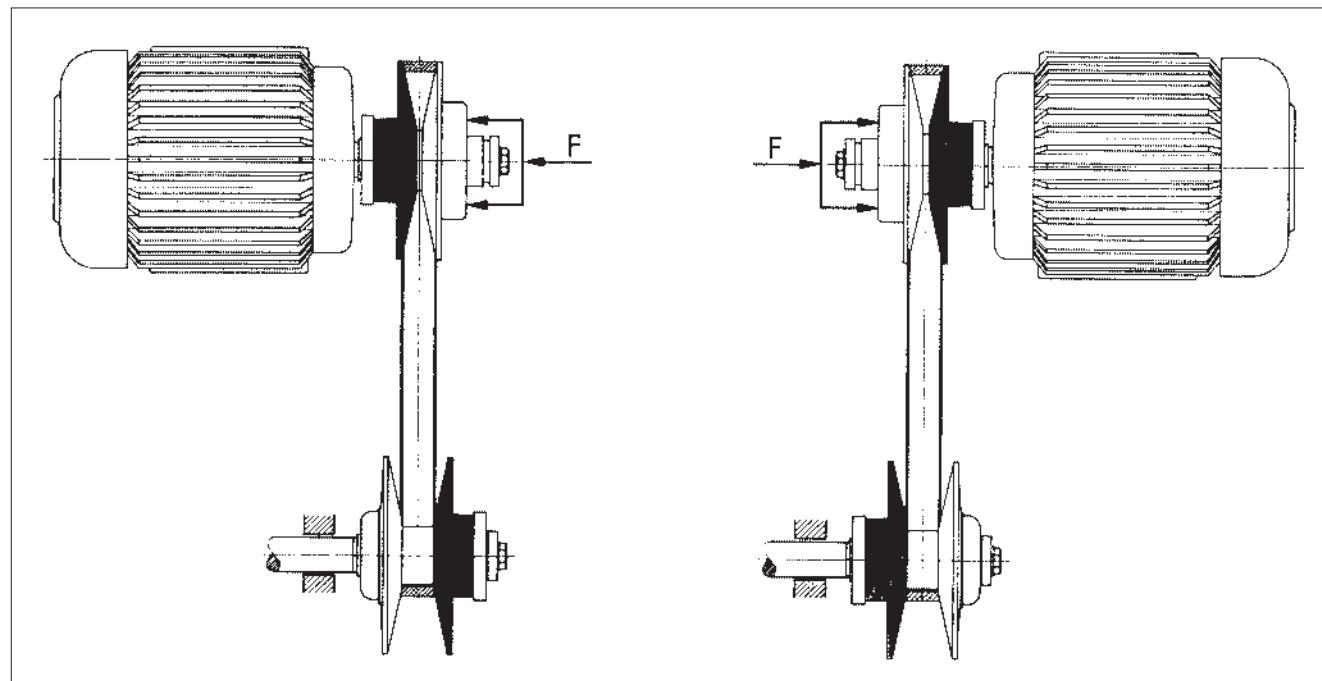
##### Advantages:

- large torque transmission surfaces, i.e. low surface pressure
- self-centering because of symmetrical backlash compensation, i.e. no toppling of disc pulleys

- even profile edges, i.e. very quiet running
- absolutely maintenance free
- long service life

The pretension required for power transmission is generated by screw springs which are located rotation-symmetrically and can be varied by changing the number of springs. All components are made of corrosion-resistant material and enable application even under difficult environmental conditions.

A version with hard-coated belt surfaces is available for application under unfavourable conditions.



**6**

#### U type

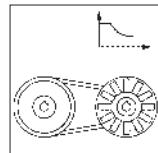
The mechanically adjustable variable speed pulley is mounted onto the driving shaft (motor shaft), the spring-loaded variable speed pulley is mounted onto the shaft to be driven. If the mounting is changed, the performance data of the drive will change. If so, please contact Lenze. All variable speed

#### Z type

pulleys can be mounted as U or Z type (except size 40). Please observe that the fixed disc pulleys (dark in the figure) must be mounted diagonally. Thus, the belts are aligned in any position. Simplabelt variable speed pulleys can be mounted independently of the mounting position.

# Variable speed pulleys

## General data



Possible combinations	11.101	Variable speed pulley 11.104	11.213/218
Driven pulley 11.110.□□.92□	•	•	
Variable speed belt 11.110.□□.931	•	•	•
<b>Adjustment units</b>			
Motor slide 11.110.□□.91□	•	•	
Central adjustment 11.213.□□.93□			•

Variable speed pulley	11.101	11.104	11.213/218
Power range at n1=1500 min-1	0.37-18.5 kW	0.37-3 kW	0.25-45 kW
Speed adjustment	by changing the axis distance		with constant axis distance
Corrosion protection	Option	Standard	Standard
Material f	Disc pulleys	Cast iron	Aluminium
	Hub	C45K	St52-3k
Tolerances	Bore	Standard: H7 with keyway to DIN	
	Machine shaft required	k6	
Features	High rotational mass damping	Low moment of inertia	
Suitable for	Clock-type operation Shock loaded/rough operation Humidity/dust	High operating frequency (reversing operation)	Clock-pulse operation Shock loaded/rough operation Humidity/dust
Torque transmission	Serration	Polygon	Polygon
Belt pretension by	Disc spring Location: on both sides	Pressure springs Location: on both sides	Pressure or disc springs Location: on one side
Maintenance	Re-lubrication required	Maintenance free	Maintenance free
Ambient temperature		-20 to +40°	
Mechanical efficiency		0.79 ≤ η ≤ 0.85	

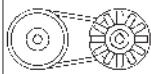
Variable speed pulley	11.110.□□.931
Design	Sandwich design
Material	Compound: electrically conductive to ISO 1813

Driven pulley	11.110.□□.92□
Material	Cast iron

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Motor slide	11.110.□□.91□
Material	Cast iron
Housing	
Spindle	9S20K

Central adjustment	11.110.□□.93□
Material	Cast iron / aluminium / plastic depending on the size
Housing	
Spindle	C45



## Variable speed pulleys

### Type 11.101

#### Selection tables

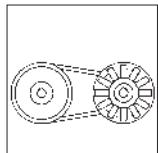
Type	Motor speed [min <sup>-1</sup> ]	Power [kw]	Inner counter pulley diameter [mm]										
			80	90	100	112	125	140	160	170	180	200	
Output speed [min <sup>-1</sup> ]													
11.100.05	2720 1380 910 680	0.55 0.37 0.25 0.18	3758- 1295 1960- 657 1258- 434 939- 324	3358- 1158 1704- 587 1122- 387 839- 289	3035- 1048 1540- 531 1014- 350 759- 261	2790- 948 1380- 476 910- 314 680- 234	2444- 844 1241- 428 819- 282 611- 211	2190- 756 1111- 383 733- 253 548- 189	1925- 664 975- 337 644- 222 481- 166	1715- 592 870- 300 574- 198 429- 148	1546 533 784- 271 517- 177 387- 133		
11.101.10	2820 1400 910 675	1.1 0.75 0.55 0.37	5355- 2320 2658- 1151 1730- 750 1282- 555		4330- 1878 2148- 931 1400- 606 1038- 450	3865- 1682 1928- 835 1254- 544 930- 403	3495- 1514 1735- 751 1129- 489 836- 362	3133- 1358 1367- 591 1011- 438 750- 325	2752- 1191 1367- 591 889- 385 659- 285	2455- 1062 1218- 527 792- 343 588- 254	2213- 958 1098- 476 714- 309 530- 229		
11.101.20	2800 1410 920 710	2.2 1.5 1.1 0.75					3880- 1681 1951- 846 1274- 552 984- 426	3475- 1508 1750- 759 1142- 455 882- 382	3055- 1324 1538- 667 1004- 435 775- 336	2880- 1249 1450- 629 947- 410 730- 316	2723- 1181 1371- 595 894- 388 692- 300	2459- 1065 1238- 537 808- 350 624- 270	
11.101.30	2830 1425 930 700	3 2.2 1.5 1.1						4220- 1788 2123- 900 1389- 587 1044- 442	3720- 1572 1873- 792 1221- 516 919- 389		3320- 1403 1671- 707 1091- 461 821- 347	2992- 1267 1509- 638 948- 416 740- 314	
11.101.40	1425 940 690	3 2.2 1.5						2561- 1027 1691- 676 1241- 497	2254- 903 1488- 595 1092- 437		2013- 806 1328- 531 975- 390	1850- 728 1198- 480 880- 352	
11.101.45	1430 960 700	4 3 2.2						2570- 1030 1727- 691 1259- 504	2260- 906 1519- 608 1108- 443		2019- 809 1355- 543 989- 396	1821- 730 1223- 490 893- 357	
11.101.55	1400 960 700	5.5 4 3										2093- 838 1395- 559 1017- 407	

Type	Motor speed [min <sup>-1</sup> ]	Power [kw]	Inner counter pulley diameter [mm]										
			80	224	250	280	315	355	400	450	500	560	
Output speed [min <sup>-1</sup> ]													
11.100.05	2720 1380 910 680	0.55 0.37 0.25 0.18		1383- 477 702- 242 463- 160 346- 119	1242- 428 630- 217 415- 143 311- 107	1110- 383 564- 194 372- 128 278- 96	989- 341 502- 173 331- 114 247- 85						
11.101.10	2820 1400 910 675	1.1 0.75 0.55 0.37		1980- 858 980- 425 639- 277 474- 205	1778- 770 882- 382 573- 248 426- 184	1418- 688 789- 342 513- 222 381- 165	1418- 614 703- 305 458- 198 339- 147	1260- 545 625- 271 406- 176 302- 130					
11.101.20	2800 1410 920 710	2.2 1.5 1.1 0.75		2200- 954 1108- 480 724- 314 558- 242	1977- 857 994- 431 650- 282 504- 217	1768- 766 890- 396 581- 252 449- 194	1575- 683 793- 344 518- 224 400- 173	1400- 607 705- 306 460- 199 355- 154	1245- 540 626- 272 409- 177 316- 137	1108- 480 557- 242 364- 158 281- 122			
11.101.30	2830 1425 930 700	3 2.2 1.5 1.1	2882- 1220 1451- 615 948- 401 713- 302	2681- 1135 1350- 571 882- 373 596- 252	2410- 1020 1088- 460 792- 335 534- 226	2159- 913 1088- 460 710- 300 534- 226	1926- 815 970- 411 633- 268 476- 201	1711- 724 635- 365 563- 328 424- 179	1520- 644 766- 324 500- 212 376- 159	1354- 573 681- 289 445- 188 335- 142	1220- 516 614- 260 401- 170 302- 128		
11.101.40	1425 940 690	3 2.2 1.5	1748- 700 1153- 462 847- 339	1625- 651 1073- 430 788- 316	1461- 586 965- 386 634- 254	1309- 525 863- 346 566- 226	1168- 468 770- 308 566- 274	1039- 416 503- 202	922- 369 608- 244 447- 179	820- 329 542- 217 398- 159	740- 296 488- 195 359- 144		
11.101.45	1430 960 700	4 3 2.2	1752- 703 1179- 472 859- 344	1632- 654 1097- 439 800- 320	1467- 588 985- 395 643- 258	1313- 526 892- 354 574- 230	1171- 469 786- 315 574- 230	1042- 417 700- 280 510- 204	925- 371 621- 249 453- 181	824- 330 553- 222 404- 162	742- 297 498- 200 364- 146		
11.101.55	1440 960 700	5.5 4 3		1875- 751 1250- 501 911- 365	1686- 675 1124- 450 820- 328	1510- 605 1007- 403 735- 294	1348- 539 893- 360 655- 262	1199- 480 799- 320 583- 233	1067- 427 710- 285 519- 208	950- 380 633- 254 462- 185	856- 343 571- 229 416- 167	765- 307 510- 205 373- 149	
11.101.65	1450 960 710	11 7.5 5.5				1740- 714 1148- 474 846- 351	1550- 637 1025- 423 754- 313	1378- 567 912- 376 672- 279	1225- 504 812- 335 598- 248	1093- 449 723- 298 532- 221	983- 406 653- 269 480- 199	881- 362 583- 241 430- 178	
11.101.80	1455 960 720	18.5 12.5 9				1806- 812 1200- 540 895- 403	1610- 725 1068- 482 797- 360	1435- 644 950- 429 709- 320	1275- 575 846- 381 630- 285	1138- 512 754- 340 562- 253	1025- 462 680- 306 507- 228	917- 412 608- 275 454- 205	

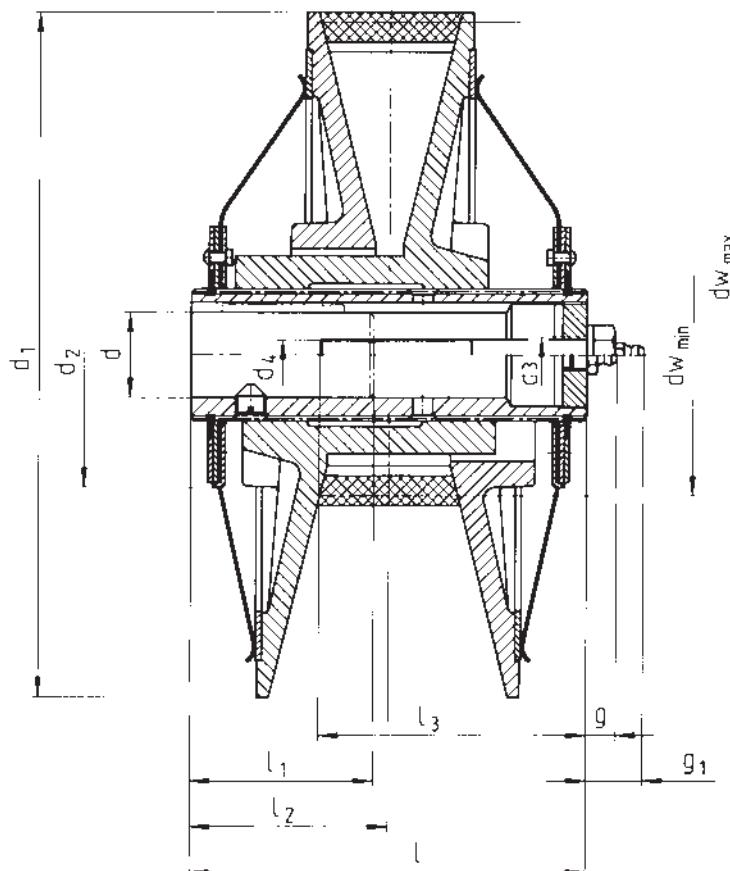
Type	Motor speed [min <sup>-1</sup> ]	Power [kw]	Inner counter pulley diameter [mm]		
			630	710	800
			Output speed [min <sup>-1</sup> ]		
11.101.65	1450 960 710	11 7.5 5.5	785- 323 519- 215 383- 158	698- 287 462- 190 340- 141	621- 255 411- 169 303- 125
11.101.80	1455 960 720	18.5 12.5 9	817- 367 540- 244 405- 182	725- 326 481- 21 359- 162	645- 291 428- 193 319- 144

# Variable speed pulleys

Type 11.101



## Dimensions



Type	Belt size	d <sup>H7</sup> <sup>2)</sup>		dw		d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	Clamping screws <sup>4)</sup>		g	g <sub>1</sub>	l	l <sub>1</sub> min.	l <sub>2</sub>	J [kgm <sup>2</sup> ]	m [kg]
		min.	Standard	min.	max.				Bore	d <sub>4</sub> x l <sub>3</sub>							
11.100.05.1.1 <sup>1)</sup>	22	8	14 <sup>3)</sup>	40	116	120	44	M10	d<14	M 6x 50	10.5	16.5	72	30	36	0.00044	1.0
11.101.10.1.1	28	14	19	69.5	160.5	165	66	M12	d<15 d>15	M 6x 75 M 6x 70	10.5	16.5	94	35	47	0.00482	2.5
11.101.20.1.1	37	16	24	78	180	185	78	M12	d<19 d>19	M 6x 85 M 8x 75	10.5	18	110	40	55	0.0098	3.5
11.101.30.1.1	47	18	28	92.5	218.5	225	87	M12	d<19 d>19≤24 d>24	M 6x105 M 8x100 M 10x 95	10.5	18	130	50	65	0.0313	6
11.101.40.1.1 11.101.45.1.1	47	20	28	105.5	263.5	270	103 96	M16	d>19≤24 d>24	M 8x115 M 10x110	-	19.5	148	60	74	0.0875	11
11.101.55.1.1	55	25	38	121	302	310	130	M16 M20	d<28 d>28≤38 d>38	M 10x145 M 12x130 M 16x105	-	19.5 21.5	180	75	90	0.16	19
11.101.65.1.1	70	32	38/42	142	351	360	130	M16 M20	d<38 d>38	M 12x130 M 16x105	-	19.5	196	80	98	0.287	25.5
11.101.80.1.1	70	38	42/48	162	366	375	130	M16 M20	d<38 d>38	M 12x150 M 16x120	-	21.5	200	80	98	0.353	33

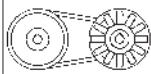
1) Does not correspond to the figure

2) Keyway to DIN 6885 part 1

3) Keyway to DIN 6885 part 3

4) Up to size 30 either with clamping screws or threaded pin

Dimensions in [mm]



## Variable speed pulleys

### Type 11.101

#### Distance between axes

##### Type 11.100.05.1.1

Driven pulleys		Rated diameter												
		80	90	100	112	125	140	160	180	200	224	250	315	
Smallest axis distance														
Variable speed belt size 22	Inner belt length	610	166	159	151	142								
		650	186	179	171	162	151							
		675	199	191	184	174	164	152						
		700	211	204	196	187	176	164						
		750	236	229	221	212	201	189	173					
		800	261	254	246	237	226	214	198	181				
		850	286	279	271	262	252	241	223	206	188			
		900	311	304	296	287	276	264	248	231	214	192		
		950	336	329	321	312	302	289	273	256	239	218	194	
		1000	361	354	346	337	327	314	298	281	264	243	219	
		1060	391	384	376	367	357	344	328	311	294	273	250	
		1120	421	414	406	397	387	374	358	341	324	303	280	
		1180	451	444	436	427	417	404	388	371	355	334	311	
		1250	487	479	471	462	452	439	423	407	390	369	346	
		1320	521	514	506	497	487	475	458	442	425	404	381	
		1400	562	554	546	537	527	515	498	482	465	445	422	
		1500	612	604	596	587	577	565	548	532	515	495	472	
		1600	662	654	646	637	627	615	598	582	565	545	523	
Adjustment path		44	44	43	43	42	41	41	40	40	39	38	37	
													36	

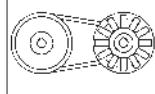
##### Type 11.101.10.1.1

Driven pulleys		Rated diameter												
		80	100	112	125	140	160	180	200	224	250	280	315	
Smallest axis distance														
Variable speed belt size 28	Inner belt length	650	150	136										
		700	175	161	153									
		750	200	186	178	168								
		800	226	211	203	193	182							
		850	251	237	228	218	207	191	175					
		900	276	262	253	243	232	216	200					
		950	301	287	278	268	257	241	225	209				
		1000	326	312	303	293	282	266	250	234	214			
		1060	356	342	333	323	312	296	280	264	244	222		
		1120	386	372	363	353	342	326	310	294	274	252	225	
		1180	417	402	393	383	372	356	340	324	304	282	256	
		1250	452	437	428	418	407	391	375	359	339	317	291	
		1320	487	472	463	453	442	426	410	394	374	352	326	
		1400	527	512	503	493	482	466	450	434	414	392	367	
		1500	577	562	553	543	532	516	500	484	464	443	417	
		1600	627	612	603	593	582	566	550	534	515	493	467	
Adjustment path		73	72	72	71	70	69	68	67	65	64	62	60	
													58	

Values in [mm]

# Variable speed pulleys

Type 11.101



## Distance between axes

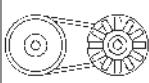
Type 11.101.20.1.1

Driven pulleys		Rated diameter													
		125	140	160	170	180	200	224	250	280	315	355	400	450	
		Smallest axis distance													
Variable speed belt size 22	Inner belt length	800	179												
		850	204	193											
		900	229	218	203	195									
		950	254	243	228	220	212								
		1000	279	268	253	245	237	221							
		1060	309	298	283	275	267	251	232						
		1120	339	328	313	305	297	281	262	240					
		1180	369	358	343	335	327	311	292	270	244				
		1250	404	393	378	370	362	346	327	306	279				
		1320	439	428	413	405	397	381	362	340	315	284			
		1400	479	468	453	445	437	421	402	380	355	324	289		
		1500	529	518	503	495	487	471	452	430	405	375	339		
		1600	580	568	553	545	537	521	502	480	455	425	390	349	
		1700	630	618	603	595	587	571	552	531	505	476	441	400	354
		1800	680	668	653	645	637	621	602	581	556	526	491	451	405
Adjustment path		80	79	78	78	77	76	75	73	71	69	67	65	62	

Type 11.101.30.1.1

Driven pulleys		Rated diameter													
		140	160	180	200	208	224	250	280	315	355	400	450	500	
		Smallest axis distance													
Variable speed belt size 28	Inner belt length	950	217	202											
		1000	242	227	212										
		1060	272	257	242	227									
		1120	302	287	272	257	251								
		1180	332	317	302	287	281	268	247						
		1250	367	352	337	322	316	303	282						
		1320	402	388	372	357	351	338	317	293					
		1400	442	428	412	397	391	378	357	333	303				
		1500	493	478	462	447	441	428	407	383	353	319			
		1600	543	528	513	497	491	478	457	433	404	369	329		
		1700	593	578	563	547	541	528	507	483	454	420	380		
		1800	643	628	613	597	591	578	557	533	504	470	431	386	
		2000	743	728	713	697	591	678	658	633	604	570	532	487	441
		2240	863	848	833	817	811	798	778	753	725	691	652	609	564
Adjustment path		99	98	97	96	96	95	93	92	89	88	86	82	79	

Values in [mm]



## **Variable speed pulleys**

## Type 11.101

## Distance between axes

Type 11.101.40/45.1.1

Driven pulleys		140	160	180	200	208	Rated diameter			315	355	400	450	500
		Smallest axis distance												
Variable speed belt size 47	Inner belt length	1120	263	249										
		1180	293	279	265									
		1250	329	315	300	286	280	268						
		1320	364	350	335	321	315	303	283					
		1400	404	390	375	361	355	343	323	299				
		1500	455	440	426	411	405	393	373	349	320			
		1600	505	490	476	461	455	443	423	399	370	337		
		1700	555	541	526	511	505	493	473	449	421	387	349	
		1800	605	591	576	561	555	543	523	499	471	438	399	
		2000	706	691	676	661	655	643	623	599	571	538	500	457
		2240	826	811	796	781	775	763	743	719	691	658	620	577
Adjustment path		127	125	124	123	122	121	119	117	114	112	109	106	102

Type 11.101.55.1.1

Driven pulleys		200	224	250	280	315	Rated diameter			500	560
Variable speed belt size 55	Inner belt length	Smallest axis distance									
		1250	259								
		1320	294	277							
		1400	334	317	298						
		1500	385	367	348	325					
		1600	435	417	398	375	347				
		1700	485	467	448	425	397	365			
		1800	535	517	498	475	447	415	377		
		2000	635	617	598	575	547	515	478	435	
		2240	754	738	718	695	667	635	598	556	513
Adjustment path		144	140	138	136	133	130	127	123	119	114

Type 11.101.65.1.1

Driven pulleys		280	315	355	400	450	500	560	630	7100	800
Variable speed belt size 70	Inner belt length	Smallest axis distance									
		1700	389	362							
		1800	439	412	381						
		2000	539	512	481	445					
		2240	659	632	601	565	524	482			
		2500	789	762	731	695	654	613	561		
		2800	939	913	881	845	805	763	712	651	579
		3150	1115	1088	1056	1020	980	939	888	828	757
		3210	1145	1118	1086	1050	1010	969	918	858	787
		3520	1300	1273	1241	1205	1165	1124	1074	1014	943
Adjustment path		161	159	157	155	152	149	145	141	137	131

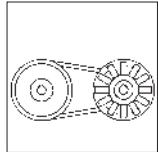
Type 11.101.80.1.1

Driven pulleys		Rated diameter									
		280	315	355	400	450	500	560	630	710	800
Variable speed belt size 70	Inner belt length	Smallest axis distance									
		1700	377								
		1800	427	400							
		2000	527	500	469	434					
		2240	647	620	589	554	513	471			
		2500	777	751	719	684	643	602	551		
		2800	927	901	869	834	793	752	701	641	569
		3150	1102	1076	1044	1009	969	927	877	817	747
		3210	1132	1106	1074	1039	999	958	907	847	777
		3520	1288	1261	1229	1194	1154	1113	1063	1003	933
Adjustment path		158	156	155	152	149	146	143	139	135	129

Values in [mm]

# Variable speed pulleys

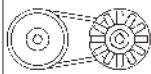
Type 11.104



## Selection tables

Type	Motor speed [min <sup>-1</sup> ]	Power [kW]	Inner counter pulley diameter [mm]								
			80	90	100	112	125	140	160	170	180
11.104.05.6.1	2810	0.55	3961- 1591	3535- 1420	3192- 1282	2859- 1148	2569- 1032	2299- 924	2017- 810		1797-722
	1380	0.37	1945- 781	1736- 697	1568- 630	1404- 564	1261- 507	1129- 454	991- 398		882-354
	910	0.25	1283- 515	1145- 460	1034- 415	926- 372	832- 334	745- 299	653- 262		582-234
	675	0.18	952- 382	849- 341	767- 308	687- 276	617- 248	552- 222	485- 195		432-173
11.104.10.6.1	2820	1.1	5069- 1880		4094- 1518	3671- 1361	3301- 1224	2957- 1097	2596- 963		2314-858
	1400	0.75	2517- 933		2033- 754	1822- 676	1639- 608	1468- 544	1289- 478		1149-426
	920	0.55	1654- 613		1336- 495	1198- 444	1077- 399	965- 358	874- 314		755-280
	670	0.37	1204- 447		973- 361	872- 323	784- 291	703- 261	617- 229		550-204
11.104.20.6.1	2835	2.2					3868- 1407	3465- 1260	3042- 1106		2712-886
	1410	1.5					1924- 700	1723- 627	1513- 520		1349-490
	910	1.1					1242- 451	1112- 404	977- 355		870-317
	670	0.55					914- 332	819- 298	719- 261		641-233
11.104.30.6.1	2880	4					4270- 1430	3753- 1257	3538- 1185		3347-1121
	1410	3					2091- 700	1837- 615	1732- 580		1639-549
	950	1.5					1409- 472	1238- 415	1167- 391		1104-370
	690	1.1					1023- 343	899- 301	848- 284		802-269

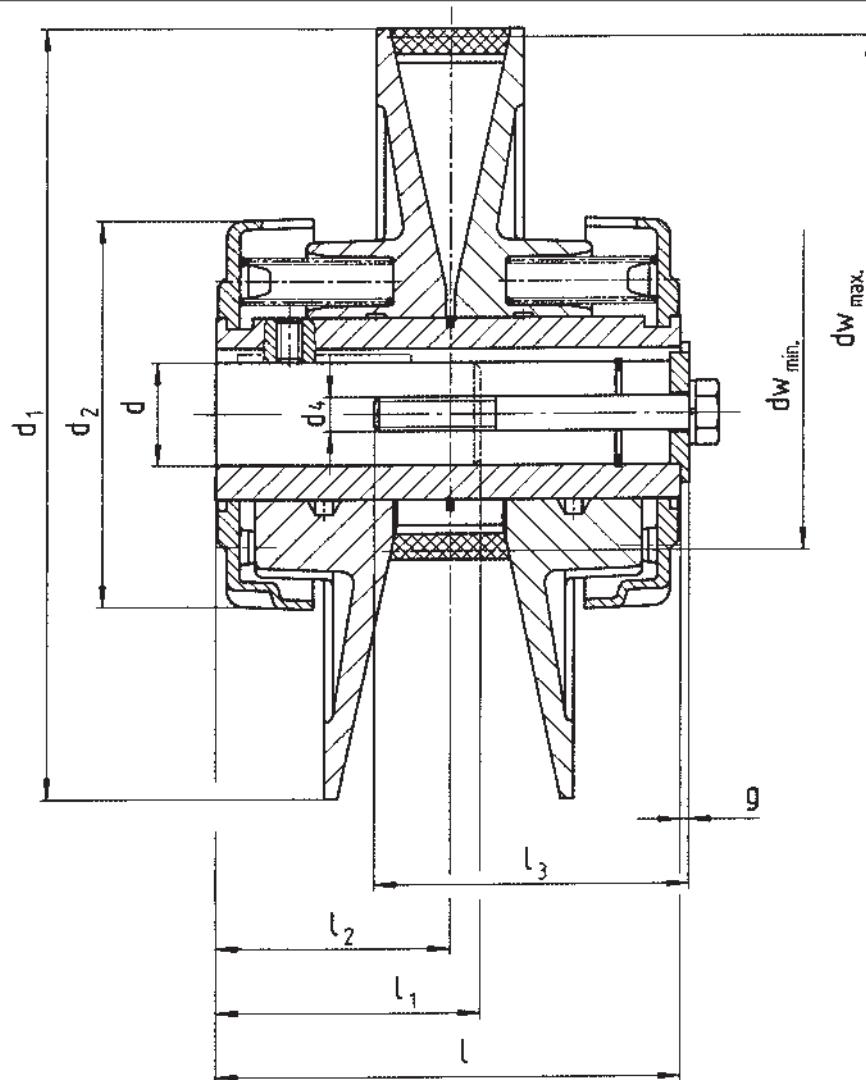
Type	Motor speed [min <sup>-1</sup> ]	Power [kW]	Inner counter pulley diameter [mm]								
			200	224	250	280	315	355	400	450	500
11.104.05.6.1	2810	0.55	1620- 651	1448- 582	1299- 522	1162- 467	1034- 415				
	1380	0.37	795- 320	711- 286	638- 256	571- 229	508- 204				
	910	0.25	524- 211	469- 188	421- 169	376- 151	335- 134				
	675	0.18	389- 157	348- 140	312- 125	279- 112	248- 100				
11.104.10.6.1	2820	1.1	2087- 774	1868- 693	1676- 622	1499- 556	1335- 495	1186- 440			
	1400	0.75	1036- 384	927- 344	832- 309	744- 276	663- 246	589- 218			
	920	0.55	681- 253	609- 226	547- 203	489- 181	435- 162	387- 144			
	670	0.37	496- 184	444- 165	398- 148	356- 132	317- 118	282- 105			
11.104.20.6.1	2835	2.2	2446- 889	2188- 796	1964- 713	1757- 639	1564- 569	1390- 505	1235- 449	1099- 400	
	1410	1.5	1216- 442	1088- 396	977- 355	874- 318	778- 283	691- 251	614- 223	547- 199	
	910	1.1	784- 285	702- 255	631- 229	564- 205	502- 183	446- 162	396- 144	353- 128	
	670	0.55	578- 210	517- 188	464- 169	415- 151	370- 134	328- 119	292- 106	260- 94	
11.104.30.6.1	2880	4	3020- 1016	2704- 906	2428- 813	2173- 728	1935- 648	1720- 576	1720- 512	1361- 456	1226-411
	1410	3	1479- 495	1324- 443	1189- 398	1064- 356	947- 317	842- 282	749- 251	666- 223	600-201
	950	1.5	996- 334	892- 299	801- 268	717- 240	638- 214	567- 190	504- 169	449- 150	404-135
	690	1.1	724- 242	648- 217	582- 195	521- 174	464- 155	412- 138	366- 123	326- 109	294- 98



## Variable speed pulleys

### Type 11.104

#### Dimensions



**6**

Type	Belt size	d <sup>H7</sup> <sup>1)</sup>		d <sub>w</sub>		d <sub>1</sub>	d <sub>2</sub>	Clamping screw <sup>2)</sup>		g	l	l <sub>1</sub> min.	l <sub>2</sub>	J [kg m <sup>2</sup> ]	m [kg]
		min.	Stand	min.	max.			Bore	d <sub>4</sub> xl <sub>3</sub>						
11.104.05.6.1	22	11	14/19	47	117	120	68	d<14 d>14	M 6x 55 M 6x 50	1.5	72	30	36	0.00062	0.77
11.104.10.6.1	28	14	19/24	56	151	155	80	d<19 d>19	M 6x 70 M 8x 65	2	94	35	47	0.0022	1.4
11.104.20.6.1	28	19	24/28	64	176	180	90	d<24 d>24	M 8x 75 M10x 70	2	108	40	54	0.0038	2
11.104.30.6.1	37	24	28	72	215	220	104	d<24 d>24	M 8x 100 M10x 95	2	130	50	65	0.0093	3.2

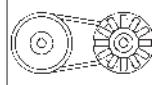
1) Keyway to DIN 6885 part 1

2) Either with clamping screw or threaded pin

Dimensions in [mm]

# Variable speed pulleys

Type 11.104



## Distance between axes

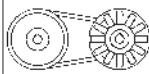
Type 11.104.05.6.1

Driven pulleys		Rated diameter												
		80	90	100	112	125	140	160	180	200	224	250	280	315
Variable speed belt size 37	Inner belt length	Smallest axis distance												
		610	161	154	146	137								
		650	181	174	166	157	147							
		675	194	186	179	169	159	147						
		700	206	199	191	182	172	159						
		750	231	224	216	207	197	185	168					
		800	256	249	241	232	222	210	193	176				
		850	281	274	266	257	247	235	218	201	184			
		900	306	299	291	282	272	260	243	226	209	187		
		950	331	324	316	307	297	285	268	251	234	213	189	
		1000	356	349	341	332	322	310	293	276	259	328	215	
		1060	387	379	371	362	352	340	323	307	289	268	245	
		1120	417	409	401	392	382	370	353	337	320	299	276	
		1180	447	439	431	422	412	400	383	367	350	329	306	
		1250	482	474	466	457	447	435	418	402	385	364	341	
		1320	517	509	501	492	482	470	453	437	420	400	377	
		1400	557	549	541	532	522	510	494	477	460	440	417	
		1500	607	599	591	582	572	560	544	527	510	490	468	
		1600	657	649	641	632	622	610	594	577	561	540	518	
Adjustment path		55	54	53	53	52	51	50	49	48	46	45	44	
													43	

Type 11.104.10.6.1

Driven pulleys		Rated diameter												
		80	100	112	125	140	160	180	200	224	250	280	315	355
Variable speed belt size 47	Inner belt length	Smallest axis distance												
		650	156	142										
		700	181	167	158									
		750	206	192	183	173								
		800	231	217	208	198	187							
		850	257	242	233	223	212	196	180					
		900	282	267	258	248	237	221	205					
		950	307	292	283	274	262	246	230	213				
		1000	332	317	308	299	287	271	255	239	218			
		1060	362	347	338	329	317	301	285	269	248	226		
		1120	392	377	368	359	347	331	315	299	278	256	229	
		1180	422	407	398	389	377	361	345	329	309	286	260	
		1250	457	443	433	424	412	396	380	364	344	322	295	
		1320	492	478	469	459	447	431	415	399	379	357	331	
		1400	533	518	509	499	487	471	455	439	419	397	371	
		1500	583	568	559	549	537	521	505	489	469	447	421	
		1600	633	618	609	599	587	571	555	539	519	497	472	
Adjustment path		76	75	73	72	71	70	68	67	65	64	62	60	
													59	

Values in [mm]



## Variable speed pulleys

### Type 11.104

#### Distance between axes

##### Type 11.104.20.6.1

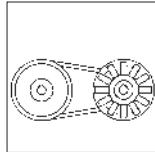
Driven pulleys		Rated diameter												
		125	140	160	180	200	224	250	280	315	355	400	450	500
Variable speed belt size 47	Inner belt length	Smallest axis distance												
		800	178											
		850	203	192										
		900	228	217	202									
		950	253	242	227	211								
		1000	278	267	252	236	220							
		1060	308	297	282	266	250	230						
		1120	338	327	312	296	280	260	238					
		1180	368	357	342	326	310	290	269	243				
		1250	403	392	377	361	345	325	304	278				
		1320	438	427	412	396	380	360	339	313	282			
		1400	478	467	452	436	420	400	379	353	323	287		
		1500	528	517	502	486	470	451	429	404	373	338		
		1600	578	567	552	536	520	501	479	454	424	388	347	
		1700	628	617	602	586	570	551	529	504	474	439	398	
		1800	679	667	652	636	620	601	579	554	524	489	449	
Adjustment path		87	86	84	82	81	79	77	75	74	71	70	67	

##### Type 11.104.30.6.1

Driven pulleys		Rated diameter												
		140	160	170	180	200	224	250	280	315	355	400	450	500
Variable speed belt size 47	Inner belt length	Smallest axis distance												
		950	213	199										
		1000	239	224	217	209								
		1060	269	254	247	239	224							
		1120	299	284	277	269	254							
		1180	329	314	307	299	284	265	244					
		1250	364	349	342	334	319	300	279					
		1320	399	384	377	369	354	335	314	289				
		1400	439	424	417	409	394	375	354	329	300			
		1500	489	474	467	459	444	425	404	379	350	315		
		1600	539	524	517	509	494	475	454	430	400	366	326	
		1700	590	575	567	559	544	525	504	480	450	416	377	
		1800	640	625	617	609	594	575	554	530	501	466	427	
		2000	740	725	717	709	694	675	654	630	601	567	528	
		2240	860	845	837	829	814	795	774	750	721	688	649	
Adjustment path		112	110	108	108	106	105	102	100	98	96	93	90	
Values in [mm]													88	

## Variable speed pulleys

### Calculation of axis distance



The tables on pages 6-8 to 6-10 and 6-13 to 6-14 list the smallest axis distance for different inner diameters of the driven wheel depending on different inner belt lengths.

Use the following equations for the calculation.

$$A \text{ or } A_1 = 1/2 \left[ L_w - 1.57 (D_w + d_w) - \frac{(D_w - d_w)^2}{L_w} \right]$$

$$s = A_1 - A$$

$$L_w = 2 A + 1.57 (D_w + d_w) + \frac{(D_w - d_w)^2}{4 A}$$

$$L_w = L_i + x$$

Variable speed belt size	22	28	37	47	55	70
X in mm	28	38	47	61	75	85

A = smallest axis distance for largest variable speed pulley diameter (max. output speed)

A<sub>1</sub> = largest axis distance for smallest variable speed pulley diameter (min. output speed)

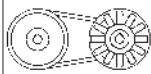
s = adjustment path, roughly applicable: large adjustment path for small driven pulleys, small adjustment path for large driven pulleys. The tables on pages 6-8 to 6-10 and 6-13 to 6-14 give the values for the adjustment path.

D<sub>w</sub> = effective diameter of larger pulley (can be largest effective diameter of variable speed pulley or effective diameter of driven pulleys).

d<sub>w</sub> = effective diameter of smaller pulley (can be smallest effective diameter of variable speed pulley or effective diameter of driven pulleys). For d<sub>w</sub> values see tables on pages 6-7, 6-12 and 6-19.

L<sub>w</sub> = effective length of variable speed belt

L<sub>i</sub> = inner length of variable speed belt



## Variable speed pulleys

### Motor slide

Simplabelt motor slides are rugged and very flat. The surface is very strong and ensures smooth running of the variable speed pulleys. The adjustment range is limited by two stops.

4 slide sizes in 4 designs are available.

#### Normal design

The spindle with belt wheel is bent by 30° to the top.

#### U design

Like normal design but the spindle is bent to the bottom.

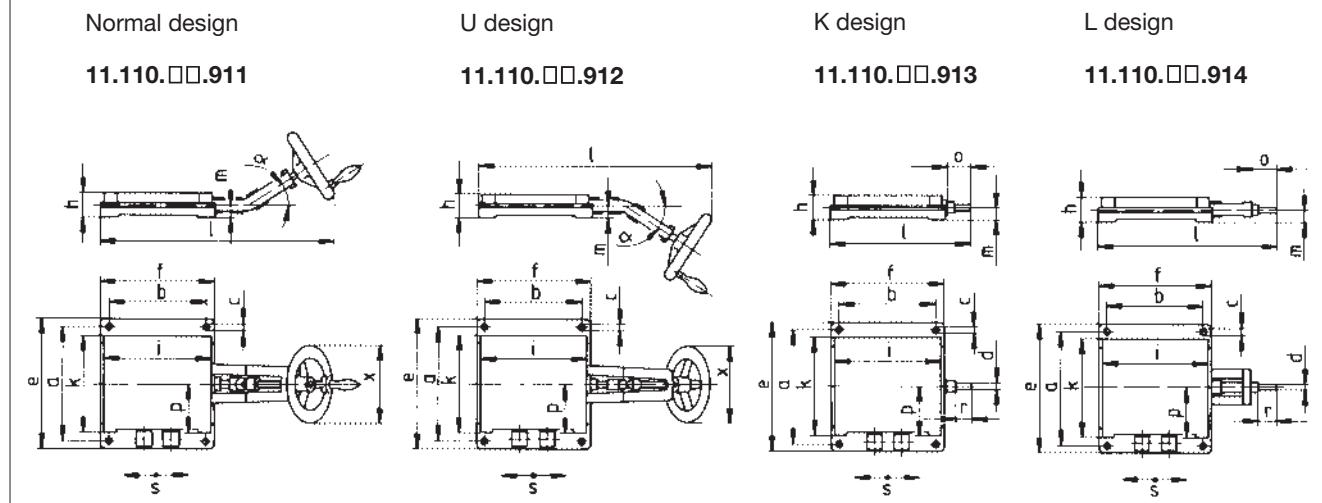
#### K design

Short spindle

This design is necessary to extend the spindle.

#### L design

Long spindle – for chain and bevel wheel adjustment.



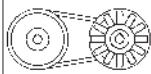
Size	Type	a	b	c	d k <sub>6</sub>	e	f	h	i	k	l	m	o	p	r	s*	x	α°	m kg
05	11.110.05.911 11.110.05.912 11.110.05.913 11.110.05.914	160	170	9	- - 8 8	180	195	47	150	150	305 305 205 260	25	- - 13 23	75	- - 13 23	67	80 - - -	30 - - -	5
20	11.110.20.911 11.110.20.912 11.110.20.913 11.110.20.914	210	180	13	- - 12 12	240	210	44	235	215	418 418 258 328	25.5	- - 48 46	90	- - 38 46	97	142 142 - -	33 33 - -	11
40	11.110.40.911 11.110.40.912 11.110.40.913 11.110.40.914	235	255	13.5	- - 12 12	270	290	60	290	235	521 521 354 430	32	- - 62 47	100	- - 16 20	142	140 140 - -	30 30 - -	18.5
70	11.110.70.911 11.110.70.912 11.110.70.913 11.110.70.914	255	435	14	- - 16 16	290	470	60	400	360	706 706 525 625	28	- - 53 22	180	- - 35 22	180	180 180 - -	30 30 - -	38

s\* indicates the max. adjustment path. The adjustment path required is calculated according to the equation on page 6-15.

Roughly applicable: Large adjustment path for small driven pulleys, small adjustment path for large driven pulleys

Dimensions in [mm]





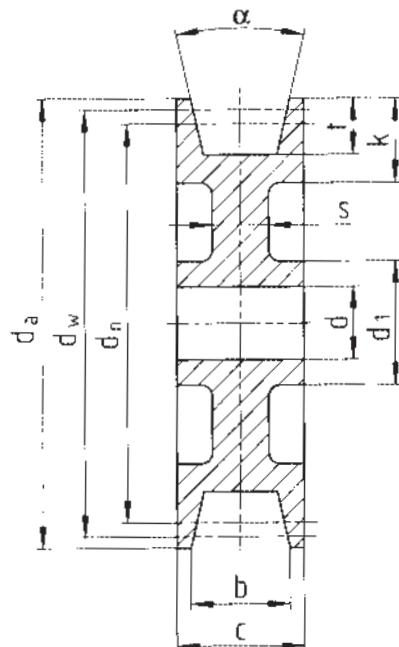
## Variable speed pulleys

### Driven pulleys

Simplabelt driven pulleys are made of cast iron and are statically balanced. The running grooves match the dimensions of the Simplabelt variable speed belts. The size designation refers to the corresponding spring-loaded variable speed pulley type 101 or 104.

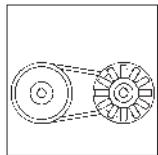
The driven pulley is mounted onto the machine shaft to be driven or the input shaft of a reducing gearbox.

The ready-bored driven pulleys are delivered with keyway to DIN 6885 sheet 1 and ISO fit H 7. Therefore the shaft fit should be ISO-k 6. Please indicate in your order designation, rated diameter and bore.



# Variable speed pulleys

## Driven pulleys



Type	Variable speed pulley type 11.101 Size		Variable speed belt size 11.104		b	c	k	s	t	\$°
11.110.05.921 11.110.05.922	05	05		22	22	26	25	13	17	25
11.110.10.921 11.110.10.922	10	10/20		28	28	32	28	13	18	25
11.110.20.921 11.110.20.922	20	30		37	37	43	39	13	20	28
11.110.40.921 11.110.40.922	30/40/45	-		47	47	52	32	13	22	28
11.110.50.921 11.110.50.922	55	-		55	55	70	40	14	28	28
11.110.70.921 11.110.70.922	65/80	-		70	70	85	49	15	37	28

Type	dn	Inner diameter of driven pulleys																					
		80	90	100	112	125	140	160	170	180	200	208	224	250	280	315	355	400	450	500	560	630	710
11.110.05.921	d1)							10		10		10	10	10	10	10							
11.110.05.922	d max.	28	28	28	28	30	30	30		30	30		35	35	35	40							
	d 1				45	50	50	50		55	55		55	55	55	65							
11.110.10.921	da	86	96	106	118	131	145	166		186	206		230	256	286	321							
11.110.10.922	dw	83	93	103	115	128	143	163		183	203		227	253	283	318							
11.110.10.921	d1)						10	10		10	10		10	10	12	12	12	12	12				
11.110.10.922	d max.	30		30	35	35	28*	40		40	40		40	40	45	45	45	50	50				
	d 1						44	65		65	65		65	65	70	70	70	70	70				
11.110.20.921	da	88		108	120	133	148	168		188	208		232	258	288	323	363	408	458				
11.110.20.922	dw	84		104	116	129	144	164		184	204		228	254	284	319	359	404	454				
11.110.20.921	d1)					12	12	14	14	14	14		14	14	14	14	14	14	14	14			
11.110.20.922	d max.					40	28*	40	30*	40	30*		45	45	45	45	50	50	50	50			
	d 1						48	65	48	65	50		70	70	70	70	80	80	80	80			
11.110.40.921	da					135	150	170	180	190	210		234	260	290	325	365	410	460	510			
11.110.40.922	dw					130	145	165	175	185	205		229	255	285	320	360	405	455	505			
11.110.40.921	d1)						14	16		16	16	16	16	18	18	18	18	18	18	18			
11.110.40.922	d max.						40	40		40	50	50	50	50	40	55	60	60	65				
	d 1						75	75	85	85	85	85	85	85	64	95	95	95	105				
11.110.50.921	da						153	173		193	213	221	237	263	293	328	368	413	463	513			
11.110.50.922	dw						146.5	166.5		186.5	206.5	214.5	230.5	256.5	286.5	321.5	361.5	406.5	456.5	506.5			
11.110.50.921	d1)									18		18	18	20	20	20	20	22	22	22			
11.110.50.922	d max.									55		55	55	60	60	60	60	70	70	70			
	d 1									90		90	90	95	95	95	95	110	110	110			
11.110.70.921	da									216		240	266	296	331	371	416	466	516	576			
11.110.70.922	dw									208		232	258	288	323	363	408	458	508	568			
11.110.70.921	d1)													22	22	22	22	25	25	28	28		
11.110.70.922	d max.													60	60	60	70	70	75	75	80	80	
	d 1													95	95	95	110	110	120	120	130	130	
11.110.70.921	da													298	333	373	418	468	518	578	648	728	818
11.110.70.922	dw													289	324	364	409	459	509	569	639	719	809
	Full pulleys				Full ground								Spoke design										

1) Pre-bored hole

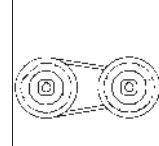
\* Spoke design only in position 2

Values in [mm]



## Variable speed pulleys

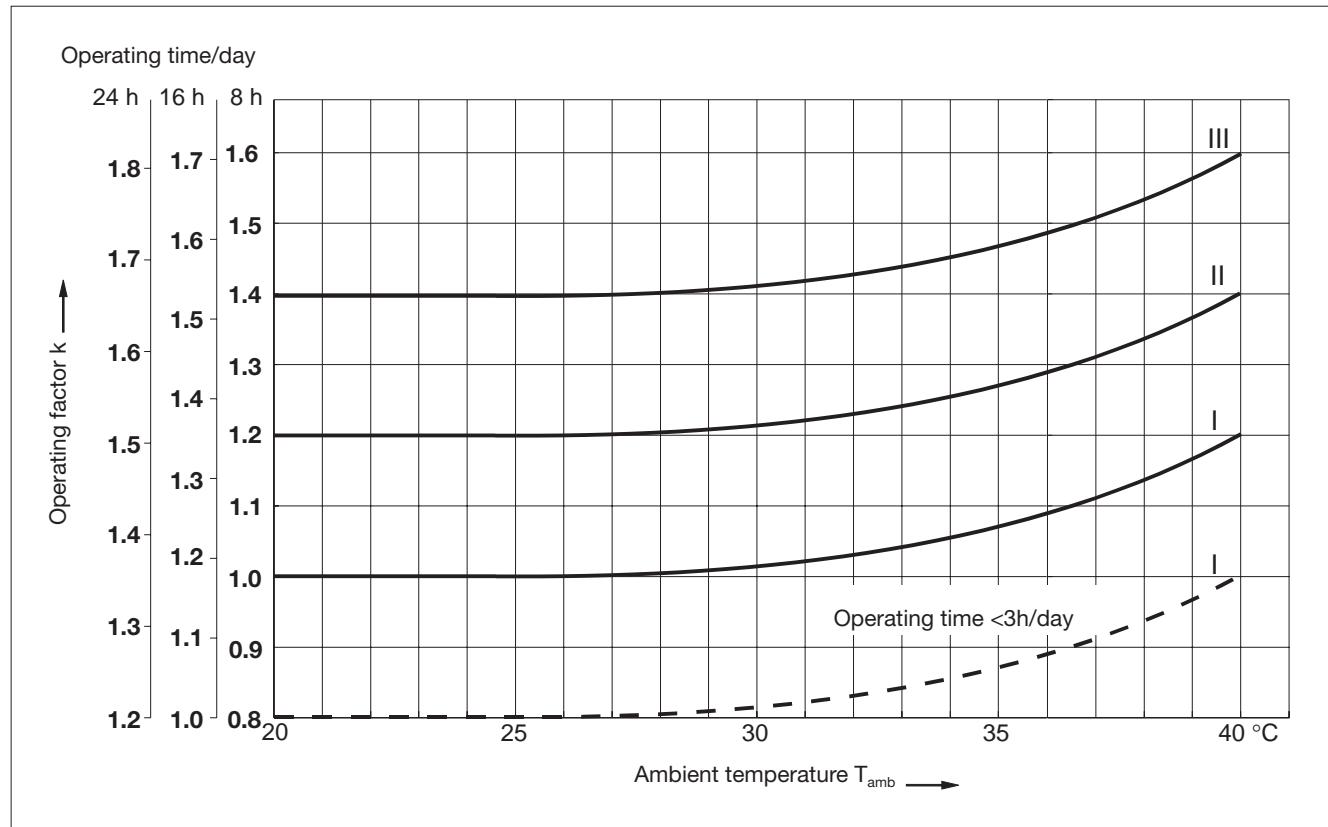
Type 11.213/218

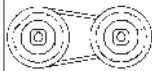


### Selection

Simplabelt variable speed pulleys are selected according to the power  $P_2$  and output speeds  $n_2$  required. It is important to consider that the power and torque required for the machine to be driven might be different for max. and min. speeds. The power to be transmitted can be obtained from

the corresponding power characteristic of the variable speed pulleys. The power data given in these characteristics refer to an operating time of 8h/day and 100 % duty time and shock-free operation. For other operating conditions, please see the operating factors in the diagram.





## Variable speed pulleys

Type 11.213/11.218

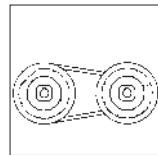
### Selection table

Three-phase AC motor			Variable speed pulleys		
Power kW	Size	Load speed min <sup>-1</sup>	Output speed min <sup>-1</sup>	Transm. power kW	Size
<b>Variable speed pulleys 11.213/218</b>					
0.37/0.25 0.25/0.18 0.18/0.12	71	1380 910 680	3320-600 2190-400 1635-300	0.35-0.2 0.22-0.15 0.18-0.1	10 SEF-920
1.5/1.1/0.75 1.1/0.75/0.55 /0.55/0.37	90/80	1400 920 675	3285-620 2160-410 1585-305	1.3-0.5 0.95-0.4 0.65-0.3	13 SEF-926
3/2.2/1.5 2.2/1.5/1.1 1.1/0.55	100/90	1410 920 710	3540-580 2310-380 1780-290	2.6-1.1 1.7-0.7 1.3-0.5	16 SEF-926
5.5 <sup>1)</sup> /4/3 3/2.2/1.5 1.5/1.1	112/100	1420 940 700	3675-565 2435-375 1800-280	4.7-1.7 3.0-1.1 2.3-0.8	20 SEF-926
11/9.2/7.5 7.5/5.5/4 4/2.2	160/132	1440 960 710	3725-570 2485-380 1840-280	9.4-3.5 6.2-1.8 4.6-1.4	25 SEF-928
11/9.2/7.5 7.5/5.5 5.5/4	160/132	1460 965 720	3780-570 2500-380 1865-285	11-5 6.6-3 4.8-2.2	31 SEF-920
18.5/15 15/11 11/7.5	180/160	1460 965 720	3780-570 2500-380 1865-285	18.5-7.1 15-5.7 11-3.8	31 SEF-921
45/37/30/22 30/22/15 22/15/11	225/200/180	1460 954 720	2740-485 1810-320 1350-240	40-12 26-8 19-6	40 SEF-926

<sup>1)</sup> Motor with shaft like size 112

# Variable speed pulleys

Type 11.213.10

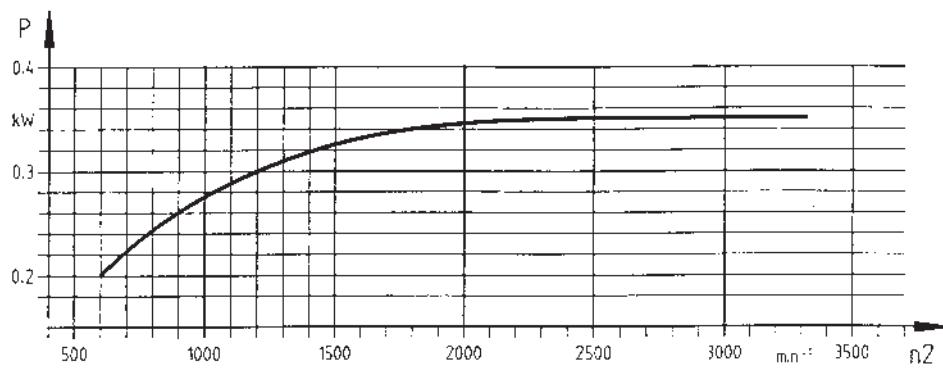


## Technical data

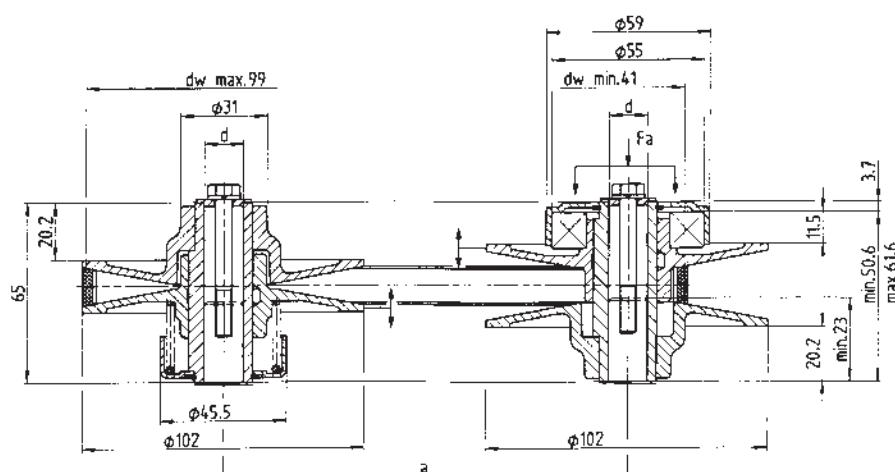
$$P_1 = 0.25/0.37 \text{ kW}$$

Adjustment range	R:	5.8
Variable speed belt	:	14x5mm
Mass	m:	0.46 kg (...910/911/912) 0.35 kg (...920)
Moment of inertia	J:	0.00025 kgm <sup>2</sup> (...910/911/912) 0.00023 kgm <sup>2</sup> (...920)
Bores of ISO H7/keyway	min: standard: max:	10 mm 14 mm 14 mm DIN 6885/1 DIN 6885/1 DIN 6885/1
Adjustment force	F <sub>a</sub> max:	300 N
Belt tension	F <sub>r</sub> max:	120 N

Output power at  $n_1 = 1450 \text{ min}^{-1}$



## Dimensions

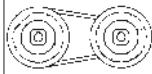


Spring-loaded variable speed pulley

Variable speed pulley mech. adjustable

Axis distance a	133	136	149	162	174	204	224	250	275	300	325	350	375	400
Inner belt length	468	475	500	525	550	600	650	700	750	800	850	900	950	1000

Dimensions in [mm]



## Variable speed pulleys

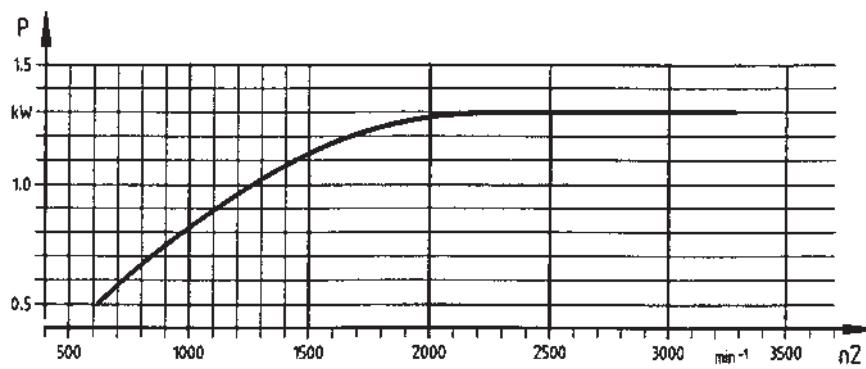
Type 11.213.13/11.218.13

### Technical data

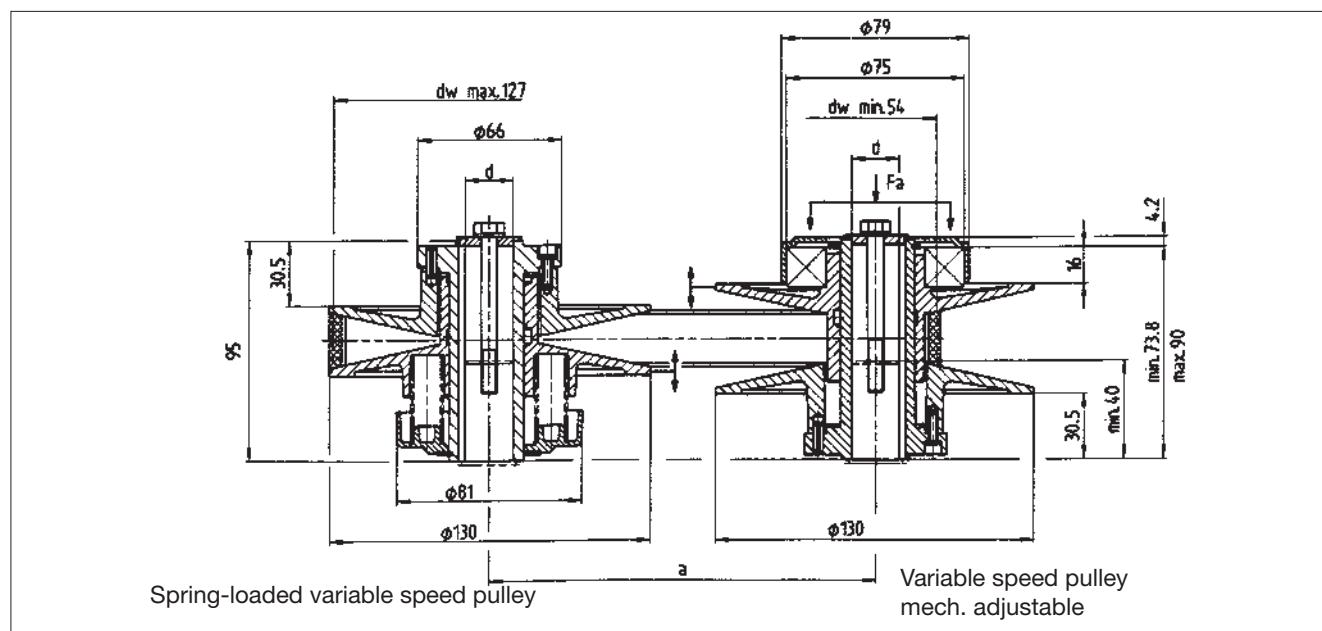
$$P_1 = 0.55/0.75/1.1/1.5 \text{ kW}$$

Adjustment range	R:	5.5
Variable speed belt	:	22x6mm
Mass	m:	1.4 kg 1.2 kg (..910/911/912) (..926)
Moment of inertia	J:	0.00020 kgm <sup>2</sup> 0.00018 kgm <sup>2</sup> (..910/911/912) (..926)
Bores of ISO H7/keyway	min: standard: max:	14mm 14; 19; (24) mm 24 mm DIN 6885/1 DIN 6885/1 (/3) DIN 6885/3
Adjustment force	F <sub>a</sub> max:	500 N
Belt tension	F <sub>r</sub> max:	250 N

Output power at  $n_1 = 1450 \text{ min}^{-1}$



### Dimensions

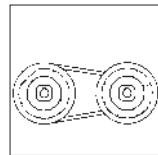


Axis distance a	142	173	193	218	244	269	294	319	344	369	400	430	460
Inner belt length	550	600	650	700	750	800	850	900	950	1000	1060	1120	1180

Dimensions in [mm]

# Variable speed pulleys

Type 11.213.16/11.218.16

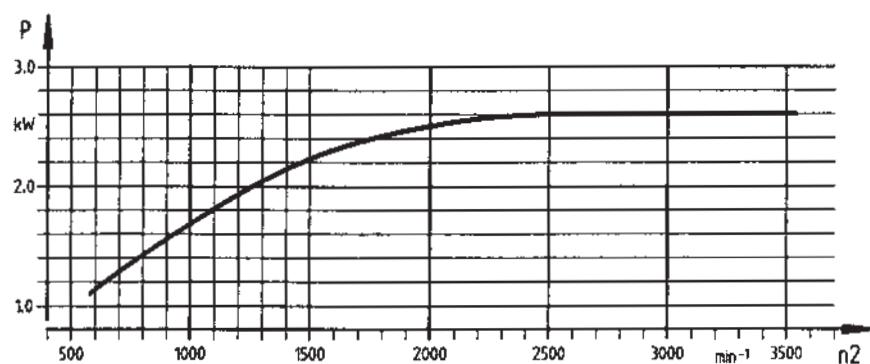


## Technical data

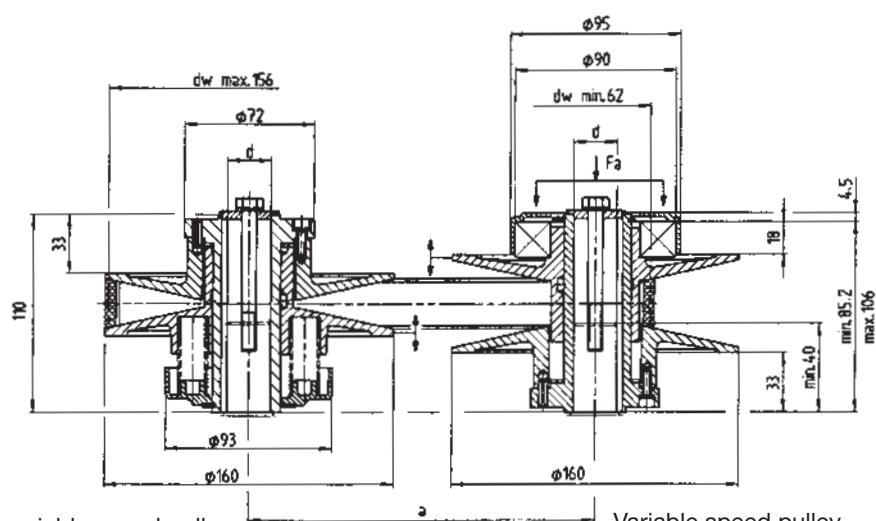
**P<sub>1</sub> = 2.2/3 kW**

Adjustment range	R:	6.3
Variable speed belt	:	28x8mm
Mass	m:	2.2 kg (...910/911/912) 1.8 kg (...926)
Moment of inertia	J:	0.0032 kgm <sup>2</sup> (...910/911/912) 0.0032 kgm <sup>2</sup> (...926)
Bores of ISO H7/keyway <sub>t</sub>	min: standard: max:	18mm 19; 24 (28) mm 28 mm
Adjustment force	F <sub>a</sub> max:	800 N
Belt tension	F <sub>r</sub> max:	380 N

**Output power at n<sub>1</sub> = 1450 min<sup>-1</sup>**

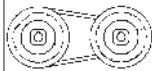


## Dimensions



Axis distance a	166	192	217	242	268	293	318	343	373	404	434	469	504	544
Inner belt length	650	700	750	800	850	900	950	1000	1060	1120	1180	1250	1320	1400

Dimensions in [mm]



## Variable speed pulleys

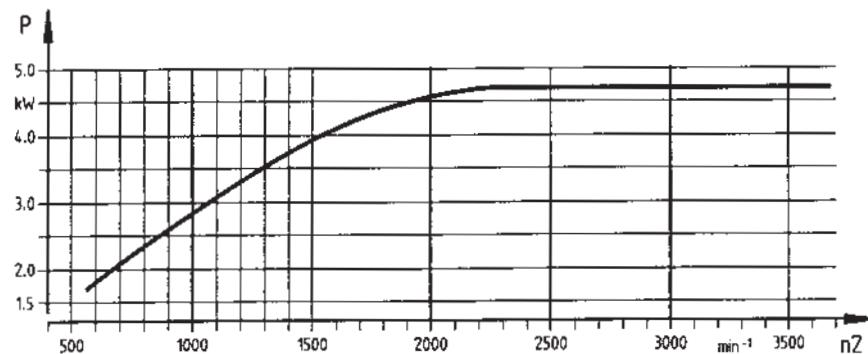
11.213.20/11.218.20

### Technical data

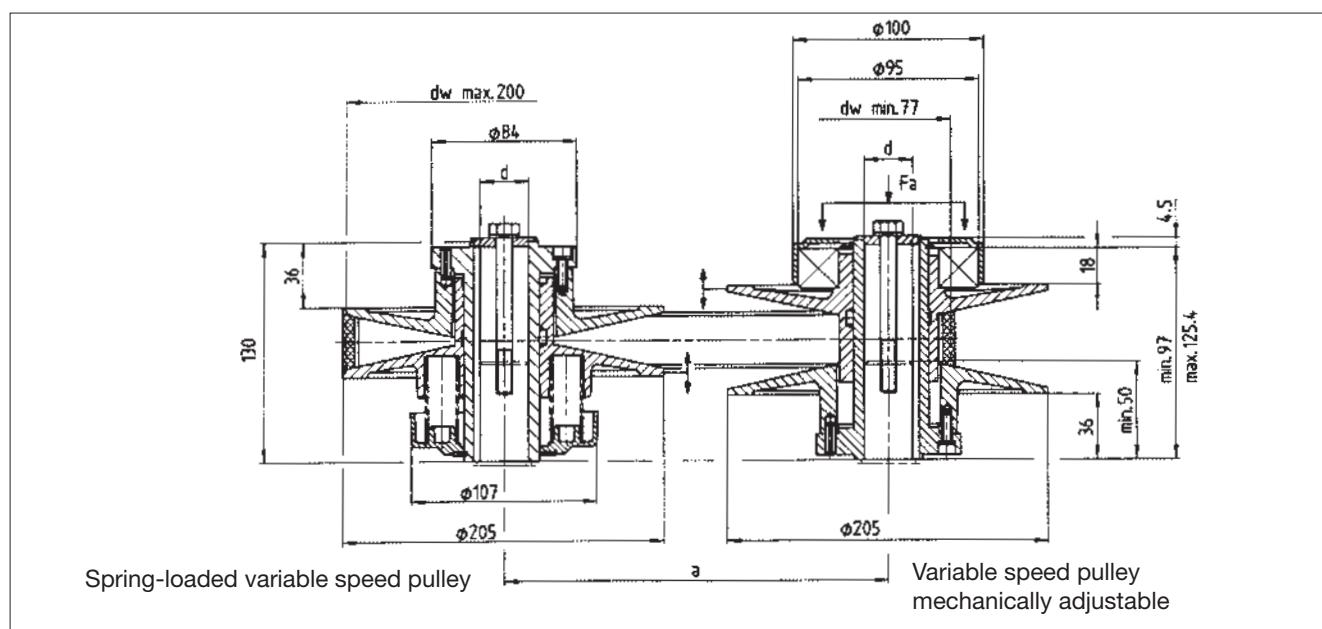
**P<sub>1</sub> = 4/5.5 kW**

Adjustment range	R:	6.7
Variable speed belt	:	37x10 mm
Mass	m:	3.4 kg 3.3 kg (...910/911/912) (...926)
Moment of inertia	J:	0.0071 kgm <sup>2</sup> 0.0092 kgm <sup>2</sup> (...910/911/912) (...926)
Bores of ISO H7/keyway	min: standard: max:	19mm 24; 28; (24) mm 28 mm
Adjustment force	F <sub>a</sub> max:	1400 N
Belt tension	F <sub>r</sub> max:	600 N

**Output power** at n<sub>1</sub> = 1450 min<sup>-1</sup>



### Dimensions

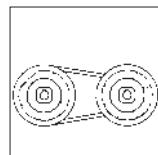


Axis distance a	223	248	274	299	329	360	390	425	461	501	551	602	652
Inner belt length	850	900	950	1000	1060	1120	1180	1250	1320	1400	1500	1600	1700

Dimensions in [mm]

# Variable speed pulleys

Type 11.213.25/11.218.25

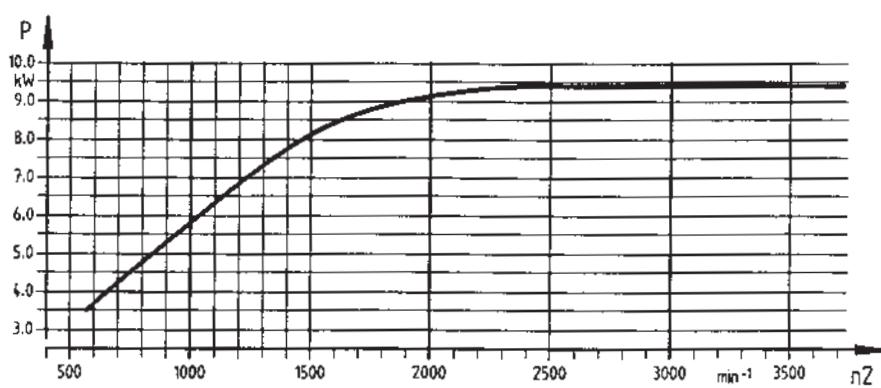


## Technical data

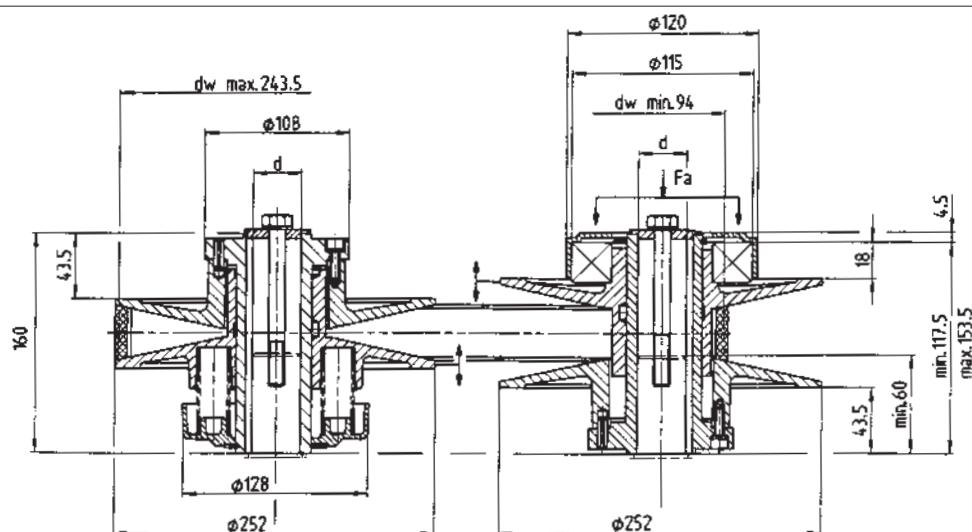
**P<sub>1</sub> = 7.5/9.2/11 kW**

Adjustment range	R:	6.7
Variable speed drive	:	47x13 mm
Mass	m:	6.6 kg 5.8 kg (...910/911/912) (...928)
Moment of inertia	J:	0.020 kgm <sup>2</sup> 0.026 kgm <sup>2</sup> (...910/911/912) (...928)
Bores of ISO H7/keyway	min: standard: max:	25 mm 28; 38; 42 mm 42 mm DIN 6885/1 DIN 6885/1 DIN 6885/1
Adjustment force	F <sub>a</sub> max:	2000 N
Belt tension	F <sub>r</sub> max:	900 N

**Output power at n<sub>1</sub> = 1450 min<sup>-1</sup>**



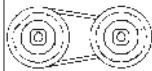
## Dimensions



Spring-loaded variable speed pulley      a      Variable speed pulley mechanically adjustable

Axis distance a	286	316	347	382	418	458	509	559	609
Inner belt length	1060	1120	1180	1250	1320	1400	1500	1600	1700

Dimensions in [mm]



## Variable speed pulleys

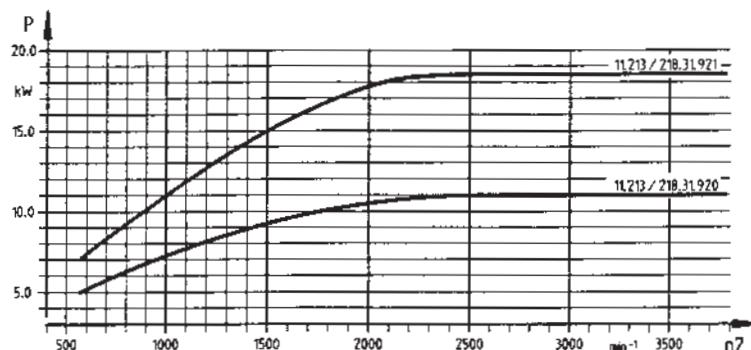
Type 11.213.31/11.218.31

### Technical data

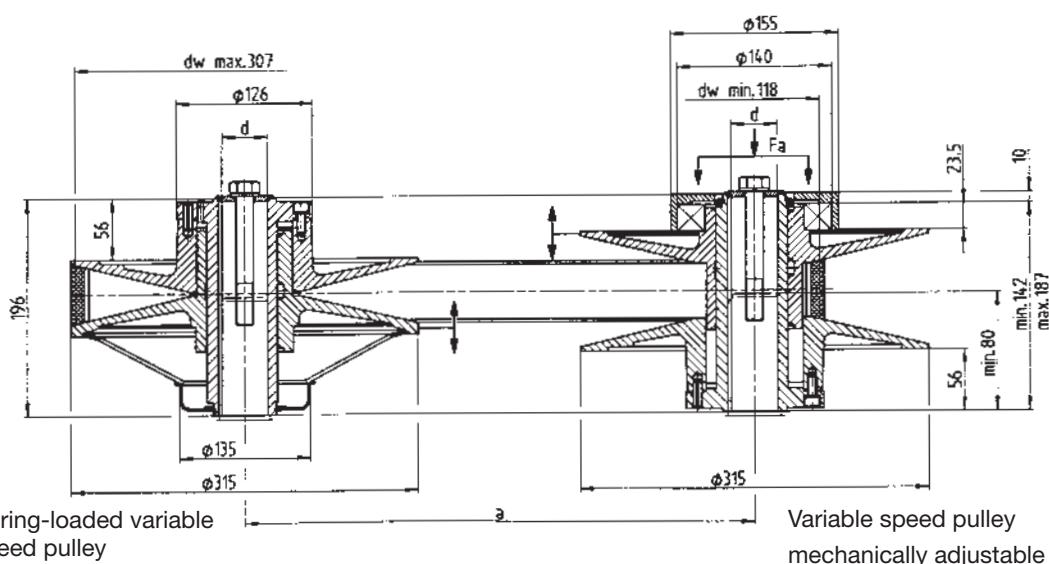
**P<sub>1</sub> = 15/18.5 kW**

Adjustment range	R:	6.7
Variable speed belt	:	55x16 mm
Mass	m:	12 kg 12 kg (..910/911/912) (..920/921)
Moment of inertia	J:	0.073 kgm <sup>2</sup> 0.073 kgm <sup>2</sup> (..910/911/912) (..920/921)
Bores of ISO H7/keyway	min: standard: max:	28 mm 38; 42 mm; (48) 48 mm DIN 6885/1 DIN 6885/1 (/3) DIN 6885/3
Adjustment force	F <sub>a</sub> max:	3000 N
Belt tension	F <sub>r</sub> max:	1250 N

**Output power** at n<sub>1</sub> = 1450 min<sup>-1</sup>



### Dimensions

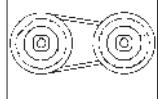


Axis distance a	351	392	443	493	544	595	695	816	947
Inner belt length	1320	1400	1500	1600	1700	1800	2000	2240	2500

Dimensions in [mm]

# Variable speed pulleys

Type 11.213.40/11.218.40

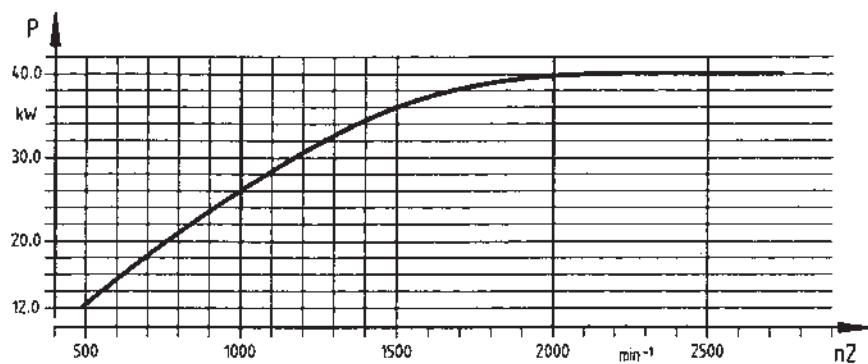


## Technical data

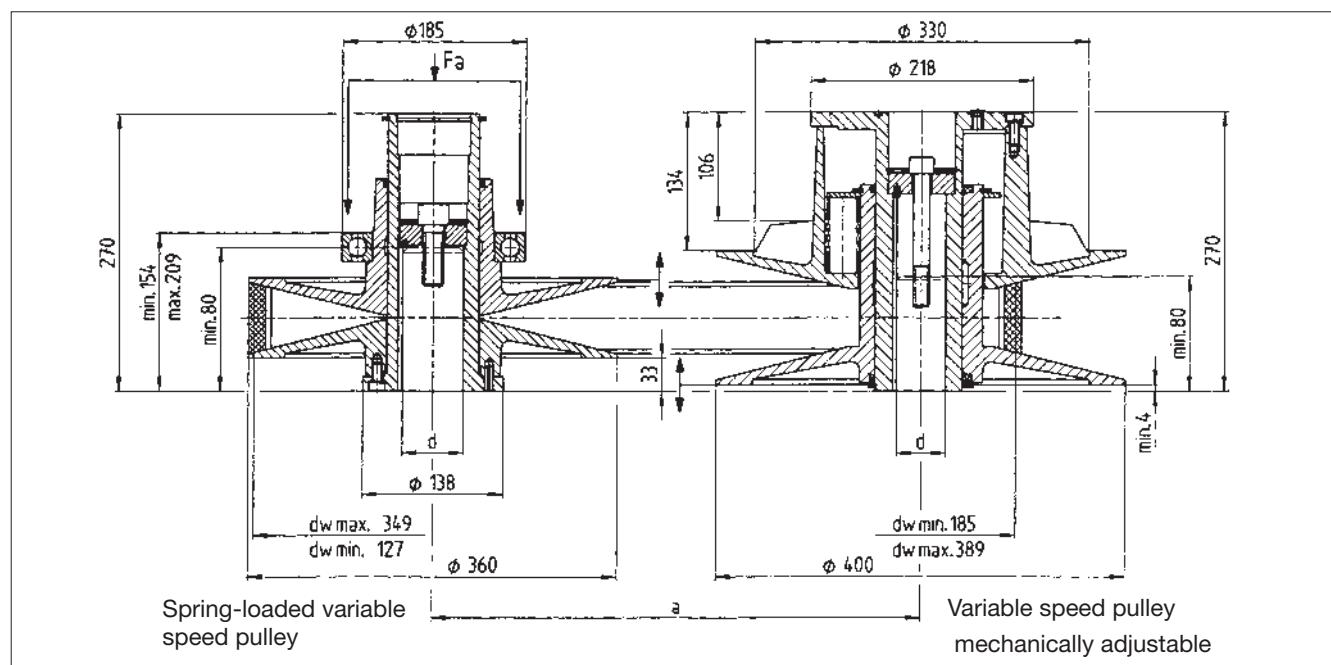
**P<sub>1</sub> = 22/30/37/45 kW**

Adjustment range	R:	5.7
Variable speed belt	:	72x22 mm
Mass	m:	20.5 kg (...912) 28.4 kg (...926)
Moment of inertia	J:	0.122 kgm <sup>2</sup> (...912) 0.227 kgm <sup>2</sup> (...926)
Bores of ISO H7/keyway	min: standard: max:	38 mm 38; 42; 48; 55; 60 mm 60 mm DIN 6885/1 DIN 6885/1 DIN 6885/1
Adjustment force	F <sub>a</sub> max:	4300 N
Belt tension	F <sub>r</sub> max:	1900 N

**Output power at n<sub>1</sub> = 1450 min<sup>-1</sup>**

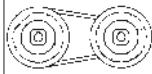


## Dimensions



Axis distance a	425	476	500	526	626	747	878	1028	1204	1334	1389
Inner belt length	1600	1700	1750	1800	2000	2240	2500	2800	3150	3210	3520

Dimensions in [mm]

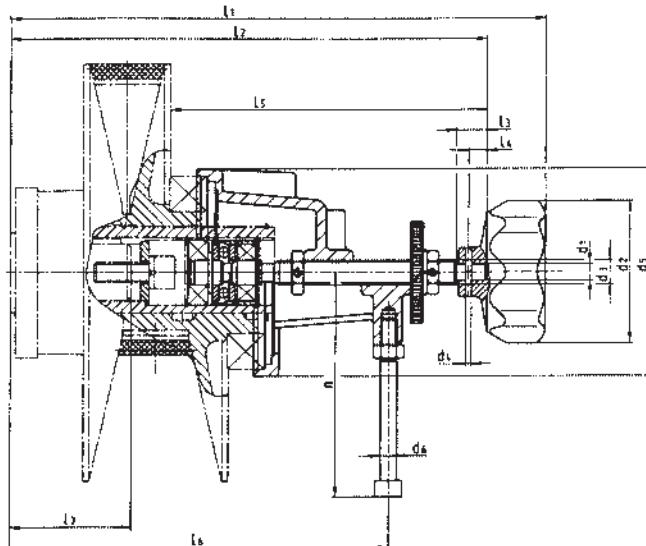


## Variable speed pulleys

Type 11.213/218

### Central adjustment

#### Dimensions



Central adjustment	For variable speed pulleys																		
Type	Type	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	d <sub>4</sub>	d <sub>5</sub>	d <sub>6</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	max	l <sub>5</sub> min	l <sub>6</sub> max	l <sub>6</sub> min	l <sub>7</sub> max	n	m kg	
11.213.10.932	11.213/218.10.912	12	80	14x1.5	3	70	M 6	165	152	16	11	113	102	126	115	30	80	1.0	
11.213.13.933	11.213/218.13.912	8	70	12x2	3	80	M 6	208	179	15	9	122	106	131	115	48 <sup>2)</sup>	78	0.5	
11.213.16.933	11.213/218.16.912	8	70	12x2	3	102	M 8	244	215	15	9	148	127	163	142	52 <sup>3)</sup>	110	1.0	
11.213.20.933	11.213/218.20.912	8	70	12x2	3	102	M 8	264	235	15	9	156	128	185	157	63	110	1.0	
11.213.25.933	11.213/218.25.912	12	105	16x2	3	150	M10	331	298	24	17	199	163	235	199	83	130	2.8	
11.213.31.933	11.213/218.31.912	12	105	20x2	3	150	M10	370	337	24	17	219	173.5	277	231.5	113	160	3.0	
11.213.40.933	11.213/218.40.912	20	200	24x2	6	192	M12	442	422	25	15	311	256	359	304	142	190	6.0	





# FAX ORDER FORM

**Fax No.** \_\_\_\_\_

**Sender**

Company \_\_\_\_\_

Street/Postfach \_\_\_\_\_

Postal code City \_\_\_\_\_

Date Signature \_\_\_\_\_

**Customer No.**

\_\_\_\_\_

**Order No.** \_\_\_\_\_

**Name of the person placing the order** \_\_\_\_\_

**Department** \_\_\_\_\_

**Telephone No.** \_\_\_\_\_

**Delivery address** (if different from recipient's address)

Street \_\_\_\_\_

Postal code City \_\_\_\_\_

**Invoice address** (if different from recipient's address)

Street/Postfach \_\_\_\_\_

Postal code City \_\_\_\_\_

**Delivery desired by** \_\_\_\_\_

**Delivery notes** \_\_\_\_\_

# Fax order

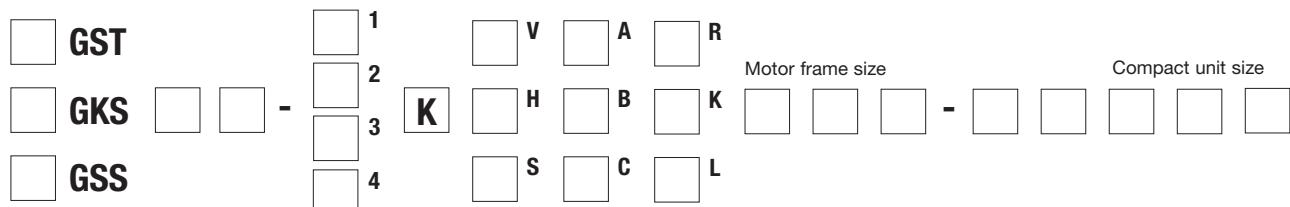
## Compact units

Customer No.

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Order No.

[ ] pcs. i = [ ]



**Position of system modules** (non defined positions must be marked with 0)

Shaft	Flange	Terminal box	Motor	Variable speed belt drive	Mounting position
only for GKS/GSS					
<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> A
<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 6	<input type="checkbox"/> 3	<input type="checkbox"/> B
<input type="checkbox"/> 5	<input type="checkbox"/> 5	<input type="checkbox"/> 4		<input type="checkbox"/> 4	<input type="checkbox"/> C
<input type="checkbox"/> 3+5	<input type="checkbox"/> 3+5	<input type="checkbox"/> 5		<input type="checkbox"/> 5	<input type="checkbox"/> D
					<input type="checkbox"/> E
					<input type="checkbox"/> F

Dimensions       H      Hollow shaft d H7= [ ] mm

K       L      Flange diameter a2= [ ] mm

Colour       Varnish RAL 9018       Primer varnish grey

## Options - gearbox

7      Special lubricant       CLP HC 320       CLP H1 220       CLP E 320

Special varnish      RAL [ ]

Shaft seal       Viton

## Helical gearbox

reinforced bearing - output shaft

Customer No.

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Order No.

**Right angle gearbox GKS / GSS**

- Torque plate at housing foot
- Torque plate at pitch circle
- 2nd output shaft end
- Shrink disc cover
- Hollow shaft cover - jet-proof
- Mounting kit - hollow shaft retention

**Options - compact units****Variable speed adjuster**

- |   |                                |                          |   |
|---|--------------------------------|--------------------------|---|
| <input type="checkbox"/> Angle adjustment         | Handwheel in position          | <input type="checkbox"/> | For permissible positions<br>see page 5-116 |
| <input type="checkbox"/> El. remote<br>adjustment | Actuating motor<br>in position | <input type="checkbox"/> | For permissible positions<br>see page 5-116 |

**Speed measuring unit**

- |  |   |
|--|---|
| <input type="checkbox"/> DC speed encoder                  | with <input type="checkbox"/> analog display  |
| <input type="checkbox"/> Pulse encoder                     | with <input type="checkbox"/> digital display |
| <input type="checkbox"/> Position indicator with handwheel |   |

**Options - motor**

- |  |                |                          |                    |                                      |
|--|----------------|--------------------------|--------------------|--------------------------------------|
| <input type="checkbox"/> Spring-operated brake   | Brake size     | <input type="checkbox"/> | Connection voltage | <input type="checkbox"/> V (AC / DC) |
|  |                |                          |                    |                                      |
|  |                |                          |                    |                                      |
|  |                |                          |                    |                                      |
| <input type="checkbox"/> Hand release with lever | in<br>position | <input type="checkbox"/> |                    |                                      |

# Fax order

## Disco variable speed drives with gearbox

Customer No.

--	--	--	--	--	--

Order No.

[ ] pcs. i = [ ]

GST      1       V       A       R  
                  2       H       B       K      Motor frame size  
 GKS      [ ] [ ] -      3      D       S       C       L      DISCO size  
 GSS      [ ] [ ]      4       L

### Position of system modules

(non defined positions must be marked with 0)

### Mounting position

Shaft	Flange	Terminal box	Spindle box	Handwheel/adjuster	Mounting position
only for GKS/GSS					
[ ] 0	[ ] 0	[ ] 2	[ ] 2 → [ ] 3	or [ ] 5	[ ] A
[ ] 3	[ ] 3	[ ] 3	[ ] 3 → [ ] 2	or [ ] 4	[ ] B
[ ] 5	[ ] 5	[ ] 4	[ ] 4 → [ ] 3	or [ ] 5	[ ] C
[ ] 3+5	[ ] 3+5	[ ] 5	[ ] 5 → [ ] 2	or [ ] 4	[ ] D
					[ ] E
					[ ] F

Dimensions      [ ] H      Hollow shaft d H7= [ ] mm

[ ] K      [ ] L      Flange diameter a2= [ ] mm

Colour      [ ] Varnish RAL 9018      [ ] Primer varnish grey

### Options - gearbox

7      Special lubricant       CLP HC 320       CLP H1 220

Special varnish      RAL [ ]

Shaft seal       Viton

### Helical gearbox

Reinforced bearing - output shaft

Customer No.

--	--	--	--	--	--

Order No.

**Right angle gearbox GKS / GSS**

- Torque plate at housing foot
- Torque plate at pitch circle
- 2nd output shaft end
- Shrink disc cover
- Hollow shaft cover - jet-proof
- Mounting kit - hollow shaft retention

**Options - Disco variable speed drives****Variable speed adjuster**

- Handwheel adjustment       Position indicator with handwheel
- Bevel gearbox adjustment       Position indicator with handwheel
- El. Remote adjustment      Actuating motor i=  with  analog display

**Options - motor**

- Spring-operated brake

Brake size

Connection voltage

V (AC / DC)

- Hand release with lever

in  
position

# Fax order

## Disco variable speed drives without gearbox

Customer No.

--	--	--	--	--	--

Order No.

--

Pcs.

**1    1 . 7    □    0 . □    □ . 0    0**

Motor frame size

			-		
--	--	--	---	--	--

### Position of system modules

(non defined positions must be marked with 0)

### Mounting position

Terminal box  
 0

Handwheel/adjuster  
 3

A

2

5

B

3

C

4

D

5

E

F

Design

with foot

with flange

Colour

Varnish RAL 9018

Primer varnish grey

### Options

Flange diameter a2=

--

 mm

Special varnish

RAL

--

### Variable speed adjuster

Handwheel adjustment

Position indicator with handwheel

Bevel gearbox adjustment

Position indicator with handwheel

El. Remote adjustment

Actuating motor i=

--

with  analog display

7

### Options - motor

Spring-operated brake

Brake size

--

Connection voltage

--

V (AC / DC)

Hand release with lever

in  
position

--

Customer No.

--	--	--	--	--	--

Fax order

Variable speed pulleys

Order No.

Pcs.

Variable speed pulley - mechanically adjustable

**1** **1** . **2** **1**  .   . **9** **1**

Pre-bored

Bored

Bore H7

 mm

Pcs.

Variable speed pulley - spring-loaded

**1** **1** . **2** **1**  .   . **9** **2**

Pre-bored

Bored

Bore H7

 mm

Pcs.

Central adjustment

**1** **1** . **2** **1** **3** .   . **9** **3**

Pcs.

Variable speed pulley

**1** **1** . **1** **0**  .   .  .

Pre-bored

Bored

Bore H7

 mm

Pcs.

Driven pulley

**1** **1** . **1** **1** **0** .   . **9** **2**

Pre-bored

Bored

Pcs.

Motor slide

**1** **1** . **1** **1** **0** .   . **9** **1**

Pcs.

Variable speed belt

**1** **1** . **1** **1** **0** .   . **9** **3**

Inner length li =  mm



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