PINGXIANG HUSHENG RUBBER PRODUCTS CO.,LTD

S3M STD/STS Synchronous Belt — Specification & Complete Size Chart

3 mm Pitch STD/STS Flat-Top Curvilinear Timing Belt · Conforms to ISO 13050 · Shusheng Brand

Shusheng

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S3M STD/STS Synchronous Belt — Specification, Materials & Complete Size Chart

1. S3M STD Synchronous Belt Overview

A compact 3 mm pitch STD/STS flat-top curvilinear tooth belt for precise, quiet drives in CNC, robotics, medical and office equipment.

The S3M synchronous belt (also written S3M STD belt or STS belt) is the **3 mm pitch** member of the STD / STS (Super Torque Drive) belt family. It has a **modified curvilinear, flat-top semi-circular tooth** and transmits power by tooth-and-groove meshing rather than friction, so an S3M drive runs with no slip, no speed drift and no lubrication, and the flat-top tooth seats firmly in the pulley root to hold repeatable positioning in servo systems, precision feeders and linear modules.

An S3M belt delivers up to **98% transmission efficiency**, runs at line speeds up to **45 m/s**, holds a speed ratio up to **1:10** and supports multi-shaft drives. Every belt here is manufactured to the STD/STS 3 mm flat-top profile and conforms to **ISO 13050**, the standard for metric-pitch synchronous belt drives, so it is dimensionally interchangeable with equivalent-profile S3M (STD/STS) belts from other mainstream manufacturers. This document covers the belt code (section 2), the technical specification (section 3), the complete size list from **S3M-114** to **S3M-4500** (section 4), the materials (section 5) and contact details.



Figure 1: An S3M STD synchronous belt — 3 mm pitch, 1.14 mm tooth height, 2.20 mm belt thickness — with the moulded belt code (STD 300-S3M) on the back.

2. Belt Designation & Code Meaning

How the profile, the dimensions and the code on the belt are read.

2.1 Profile geometry

The S3M profile is defined by four numbers: a **tooth pitch of 3 mm**, a **tooth height of about 1.14 mm**, a **belt total thickness of about 2.20 mm** and a **flat-top semi-circular (modified**

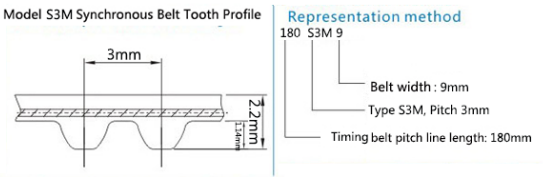


Figure 2: S3M tooth profile and representation method — a 3 mm tooth pitch, about a 1.14 mm tooth height and about a 2.2 mm belt total thickness, with the code read as pitch line length – type S3M – belt width.

2.2 How the code reads

An S3M belt is designated by its **pitch line length in millimetres** together with the profile code **S3M** and the width: **[Pitch Length] - [Pitch Code] - [Belt Width]**, for example **300-S3M-9** is an S3M belt with a **300 mm pitch line length** and a **9 mm width**. Our size list and purchase codes write the same belt as **S3M-300**; the codes **S3M-300 and 300-S3M are identical** and both mean an S3M belt with a 300 mm pitch line length. The size chart gives both forms side by side.

The number is the **pitch line length** measured at the cord line, not the outside or inside length. Since the pitch length is always a whole multiple of 3 mm, the tooth count follows directly: teeth = pitch length ÷ 3 mm. So **S3M-300** is **300 mm** / 100 teeth, while **S3M-114** is 114 mm and **S3M-4500** is 4500 mm.

2.3 Belt widths

Four standard widths are stocked; non-standard widths and custom lengths on request.

Table 1 S3M STD standard belt widths

Width (mm)	Typical Drive Duty
6 mm	Light-duty precision positioning, small office and medical mechanisms
9 mm	Medium-duty servo drives, linear modules and automation units
12 mm	Higher-torque CNC feed drives and robotics joints
15 mm	Widest standard width, highest torque capacity of the S3M range

2.4 Marking & interchangeability

Each belt carries its pitch line length and the profile code S3M (or STD) on the back, so a belt in service can be re-ordered without measuring the drive. S3M (STD/STS) and HTD 3M share the same 3 mm pitch but differ in tooth geometry and are **not interchangeable**: an S3M belt runs only on an S3M / STS pulley.

3. Technical Specifications

All sizes share the same profile, materials and performance; only the pitch length and tooth count change.

Table 2 S3M STD Synchronous Belt — Profile & Dimensions

Property	Specification
Profile / System	Metric-pitch synchronous belt, STD / STS profile (S3M series)
Tooth Pitch	3 mm
Tooth Height	~1.14 mm
Belt Total Thickness	~2.20 mm
Tooth Profile	Modified curvilinear, flat-top semi-circular (STD / STS)
Standard Widths	6 / 9 / 12 / 15 mm; non-standard widths on request
Standard	Conforms to ISO 13050 (synchronous belt drives, metric pitch, curvilinear tooth profile)

Table 3 S3M STD Synchronous Belt — Performance & Ordering Data

Property	Specification
Tensile Member	High-strength glass fiber cord; aramid (Kevlar) cord optional
Body Compound	Premium synthetic chloroprene rubber (CR), blended with hydrogenated nitrile and rubber additives
Tooth Facing	Specially treated high-elasticity Nylon 66 fabric
Transmission Efficiency	Up to 98%
Maximum Linear Speed	45 m/s
Speed Ratio	Up to 1:10 (multi-shaft drives supported)
Operating Temperature	−30 °C to +90 °C
Pitch Length Range	S3M-114 to S3M-4500 — 114 mm to 4500 mm (343 standard models)
Minimum Order Quantity	200 pcs per size (standard); custom sizes on request
Indicative Price Range	US$0.50 – US$40.50 per piece (varies by length and width)
Lead Time	15–20 days

Every code in the range maps directly to its dimensions: the **number in the code is the pitch line length in millimetres**, and the **tooth count is that length divided by the 3 mm pitch**. So S3M-114 is 114 mm / 38 teeth, S3M-300 is 300 mm / 100 teeth, and S3M-4500 is 4500 mm / 1500 teeth.

4. Complete S3M Size Chart

The table below lists every stocked S3M STD belt with its pitch line length and tooth count, in both accepted code forms. The number in an S3M belt code is the pitch line length in millimetres — so **S3M-300 and 300-S3M are the same belt** — and the tooth count follows as pitch length divided by the 3 mm pitch.

Table 4 Complete S3M STD/STS Size Chart — 284 standard models, S3M-114 to S3M-1263 • both code forms are given (S3M-114 = 114-S3M)

Belt Code	Equivalent Code	Pitch Length (mm)	Teeth (n)	Belt Code	Equivalent Code	Pitch Length (mm)	Teeth (n)	Belt Code	Equivalent Code	Pitch Length (mm)	Teeth (n)	Belt Code	Equivalent Code	Pitch Length (mm)	Teeth (n)
S3M-114	114-S3M	114	38	S3M-327	327-S3M	327	109	S3M-540	540-S3M	540	180	S3M-762	762-S3M	762	254
S3M-117	117-S3M	117	39	S3M-330	330-S3M	330	110	S3M-543	543-S3M	543	181	S3M-765	765-S3M	765	255
S3M-120	120-S3M	120	40	S3M-333	333-S3M	333	111	S3M-546	546-S3M	546	182	S3M-768	768-S3M	768	256
S3M-123	123-S3M	123	41	S3M-336	336-S3M	336	112	S3M-549	549-S3M	549	183	S3M-774	774-S3M	774	258
S3M-126	126-S3M	126	42	S3M-339	339-S3M	339	113	S3M-552	552-S3M	552	184	S3M-777	777-S3M	777	259
S3M-129	129-S3M	129	43	S3M-342	342-S3M	342	114	S3M-555	555-S3M	555	185	S3M-780	780-S3M	780	260
S3M-132	132-S3M	132	44	S3M-345	345-S3M	345	115	S3M-558	558-S3M	558	186	S3M-783	783-S3M	783	261
S3M-135	135-S3M	135	45	S3M-348	348-S3M	348	116	S3M-561	561-S3M	561	187	S3M-786	786-S3M	786	262
S3M-138	138-S3M	138	46	S3M-351	351-S3M	351	117	S3M-564	564-S3M	564	188	S3M-789	789-S3M	789	263
S3M-141	141-S3M	141	47	S3M-354	354-S3M	354	118	S3M-567	567-S3M	567	189	S3M-792	792-S3M	792	264
S3M-144	144-S3M	144	48	S3M-357	357-S3M	357	119	S3M-570	570-S3M	570	190	S3M-795	795-S3M	795	265
S3M-147	147-S3M	147	49	S3M-360	360-S3M	360	120	S3M-573	573-S3M	573	191	S3M-798	798-S3M	798	266
S3M-150	150-S3M	150	50	S3M-363	363-S3M	363	121	S3M-576	576-S3M	576	192	S3M-801	801-S3M	801	267
S3M-153	153-S3M	153	51	S3M-366	366-S3M	366	122	S3M-579	579-S3M	579	193	S3M-804	804-S3M	804	268
S3M-156	156-S3M	156	52	S3M-369	369-S3M	369	123	S3M-582	582-S3M	582	194	S3M-807	807-S3M	807	269
S3M-159	159-S3M	159	53	S3M-372	372-S3M	372	124	S3M-585	585-S3M	585	195	S3M-810	810-S3M	810	270
S3M-162	162-S3M	162	54	S3M-375	375-S3M	375	125	S3M-588	588-S3M	588	196	S3M-813	813-S3M	813	271
S3M-165	165-S3M	165	55	S3M-378	378-S3M	378	126	S3M-591	591-S3M	591	197	S3M-816	816-S3M	816	272
S3M-168	168-S3M	168	56	S3M-381	381-S3M	381	127	S3M-594	594-S3M	594	198	S3M-822	822-S3M	822	274
S3M-171	171-S3M	171	57	S3M-384	384-S3M	384	128	S3M-597	597-S3M	597	199	S3M-825	825-S3M	825	275
S3M-174	174-S3M	174	58	S3M-387	387-S3M	387	129	S3M-600	600-S3M	600	200	S3M-828	828-S3M	828	276
S3M-177	177-S3M	177	59	S3M-390	390-S3M	390	130	S3M-603	603-S3M	603	201	S3M-831	831-S3M	831	277
S3M-180	180-S3M	180	60	S3M-393	393-S3M	393	131	S3M-606	606-S3M	606	202	S3M-834	834-S3M	834	278
S3M-183	183-S3M	183	61	S3M-396	396-S3M	396	132	S3M-609	609-S3M	609	203	S3M-837	837-S3M	837	279
S3M-186	186-S3M	186	62	S3M-399	399-S3M	399	133	S3M-612	612-S3M	612	204	S3M-840	840-S3M	840	280
S3M-189	189-S3M	189	63	S3M-402	402-S3M	402	134	S3M-618	618-S3M	618	206	S3M-852	852-S3M	852	284
S3M-192	192-S3M	192	64	S3M-405	405-S3M	405	135	S3M-621	621-S3M	621	207	S3M-858	858-S3M	858	286
S3M-195	195-S3M	195	65	S3M-408	408-S3M	408	136	S3M-624	624-S3M	624	208	S3M-864	864-S3M	864	288
S3M-198	198-S3M	198	66	S3M-411	411-S3M	411	137	S3M-627	627-S3M	627	209	S3M-867	867-S3M	867	289
S3M-201	201-S3M	201	67	S3M-414	414-S3M	414	138	S3M-630	630-S3M	630	210	S3M-870	870-S3M	870	290
S3M-204	204-S3M	204	68	S3M-417	417-S3M	417	139	S3M-633	633-S3M	633	211	S3M-873	873-S3M	873	291
S3M-207	207-S3M	207	69	S3M-420	420-S3M	420	140	S3M-636	636-S3M	636	212	S3M-879	879-S3M	879	293
S3M-210	210-S3M	210	70	S3M-423	423-S3M	423	141	S3M-639	639-S3M	639	213	S3M-882	882-S3M	882	294
S3M-213	213-S3M	213	71	S3M-426	426-S3M	426	142	S3M-642	642-S3M	642	214	S3M-888	888-S3M	888	296
S3M-216	216-S3M	216	72	S3M-429	429-S3M	429	143	S3M-645	645-S3M	645	215	S3M-891	891-S3M	891	297
S3M-219	219-S3M	219	73	S3M-432	432-S3M	432	144	S3M-648	648-S3M	648	216	S3M-894	894-S3M	894	298
S3M-222	222-S3M	222	74	S3M-435	435-S3M	435	145	S3M-651	651-S3M	651	217	S3M-897	897-S3M	897	299
S3M-225	225-S3M	225	75	S3M-438	438-S3M	438	146	S3M-654	654-S3M	654	218	S3M-900	900-S3M	900	300
S3M-228	228-S3M	228	76	S3M-441	441-S3M	441	147	S3M-657	657-S3M	657	219	S3M-909	909-S3M	909	303
S3M-231	231-S3M	231	77	S3M-444	444-S3M	444	148	S3M-660	660-S3M	660	220	S3M-918	918-S3M	918	306
S3M-234	234-S3M	234	78	S3M-447	447-S3M	447	149	S3M-663	663-S3M	663	221	S3M-924	924-S3M	924	308
S3M-237	237-S3M	237	79	S3M-450	450-S3M	450	150	S3M-666	666-S3M	666	222	S3M-927	927-S3M	927	309
S3M-240	240-S3M	240	80	S3M-453	453-S3M	453	151	S3M-669	669-S3M	669	223	S3M-936	936-S3M	936	312
S3M-243	243-S3M	243	81	S3M-456	456-S3M	456	152	S3M-672	672-S3M	672	224	S3M-948	948-S3M	948	316
S3M-246	246-S3M	246	82	S3M-459	459-S3M	459	153	S3M-675	675-S3M	675	225	S3M-954	954-S3M	954	318
S3M-249	249-S3M	249	83	S3M-462	462-S3M	462	154	S3M-678	678-S3M	678	226	S3M-960	960-S3M	960	320
S3M-252	252-S3M	252	84	S3M-465	465-S3M	465	155	S3M-681	681-S3M	681	227	S3M-966	966-S3M	966	322
S3M-255	255-S3M	255	85	S3M-468	468-S3M	468	156	S3M-684	684-S3M	684	228	S3M-972	972-S3M	972	324
S3M-258	258-S3M	258	86	S3M-471	471-S3M	471	157	S3M-687	687-S3M	687	229	S3M-981	981-S3M	981	327
S3M-261	261-S3M	261	87	S3M-474	474-S3M	474	158	S3M-690	690-S3M	690	230	S3M-990	990-S3M	990	330
S3M-264	264-S3M	264	88	S3M-477	477-S3M	477	159	S3M-693	693-S3M	693	231	S3M-996	996-S3M	996	332
S3M-267	267-S3M	267	89	S3M-480	480-S3M	480	160	S3M-696	696-S3M	696	232	S3M-999	999-S3M	999	333
S3M-270	270-S3M	270	90	S3M-483	483-S3M	483	161	S3M-699	699-S3M	699	233	S3M-1002	1002-S3M	1002	334
S3M-273	273-S3M	273	91	S3M-486	486-S3M	486	162	S3M-702	702-S3M	702	234	S3M-1005	1005-S3M	1005	335
S3M-276	276-S3M	276	92	S3M-489	489-S3M	489	163	S3M-705	705-S3M	705	235	S3M-1014	1014-S3M	1014	338
S3M-279	279-S3M	279	93	S3M-492	492-S3M	492	164	S3M-708	708-S3M	708	236	S3M-1050	1050-S3M	1050	350
S3M-282	282-S3M	282	94	S3M-495	495-S3M	495	165	S3M-711	711-S3M	711	237	S3M-1056	1056-S3M	1056	352
S3M-285	285-S3M	285	95	S3M-498	498-S3M	498	166	S3M-714	714-S3M	714	238	S3M-1062	1062-S3M	1062	354
S3M-288	288-S3M	288	96	S3M-501	501-S3M	501	167	S3M-720	720-S3M	720	240	S3M-1080	1080-S3M	1080	360
S3M-291	291-S3M	291	97	S3M-504	504-S3M	504	168	S3M-723	723-S3M	723	241	S3M-1110	1110-S3M	1110	370
S3M-294	294-S3M	294	98	S3M-507	507-S3M	507	169	S3M-726	726-S3M	726	242	S3M-1119	1119-S3M	1119	373
S3M-297	297-S3M	297	99	S3M-510	510-S3M	510	170	S3M-729	729-S3M	729	243	S3M-1146	1146-S3M	1146	382
S3M-300	300-S3M	300	100	S3M-513	513-S3M	513	171	S3M-732	732-S3M	732	244	S3M-1170	1170-S3M	1170	390
S3M-303	303-S3M	303	101	S3M-516	516-S3M	516	172	S3M-735	735-S3M	735	245	S3M-1179	1179-S3M	1179	393
S3M-306	306-S3M	306	102	S3M-519	519-S3M	519	173	S3M-738	738-S3M	738	246	S3M-1188	1188-S3M	1188	396
S3M-309	309-S3M	309	103	S3M-522	522-S3M	522	174	S3M-741	741-S3M	741	247	S3M-1203	1203-S3M	1203	401
S3M-312	312-S3M	312	104	S3M-525	525-S3M	525	175	S3M-744	744-S3M	744	248	S3M-1212	1212-S3M	1212	404
S3M-315	315-S3M	315	105	S3M-528	528-S3M	528	176	S3M-747	747-S3M	747	249	S3M-1236	1236-S3M	1236	412
S3M-318	318-S3M	318	106	S3M-531	531-S3M	531	177	S3M-750	750-S3M	750	250	S3M-1245	1245-S3M	1245	415
S3M-321	321-S3M	321	107	S3M-534	534-S3M	534	178	S3M-753	753-S3M	753	251	S3M-1260	1260-S3M	1260	420
S3M-324	324-S3M	324	108	S3M-537	537-S3M	537	179	S3M-756	756-S3M	756	252	S3M-1263	1263-S3M	1263	421

Table 5 Complete S3M STD/STS Size Chart — 59 standard models, S3M-1281 to S3M-4500 • both code forms are given (S3M-1281 = 1281-S3M)

Belt Code	Equivalent Code	Pitch Length (mm)	Teeth (n)	Belt Code	Equivalent Code	Pitch Length (mm)	Teeth (n)	Belt Code	Equivalent Code	Pitch Length (mm)	Teeth (n)	Belt Code	Equivalent Code	Pitch Length (mm)	Teeth (n)
S3M-1281	1281-S3M	1281	427	S3M-1413	1413-S3M	1413	471	S3M-1572	1572-S3M	1572	524	S3M-1800	1800-S3M	1800	600
S3M-1287	1287-S3M	1287	429	S3M-1416	1416-S3M	1416	472	S3M-1596	1596-S3M	1596	532	S3M-1884	1884-S3M	1884	628
S3M-1290	1290-S3M	1290	430	S3M-1422	1422-S3M	1422	474	S3M-1605	1605-S3M	1605	535	S3M-2025	2025-S3M	2025	675
S3M-1299	1299-S3M	1299	433	S3M-1425	1425-S3M	1425	475	S3M-1611	1611-S3M	1611	537	S3M-2100	2100-S3M	2100	700
S3M-1302	1302-S3M	1302	434	S3M-1428	1428-S3M	1428	476	S3M-1632	1632-S3M	1632	544	S3M-2115	2115-S3M	2115	705
S3M-1314	1314-S3M	1314	438	S3M-1431	1431-S3M	1431	477	S3M-1635	1635-S3M	1635	545	S3M-2250	2250-S3M	2250	750
S3M-1326	1326-S3M	1326	442	S3M-1434	1434-S3M	1434	478	S3M-1647	1647-S3M	1647	549	S3M-2640	2640-S3M	2640	880
S3M-1338	1338-S3M	1338	446	S3M-1443	1443-S3M	1443	481	S3M-1650	1650-S3M	1650	550	S3M-2682	2682-S3M	2682	894
S3M-1341	1341-S3M	1341	447	S3M-1449	1449-S3M	1449	483	S3M-1659	1659-S3M	1659	553	S3M-2835	2835-S3M	2835	945
S3M-1353	1353-S3M	1353	451	S3M-1461	1461-S3M	1461	487	S3M-1680	1680-S3M	1680	560	S3M-2988	2988-S3M	2988	996
S3M-1374	1374-S3M	1374	458	S3M-1476	1476-S3M	1476	492	S3M-1701	1701-S3M	1701	567	S3M-3210	3210-S3M	3210	1070
S3M-1380	1380-S3M	1380	460	S3M-1485	1485-S3M	1485	495	S3M-1752	1752-S3M	1752	584	S3M-3324	3324-S3M	3324	1108
S3M-1392	1392-S3M	1392	464	S3M-1500	1500-S3M	1500	500	S3M-1767	1767-S3M	1767	589	S3M-4020	4020-S3M	4020	1340
S3M-1407	1407-S3M	1407	469	S3M-1512	1512-S3M	1512	504	S3M-1785	1785-S3M	1785	595	S3M-4500	4500-S3M	4500	1500
S3M-1410	1410-S3M	1410	470	S3M-1560	1560-S3M	1560	520	S3M-1788	1788-S3M	1788	596				

All **343** codes from **S3M-114** to **S3M-4500** are listed above; custom lengths and widths on request. Download the specification PDF from the product page: drive-belt.com/timing-belts/s3m-std-belt.

5. Materials & Construction

> **Layer 01 — Tensile member**
> High-strength glass fiber cord with very low elongation (aramid / Kevlar optional), keeping the pitch length stable under load.

> **Layer 02 — Body compound**
> Premium synthetic chloroprene rubber (CR) blended with hydrogenated nitrile and additives; bonds and protects the cord and resists heat, cold, oil, water, acid, alkali, ozone and flex fatigue.

> **Layer 03 — Tooth facing**
> Specially treated high-elasticity Nylon 66 fabric; low friction and high wear resistance preserve the flat-top tooth form and keep the drive quiet.

5.1 Application

S3M STD belts drive precision servo and linear motion equipment such as CNC feed drives, robotics joints, linear modules, medical instruments, printers and vending machines.



Figure 3: An S3M STD belt driving the carriage of a precision linear module — the 3 mm flat-top pitch suits low-backlash servo and linear motion drives.

6. Contact & Ordering Information

Company: Pingxiang Husheng Rubber Products Co.,Ltd • **Brand:** Shusheng
Website: https://drive-belt.com • **S3M STD Belt page:** https://drive-belt.com/timing-belts/s3m-std-belt
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