

STT ENGINEERING SOLUTIONS | TORQMAX



TORQMAX Chain Couplings

STT Engineering Solutions

Industrial selection and spare parts catalogue 2026

Duplex roller chain couplings for industrial shaft connections. Bore limits, torque and speed references, selection guidance and service parts.

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Catalogue status

Draft A • 4 October 2026. Published TransDev product data provide the benchmark for the proposed TORQMAX range. Reference ratings are not independently certified STT ratings. Confirm the complete assembly, shaft fits and operating duty on the approved order drawing before manufacture or supply.

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Product range and construction

A roller chain coupling connects two sprocket hubs through duplex coupling chain. Clearances permit limited alignment accommodation, while the chain transmits torque between the hubs. The coupling does not reduce speed and is not an overload release device.

Proposed code	Arrangement	Enquiry detail
CC-PB	Pilot bore	Finish bore and keyway to approved drawing
CC-FB	Finished bore	Both shaft sizes and retention specified
CC-CV	Covered assembly	Split cover with suitable seals
CC-CU	Custom	Engineered hubs or replacement interfaces

Ordering code example: TORQMAX CC-FB-5016 | bores 30/35 mm | keyed | covered. The code describes an enquiry, not a released STT performance rating.

Typical applications

Consider chain couplings for industrial shaft connections in conveyor, mixer, material handling and general machinery drives. Assess shock loads, reversals, alignment, lubrication, accessibility and guard requirements before selection.

Assembly concept

A standard assembly contains two matched sprocket hubs, one duplex coupling chain, its specified connector, shaft keys and retention hardware. A split cover retains lubricant and helps exclude contamination. Fit a stationary machine guard around rotating components; a rotating lubricant cover is not a substitute for guarding.

Replacement parts must match chain pitch, row spacing, roller dimensions, tooth form, connector design and axial spacing. Matching a nominal size number does not alone establish interchangeability across manufacturers.

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Coupling size and bore chart

TransDev dimensional benchmark. Dimensions are mm. Minimum and maximum bore values apply to the referenced hub design and require an STT design check before release.

Size	Min bore	Max bore	Hub D	Coupling H	Cover A	Cover B
4012	11	22	35	61	75	75
4016	15	30	50	77	92	75
5016	15	40	60	96	111	85
5018	19	45	70	106	122	85
6018	22	55	85	128	142	106
6022	25	75	110	152	167	106
8018	30	78	115	170	186	130
8022	35	95	140	202	220	130

Symbols D, H, A and B follow the source dimensional drawing. Confirm their orientation and the full axial installation length on the assembly drawing. Allow clearance for removing the connector and opening the cover.

Shaft interface checks

Check both shafts separately. The larger shaft governs the bore requirement, but torque, speed and duty may require a larger coupling. Confirm hub wall thickness after boring and keyway machining, key strength, shaft fit and retention.

Do not treat the listed minimum bore as a guarantee that every intermediate bore is stocked. Specify the finished bore, fit and keyway on each hub drawing.

Identification

Record TORQMAX code, benchmark size, both bores, drawing revision and assembly serial number. Maintain component and material traceability for replacement work.

Source: TransDev Chain Couplings dimensional table, reviewed 4 October 2026. The source product dimensions remain reference values until an STT assembly is approved.

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Torque speed and power references

Published TransDev benchmark values. Nominal torque and maximum RPM are separate limits, not a simultaneous operating point. Use the power rating at actual operating speed and apply the appropriate duty allowance.

Size	Nominal torque Nm	Max RPM	kW at 1500 RPM	Torque at 1500 Nm
4012	222	6000	11.4	72.6
4016	394	4800	21	133.7
5016	750	3600	39.9	254.0
5018	950	3000	50.5	321.5
6018	1790	2500	95.2	606.1
6022	2420	2500	128	814.9
8018	3960	2000	211	1343.4
8022	5700	2000	302	1922.7

Last column is calculated from the published 1500 RPM power rating using $T = 9550 \times \text{kW} \div \text{RPM}$. Do not extrapolate that power rating to other speeds.

Selection example

A 15 kW motor at 1450 RPM develops approximately 98.8 Nm. If an illustrative service factor of 1.5 is used, design power is 22.5 kW and design torque is 148.2 Nm. This factor is an example; determine the actual allowance from the load, prime mover and duty.

At the reference 1500 RPM point, size 4016 has a 21 kW benchmark capacity and would not pass a 22.5 kW design power check. Size 5016 has 39.9 kW at that point. Final selection still needs the actual 1450 RPM rating, shaft dimensions and duty confirmation.

Source: TransDev Chain Couplings permissible power table. Published ratings are references for that product family, not certified TORQMAX ratings.

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Spare parts and manufacturing controls

Proposed spare code	Component	Required identification
CC-HUB	Sprocket hub	Size, bore, keyway, material and drawing
CC-CHAIN	Coupling chain	Exact chain specification and length
CC-CON	Connector	Compatible connecting pin and retention
CC-COVER	Split cover	Assembly size and envelope
CC-SEAL	Seal and gasket kit	Cover revision and lubricant compatibility
CC-KEY	Shaft key	Released width, height, length and material
CC-FAST	Fastener kit	Specified grade, dimensions and locking

Replace worn chain and inspect both sprockets. New chain on badly worn teeth can accelerate wear. Do not join unrelated chain components or substitute an ordinary connector without verifying the coupling specification.

Hub and tooth requirements

Release hub material, tooth profile, pitch, tooth count, row spacing, tooth hardness, bore fit, keyway, retention features and inspection method on controlled drawings. Validate hub torsion, key and keyway stresses, tooth loading and chain fatigue for the required duty.

CNC turning produces hub blanks and finished shaft interfaces; tooth cutting requires suitable tooling and a controlled process. Verify runout, tooth geometry, face spacing and cover clearance after manufacture.

Lubrication and covers

Choose grease compatible with chain operation, speed, seals and temperature. Fill quantity and renewal intervals are size and duty specific. Release these values in the unit manual. Inspect for leakage, lubricant starvation, chain wear and loose cover fasteners.

Qualification should include dimensional inspection, material verification, assembly checks and testing suitable for the claimed speed and torque. Balance and retention requirements must follow the application.

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Installation ordering and references

Installation

Isolate the machine before work. Inspect shafts and hubs, install the specified keys and retention, set the approved hub gap and align the shafts. Lubricate and fit the matched chain and connector, then install the cover and stationary guard.

Turn the isolated assembly by hand where the machine permits. Commission with checks for noise, vibration, heating and lubricant leakage. Stop and inspect abnormal operation; never work on a rotating coupling.

Alignment and operating limits

Target the best practical shaft alignment. Allowable angular, parallel and axial movement must be released for the selected assembly and speed; this catalogue does not assign generic misalignment limits. Review high shock, frequent reversal, vertical mounting and corrosive environments separately.

Quotation information

Send motor power, shaft speed, driven machine, running and peak torque, shock and reversing duty, operating hours, both shaft diameters and keys, shaft end separation, orientation, available envelope and ambient conditions.

For spare parts, add assembly serial number, drawing revision, photographs, chain markings, requested item and quantity. Confirm cover and hub compatibility before ordering.

Technical references

TransDev. Chain Couplings product dimension and permissible power tables. Reviewed 4 October 2026.
<https://www.transdev.co.uk/hardware/couplings/chain-couplings/>

U.S. Tsubaki. Roller Chain Couplings brochure. Construction, selection and lubrication principles. Reviewed 4 October 2026.
<https://www.ustsubaki.com/wp-content/uploads/couplings-brochure-1.pdf>

Do not combine another manufacturer's dimensions, chain specification and ratings into one assembly without engineering validation. These references do not establish cross brand interchangeability.

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