

Variable Speed Pulleys



SIT Variable speed pulleys "VAR"

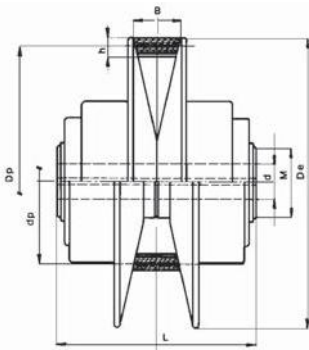
Description - VAR Pulleys

The variable speed pulley is a well established drive; designed to give continuous speed variation at a comparative low cost. Unfortunately it is well known that this design is subject to excvise flange wear due to the type of drive systems employed.

- The hub is made from induction hardened steel, hard chrome plated and ground to give uninterrupted slide fit with flanges. Keys are not used with this application.
- Moving flanges give a wide contact area therefore eliminating

uneven belt pressure.

- The pulley flanges are coupled by means of nylon sleeve couplings to the outside of the flanges and by two flates machined on each end of the pulley hub. Two springs situated inside the nylon coupling give the desired pressure.
- There is provision for re-greasing the pulley slideways, although the grease chambers are pre-packed before leaving the factory.



Part Number	PV 160 VAR 22
Variable pulley	
External diameter [mm]	
Type "VAR"	
Finished bore diameter [mm]	

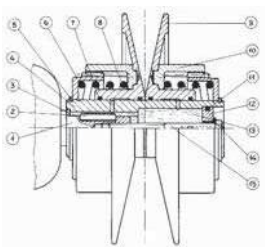
Type	Power				Belt a x b [mm]	De [mm]	L [mm]	Dw		Hub and bores			Variation range	Weight [Kg]
	750 [rpm]	1000 [rpm]	1500 [rpm]	3000 [rpm]				Max Dp [mm]	Min dp [mm]	M (1) [mm]	d (2) [mm]	Finished bores (3) [mm]		
VAR 100	0,25	0,33	0,50	1	13 x 6	100	65	97	37	23	10	11-12-14-16	2,61	0,90
VAR 130	0,37	0,50	0,75	1,5	22 x 8	130	88	126	46	27	10	14-18-19	2,73	1,69
VAR 160	0,75	1,0	1,50	3	28 x10	160	115	155	60	34	10	18-19-22-24	2,58	3,25
VAR 190	1,75	2,30	3,50	7	36 x12	190	131	184	65	39	10	19-22-24-25-28	2,83	4,85
VAR 240	2,75	3,65	5,50	-	46 x 13	240	170	233	72	43	10	24-25-28-32	3,22	8,60
VAR 300	5,00	6,60	10,0	-	54 x 16	300	200	292	91	54	10	32-38-42	3,21	15,00

(1) Diameter steel hubs

(2) Diameter pilot hole tolerance H11

(3) Diameter bore holes H7 with keyway UNI

Installation instructions

	1	Motor shaft
	2	Key
	3	Aluminium seal washer
	4	Pulley shaft
	5	Stop ring
	6	Toothed bushing
	7	OR packing
	8	Spring
	9	Flange
	10	SM/23 resin sleeve
	11	OR packing
	12	Steel washer
	13	Lubrication grease
	14	Aluminium seal washer
	15	Screw

Number operations	1	Take off the key (2) from the motor shaft (1)
	2	Assemble the aluminium seal washer (1) on the motor shaft (3)
	3	Reassemble the key (2) on the motor shaft (1)
	4	Assemble the pulley
	5	Lock the pulley on the motor shaft (1) by means of the screw (15) not forgetting to insert the aluminium seal washer (14)
	6	IMPORTANT Fill up the grease chamber with the lubrication grease (13). Thick grease in preferred.

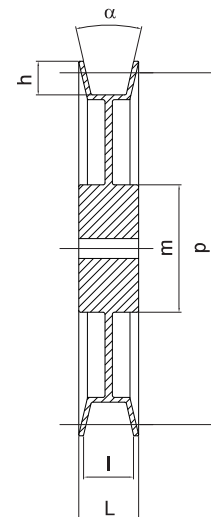
SIT Variable speed pulleys "FIXED"

Description - FIXED Pulleys

Fixed driven pulley have been specifically designed to be used with VAR pulleys. They are manufactured in grey cast iron (GG20 - GG25) and are treated with a black manganese phosphating process.

Part Number	PF 160/46
Fixed pulley	
External diameter [mm] / Groove width [mm]	

Type	FIXED 100	FIXED 130	FIXED 160	FIXED 190	FIXED 240	FIXED 300
α	25°	25°	25°	28°	28°	28°
h [mm]	12	16	18	20	26	32
I [mm]	13	22	28	36	46	54
L [mm]	20	26	32	43	52	70
Diameter p [mm]	Hub diameter m [mm]					
80	30	30	35	-	-	-
90	35	38	38	-	-	-
100	35	38	38	-	-	-
112	40	42	42	50	-	-
125	40	46	46	54	-	-
140	40	48	48	54	55	-
160	45	48	48	60	68	-
170	45	55	55	62	70	-
180	50	58	58	68	75	80
200	50	68	68	70	78	82
224	60	70	70	70	85	90
250	60	70	75	75	88	92
280	60	70	78	78	90	92
315	60	80	80	80	90	100
355	-	85	90	90	90	95
400	-	-	90	90	90	95
450	-	-	-	90	95	95
500	-	-	-	-	95	105



Speed range and center distance for VAR and fixed pulleys assemblies

VAR 100

Pitch length [mm]	Speed range - center distances																													
	Speed range in rpm of driven pulley with drive VAR pulley (rpm)								Belts inside length in mm																					
	750		1000		1500		3000		500	525	550	600	650	675	700	750	800	850	900	950	1000	1060	1120	1180	1250	1320	1400	1500	1600	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Center distances in mm calculated with belts 13X6																					
80	876	355	1168	447	1752	671	3505	1343	122	135	147	172	197	210	222	247	272	297	322	347	372	402	432	462	497	532	572	-	-	
90	782	299	1042	399	1564	599	3128	1199	115	127	140	165	190	202	215	240	265	290	315	340	365	395	425	455	490	525	565	-	-	
100	706	270	941	360	1412	541	2825	1082	-	119	132	157	182	194	207	232	257	282	307	332	357	387	417	447	482	517	557	-	-	
112	632	242	843	323	1265	485	2530	970	-	-	122	147	172	185	197	222	247	272	297	322	347	377	407	437	472	507	547	-	-	
125	568	217	758	290	1137	435	2274	871	-	-	-	136	161	174	186	212	237	262	287	312	337	367	397	427	462	497	537	-	-	
140	508	195	678	260	1017	390	2035	780	-	-	-	-	149	161	174	199	224	249	274	299	324	355	385	415	450	485	525	-	-	
160	446	171	595	228	893	342	1786	684	-	-	-	-	-	143	156	182	207	232	257	283	308	338	368	398	433	468	509	-	-	
170	420	161	561	215	841	322	1683	645	-	-	-	-	-	-	147	173	198	224	249	274	299	330	360	390	425	460	500	-	-	
180	397	152	530	203	795	304	1591	609	-	-	-	-	-	-	-	163	189	215	240	265	291	321	351	381	417	452	492	-	-	
200	358	137	478	183	717	274	1434	549	-	-	-	-	-	-	-	-	170	196	222	248	273	304	334	364	400	435	475	-	-	
224	320	122	427	163	641	245	1282	491	-	-	-	-	-	-	-	-	-	-	199	225	251	282	313	343	379	414	455	-	-	
250	287	110	383	147	575	220	1151	441	-	-	-	-	-	-	-	-	-	-	-	199	225	257	288	319	355	391	432	-	-	
280	257	98	343	131	514	197	1029	394	-	-	-	-	-	-	-	-	-	-	-	-	164	193	226	259	290	327	363	405	-	-
315	228	87	305	117	457	175	915	351	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	220	254	292	329	371	-	-

VAR 130

Pitch length [mm]	Speed range - center distances																													
	Speed range in rpm of driven pulley with drive VAR pulley (rpm)								Belts inside length in mm																					
	750		1000		1500		3000		500	525	550	600	650	675	700	750	800	850	900	950	1000	1060	1120	1180	1250	1320	1400	1500	1600	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Center distances in mm calculated with belts 22x8																					
80	1124	410	1498	547	2248	821	4496	1642	-	-	-	152	177	190	202	227	252	277	303	328	353	383	413	443	478	513	553	603	653	
90	1004	367	1339	489	2009	734	4019	1468	-	-	-	145	170	182	195	220	245	270	295	320	345	375	405	435	470	505	545	595	645	
100	908	331	1211	442	1816	663	3633	1327	-	-	-	137	162	175	187	212	237	262	287	312	337	367	397	427	462	497	537	587	637	
112	814	297	1086	396	1629	595	3258	1190	-	-	-	128	153	166	178	203	228	253	278	303	328	358	388	418	453	488	528	578	628	
125	732	267	976	356	1465	535	2930	1070	-	-	-	-	143	155	168	193	218	243	268	293	318	348	378	408	443	478	518	568	618	
140	656	239	875	319	1312	479	2625	959	-	-	-	-	-	-	156	181	206	231	256	281	306	336	366	396	431	466	506	556	606	
160	576	210	768	280	1152	421	2305	842	-	-	-	-	-	-	-	164	190	215	240	265	290	320	350	380	415	450	490	540	590	
170	543	198	724	264	1086	396	2173	793	-	-	-	-	-	-	-	-	181	206	231	256	282	312	342	372	407	442	482	532	582	
180	513	187	685	250	1027	375	2055	750	-	-	-	-	-	-	-	-	172	198	223	248	273	303	333	364	399	434	474	524	574	
200	463	169	617	225	926	338	1853	677	-	-	-	-	-	-	-	-	-	180	205	231	256	286	317	347	382	417	457	508	558	
224	414	151	552	202	829	303	1658	606	-	-	-	-	-	-	-	-	-	-	-	209	235	265	296	326	362	397	437	488	538	
250	372	136	496	181	744	272	1498	544	-	-	-	-	-	-	-	-	-	-	-	-	-	210	241	272	303	339	374	415	465	516
280	333	121	444	162	666	243	1332	486	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	243	275	311	347	388	439	490
315	296	108	395	144	592	216	1185	433	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	239	277	314	356	407	459
355	263	96	351	128	526	192	1053	385	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	272	316	369	421	

VARIABLE PULLEYS - PV

VAR 160

Pitch length [mm]	Speed range - center distances																												
	Speed range in rpm of driven pulley with drive VAR pulley (rpm)								Belts inside length in mm																				
	750		1000		1500		3000		500	525	550	600	650	675	700	750	800	850	900	950	1000	1060	1120	1180	1250	1320	1400	1500	1600
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Center distances in mm calculated with belts 28x10																				
80	1384	535	1846	714	2769	1071	5538	2143	131	156	182	207	233	258	283	308	334	364	394	424	459	494	534	584	634	685	735	835	-
90	1237	478	1649	638	2474	957	4948	1915	-	149	175	200	226	251	276	301	326	356	386	416	452	487	527	577	627	677	727	827	-
100	1118	432	1490	577	2236	865	4472	1731	-	142	168	193	218	243	269	294	319	349	379	409	444	479	519	569	619	669	719	819	-
112	1002	387	1336	517	2004	775	4009	1551	-	-	159	184	209	234	260	285	310	340	370	400	435	470	510	560	610	660	710	810	-
125	901	348	1201	465	1802	697	3605	1395	-	-	-	175	200	225	250	275	300	330	360	390	425	460	500	550	600	650	700	800	-
140	807	312	1076	416	1614	624	3229	1249	-	-	-	-	188	213	238	263	288	318	348	378	413	448	488	538	588	638	688	788	-
160	708	274	945	365	1417	548	2835	1097	-	-	-	-	-	198	223	248	273	303	333	363	398	433	473	523	573	623	673	773	-
170	668	258	890	344	1336	517	2672	1034	-	-	-	-	-	190	215	240	265	295	325	355	390	425	465	515	565	615	665	765	-
180	631	244	842	326	1263	489	2526	978	-	-	-	-	-	181	206	231	256	287	317	347	382	417	457	507	557	607	657	757	-
200	569	220	759	294	1139	441	2279	882	-	-	-	-	-	-	215	240	270	300	330	365	400	441	491	541	591	641	741	-	-
224	509	197	679	263	1019	394	2039	789	-	-	-	-	-	-	-	219	250	270	310	345	381	421	471	521	571	621	721	-	-
250	457	177	610	236	915	354	1830	708	-	-	-	-	-	-	-	-	227	257	288	323	359	399	449	499	550	600	700	-	-
280	409	158	545	211	818	316	1636	633	-	-	-	-	-	-	-	-	-	229	250	296	332	373	423	474	524	575	675	-	-
315	364	141	485	188	728	282	1457	564	-	-	-	-	-	-	-	-	-	-	-	263	300	341	392	443	494	545	646	-	-
355	323	125	431	167	647	250	1294	501	-	-	-	-	-	-	-	-	-	-	-	-	-	302	355	407	458	509	611	-	-
400	287	111	383	148	575	222	1150	445	-	-	-	-	-	-	-	-	-	-	-	-	-	-	309	363	415	468	571	-	-

VAR 190

Pitch length [mm]	Speed range - center distances																													
	Speed range in rpm of driven pulley with drive VAR pulley (rpm)								Belts inside length in mm																					
	750		1000		1500		3000		500	525	550	600	650	675	700	750	800	850	900	950	1000	1060	1120	1180	1250	1320	1400	1500	1600	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Center distances in mm calculated with belts 36x12																					
112	1189	419	1586	559	2379	838	4759	1677	-	-	-	-	189	214	240	265	290	320	350	380	416	451	491	541	591	641	691	791	911	
125	1069	377	1426	502	2139	754	4279	1508	-	-	-	-	180	205	230	255	280	311	341	371	406	441	481	531	581	631	681	781	901	
140	958	337	1277	450	1916	675	3833	1350	-	-	-	-	194	219	244	269	299	329	359	394	429	470	520	570	620	670	770	890	-	
160	841	296	1121	395	1682	593	3365	1186	-	-	-	-	-	204	229	254	284	314	344	379	414	454	504	554	604	654	754	874	-	
170	793	279	1057	372	1586	558	3172	1117	-	-	-	-	-	196	221	246	276	306	336	371	406	446	496	546	596	646	746	866	-	
180	750	264	1000	352	1500	528	3000	1057	-	-	-	-	-	-	214	239	269	299	329	364	399	439	489	539	589	639	739	859	-	
200	676	238	901	317	1352	476	2705	953	-	-	-	-	-	-	-	223	253	283	313	348	383	423	473	523	573	623	723	843	-	
224	605	213	806	284	1210	426	2420	853	-	-	-	-	-	-	-	-	233	263	293	328	363	403	453	504	554	604	704	824	-	
250	543	191	724	255	1086	382	2173	765	-	-	-	-	-	-	-	-	-	241	271	307	342	382	432	482	532	583	683	803	-	
280	485	171	647	228	971	342	1943	684	-	-	-	-	-	-	-	-	-	-	245	281	316	357	407	457	508	558	658	778	-	
315	432	152	576	203	865	304	1730	609	-	-	-	-	-	-	-	-	-	-	-	-	-	326	376	427	478	528	629	749	-	
355	384	135	512	180	768	270	1537	541	-	-	-	-	-	-	-	-	-	-	-	-	-	-	288	340	391	442	493	595	716	-
400	341	120	455	160	683	240	1366	481	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	348	401	452	555	677	-	
450	303	107	405	142	607	214	1215	428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	351	404	509	632	-	

VAR 240

Pitch length [mm]	Speed range - center distances																		
	Speed range in rpm of driven pulley with drive VAR pulley (rpm)						Belts inside length in mm												
	750		1000		1500		995	1055	1115	1175	1245	1315	1395	1495	1595	1695	1795	2000	2240
	Min.	Max.	Min.	Max.	Min.	Max.	Center distances in mm calculated with belts 46x13												
140	1195	371	1594	494	2391	742	225	256	286	316	352	387	427	477	528	578	628	731	851
160	1052	326	1402	435	2104	653	-	241	272	302	337	372	412	462	513	563	613	715	835
170	992	308	1323	410	1984	616	-	234	264	294	330	365	405	455	505	555	605	708	828
180	939	291	1252	388	1878	583	-	227	257	287	322	357	397	447	497	547	597	700	820
200	848	263	1130	351	1696	526	-	-	242	272	307	342	382	432	482	532	582	685	805
224	759	235	1013	314	1519	471	-	-	-	253	288	323	363	413	463	513	563	666	786
250	682	211	910	282	1365	423	-	-	-	-	268	303	343	393	443	493	543	645	765
280	611	189	814	252	1222	379	-	-	-	-	-	278	318	368	419	469	519	621	741
315	544	169	726	225	1089	338	-	-	-	-	-	-	289	339	389	440	490	593	713
355	484	150	645	200	968	300	-	-	-	-	-	-	-	-	355	405	456	559	680
400	430	133	574	178	861	267	-	-	-	-	-	-	-	-	-	365	416	520	642
450	383	119	511	158	766	238	-	-	-	-	-	-	-	-	-	-	369	475	598
500	345	107	460	143	691	214	-	-	-	-	-	-	-	-	-	-	-	427	552

VAR 300

Pitch length [mm]	Speed range - center distances																		
	Speed range in rpm of driven pulley with drive VAR pulley (rpm)						Belts inside length in mm												
	750		1000		1500		995	1055	1115	1175	1245	1315	1395	1495	1595	1795	2000	2240	
	Min.	Max.	Min.	Max.	Min.	Max.	Center distances in mm calculated with belts 54x16												
180	1164	362	1553	483	2339	724	-	-	-	-	280	316	356	407	457	558	658	778	
200	1052	327	1403	436	2105	655	-	-	-	-	266	301	342	392	442	543	643	763	
224	943	293	1258	391	1887	587	-	-	-	-	-	284	324	374	424	525	625	745	
250	848	264	1131	352	1697	528	-	-	-	-	-	-	304	355	405	505	605	725	
280	760	236	1013	315	1520	473	-	-	-	-	-	-	-	331	381	481	581	701	
315	678	210	904	281	1356	421	-	-	-	-	-	-	-	-	354	454	554	674	
355	603	187	804	250	1206	375	-	-	-	-	-	-	-	-	-	421	521	642	
400	536	167	715	222	1073	334	-	-	-	-	-	-	-	-	-	383	484	604	
450	478	148	637	198	956	297	-	-	-	-	-	-	-	-	-	-	440	562	
500	431	134	574	178	862	268	-	-	-	-	-	-	-	-	-	-	394	517	