



Installatie instructies

Installation instructions

Installationsvorschriften

Instructions d'installation

Instrucciones de instalación

Istruzioni per l'installazione

Flexibele schroefaskoppeling

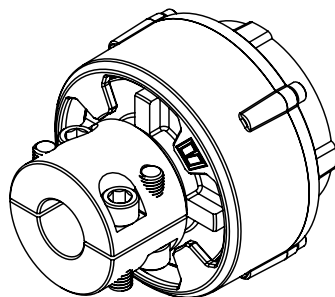
Flexible propeller shaft coupling

Flexible Schraubenwellenkupplung

Accouplement flexible d'arbre porte-hélice

Acoplamiento flexible del árbol porta-hélice

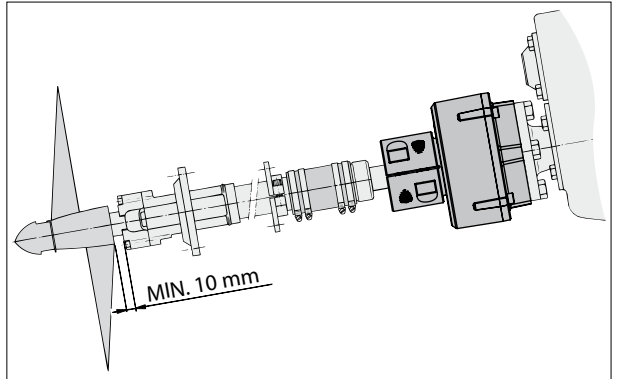
Giunto di accoppiamento flessibile dell'albero dell'elica



Combiflex

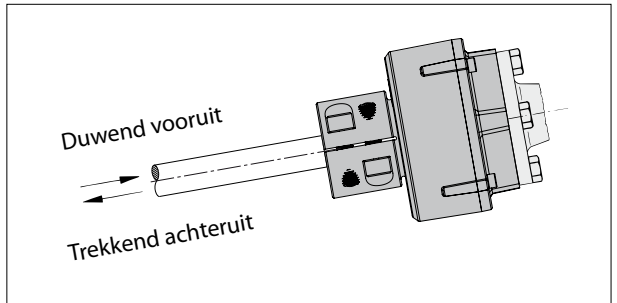
1 Opstelling

In verband met de axiale beweging van de schroefas moet er tussen het buitenlager en de naaf van de schroepsschroef een minimale vrije ruimte zijn.

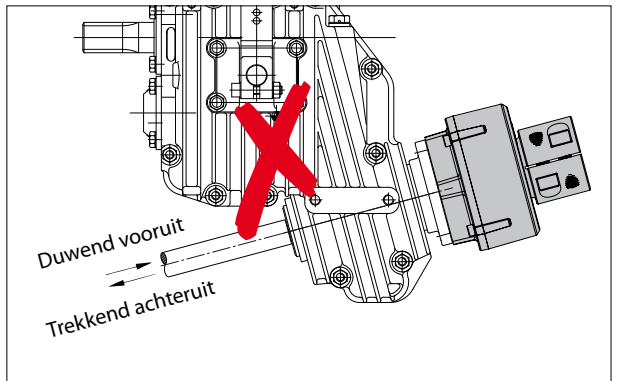


2 Stuwkracht

N.B. Bij vooruit varen moet het rubberdeel worden ingedrukt.

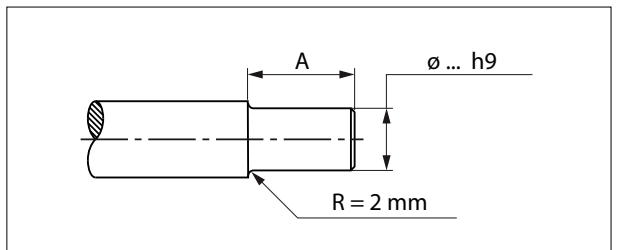


Toepassing van de Combiflex in combinatie met een V-drive keerkoppeling is niet toegestaan!



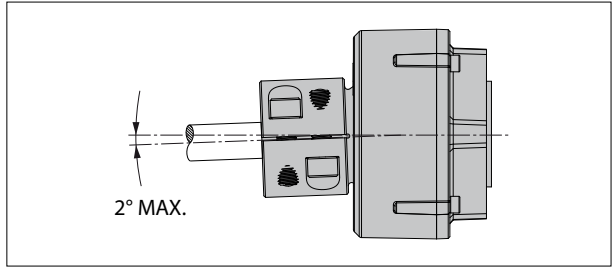
3 Afwijkende (grotere) schroefasdiameter

Verklein de schroefasdiameter over de lengte van de klembus (afmeting 'A') naar afmeting 'd' van de koppeling, zie 'Hoofdafmetingen'. Radius 'r' minimaal 2 mm.



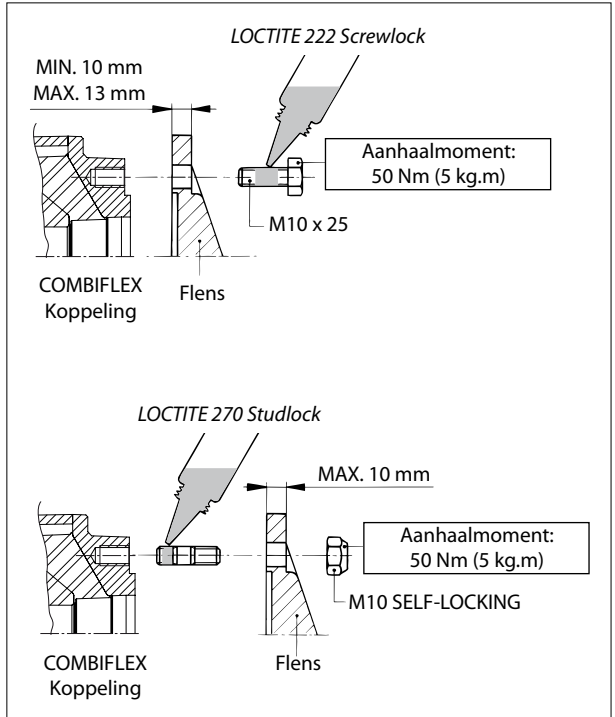
4 Uitlijnfout

De maximaal toelaatbare uitlijnfout van de schroefas is 2°.

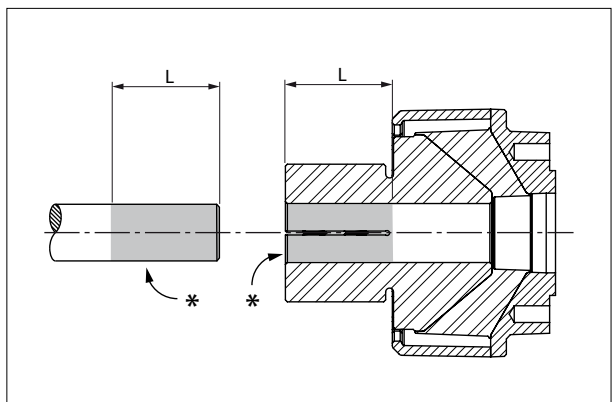


5 Montage algemeen

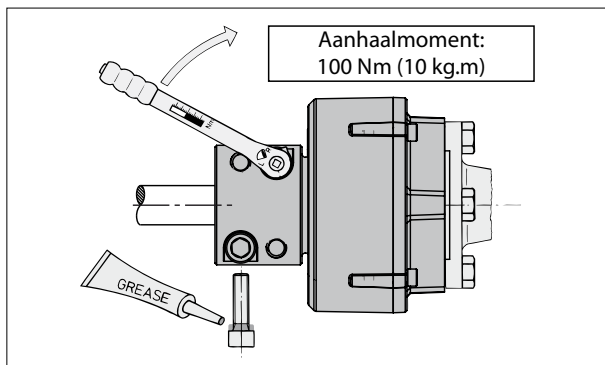
Om een betrouwbaar functionerende koppeling te verkrijgen dienen alle bouten en moeren met de opgegeven momenten te worden aangebracht. Gebruik hiervoor een momtentsleutel; het 'op gevoel' aantrekken leidt niet tot bevredigende resultaten.



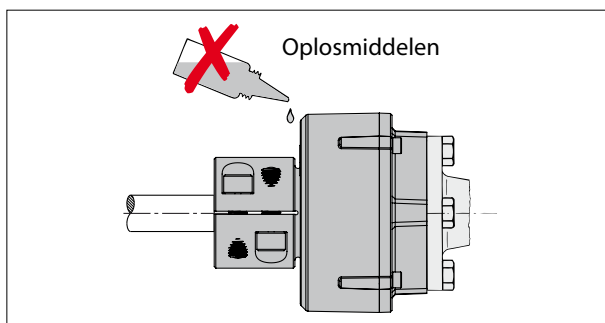
De schroefas dient over de lengte (L) in de naaf te zijn gestoken en as en de naaf dienen vrij van vet en vuil (*) te zijn.



Trek de bouten aan met het opgegeven aanhaalmoment.



Zorg er voor dat de rubberdelen niet worden aangetast door oplosmiddelen.



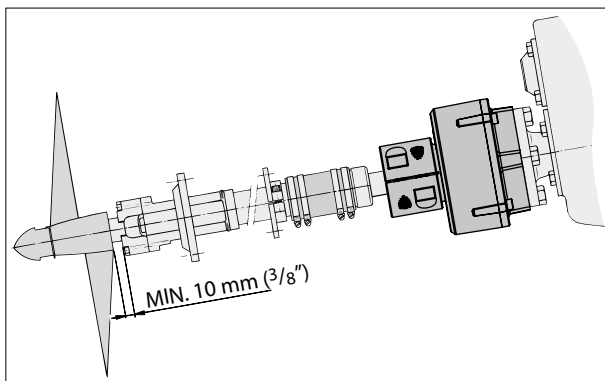
6 Technische gegevens

Type	:	COMFL1225	COMFL1230
Max. koppel volgens DIN6270B	:	250 Nm (25,5 kgf.m)	
Max. koppel volgens DIN6270A	:	212 Nm (21,6 kgf.m)	
Max. vermogen volgens DIN6270B *	:	2,4 kW/100 omw/min (3,2 pk/100 omw/min)	
Max. vermogen volgens DIN6270A *	:	2 kW/100 omw/min (2,7 pk/100 omw/min)	
Massatraagheidsmoment	J	230 10 ⁻⁴ kg.m ²	
	GD2	0,01 kgf.m ²	
Dyn. torsiestijfheid	:	870 Nm/rad (6,59 °/100 Nm)	
Axiale trekstijfheid	:	1,7 kN/mm (173 kgf/mm)	
Axiale drukstijfheid	:	2,8 kN/mm (285 kgf/mm)	
Max. hoekverplaatsing	:	2°	
Max. toerental bij	2°	1500 omw/min	
	0°	4500 omw/min	
Max. stuwkracht	:	10 kN (1019 kgf)	
Gewicht		3,5 kg	3,2 kg

* Max. vermogen: $P_{max} = M_{max} \cdot 2 \cdot \pi \cdot n$ (M_{max} is het max. koppel en n het toerental)

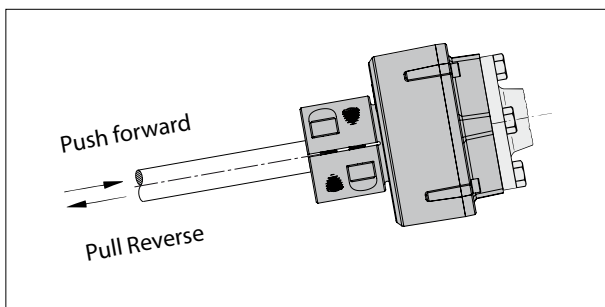
1 Mounting

In connection with the axial movement of the propeller shaft a minimum free space between outer bearing and propeller hub is required.

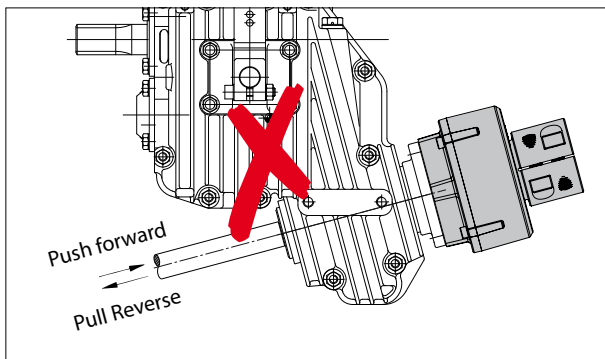


2 Propeller-thrust

N.B. When sailing in forward direction the rubber part must be compressed.

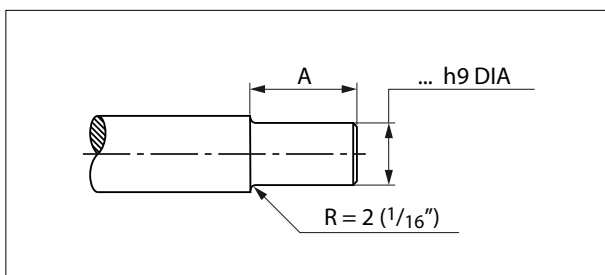


Using the Combiflex in combination with a V-drive type gearbox is not allowed!



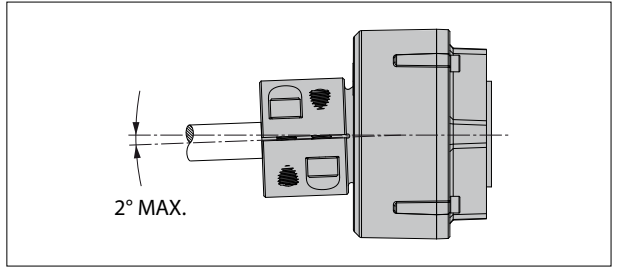
3 Over-size (larger) propeller shaft diameter

Reduce the propeller shaft diameter for the taper length (dimension 'A') to the given dimension 'd' of the coupling, see Overall dimensions. Radius 'r' minimal 2 mm (1/16").



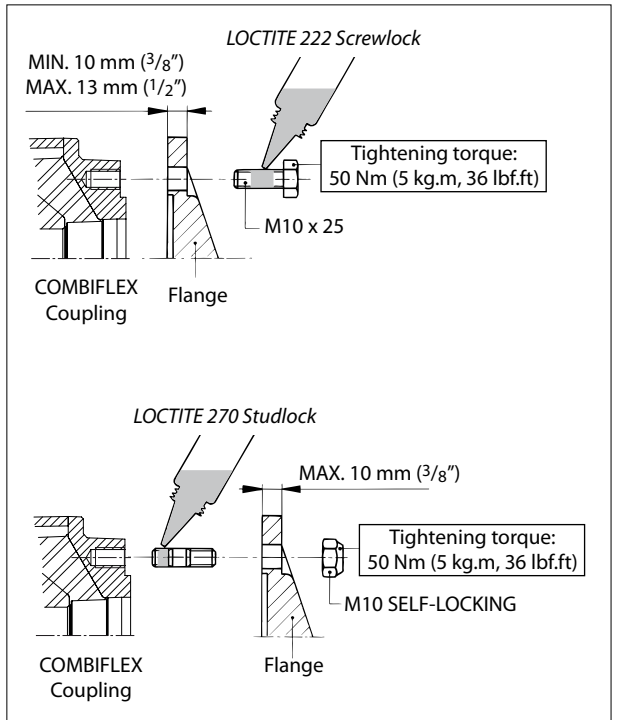
4 Misalignment

The maximum allowable misalignment of the propeller shaft is 2°.

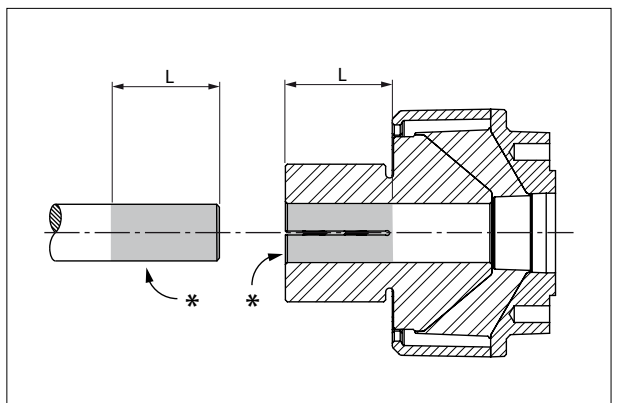


5 General assembly

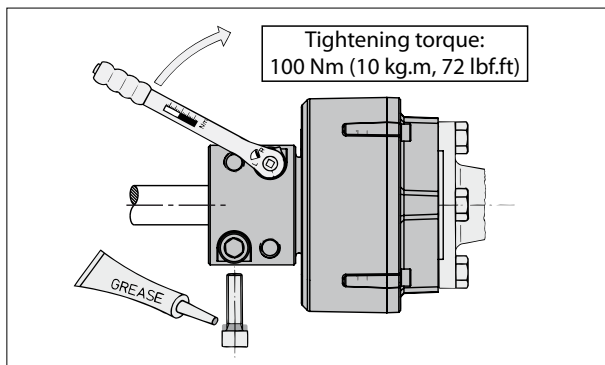
To achieve a reliably operating coupling all the bolts and nuts must be tightened with the torques given. Use a torque wrench; tightening it 'in the blind' will not lead to satisfying results.



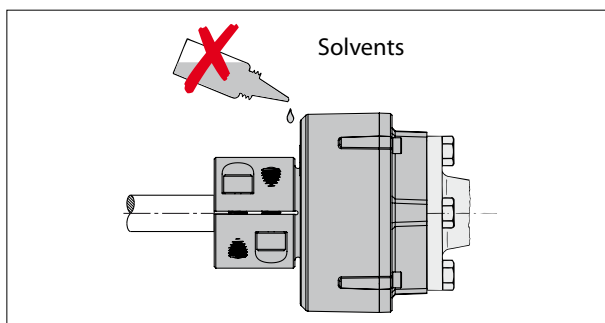
The propeller shaft must be inserted into the hub for a sufficient length (L) and the shaft and hub must be free of grease and dirt (*).



Tighten the bolts with the specified torque.



Take care that the rubber parts are not affected by solvents.



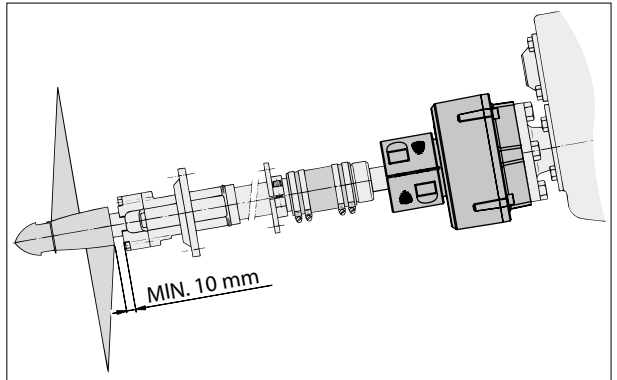
6 Technical data

Type	:	COMFL1225	COMFL1230
Max. torque to	DIN6270B	: 250 Nm (184 ft.lb)	
Max. torque to	DIN6270A	: 212 Nm (156 ft.lb)	
Max. power to	DIN6270B *	: 2.4 kW/100 rpm (3.2 hp/100 rpm)	
Max. power to	DIN6270A *	: 2 kW/100 rpm (2.7 hp/100 rpm)	
Mass moment of inertia	J	: 230 10 ⁻⁴ kg.m ²	
	GD2	: 0.01 kgf.m ²	
Dyn. torsion stiffness	:	870 Nm/rad (8.93 °/100 ft.lb)	
Axial pull stiffness	:	1.7 kN/mm (0.0103 inch/100 lbf)	
Axial push stiffness	:	2.8 kN/mm (0.0063 inch/100 lbf)	
Maximum angular displacement	:	2°	
Max. rpm at	2°	: 1500 rpm	
	0°	: 4500 rpm	
Max. thrust force	:	10 kN (2248 lbf)	
Weight, approx.	:	3.5 kg (7.7 lbs)	3.2 kg (7.1 lbs)

* Max. Power: $P_{max} = M_{max} \cdot 2 \cdot \pi \cdot n$ (M_{max} is the max. torque and n the RPM)

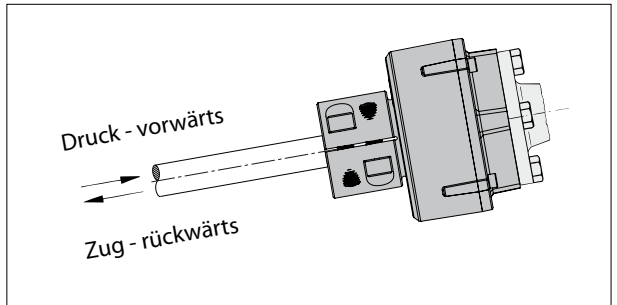
1 Aufstellung

Aufgrund der Achsialbewegung der Schraubenwelle muß zwischen dem äußeren Wellenlager und der Nabe der Schiffsschraube ein minimaler freier Raum sein.

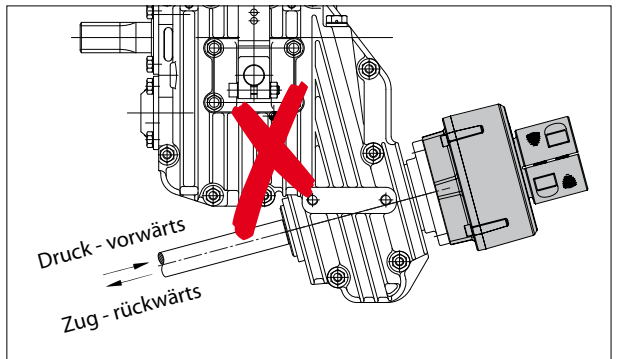


2 Schubkraft

Achtung: Beim Vorwärtsfahren soll das Gummitteil zusammenge-drückt werden.

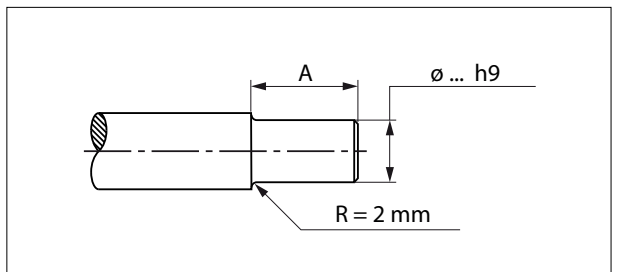


Der Einsatz der Combiflex in Kombination mit einem Vdrive-Wen-degetriebe ist nicht gestattet!



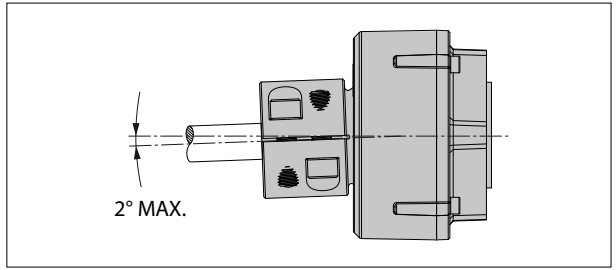
3 Abweichender (größerer) durchmesser der schraubenwelle

Den Durchmesser der Schraubenwelle über die Länge der Klemmbuchse (Maß 'A') auf Maß 'd' der Kupplung verkleinern, siehe Hauptmaße. Radius 'r' sollte mindestens 2 mm betragen.



4 Versatz

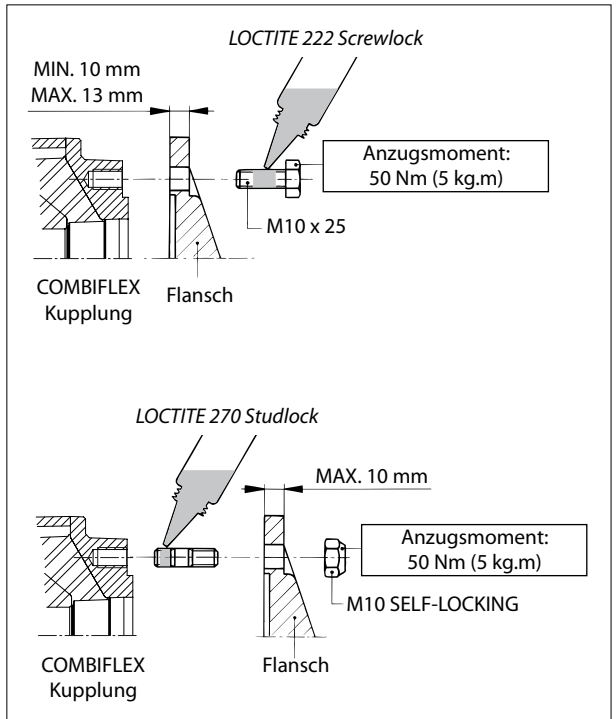
Der max. zulässiger Versatz der Schraubenwelle beträgt 2° .



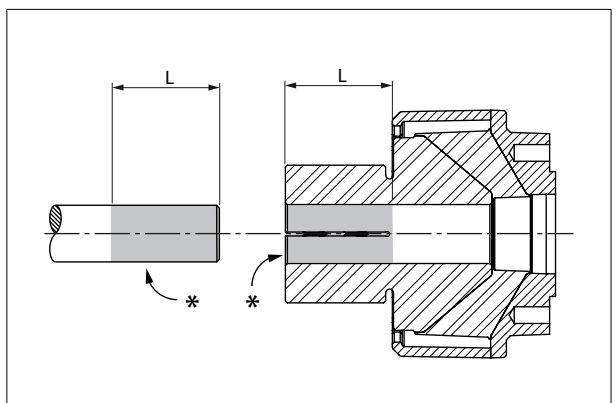
5 Montage allgemein

Damit eine zuverlässig funktionierende Kupplung erreicht wird, sollten alle Bolzen und Muttern nach den angegebenen Drehmomenten angezogen werden.

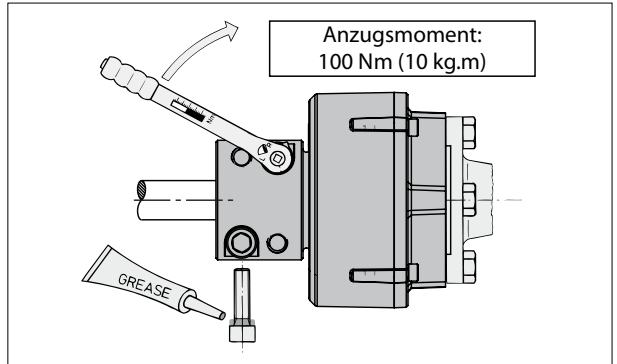
Verwenden Sie dazu einen Drehmomentschlüssel; das 'Anziehen nach Gefühl' führt nicht zu befriedigenden Ergebnissen.



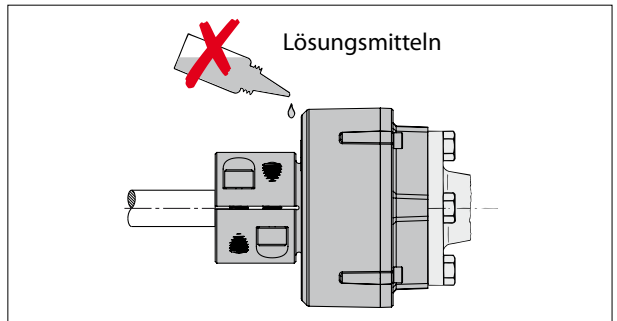
Die Schraubenwelle muß über genügenden Länge (L) in der Klemmnabe und Schraubenwelle müssen Schmutz- und fettfrei sein (*).



Ziehen Sie die Bolzen an mit der angegebenen Anzugsmoment



Sorgen Sie dafür, daß die Gummiteile nicht von Lösungsmitteln angegriffen werden.



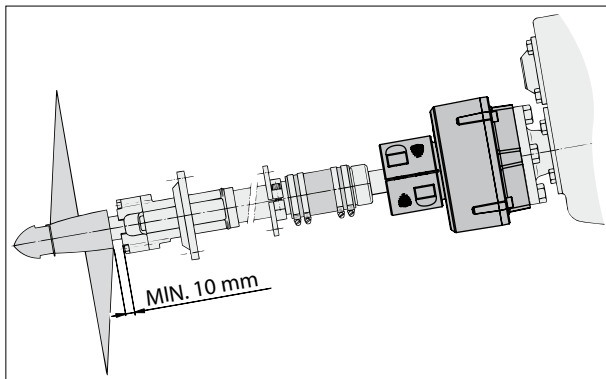
6 Technische Daten

Typ	:	COMFL1225	COMFL1230
Max. Drehmoment gemäß DIN6270B	:	250 Nm (25,5 kgf.m)	
Max. Drehmoment gemäß DIN6270A	:	212 Nm (21,6 kgf.m)	
Max. Leistung gemäß DIN6270B *	:	2,4 kW/100 U/min (3,2 PS/100 U/min)	
Max. Leistung gemäß DIN6270A *	:	2 kW/100 U/min (2,7 PS/100 U/min)	
Massenträgheitsmoment	J	230 10 ⁻⁴ kg.m ²	
	GD2	0,01 kgf.m ²	
Dyn. Drehsteifigkeit	:	870 Nm/rad (6,59 °/100 N.m)	
Axiale steifigkeit zug	:	1,7 kN/mm (173 kgf/mm)	
Axiale steifigkeit druck	:	2,8 kN/mm (285 kgf/mm)	
Max. Winkelverschiebung	:	2°	
Max. Drehzahl bei	2°	1500 U/min	
	0°	4500 U/min	
Max. Triebkraft	:	10 kN (1019 kgf)	
Gewicht, ca.	:	3,5 kg	3,2 kg

* Max. Leistung: $P_{max} = M_{max} \cdot 2 \cdot \pi \cdot n$ (M_{max} ist das max. Drehmoment und n die Drehzahl)

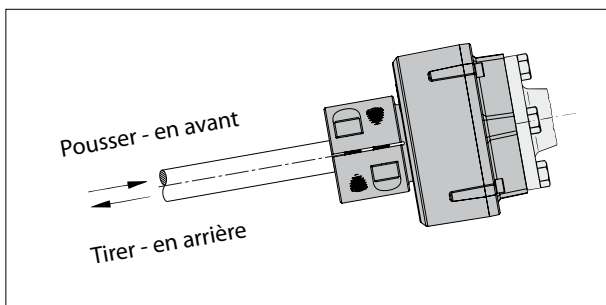
1 Montage

Etant donné le mouvement axial de l'arbre porte-hélice, il est nécessaire de laisser un espace libre minimum entre le support extérieur et le moyeu de l'hélice.

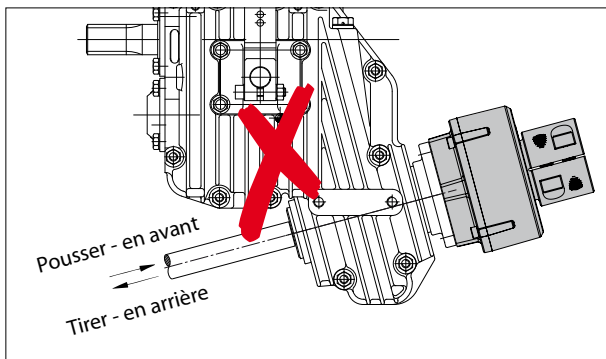


2 Force de propulsion

N.B. Lors de la marche avant, la partie caoutchouc doit être comprimée.

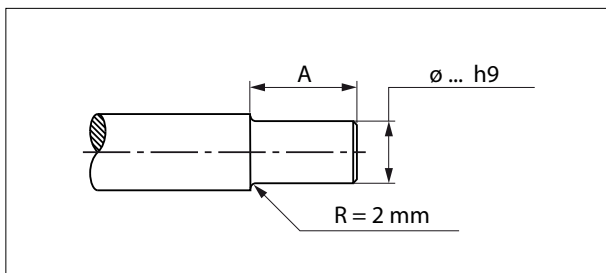


Il est interdit d'utiliser le Combiflex en combinaison avec un inverseur à entraînement en V!



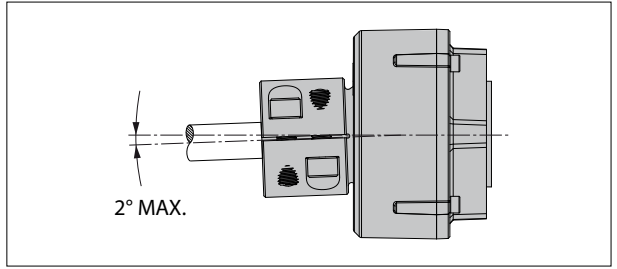
3 Autre diamètre (plus grand) de l'arbre porte-hélice

Réduire, sur la longueur de la bague de serrage (dimension 'A'), le diamètre de l'arbre porte-hélice à la dimension 'd' du couplage. Voir les dimensions principales. Rayon 'r' minimum 2 mm.



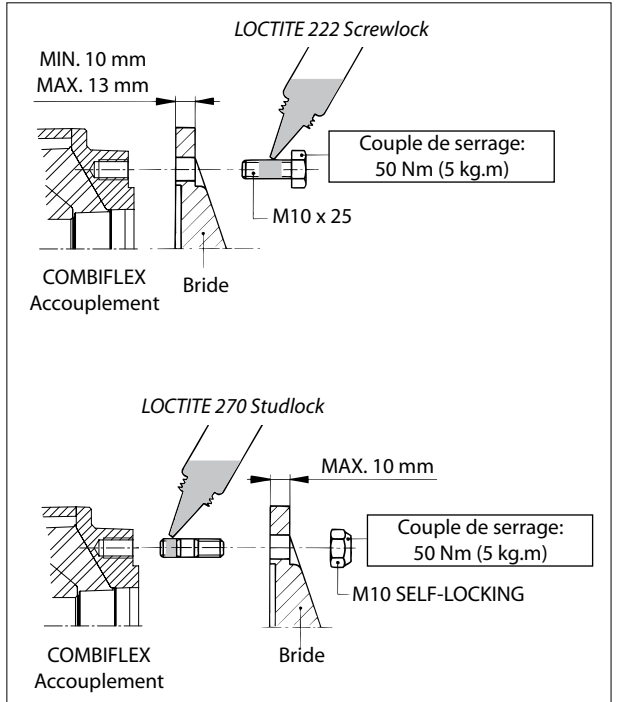
4 Désalignement

Le désalignement maximum autorisé de l'arbre porte-hélice est de 2°.

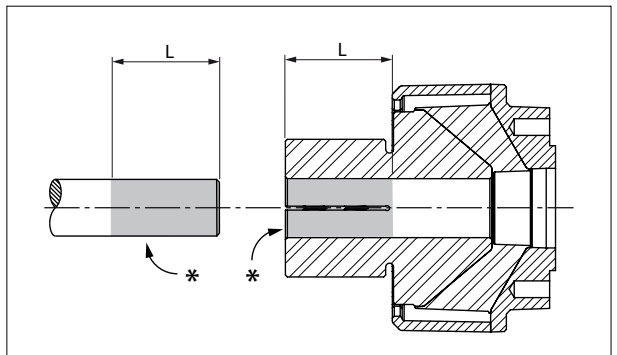


5 Assemblage generalites

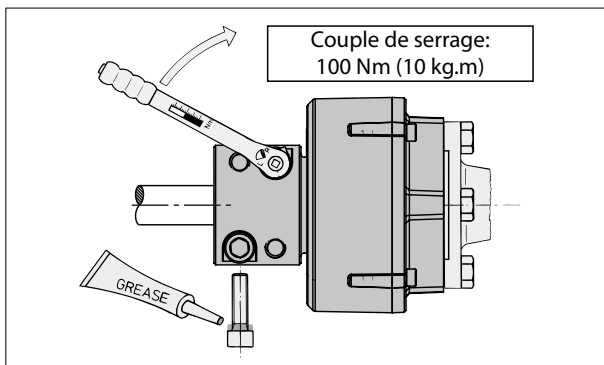
Pour obtenir un accouplement au fonctionnement fiable, il est nécessaire de serrer tous les boulons et écrous selon les moments indiqués. Utiliser pour cela une clef dynamométrique; un serrage approximatif ne donne pas de résultats satisfaisants.



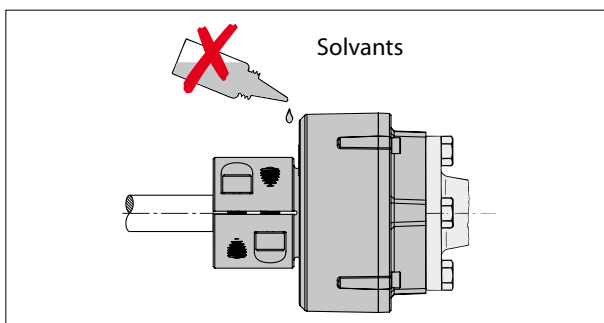
L'arbre de l'hélice doit être mis dans le moyeu de longueur (L) suffisante. Veiller à ce que l'arbre et le moyeu soient exempts de graisse et de saleté (*).



Attirer les boulons à l'aide de la torsion.



Veiller à ce que les parties caoutchouc ne soient pas attaquées par des solvants.



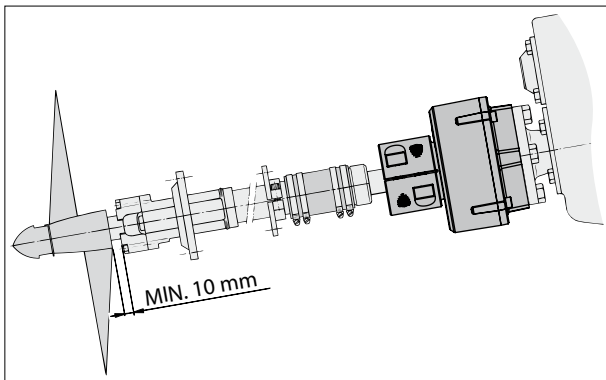
7 Specifications techniques

Type	:	COMFL1225	COMFL1230
Couple max. selon DIN6270B	:	250 Nm (25,5 kgf.m)	
Couple max. selon DIN6270A	:	212 Nm (21,6 kgf.m)	
Puissance max. selon DIN6270B *	:	2,4 kW/100 t.p.m. (3,2 cv/100 t.p.m.)	
Puissance max. selon DIN6270A *	:	2 kW/100 t.p.m. (2,7 cv/100 t.p.m.)	
Momente d'inertie	J	230 10 ⁻⁴ kg.m ²	
	GD2	0,01 kgf.m ²	
Rigidite dyn. a la torsion	:	870 Nm/rad (6,59 °/100 N.m)	
Rigidite axiale a la traction	:	1,7 kN/mm (173 kgf/mm)	
Rigidite axiale a la compression	:	2,8 kN/mm (285 kgf/mm)	
Le deplacement angulaire max.	:	2°	
Nombre de tours max. á	2°	1500 t.p.m.	
	0°	4500 t.p.m.	
Poussée max.	:	10 kN (1019 kgf)	
Poids, environ	:	3,5 kg	3,2 kg

* Puissance max. $P_{max} = M_{max} \cdot 2 \cdot \pi \cdot n$ (M_{max} est le couple max. et n le nombre de tours)

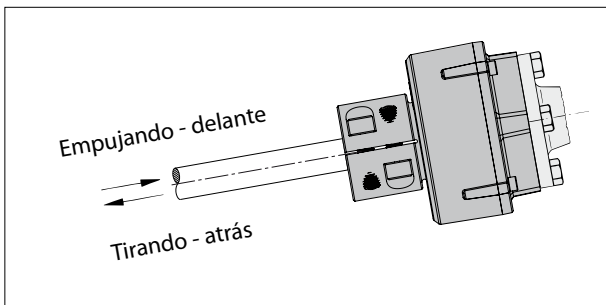
1 Montaje

Dado el movimiento axial del árbol porta-hélice, es necesario dejar un espacio libre mínimo entre el soporte exterior y el cubo de hélice.

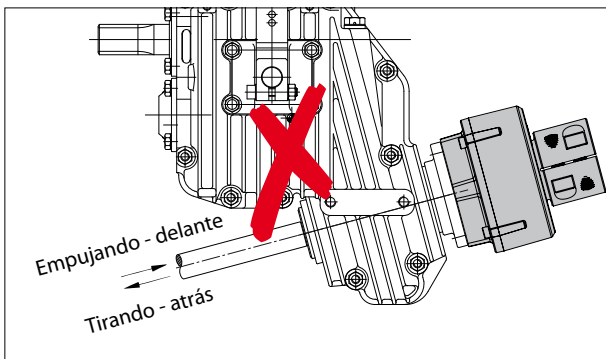


2 Fuerza de propulsión

Nota: ¡Navegando hacia delante la parte de caucho se debe comprimir!

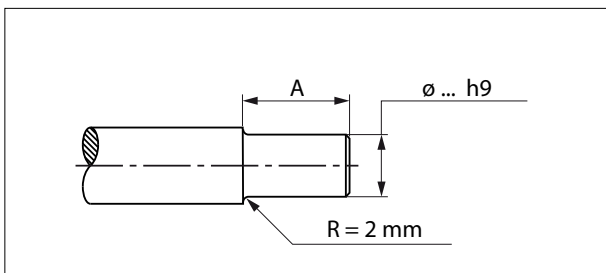


¡No se permite aplicar el Combi-flex en combinación con la caja de velocidades del tipo de transmisión en V!



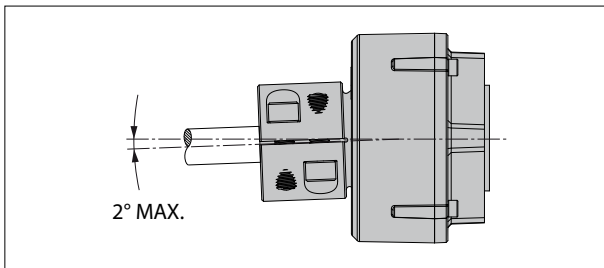
3 Otro diámetro (mayor) del árbol porta-hélice

Redúzcase el diámetro del árbol porta-hélice a lo largo del cono (dimensión 'A') hacia dimensión 'd' del acoplamiento, véanse las Dimensiones Principales. El radio 'r' será de 2 mm como mínimo.



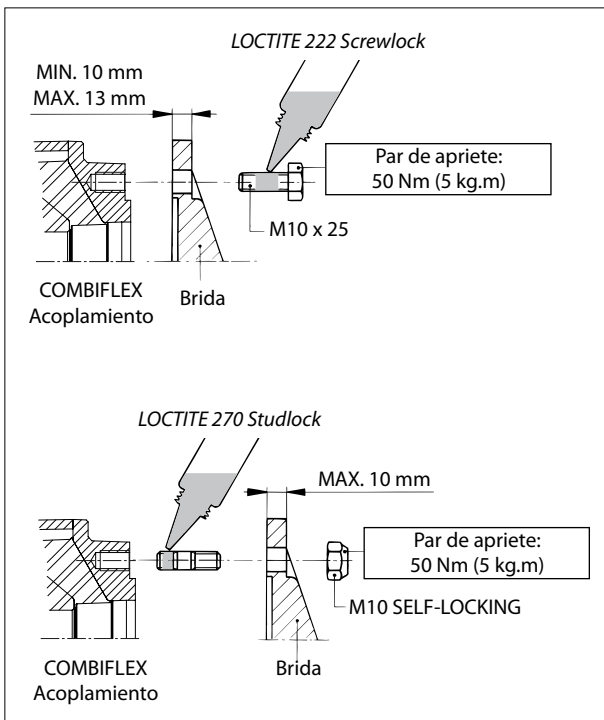
4 Mal alineamiento

Se admite un mal alineamiento máximo de 2° del árbol porta-hélice.

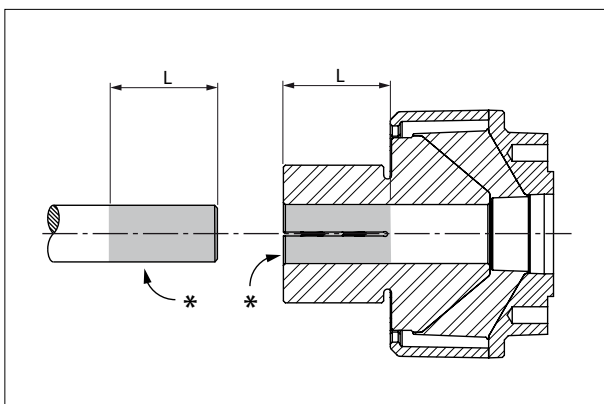


5 Montaje en general

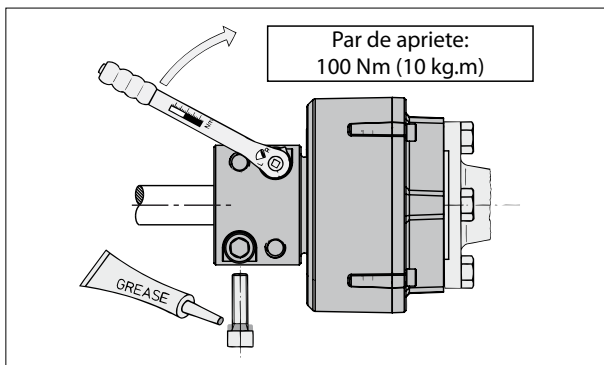
Para obtener un acoplamiento de funcionamiento fiable se apretarán todos los tornillos y tuercas según los pares indicados. Utilizar para ello una llave de torsión; apretar 'a tuestas' no dará resultados satisfactorios.



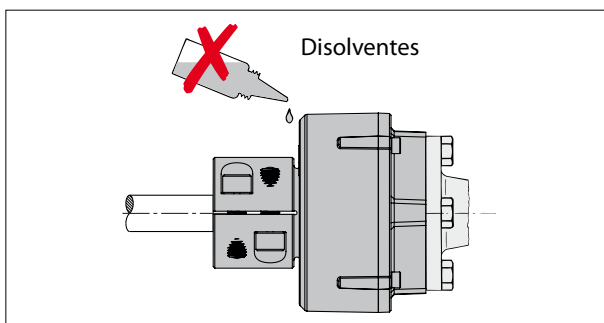
El árbol porta-hélice se insertará con un largo (L) suficiente en el cubo y el árbol y cubo estarán limpios de grasa y suciedad (*).



Apretar los tornillos observando el par indicado.



Asegurar que las partes de caucho no sean afectadas por disolventes.



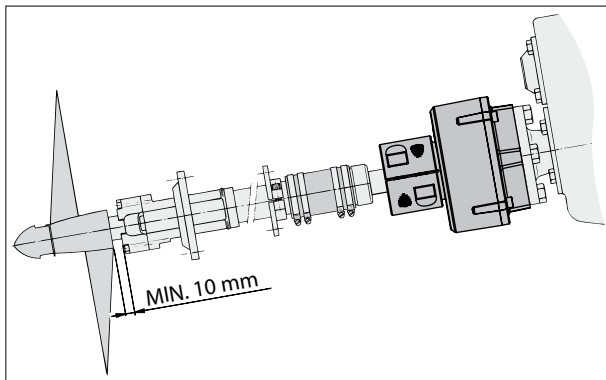
6 Especifications techniques

Tipo	:	COMFL1225	COMFL1230
Par máximo según	DIN6270B	:	250 Nm (25,5 kgf.m)
Par máximo según	DIN6270A	:	212 Nm (21,6 kgf.m)
Potencia máximo según	DIN6270B *	:	2,4 kW/100 v/min (3,2 cv/100 v/min)
Potencia máximo según	DIN6270A *	:	2 kW/100 v/min (2,7 cv/100 v/min)
Momento de inercia	J	:	230 10 ⁻⁴ kg.m ²
	GD2	:	0,01 kgf.m ²
Rigidez dyn. de torsión	:	870 Nm/rad (6,59 °/100 N.m)	
Rigidez axial de tracción	:	1,7 kN/mm (173 kgf/mm)	
Rigidez axial de compresión	:	2,8 kN/mm (285 kgf/mm)	
Desplazamiento angular máx.	:	2°	
Número de revoluciones máx. con	2°	:	1500 v/min
	0°	:	4500 v/min
Fuerza de propulsión máx.	:	10 kN (1019 kgf)	
Peso, aprox.	:	3,5 kg	3,2 kg

* Potencia máxima: $P_{\max} = M_{\max} \cdot 2 \cdot \pi \cdot n$ (siendo 'M_{max}' el par máximo y 'n' el número de revoluciones)

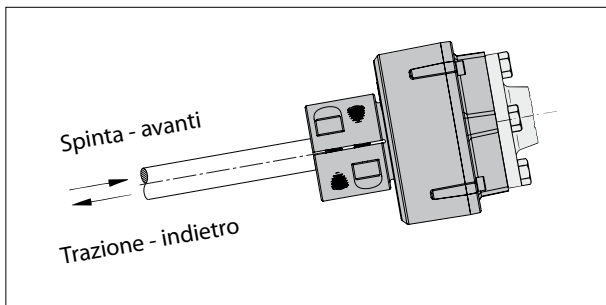
1 Montaggio

Tenendo conto del movimento assiale dell'albero dell'elica, è necessario lasciare uno spazio libero minimo fra la sospensione esterna e il mozzo dell'elica.

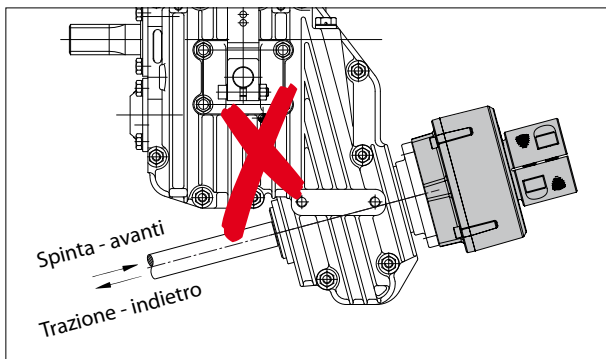


2 Forza di propulsione

N.B. Durante la marcia in avanti la parte in gomma deve essere premuta!

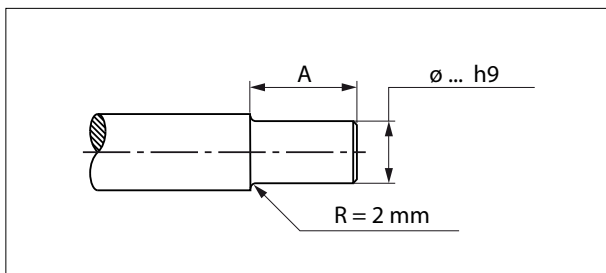


L'uso del Combiflex in combinazione con una trasmissione tipo V-drive non è permesso!



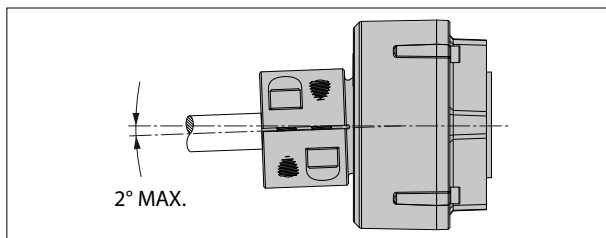
3 Diametro diverso (più grande) dell'albero dell'elica

Ridurre il diametro dell'albero dell'elica sulla lunghezza del fermo (dimensione 'A') fino a raggiungere la dimensione 'd' dell'accoppiamento, vedi Dimensioni Principali. Raggio 'r' minimo 2 mm.



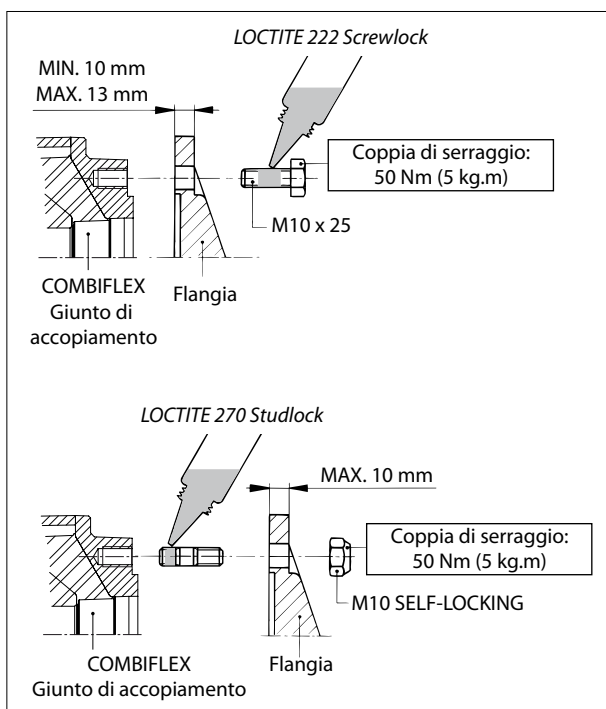
4 Errore di allineamento

L'errore di allineamento massimo consentito dell'albero dell'elica è di 2°.

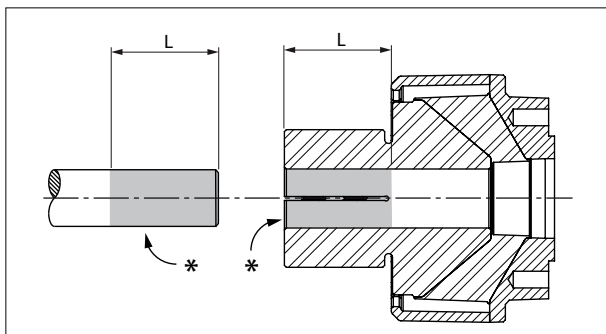


5 Montaggio, generalità

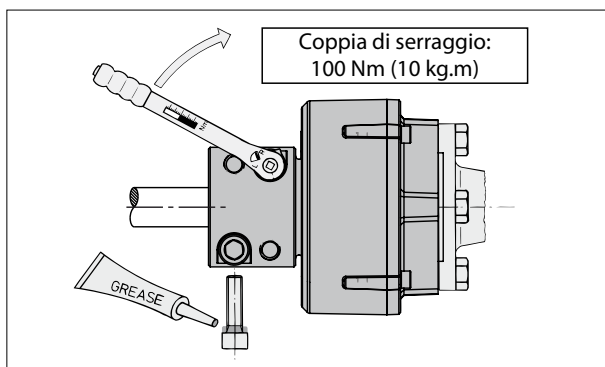
Per ottenere un giunto di accoppiamento che funzioni in modo affidabile, tutti i bulloni e tutti i dadi devono essere avvitati con il momento indicato. A questo scopo utilizzare una chiave dinamometrica; avvitando in modo approssimativo non si ottengono risultati soddisfacenti.



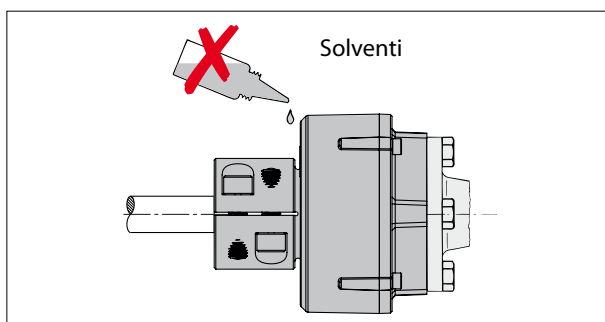
L'albero dell'elica deve essere inserito nel mozzo per una lunghezza sufficiente (L) e sia l'albero che il mozzo devono essere privi di grasso e di sporco (*).



Stringere i bulloni con il momento indicato.



Assicurarsi che le parti in gomma non vengano corrose dai solventi.

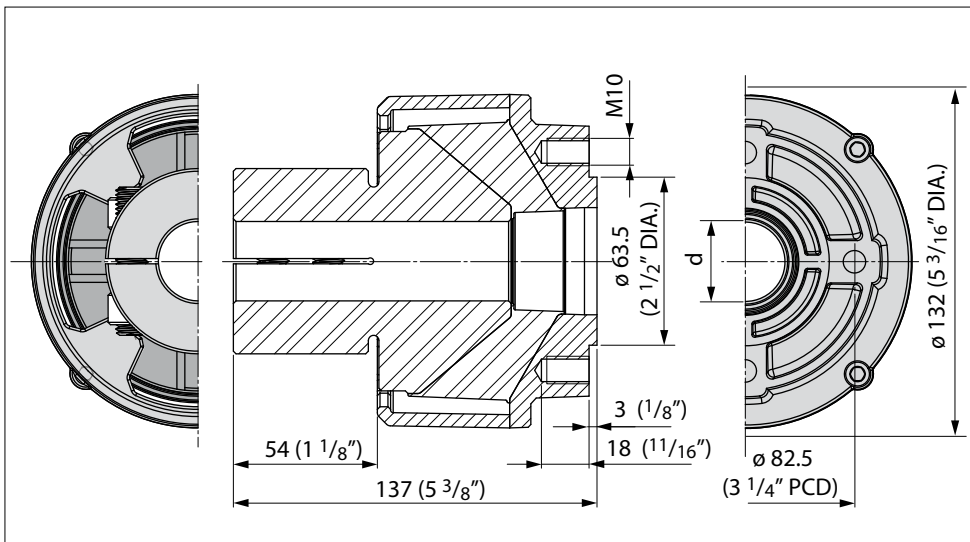


6 Dati tecnici

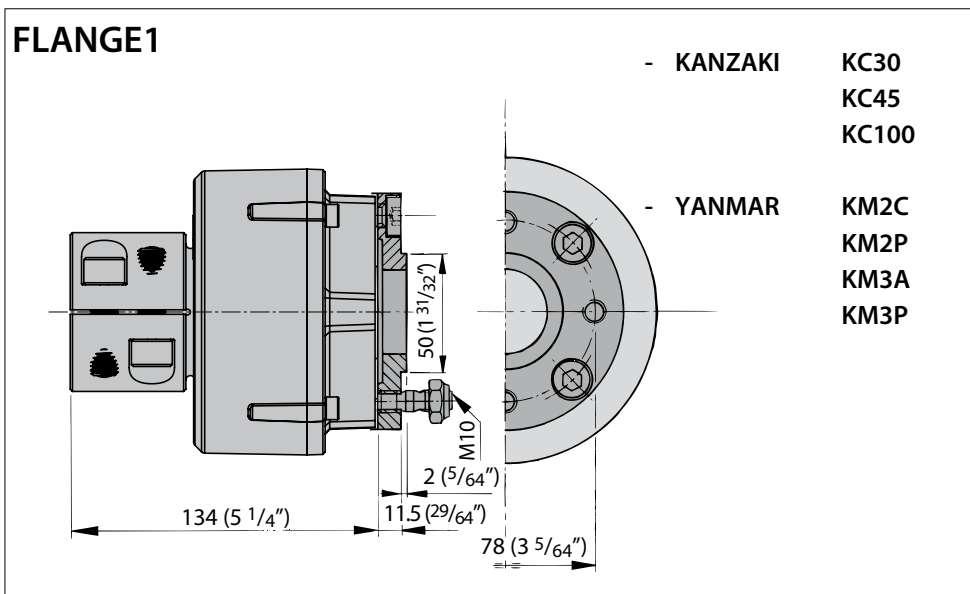
Tipo		:	COMFL1225	COMFL1230
Momento max. secondo	DIN6270B	:	250 Nm (25,5 kgf.m)	
Momento max. secondo	DIN6270A	:	212 Nm (21,6 kgf.m)	
Potenza max. secondo	DIN6270B *	:	2,4 kW/100 giri/min (3,2 cv/100 giri/min)	
Potenza max. secondo	DIN6270A *	:	2 kW/100 giri/min (2,7 cv/100 giri/min)	
Momento d'inerzia	J	:	230 10 ⁻⁴ kg.m ²	
	GD2	:	0,01 kgf.m ²	
Rigidità torsionale din.		:	870 Nm/rad (6,59 °/100 N.m)	
Rigidità assiale alla trazione		:	1,7 kN/mm (173 kgf/mm)	
Rigidità assiale alla compressione		:	2,8 kN/mm (285 kgf/mm)	
Spostamento angolare massimo		:	2°	
Numero max. di giri a	2°	:	1500 giri/min	
	0°	:	4500 giri/min	
Propulsione max.		:	10 kN (1019 kgf)	
Peso, circa		:	3,5 kg	3,2 kg

* Potenze massima: $P_{max} = M_{max} \cdot 2 \cdot \pi \cdot n$ (dove M_{max} indica la coppia massima ed n il numero di giri)

7 Hoofdafmetingen Hauptabmessungen Dimensiones principales
 Principal dimensions Dimensions principales Dimensioni principali



8 Verlooppflenzen Zwischenflanschen Bridas de adaptación
 Adapter flanges Brides d'adaptation Flange di adattamento

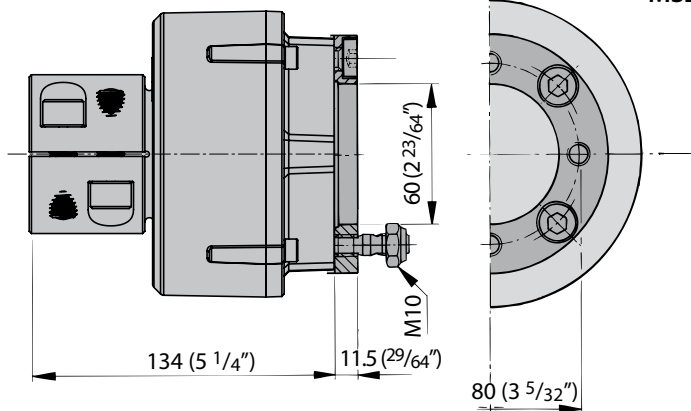


FLANGE2

- VOLVO

MS10A
MS15A
MS25A

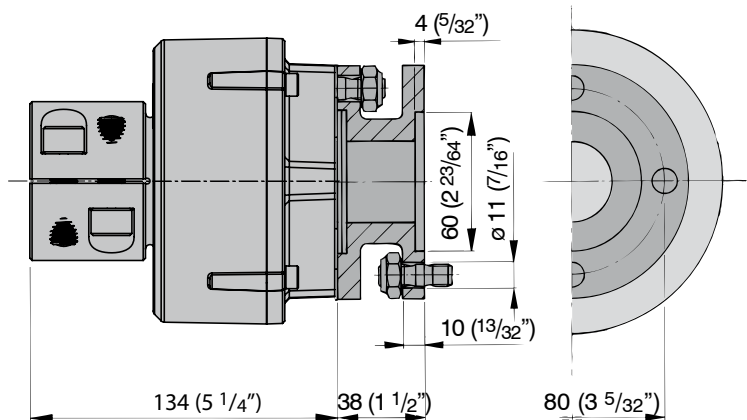
MS10L
MS15L
MS25L

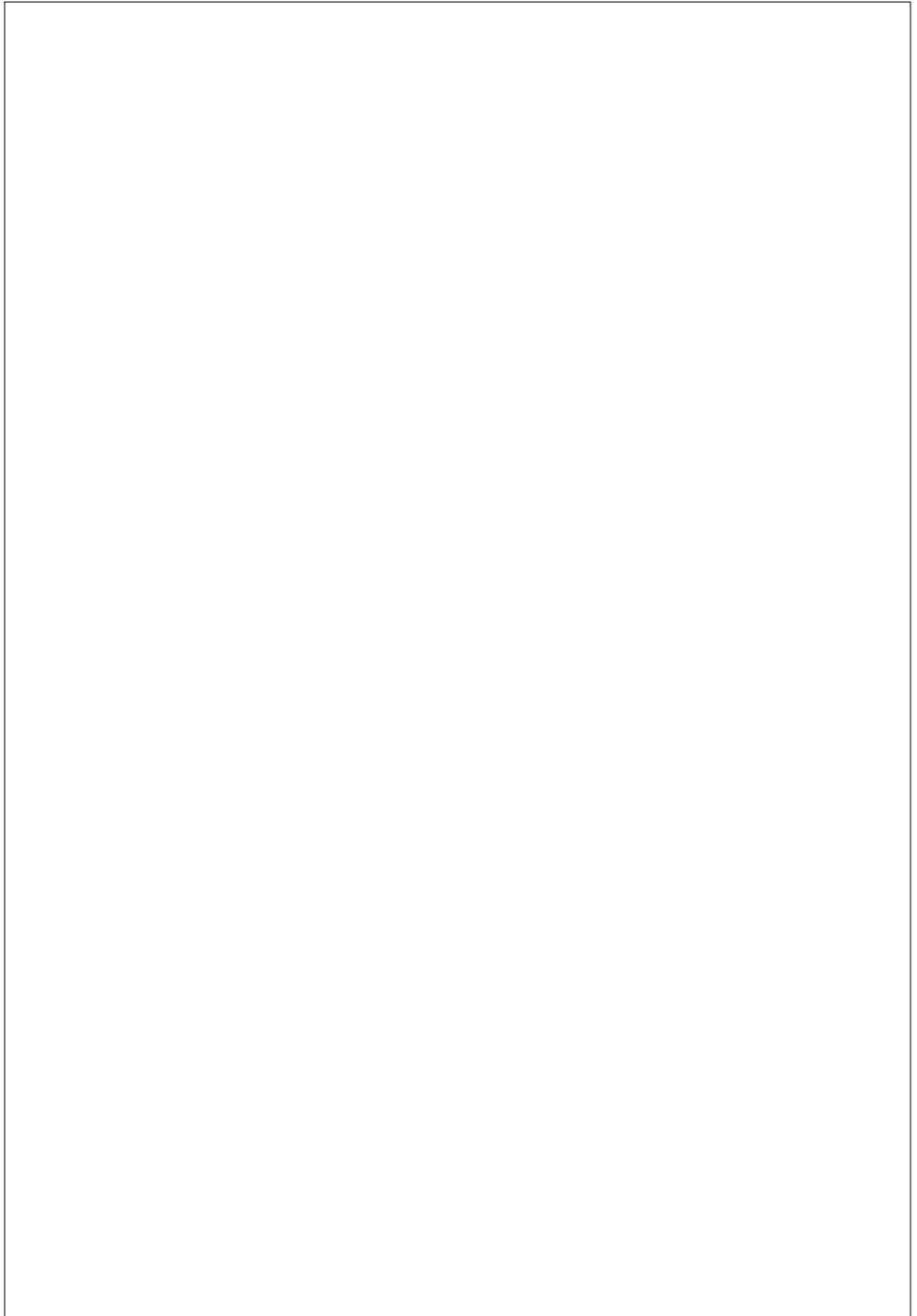


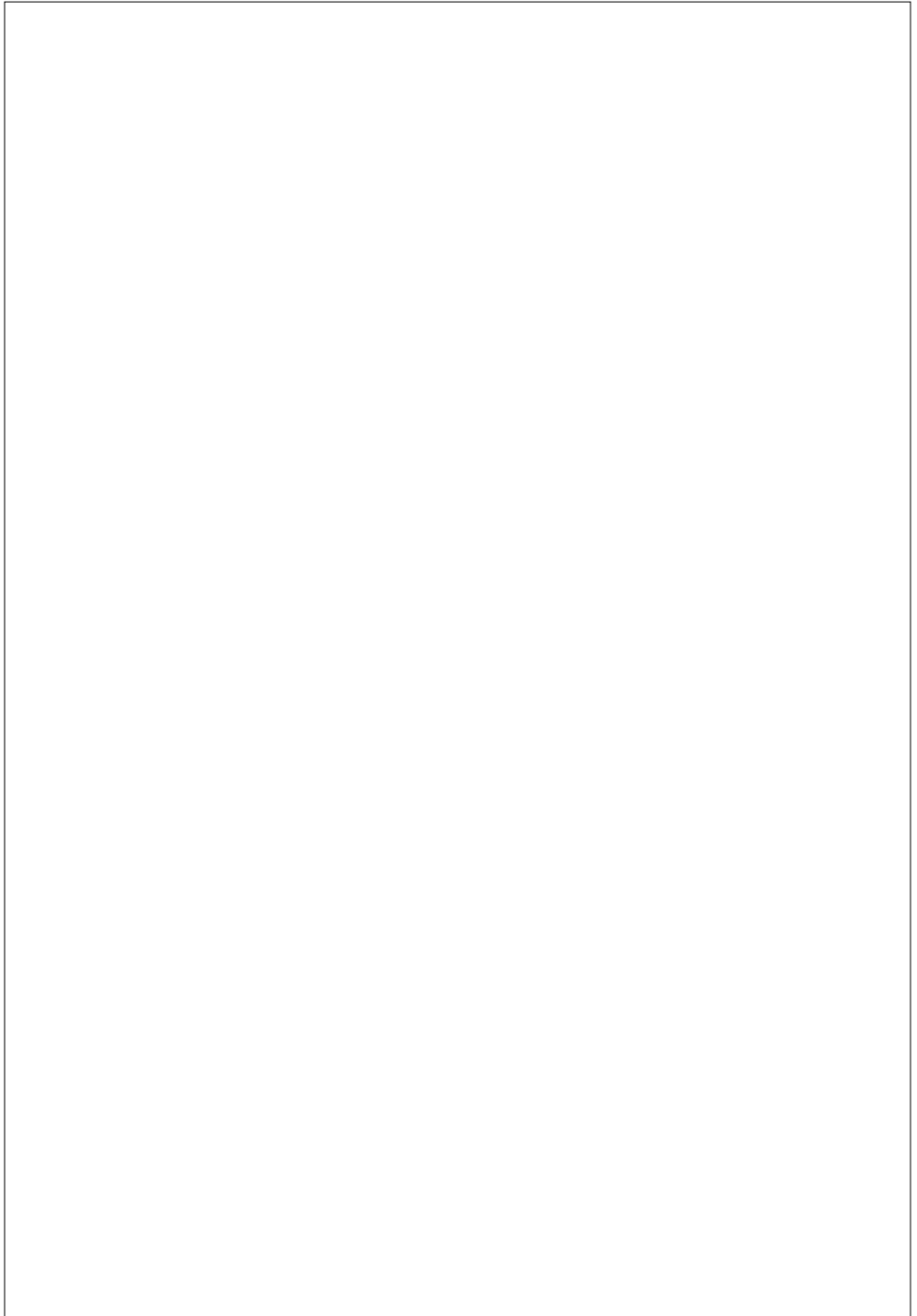
FLANGE2A

- VOLVO

MS
MSB
MS2







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