CONVEYOR PULLEY

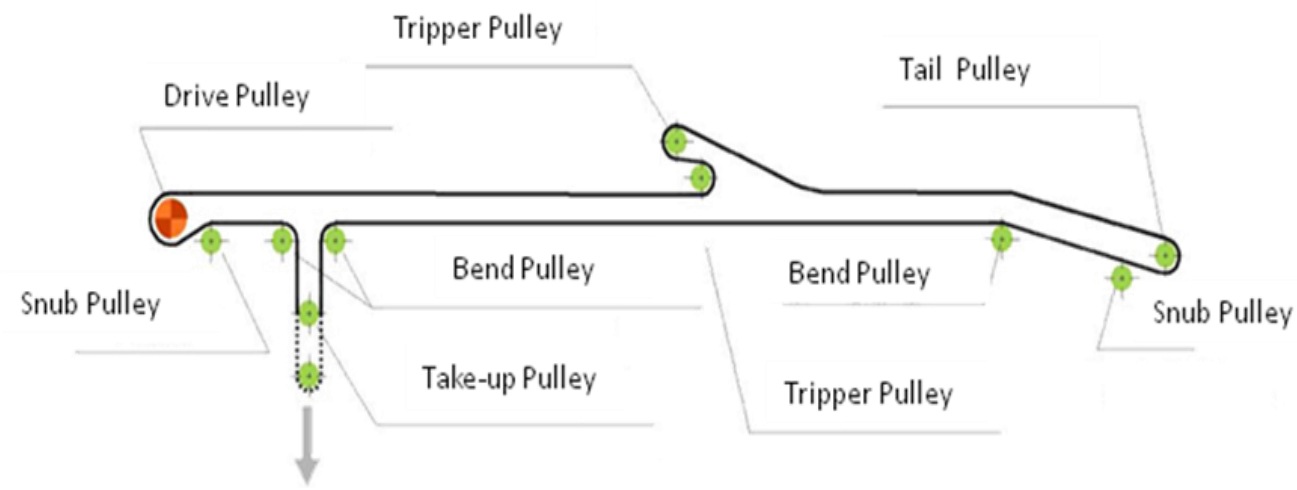
INTRODUCTION

Quin Link Co., Ltd. is one of major suppliers in Taiwan specializing in the design and manufacture of conveyor pulleys. We can provide conveyor pulleys in compliance with JIS B8814-1982 or other international standards. To meet various applications of bulk solids handling, pulley can be grouped as several styles. We have supplied more than 20,000 engineered pulleys to local or foreign projects in handling coal, iron ore, sintered ore, limestone and cement.

FEATURES

- Advanced welding capability ensure excellent quality through various NDT certification.
- Shell cylinders are rolled from the highest quality flat plate and longitudinally seam welded with a prepared full penetration butt weld.
- Hub and end disc can be welded together or forged as one-piece depending on types of pulley. The precisely-machined inside hole of the end disc and unique assembling process can ensure good concentricity between shaft and shell for various types of pulley. End discs can be accurately bored to tight tolerances to receive precision locking elements.
- Pulley shells are finish machined and can be lagged to your requirements.
- The dimension and tolerance of each part of pulley conforms JIS B8814, other international industry standards, or any specification together with customer drawings
- Post-weld heat treatment (PWHT) is available by in-house special induction process to minimize residual stress resulted from welding process.
- Dynamic balancing grade G6.3 is very common for our engineered pulleys. No balance weight outside the end disc is available upon request.

ARRANGEMENT OF CONVEYOR PULLEY



FUNCTIONAL CLASSIFICATION

- Head Pulley
- Drive Pulley
- Bend Pulley
- Take up Pulley
- Snub Pulley
- Tail Pulley

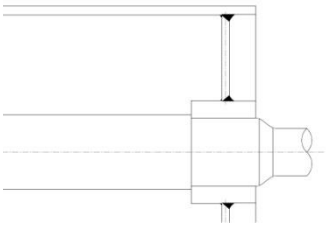
TYPES OF CONVEYOR PULLEY

There are numerous designs and types of pulleys to meet variety of applications. To meet the duties of the severest working conditions they may be supplied rubber lagged.

Main difference among various pulley types is the way of end-disk, hub and shell assembly. Although larger machined radius at the conjunction of the above-mentioned three components is beneficial to lower stress concentration, there is always some cost-effective solution to meet specific requirements. End-disks can be a straight plate, tapered or turbine shaped to be welded on or integrated with a hub.

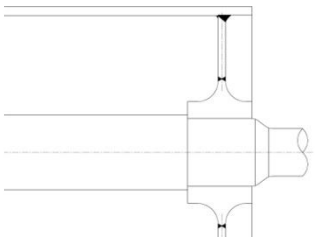
PG TYPE

End discs are connected to hubs by full penetration welds. Weld toes are machined to form generous radius after stress-relief heat treatment to minimize residual tensile stress and stress concentration around welds. PG type is a popular design for light and medium loading condition.



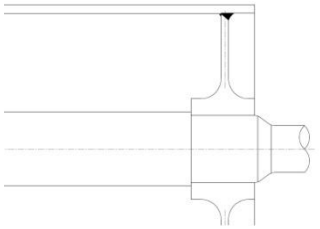
PGM TYPE

The weld between hub and end disc is moved away from the T connection where is suffered high bending stress. Large and fine-turning radius is provided to reduce stress concentration. End disc is connected with hub by butt welding in full-penetration quality. The hub and end disc assembly will be stress-relief after machining or polishing to obtain smooth appearance to reduce possible residual stress. PGM type can be regarded as upgraded version of PG type and allow to be used in higher loading application.



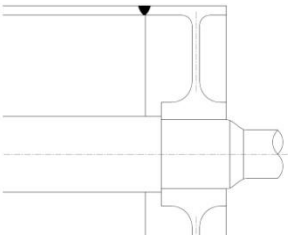
PH TYPE

The end disc and hub are integrated into one piece by casting, forging or machining from a thick steel plate. The smooth large radius can be beneficial to minimize residual stress or stress concentration resulted from improper welding practice. PH is good for heavy-duty application



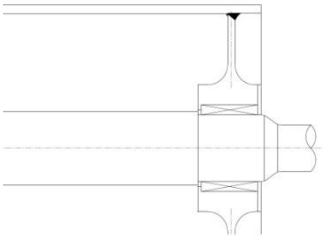
PT TYPE

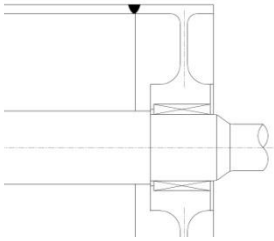
The end disc, hub and part of shell are integrated into one piece by casting, forging, or machining. There is none T-weld between shell and end disc. Comparing to PH type, PT has lower stress concentration on the connection of end disc and shell due to the weld shifted to low stress area. It is suitable to ultra heavy duty application.



PHK & PGK TYPE

The constructions are same as PG/PH type except the connection between hub and shaft. The shrink fit or and key-way connection for PG or PH is replaced by Key-less locking devices to obtain more uniform press distribution between joint surfaces and free of stress concentration. The shaft can be extracted during repairing in the future.

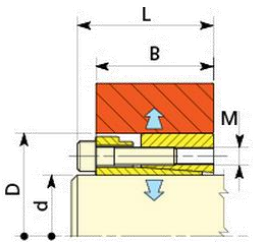


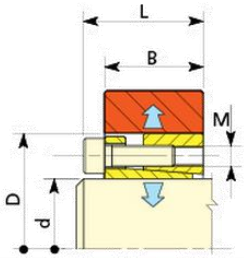


BASIC KEYLESS TYPE

D & DS TYPE

In general, these types are applicable for non-drive pulley.



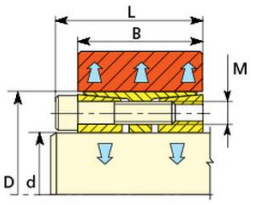


CONEX-D								
d (mm)	D(mm)	B(mm)	L(mm)	M(mm)	Ts(Nm)	T(Nm)	F(kN)	P(N/mm^2)
60	90	51	59	M8	41	3900	130	130
65	95	51	59	M8	41	4300	130	120
70	110	60	70	M10	83	7500	210	130
75	115	60	70	M10	83	8000	210	130
80	120	60	70	M10	83	8500	210	120
85	125	60	70	M10	83	11400	270	150
90	130	60	70	M10	83	12000	270	140
95	135	60	70	M10	83	12600	280	135
100	145	68	80	M12	145	15000	300	130
110	155	68	80	M13	145	16500	300	120
120	165	68	80	M14	145	22500	370	140
130	180	68	80	M15	145	29000	450	150
140	190	76	90	M14	210	32000	460	130
150	200	76	90	M14	210	41000	550	150
160	210	76	90	M14	210	44000	550	140
170	225	76	90	M14	210	54500	640	160
180	235	76	90	M14	210	57500	640	150
190	250	76	90	M14	210	65000	689	146
200	260	76	90	M14	210	68000	689	141

CONEX-DS								
d(mm)	D(mm)	B(mm)	L(mm)	M(mm)	Ts(Nm)	T(Nm)	F(kN)	P(N/mm^2)
60	90	33.5	41	M8	35	3100	105	155
65	95	33.5	41	M8	35	3400	105	150
70	110	40	50	M10	70	6000	170	175
75	115	40	50	M10	70	6400	170	170
80	120	40	50	M10	70	6800	170	160
85	125	40	50	M10	70	9000	210	190
90	130	40	50	M10	70	9600	210	185
95	135	40	50	M10	70	10200	210	185
100	145	44	56	M12	115	12000	235	170
110	155	44	56	M12	115	13000	260	160
120	165	44	56	M12	115	16000	270	165
130	180	52	64	M12	115	23000	350	155
140	190	54	68	M14	185	25000	360	150
150	200	54	68	M14	185	30000	400	155
160	210	54	68	M14	185	38800	480	170
170	225	64	78	M14	185	41300	480	130
180	235	64	78	M14	185	43700	480	125
190	250	64	78	M14	185	57700	600	145
200	260	64	78	M14	185	60700	600	140
220	285	72	88	M16	290	78100	710	132
240	305	72	88	M16	290	106500	848	154
260	325	72	88	M16	290	1385	1017	174
280	355	84	102	M18	400	160300	1094	143
300	375	84	102	M18	400	193200	1230	152
320	405	101	121	M20	580	272700	1627	151
340	425	101	121	M20	580	338000	1899	168
360	455	115	137	M22	780	375700	1994	142
380	475	115	137	M22	780	462700	2326	158
400	495	115	137	M22	780	487000	2326	152

F TYPE

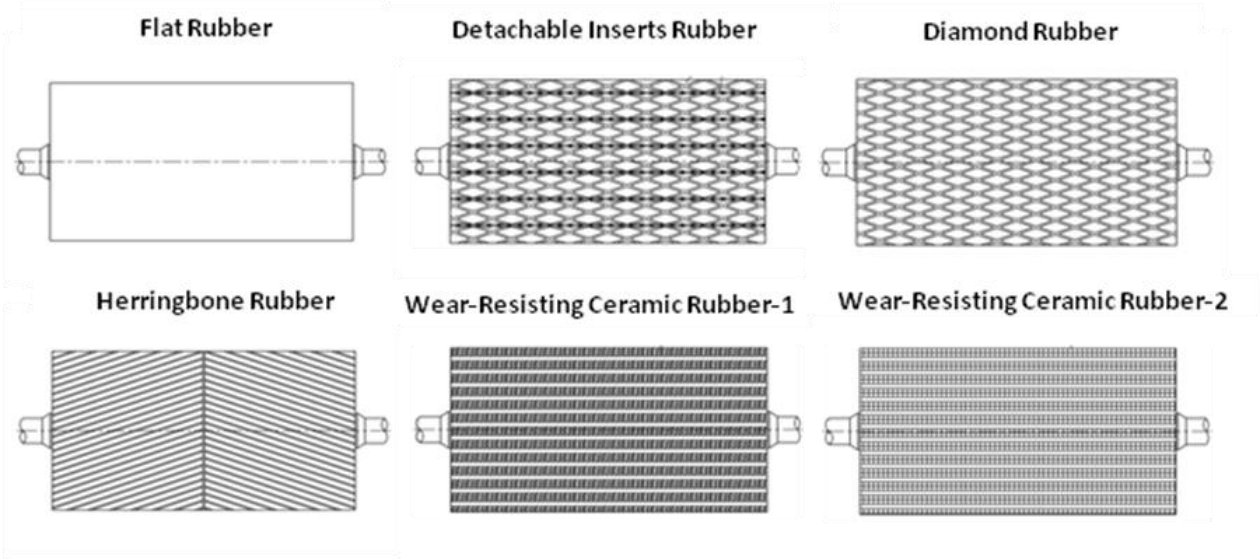
In general, this type is applicable for drive pulley.



CONEX-F								
d(mm)	D(mm)	B(mm)	L(mm)	M(mm)	Ts(Nm)	T(Nm)	F(kN)	P(N/mm^2)
100	145	98	110	M12	145	26000	520	120
110	155	98	110	M12	145	28600	520	110
120	165	98	110	M12	145	36300	605	122
130	180	114	128	M14	230	46000	710	112
140	190	114	128	M14	230	57800	825	123
150	200	114	128	M14	230	70800	945	135
160	210	114	128	M14	230	75500	945	128
170	225	146	162	M16	355	95900	1130	113
180	235	146	162	M16	355	108800	1210	115
190	250	146	162	M16	355	122500	1290	115
200	260	146	162	M16	355	128900	1290	110
220	285	146	162	M16	355	171800	1565	115
240	305	146	162	M16	355	208000	1735	120
260	325	150	166	M16	355	23700	1825	117
280	355	177	197	M20	690	340000	2430	120
300	375	177	197	M20	690	405000	2700	125
320	405	177	197	M20	690	453000	2835	122
340	425	177	197	M20	690	504900	2970	122
360	455	202	224	M22	930	626000	3480	15
380	475	202	224	M22	930	692000	3645	115
400	495	202	224	M22	930	795000	3980	120
420	515	202	224	M22	930	835000	3980	115
440	535	202	224	M22	930	875000	3980	110
460	555	202	224	M22	930	914000	3980	107
480	575	202	224	M22	930	1113000	4640	120

LAGGING

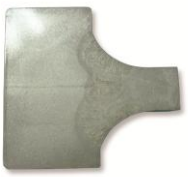
Pulley lagging is important to alleviate wear on shell and prevent belt slippage. Vulcanized rubber lagging with flat or special grooved pattern is the most popular selection. Ceramic, fabric or other materials are also available upon request. Lagging can increase the coefficient of friction between the belt and the drive pulley and reduce the corrosion and wear on pulley surface.



PULLEY WELD

- Dedicated for full penetration WPS.
- GTAW (TIG) for the initial pass and automatic CO_2 / MAG welding for the balance.
- Localized stress-relief heat treatment is available for the weld between shell and end disc.
- Stress-relief heat treatment for the weld between hub and end disc
- UT inspection is applied to ensure good weld quality.

Weld between Disk and Shell



Weld between Disk and Hub

Weld on End Disk

Automatic CO_2 / MIG welding process for End Disk and Shell .

Automatic CO_2 / MIG welding process for Hub and End Disk.

UT inspection for full-penetrated weld.