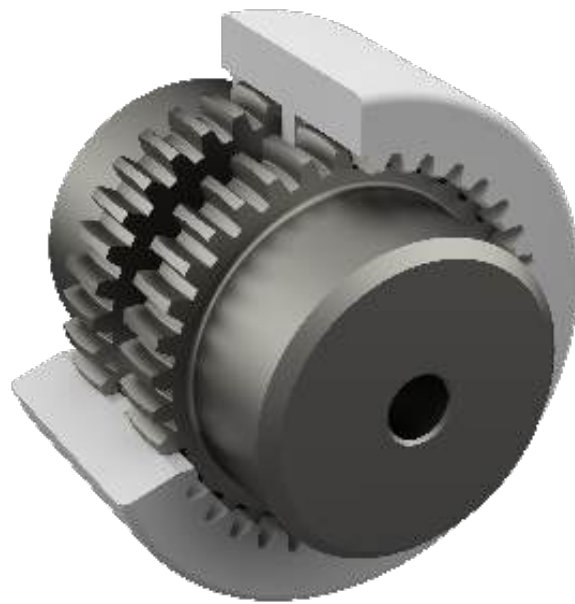


ESCONYL

A - B - C series





INDEX

We connect the world	5
Global footprint	6
The right solution for your application	8
Why ESCONYL?	10
Availabilities	12
How to select the right coupling size	12
A-Type 20 - 60	14
B-Type 28 - 60	15
C-Type 28C	16
Further details and options	17
Installation and maintenance	18
Notes	21
Contact us!	22





We connect the world

We are more than a 75 years old family-owned company specialized in designing and manufacturing high-quality custom-made power transmission products.

Because we believe each transmission challenge is different, we create much more than off-the shelf products: we work hand in hand with our customers to develop the coupling solutions that best fit their specific needs.

Superior product quality is what guarantees our customer's success, it is what enables us to cherish long term partnerships with them. The ESCO quality has been worldly renown for decades and we work tirelessly to raise these standards even further.

We strive to be a significant contributor to the development of effective and clean industrial, transportation and energy supply applications. We want our couplings to power a more sustainable world.

We strongly believe that both the future of our economy and the best guarantee for long term return lie in sustainable development. And we want to do our part.

Once we get involved into a specific sector, we make sure to embrace the quality standards that the market requires. This is why, we are ISO 9001 certified.



A global footprint, with a family of
9 companies located all across the world



9

offices across
the world

3

manufacturing
sites

● ESCO Couplings SRL
Saintes, Belgium
Tel. +32 (0) 2 715 65 60
info@esco-couplings.be

● ESCO Couplings & Transmissions Pvt. Ltd.
Bengaluru, India
Tel. +91 80 7100 1800
info@esco-couplings.co.in

● ESCO Power SRL
Saintes, Belgium
Tel. +32 (0) 2 717 64 90
info@escopower.be

● EFECO Services Pvt. LTd
Bengaluru, India
Tel. +91 80 4977 7088

● ESCO Couplings Ltd.
Jinan, China
Tel. 86 (531) 827 625 65
info@esco-couplings.com



- Head-office & Manufacturing site
- Manufacturing sites
- Sales offices & Service centres

● ESCO Aandrijvingen B.V.
Alphen A/D Rijn, The Netherlands
Tel. +31 (0) 172 42 33 33
info@esco-aandrijvingen.nl

● esco antriebstechnik gmbh
Troisdorf, Germany
Tel. +49 (0) 2241 48 07 0
info@esco-antriebstechnik.com

● ESCO Drives SRL
Saintes, Belgium
Tel. +32 (0) 2 717 64 60
sales@esco.be

● ESCO Transmissions SAS.
Saint Witz, France
Tel. +33 (1) 34 31 95 95
info@esco-transmissions.fr

We work with you to design the right
solution for your application





Versatility, robustness, efficiency and long life, these are only a few of the many high demands on the gear couplings. These properties are the reason why gear couplings are that popular in multiple industries as they can get along with all different harsh conditions.

Since the competitiveness of the technical and economic aspects of the production needs to be more and more effective in the long-term, the machines used in the applications need to be able to run continuously, without failure. Furthermore, maintenance operations should be as short and seamless as possible to minimize costly production down time.

Minimizing the life cycle cost of the installation requires careful attention when selecting the elements of the driveline. A high-quality coupling will make a difference between an efficient, cost effective transmission, and a poorly optimized one.

This is where ESCO can help you. We have been helping our customers by designing high-quality tailor-made couplings for more than 40 years:

Quality is our motto, our core competency: ESCO products are amongst the most reliable in the market; so much so that the main hurdle in our capacity to innovate is the lack of market feedback: our couplings just keep running without issues.

Low lifecycle cost might well be the biggest challenge for ESCO to tackle, but we do work tirelessly to optimize the life time value of our couplings: fair initial price, smaller footprint (space and weight), longer design life, lubrication-free alternatives, extended maintenance steps...

Service is an important part of our business: to best serve your needs, you can count on our experienced team and advanced testing capability. We are more than happy to assist in performing field interventions, maintenance and repair.

Our relationship with customers does not stop once couplings are delivered. We have a team of experienced people ready to perform service on the field, repair, inspections, testing... We can also do the maintenance on our couplings for you. This guarantees proper execution of the maintenance instructions and contributes to improving the lifetime of your application.

ESCO specializes in the design of custom made couplings. If you cannot find a solution that fits your needs, please contact us: we will work hard to engineer the coupling that fits your application specifications.

Why ESCONYL?

Improves efficiency of machine design and coupling selection

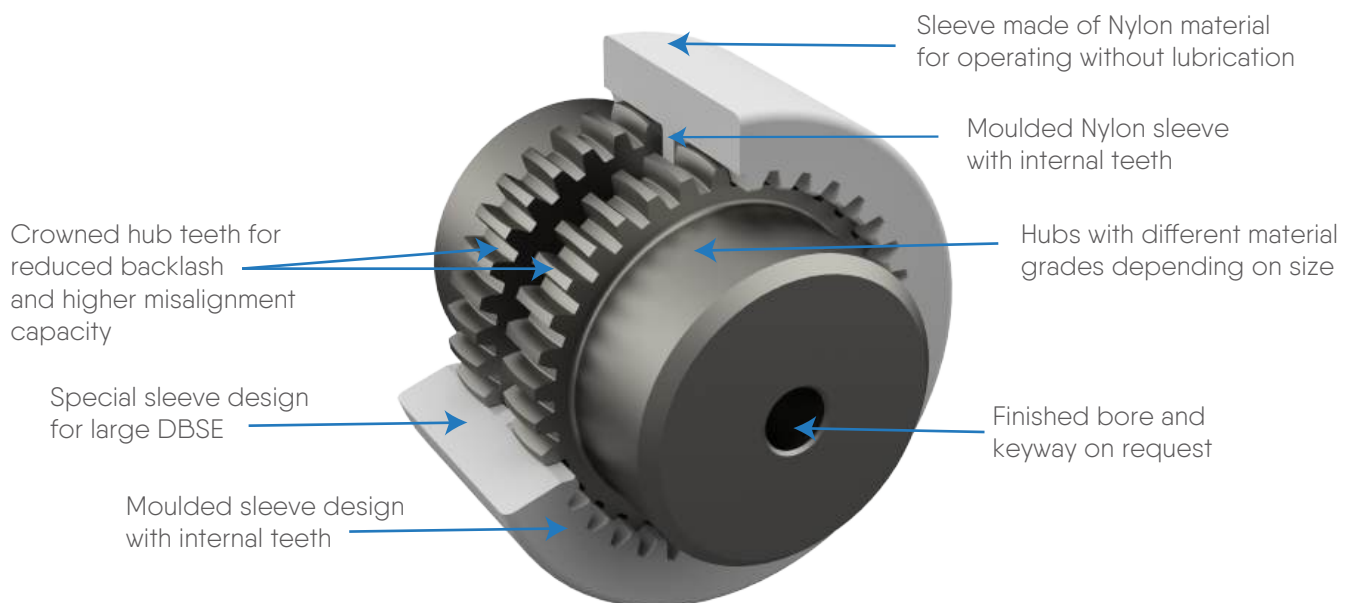
High torque and misalignment capacity - Compact design

Thanks to the patented ESCOGEAR Multicrown profile (used on the NYL series), the optimised coupling design of ESCONYL couplings offer the user a very high torque capacity. This means that for a given torque a smaller coupling can be used which results in more efficient machine design and performance. Furthermore, this high torque is available at important angular misalignment. Thanks to the Nylon sleeves, couplings can run without lubrication thus resulting in zero maintainanace.

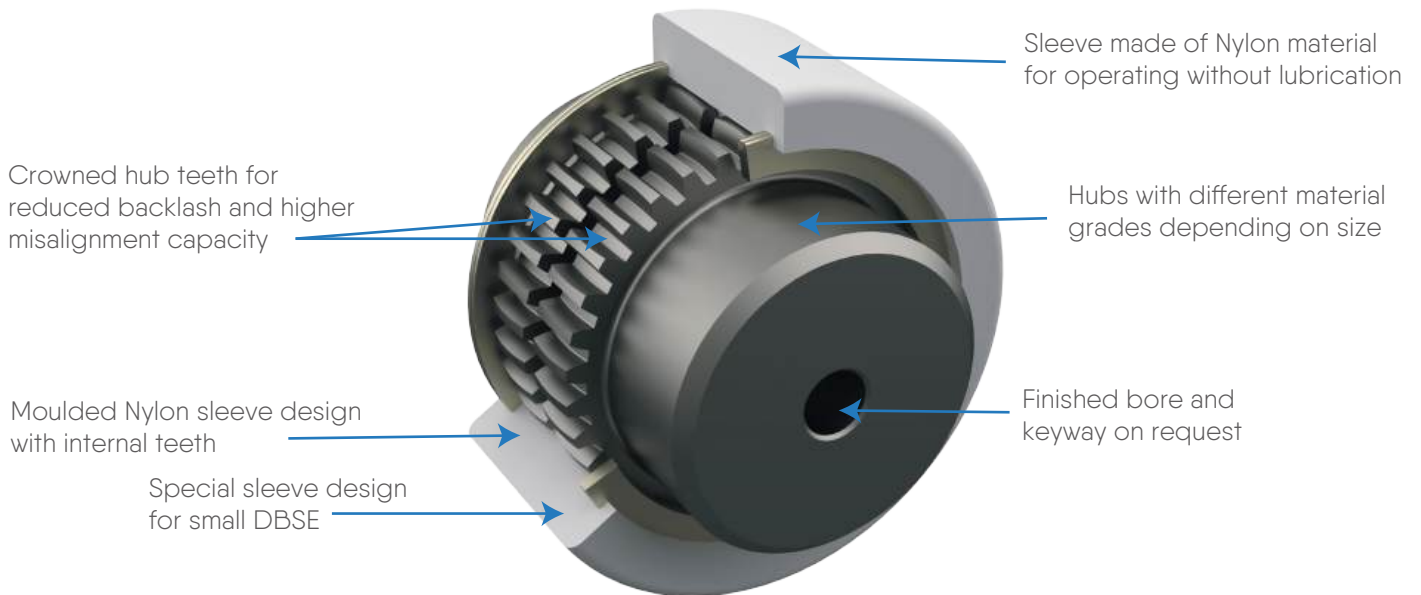
Torque capacity independent from misalignment - Transparent coupling selection

The torque capacity of a gear type coupling strongly depends on the angular misalignment to which it is subjected: the higher the misalignment, the lower the torque capacity. It is clear that this relationship can and will cause problems in coupling selection because misalignment during operation is almost impossible to predict. ESCONYL couplings are equipped with the ESCO Multicrown tooth form. Thanks to this quite unique design, the ESCONYL has a torque capacity that is practically independent of the angular misalignment. Therefore, coupling selection is easy and mistakes are avoided: long coupling life is guaranteed.

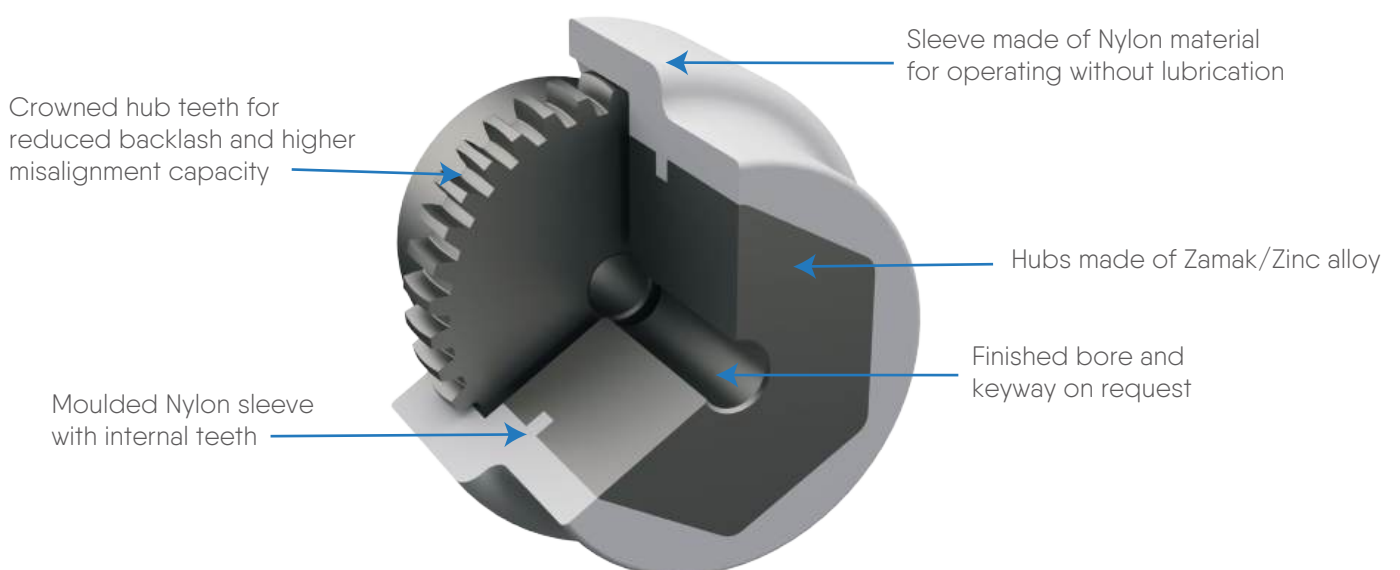
A-Type



B-Type

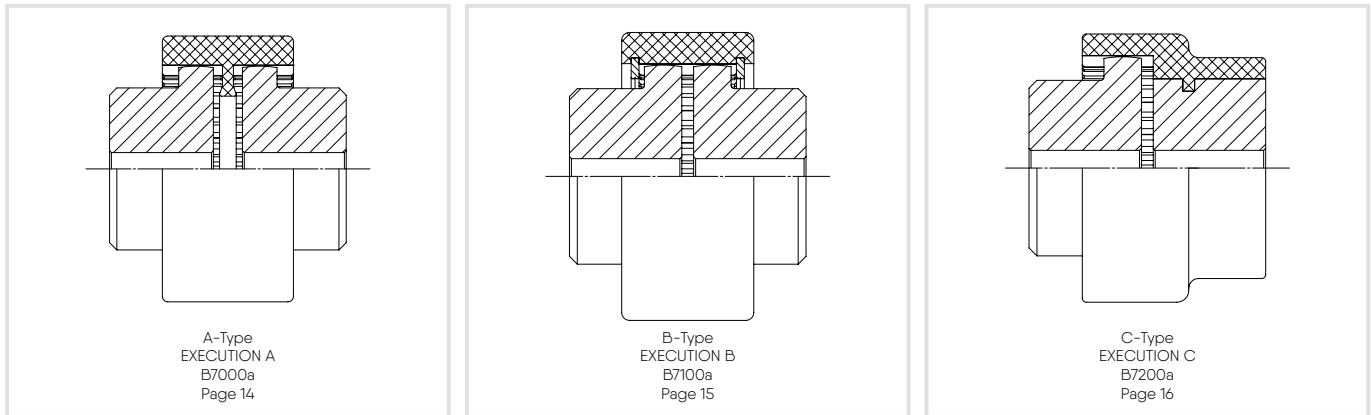


C-Type



Availabilities

ESCO proposes a range of couplings available with Exposed Metric (EM) or Exposed Inch (IM) bolts and nuts.



A120a

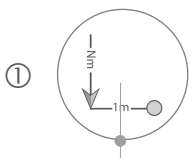
How to select the right coupling size

Coupling size selection

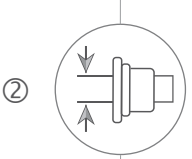
To be sure to select the right ESCONYL coupling for your application, it is necessary to know the following preliminary data:

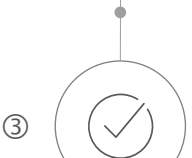
- The shaft diameter
- The type of driving machine
- The type of driven machine
- The duration and type of the daily service
- The application peak torque
- The presence of shocks or very high load peaks

To select the right ESCONYL coupling size, please follow these steps:

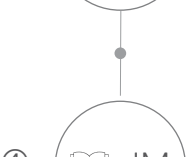
- 

Calculate the required torque capacity by using this formula: $T = \frac{9550 \times P \times F_u}{n}$ with :

 - a. P = power in kW
 - b. n = speed in rpm
 - c. F_u = service factor according to the application (see TABLE 1).
- 

Select the size of ESCONYL coupling that will accommodate the largest shaft diameter (see Technical data tables, Ød max. = Maximum possible bore).
- 

Make sure the selected coupling has an equal or greater torque capacity than the result figure obtained in ①. If it is not the case to be used, please select a larger size coupling.

 - Check if the application peak torque does not exceed the chosen coupling peak torque (see Technical data tables, T_p = Maximum peak torque).
 - Check the maximum allowable misalignment using the graph of (see TABLE 2).
 - Check if the shaft/hub connection will transmit the torque.
If necessary, select a longer hub.
- 

Read carefully the Assembly and Maintenance Instructions IM/B500a.

Table 1: Service factor (F_u)

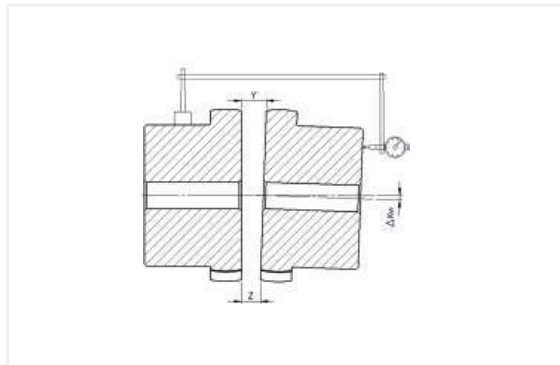
For ATEX applications the minimum Service Factor (F_u) should be 2.0 independently of the below given values.

Applications		DRIVER MACHINE			
		Electric motors & Turbines	Hydraulic motors & Gear drivers	Reciprocating engine & Electric motors frequent starts	
		Service Factor F_u			
DRIVEN MACHINES	UNIFORM	Generators - Blowers: centrifugal vanes, fans - Centrifugal pumps & compressors - Machine tools: auxiliary drives - Conveyors: belt and chain, uniformly loaded, escalators - Can filling machines & bottling machinery - Agitators: pure liquids	0.8 to 1.25	1 to 1.5	1.25 to 1.75
		Propellers - Waterjet pumps	1.25	1.5	1.75
	MODERATE SHOCKS	Blowers: lobe - Pumps: gear and lobe types - Vane compressors - Machine tools: main drives - Conveyors: belt & chain not uniformly fed bucket & screw - Elevators, cranes, tackles & winches - Wire winding machines, reels, winders (paper industry) - Agitators: liquids and solids, liquids of variable density	1.25 to 1.5	1.5 to 1.75	1.75 to 2
	HEAVY SHOCKS	Generators (welding) - Reciprocating pumps & compressors - Laundry washers - Bending roll, punch press, tapping machines - Barkers, calenders, paper presses - Briquetter machines, cement furnace - Crushers: ore & stone, hammer mill, rubber mill - Metal mills: forming machines, table conveyors - Draw bench, wire-drawing & flattening machines - Road & railroad equipment	1.5 to 2	1.75 to 2.25	2 to 2.5

1) Misalignment control

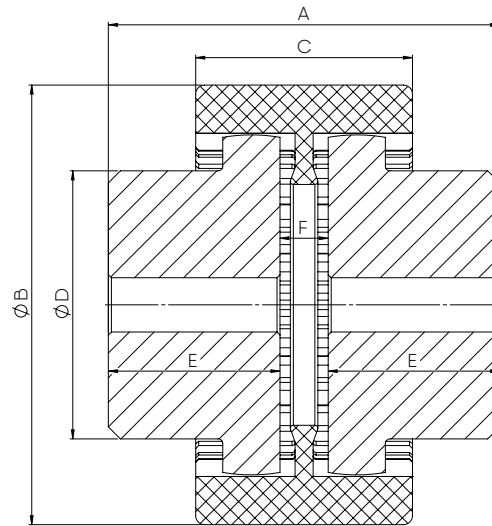
- a) Measure X (Total Indicator Readout - TIR)
- b) Measure Y - Z
- c) Verify the relationship for the misalignment control:

$$\Delta K_w \min \leq \frac{X}{K_x} + \frac{Y - Z}{K_y} \leq 0.75 \times \Delta K_w \max$$



A-Type
EXECUTION A
20 ➤ 60

B7000a



	Type 20/24 : Nylon		Nylon	
	Type 28/42 : Zamak Zinc alloy			DIN 1743/2 : GD - Zn A 14 AFNOR A55-010 : Z - A 4G BS 1004 : A ASTM B86 (64) : AG 40 A
	Type 60 : Acier, Staal, Steel, Stahl			

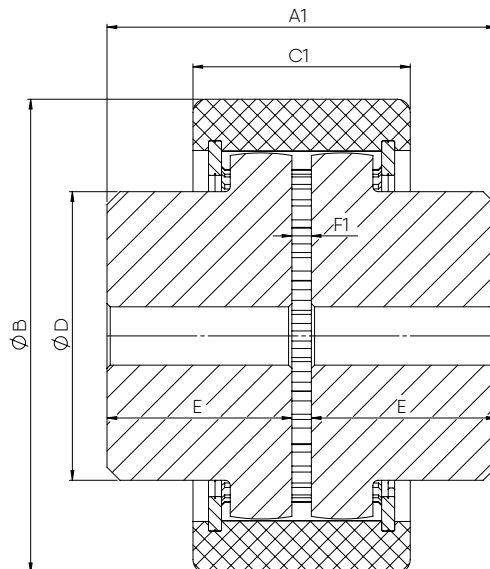
A-TYPE	torque	n	Ød min. (1)	Ød max. (2)	A	ØB	C	ØD	E	F	weight (3)	inertia J (3)	max. misalignment			
	T max.												angular	radial	axial (±)	
ESCONYL	Nm	rpm	dimensions in mm									kg	kgm ²	degree	mm	mm
20	13	6 000	6	20	50	46	33	32	22	6	0.07	0.00001	3	0.4	6	
24	20	6 000	8	24	56	54	35	38	25	6	0.10	0.00004	3	0.4	6	
28	40	5 000	9	28	65	73	36	44.5	28.5	8	0.70	0.00020	3	0.5	6	
42	80	5 000	11	42	96	95	51	60	41.3	13	1.80	0.00100	3	0.6	8	
60	300	4 000	25	60	125	120	67	80	60	5	7.77	0.00690	3	0.9	6	

- (1) Min. finish machine bore diameter
- (2) Max. bore diameter with one keyway acc. DIN 6885/1
- (3) For pre-bored/unbored hubs

- Couplings can be supplied with several options (e.g. puller holes, set screws)
→ refer to page 17 (B502a)
- For the correct coupling selection please refer to page 12 et seqq. (A120a)
- For special executions or requirements, please contact us
- Technical modifications reserved and given values without engagement

B-Type
EXECUTION B
28 ➤ 60

B7100a



Type 28/42 : Zamak
Zinc alloy

DIN 1743/2 : GD - Zn A 14
AFNOR A55-010 : Z - A 4G
BS 1004 : A
ASTM B86 (64) : AG 40 A

Type 60 : Steel



Nylon

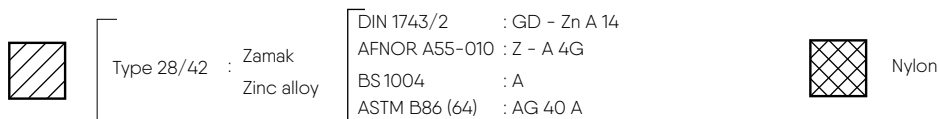
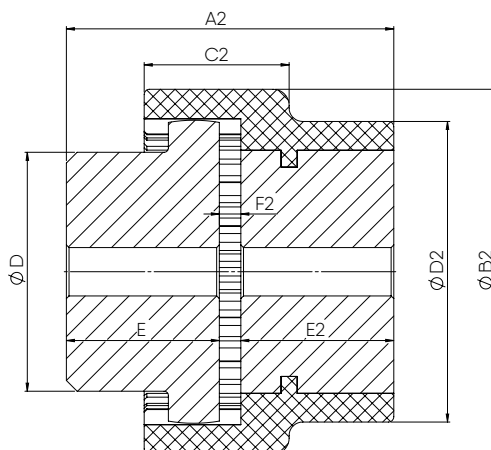
B-TYPE	torque	n	Ød min. (1)	Ød max. (2)	A1	ØB	C1	ØD	E	F1	weight (3)	inertia J (3)	max. misalignment			
	T max.												angular	radial	axial (±)	
ESCONYL	Nm	rpm	dimensions in mm									kg	kgm ²	degree	mm	mm
28	40	5 000	9	28	60	73	33.5	44.5	28.5	3	0.70	0.00020	3	0.5	6	
42	80	5 000	11	42	86	95	47.6	60.0	41.3	3	1.80	0.00100	3	0.6	8	
60	300	4 000	25	60	125	120	67	80	60	5	7.77	0.00690	3	0.9	6	

- (1) Min. finish machine bore diameter
- (2) Max. bore diameter with one keyway acc. DIN 6885/1
- (3) For pre-bored/unbored hubs

- Couplings can be supplied with several options (e.g. puller holes, set screws)
→ refer to page 17 (B502a)
- For the correct coupling selection please refer to page 12 et seqq. (A120a)
- For special executions or requirements, please contact us
- Technical modifications reserved and given values without engagement

C-Type
EXECUTION C
28C

B7200a



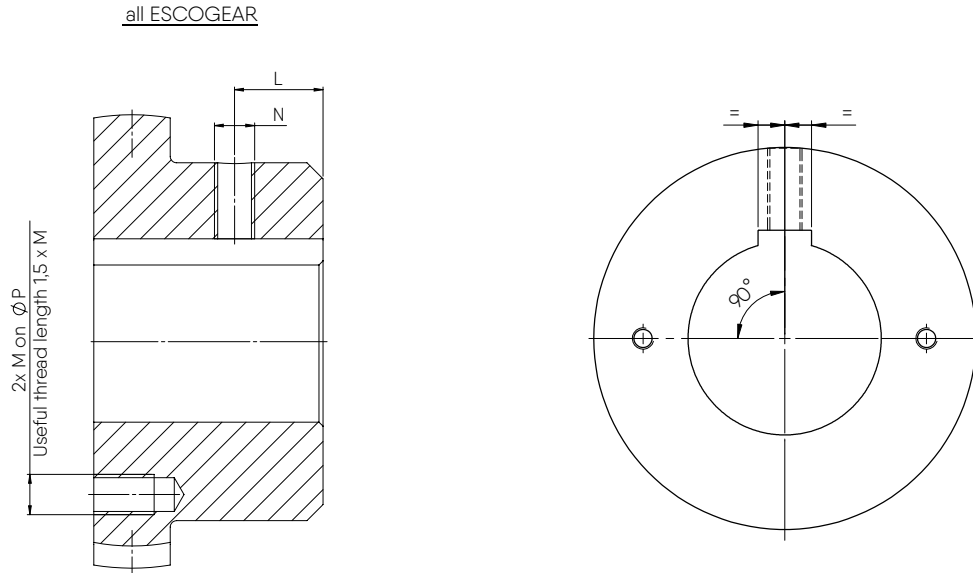
C-TYPE	torque	n	Ød min. (1)	Ød max. (2)	A2	ØB2	C2	ØD	ØD2	E	E2	F2	weight (3)	inertia J (3)	max. misalignment		
	T max.														angular	radial	axial (±)
ESCONYL	Nm	rpm	dimensions in mm										kg	kgm ²	degree	mm	mm
28C	40	5 000	9	28	60	68	27	44.5	56	28.5	28.5	3	0.68	0.00020	1.5	0.05	6

- (1) Min. finish machine bore diameter
- (2) Max. bore diameter with one keyway acc. DIN 6885/1
- (3) For pre-bored/unbored hubs

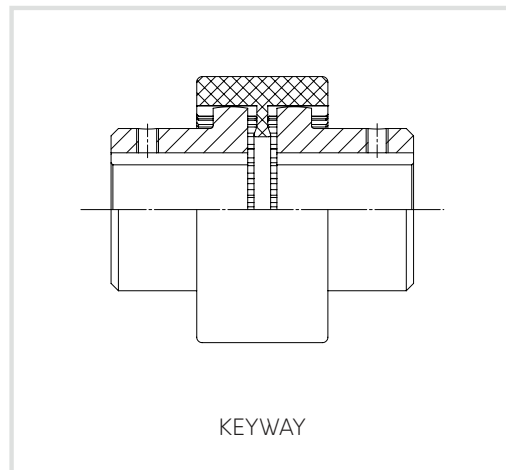
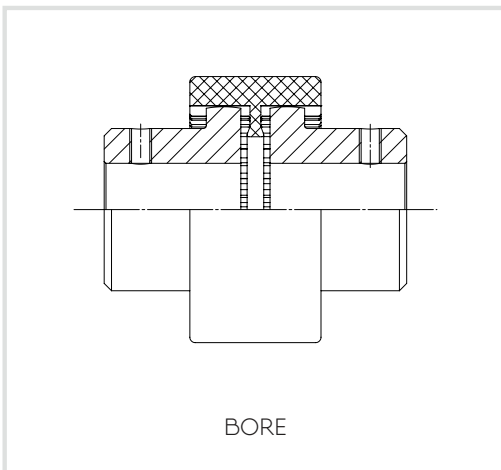
- Couplings can be supplied with several options (e.g. puller holes, set screws) → refer to page 17 (B502a)
- For the correct coupling selection please refer to page 12 et seqq. (A120a)
- For special executions or requirements, please contact us
- Technical modifications reserved and given values without engagement

Further details and options

Puller holes and set screw



Shaft connection



Installation and maintenance

ESCONYL series

1) Introduction

Coupling must be properly selected according to selection chart on page A120a and corresponding charts. These documents are available in coupling catalogue ESCONYL series or on our website www.escogroup.com.

Maximum misalignment figures during assembly and operations are given in above-cited document. Maximum misalignment, speed and torque may not be applied simultaneously as mentioned in the selection chart.

In case of any change or adaptation not performed by ESCO on the coupling, it is customers responsibility to size and manufacture it properly to guarantee safe torque transmission and absence of unbalance that could affect the life of the coupling and the connected machines.

If the interfaces are not calculated and machined by ESCO, it is customers responsibility to make sure that:

- In case of key
 - Shaft and key material, size and tolerance to suit the application
 - Hub length, bore diameter and machining tolerances will allow to transmit the torque; maximum bore capacity is given for information in the catalogue for DIN 6885/1 or NF E22-175.
- In case of interference fit
 - Interference and machining tolerances will transmit the torque and not exceed the permissible stress of hub material.

In case of spacer or floating shaft not supplied by ESCO, it is customer's responsibility to size and manufacture it properly to guarantee safe torque transmission and absence of unbalance that could affect the life of gearing on the connected machines.

The hubs must be axially secured on the shaft by means of either a setscrew or an end plate or a sufficient interference. It is customers responsibility to protect the coupling and to comply with the local safety rules regarding the protection of rotating parts.

e.g.: coupling guards

2) Preparation

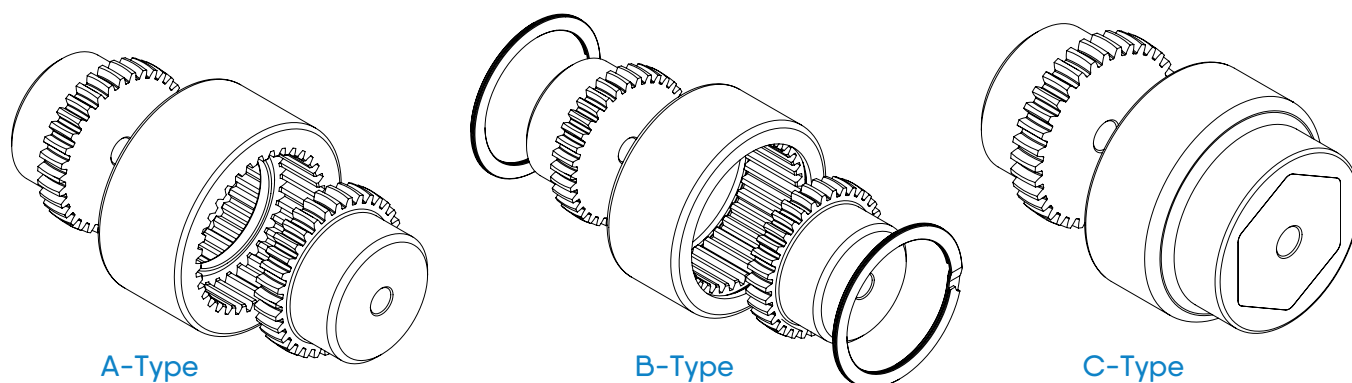
Ensure the conformity of the supplied equipment:

- Verify coupling size and conformity (see catalogue or website)
- Check for any damaged and/or missing parts
- Verify conformity of the coupling/machine interfaces
- Instructions are a part of the supply of the coupling. Be sure that valid and complete Assembly, operation and maintenance instructions are available and well understood. In case of doubt, refer to ESCO.
- Please verify the BOM provided in the drawing for the conformity of the parts.

Before starting, verify the availability of the necessary tooling to:

- Manipulate the parts
- Assemble the interfaces
- Align the coupling
- Tighten the screws and nuts

Assembly, disassembly and maintenance must be performed by qualified, trained and competent fitters.



3) Warnings

In-charge installer and plan foreman are responsible of the installation safety. All adequate safety rules must be put in place for the assembly process.

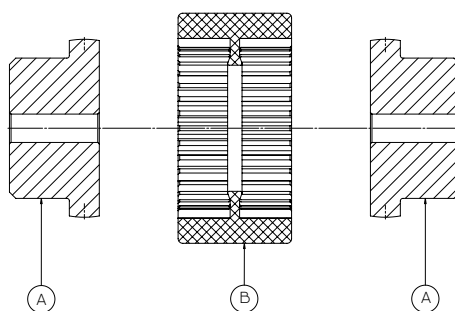
Before removing the coupling guard and proceeding with any assembly, operation, or maintenance operation of the coupling, make sure the complete system is completely shut down and definitively disengaged from any possible source

of rotation, such as e.g.: electrical power supply or any loss of braking effect.

Make sure everyone present in the equipment area will be properly informed (for example by means of warnings properly located) about the maintenance or assembly situation.

4) Assembly

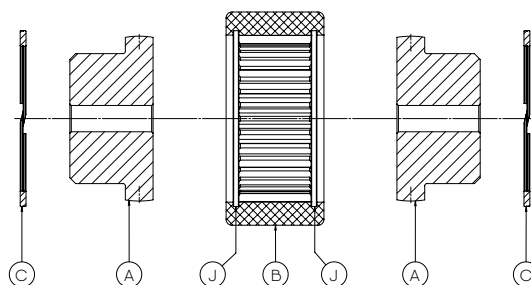
4.1. Coupling assembly - A-Type



- 4.1.1. Ensure that the parts are clean and then mount the hub in the correct position on the shaft. Hub face must be flushed with shaft end.
- 4.1.2. Mount the other hub on the shaft.

- 4.1.3. Slide the flexible element (Sleeve) on one side of the hub.
- 4.1.4. Slide the other hub towards the flexible element by aligning both the shafts and maintaining the DBSE of the application.

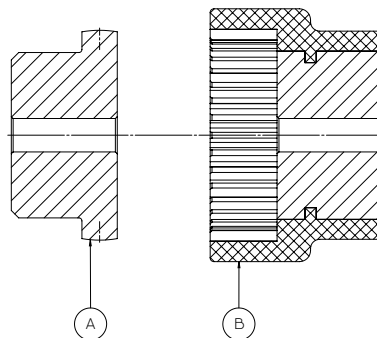
4.2. Coupling assembly - B-Type



- 4.2.1. Ensure that the parts are clean and then slide the retaining ring and sleeve on one side of the hub.
- 4.2.2. Mount the hub in the correct position on the shaft. Hub face must be flushed with shaft end.
- 4.2.3. Slide the retaining ring on another shaft and then mount the other hub on the shaft.

- 4.2.4. Align both the shafts as per the application by maintaining the DBSE and then slide the flexible element (Sleeve) over the hubs.
- 4.2.5. Fix the retaining rings in the grooves provided on the sleeves.the application.

4.3. Coupling assembly - C-Type



4.3.1. Ensure that the parts are clean and then mount the nylon hub in the correct position on the shaft. Hub face must be flushed with shaft end.

4.3.2. Mount the other hub on the shaft.

4.3.3. Slide the nylon hub over the hub flex by maintaining the DBSE for the application.

5) Inspection and maintenance

5.1. Inspection

Regular inspection (audio-visual) must occur for leakage, noise, vibration, and loss of parts.

5.2. Maintenance

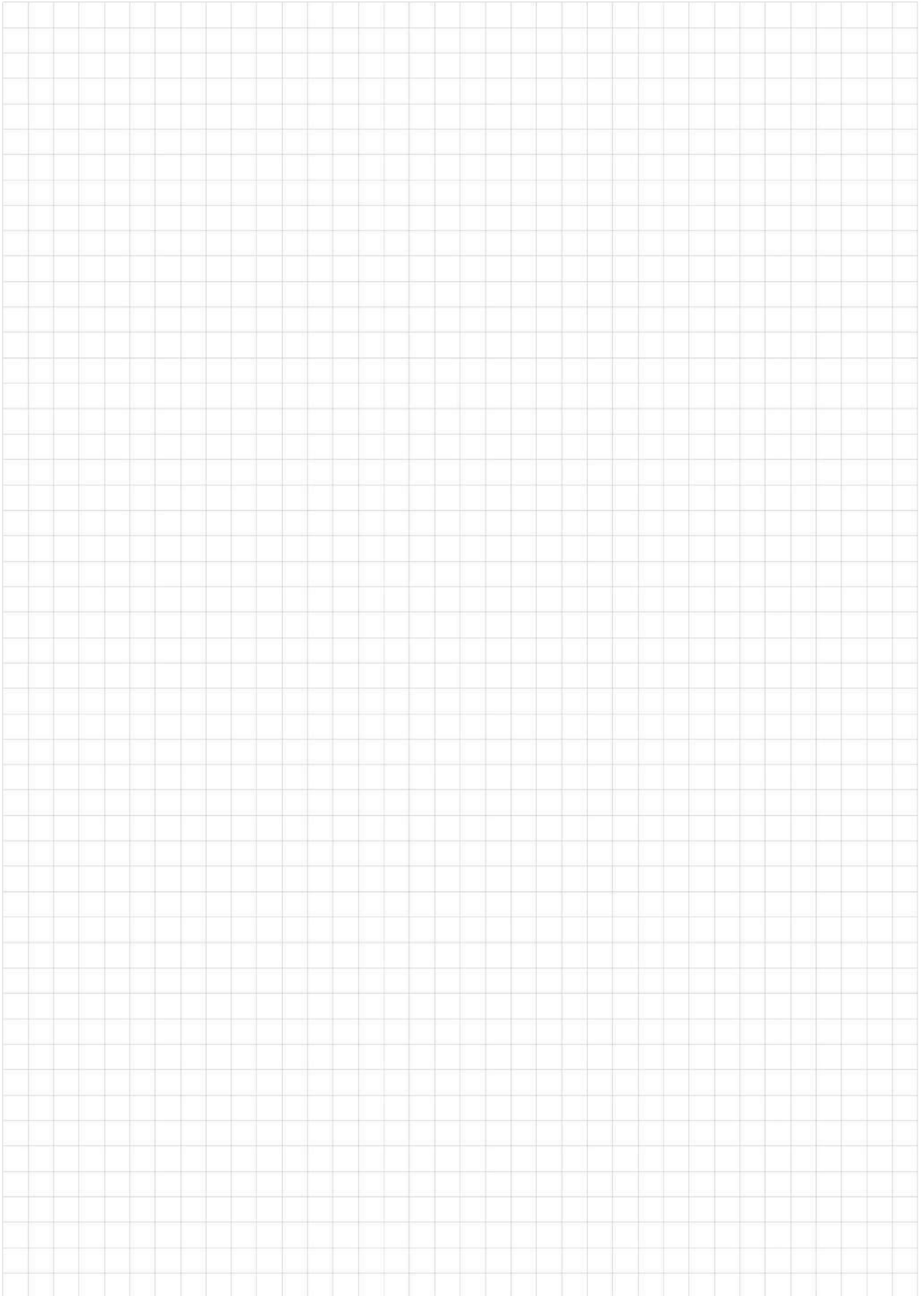
5.2.1. Every 6 000 hours or every year:

- Visual Inspection of flexible element for any fatigue crack and verify alignment.
- Unmounting of coupling is not needed.

5.2.2. Every 12 000 hours or every 2 years:

- Disassemble and inspect coupling.
- Coupling should be dis-assembled only in case of occurring fatigue cracks or damage in flexible element.

Notes:



ESCO worldwide

ESCO Couplings SRL

Avenue Ernest Solvay, 48
B - 1480 Saintes
Belgium
Tel + 32 (0) 2 715 65 60
Fax + 32 (0) 2 720 83 62
e-mail: info@esco-couplings.be
website: www.eskogroup.com



ESCO Couplings & Transmissions Pvt. Ltd.

Plot No. 69-D
Bengaluru Aerospace Park
Unachuru Village Jala Hobli
Bengaluru
India
Tel +91 80 7100 1800
e-mail: info@esco-couplings.co.in
website: www.eskogroup.com

ESCO Couplings Ltd.

Gongyebei Road
No. 3197 - 1st floor of 4 Building
250100 - Jinan
China
Tel +86 (531) 827 625 65
Fax +86 (531) 827 625 85
e-mail: info@esco-couplings.com
website: www.esco-couplings.cn

ESCO Aandrijvingen B.V.

Ondernemingsweg, 19
NL - 2404 HM Alphen A/D Rijn
The Netherlands
Tel +31 (0) 172 42 33 33
Fax +31 (0) 172 42 33 42
e-mail: info@esco-aandrijvingen.nl
website: www.esco-aandrijvingen.nl

esco antriebstechnik gmbh

Biberweg 10
D - 53842 Troisdorf
Germany
Tel +49 (0) 2241 4807 0
Fax +49 (0) 2241 4807 10
e-mail: info@esco-antriebstechnik.com
website: www.esco-antriebstechnik.de

ESCO Drives SRL

Avenue Ernest Solvay, 48
B - 1480 Saintes
Belgium
Tel +32 (0) 2 717 64 60
e-mail: sales@esco.be
website: www.esco.be

ESCO Power SRL

Avenue Ernest Solvay, 48
B - 1480 Saintes
Belgium
Tel +32 (0) 2 717 64 90
e-mail: info@escopower.be
website: www.escopower.be

ESCO Transmissions SAS

Rue de la Ferme Saint-Ladre, 34
F - 95471 FOSSES CEDEX
France
Tel +33 (0) 1 34 31 95 95
Fax +33 (0) 1 34 31 95 99
e-mail: info@esco-transmissions.fr
website: www.esco-transmissions.fr