



Product Catalogue

Raufoss Couplings



Enhancing the driving experience

Valid from 2012

RaufossTM
COUPLINGS

*Kongsberg Automotive has operations in
twenty countries on four continents.
Our customer portfolio comprises more than
fifty vehicle manufactures.*

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A lifetime of service and support

The world's commercial vehicle manufacturers require innovative solutions that offer functionality, comfort and safety. Kongsberg Automotive's customers include a broad range of leading manufacturers worldwide.

To meet individual specifications on concept, design and technical issues,

vehicle manufacturers prefer a close co-operation with Kongsberg Automotive.

By focusing on easy installation, cost-effectiveness, and environment-friendly solutions, Kongsberg Automotive provides added value to customers all over the world.



www.kongsbergautomotive.com

Aligned with customers' demands

Close follow-up of deliveries is important to customers' success. Potential deviations are therefore resolved at an early phase or eliminated through product modifications. Kongsberg Automotive follows up after-market sales through close contact with vehicle manufacturers and dealers, as well as end users.

Our manufacturing facilities and sales offices have a global reach, enabling us to optimise production and to be close to our customers.

We provide professional service to our customers within:

- ▶ Sales and logistics
- ▶ Product function training
- ▶ Product installation training
- ▶ Product repair training
- ▶ Warranty handling

Kongsberg Automotive has a global network of distributors to ensure rapid delivery to all corners of the world. See our webpages to find the distributor covering your country.



Enhancing the driving experience

Our vision

“Enhancing the driving experience”

Why every day we try to make things better than we did yesterday. No matter what vehicle you drive or operate, it's our vision to enhance your driving experience.

Whatever position, role or work assignment we hold in the KA-team, we all contribute to making your vehicle safer, more comfortable and sustainable. To us this is a never-ending goal, pushing us to look for the better way every day.

Our values

We are Kongsberg Automotive

Passionate
Accountable
Prepared

Raufoss ABC System

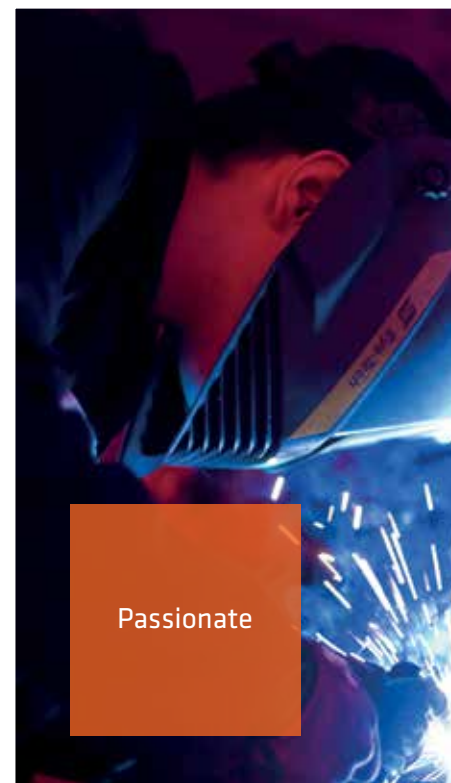
A new generation of couplings, based on composite materials in combination with leading coupling technology.

The system will provide significant improvement in key coupling areas, and enable Raufoss to take a broader responsibility in pneumatic system building on commercial vehicles.

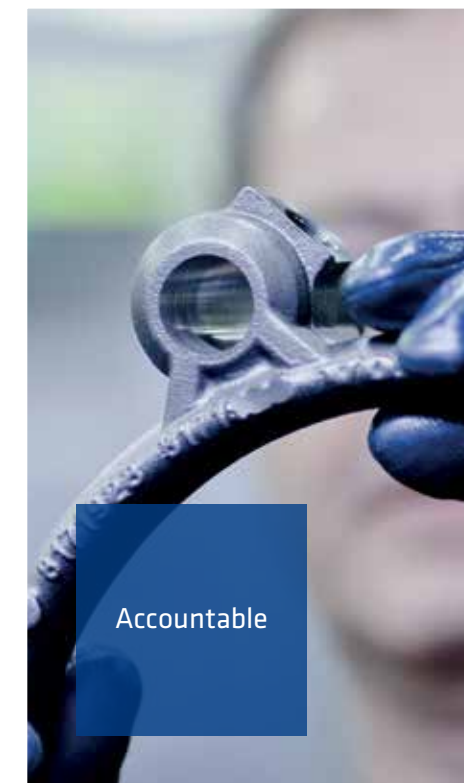
New composite materials reduce system cost, weight, article numbers and increases design flexibility.

Brass components secure structural integrity in highly stressed areas.

One global system, fulfilling different engineering philosophies within truck, bus, trailer, off-road applications



Passionate



Accountable



Prepared

Raufoss ABC Push-in family



ABC New line
Push-in



ABC KArtridge
Push-in



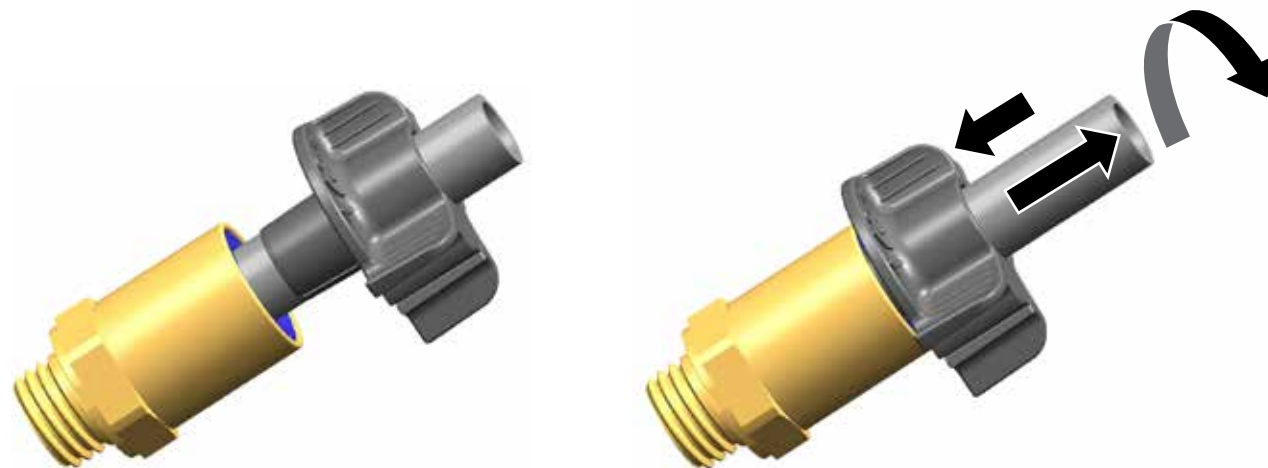
ABC Threadless
Push-in



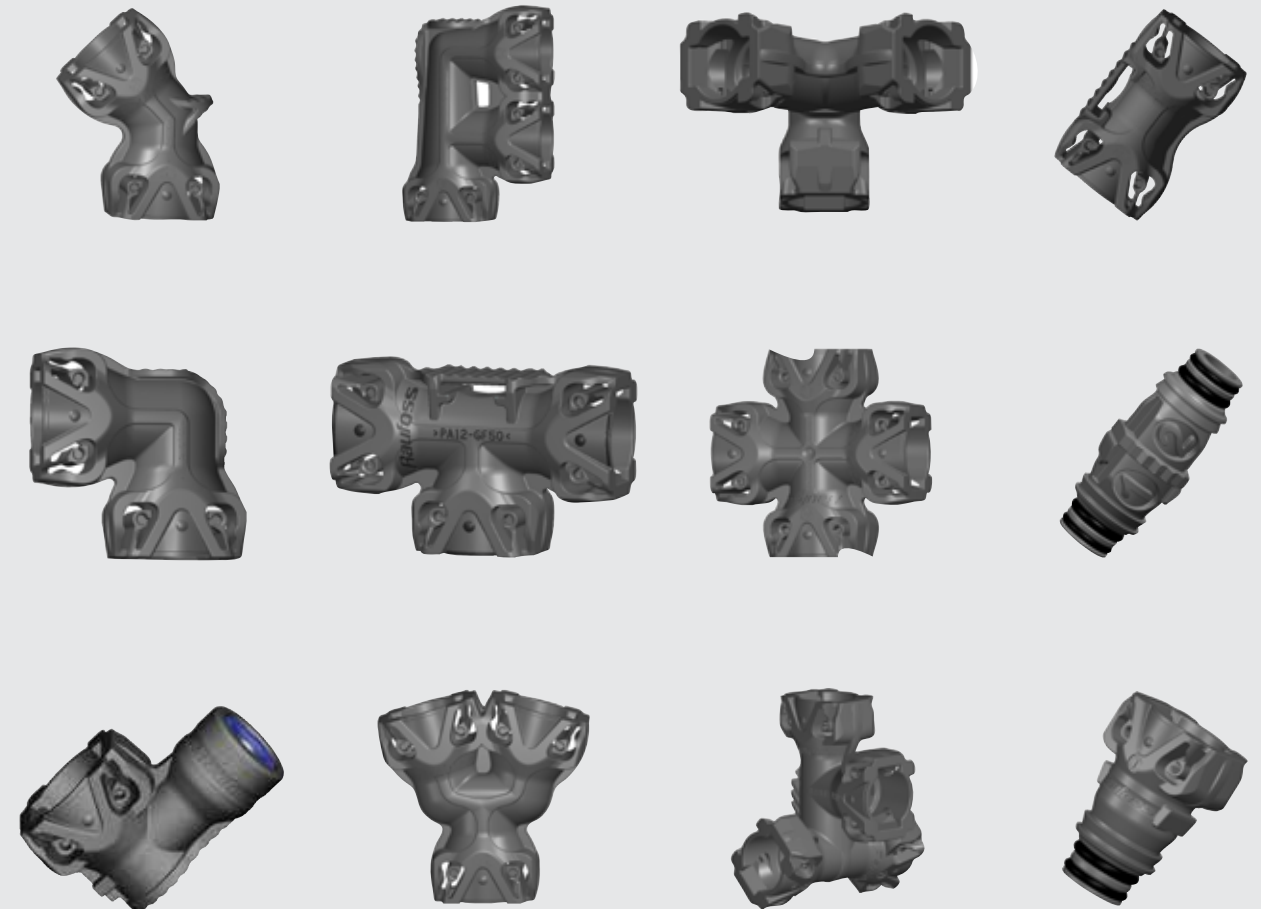
ABC Integral
Push-in

Release Tool

1. Clamp release Tool around the tube
2. Press the Release Tool into the coupling
3. Pull the tube while keeping pressure on the Release tool



ABC Building Block - Program overview

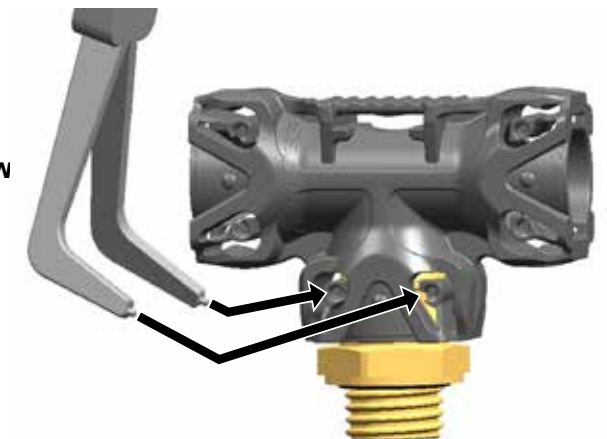


ABC Building Block release



Standard circlip plier - 90° elbow

Standard circlip plier - Straight



Enhancing
the driving
experience

Our business	ABC	ABC Product Information	BRK	BRK Product Information
PAGE	GB: CONTENTS	FR: SOMMAIRE	DE: INHALTSVERZEICHNIS	IT: INDICE
12	General information	Généralités	Allgemeine Informationen	Informazioni generali
14	ABC New Line Push-in Couplings	ABC New Line Union mâle	ABC New Line Gerader Steckverbindungen	ABC New Line Raccordo ad innesto rapido
15	ABC Swivel	ABC Embase filetée	ABC Anschlußstutzen	ABC Innesto girevole
15	ABC Swivel Bulkhead	ABC Embase filetée passe-cloison	ABC Anschlußschottstutzen	ABC Innesto girevole con passaparete
16	ABC Swivel Double Bulkhead	ABC Embase filetée double/passe-cloison	ABC Dopplete Anschlußschottstutzen x2	ABC Innesto girevole x2 con passaparete
16	ABC Threadless Push-in Couplings	ABC Threadless Raccord pour tube à clipser	ABC Threadless Gewindelose Steckverbindungen	ABC Threadless Raccordo ad innesto rapido senza filetto
17	ABC Integral Push-in	Coude intégré ABC á clipser	90° ABC Push-in Steckverbinder	Raccordo ABC 90° integrato
17	ABC Elbow	ABC Coude	ABCWinkel	ABC Gomito
17-18	Union F, T&L, Y	F, T&L, Y à clipser	F, T&L, Y - Stück	Raccordo a F, T&L, Y
18	3/4-Way block 4-Way cross	Té / Croix ABC à clipser	3/4-Wege Block Kreuzstück	Raccordo a 3 vie/ a 4 vie Raccordo a croce
19	Union T&L w/Bracket clip 90°	Té ABC à clipser avec fixation	T-Stück mit Lasche	Raccordo aT&L con staffa
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20	Push-in Plug	Bouchon	Stopfen für Steckverbindungen	Tappo per innest rapido
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21	Hose Adapter	Adaptateur	Schlauchstutzen Adapter	Bocchettone
22	Release Tool Standard/ Professional	Qutil de deconnexion/deconnexion metallique	DemontageWerkzeug/ Werkzeug Metall	Attrezzo professionale per smontaggio tubi
23	ABC KArtridge* Press-in Coupling	ABC KArtridge* Union mâle	ABC KArtridge* Gerader Steckverbindungen	ABC KArtridge* Ad innesto rapido
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GB / FR / DE / IT				
SYMBOLS - SYMBOLES - SYMBOLE - LEGENDA				
 Hexagon width/Clé de/Schlüsselweite/Chiave [mm]				
 Packing unit/Unité emballage/Verpackungseinheit/Unità d'imballo				
 Weight/Poids/Gewicht/Peso [g]				
BRK systems on page 41.				

General System Information

Kongsberg Automotive has, in co-operation with various commercial vehicle manufacturers, developed a new air coupling system based on composite material and brass for use with plastic tubing for the compressed air circuits used on commercial vehicles.

The carefully developed, matured and thought out **ABC™** couplings system consists of the following elements:

- Push-in couplings
- **ABC™** Swivels
- **ABC™** Building Blocks
- Bulkhead couplings
- Test Points
- Hose nipples
- Accessories

Raufoss ABC™ couplings can be used with polyamide (PA 6.10, PA 10.10, PA 10.12, PA 11, PA 12) or Hytrel tubing to one of the following standards:

- ISO 7628
- DIN 74324
- DIN 73378
- SAE J844

Operating temperature for **ABC™** Couplings is between -40°C to +100°C, with peak-temperature up to + 130°C (pressure less, for a period of approximately 2 hours.)

The operating pressure is max 12,5 bar for the couplings. Please take into consideration the max allowed tube operation pressure.

Système général d’informations

Kongsberg Automotive, en coopération avec des constructeurs de véhicules industriels, a développé un programme de raccords de freinage en matière composite et laiton pour tubes polyamide destiné aux circuits d'air comprimé des véhicules industriels.

Le système de raccords de freinage **ABC™** repose sur un conception modulaire avec:

- des unions mâles
- des embases orientables **ABC™**
- des pièces de forme (coudes, tés, croix etc.)
- des passe-cloisons
- prise de pression
- des Raccords queue lisses er canelées
- accessoires

Les raccords **Raufoss ABC™** peuvent être utilisés avec des tubes polyamides (PA 11 / 12) ou Hytrel conformes aux normes suivantes :

- ISO 7628
- DIN 74324
- DIN 73378
- SAE J844

La température de service des raccords **ABC™** peut varier entre -40°C et + 100°C, avec une température de pointe à + 130°C (sans pression, pendant environ 2 heures).

La pression de service des raccords est 12,5 bar; veuillez à la résistance maximale des tubes.

	Product Produit	Material Designation ¹⁾ Spécification Matériau ¹⁾	Comments Commentaires
TABLE 1	Brass components	EN 12164 CW617N (CuZn39Pb3)	
	Composants laiton	EN 12164 CW614N (CuZn39Pb3)	
	ABC™ composite bodies	PA12 GF50	
	ABC™ boîtiers composites		
	O-rings	EPDM	
	Joints toriques		
	Steel components ²⁾	EN 10087 9SMnPb28	Yellow chromated acc.
	Composants Acier ²⁾		Bichromatés jaune
			ISO 4042/A3C

The use of our couplings with other media than air is not permitted without prior approval.

Raufoss ABC™ couplings from Kongsberg Automotive is approved and certified by: TÜV Nord

Kongsberg Automotive quality system is approved according to the following international standards:

- ISO/TS 16 949
- ISO 14001

For any further specific requirements, applications of our product or support for technical solutions, please ask for individual consultation from Kongsberg Automotive, our subsidiary Kongsberg Raufoss Distribution SAS.

L'utilisation de nos raccords avec des fluides autre que l'air n'est pas autorisée sauf accord express de nos services techniques.

Les raccords Raufoss ABC™ de Kongsberg Automotive sont certifiés et approuvés par: TÜV Nord

Le système qualité de Kongsberg Automotive est certifié selon les normes suivantes:

- ISO/TS 16 949
- ISO 14001

Pour tous renseignements complémentaires sur les applications de nos produits ou pour obtenir une aide technique, veuillez contacter votre revendeur ou Kongsberg Raufoss Distribution SAS.

¹⁾Des déviations sont marquées
²⁾Composants en acier sont marqués avec

Generelle System Information

Kongsberg Automotive als kompetenter Systemlieferant der weltweiten Nutzfahrzeugindustrie hat, in Kooperation mit führenden Nutzfahrzeughherstellern, ein Steckverbindungs- system für Kunststoffrohre für die Druckluftbremsanlage in Nutzfahrzeugen entwickelt.

Das sorgfältig, entwickelte, ausgereifte und durchdachte **ABC™** Couplings - Verschraubungssystem besteht aus den folgenden Komponenten:

- Gerade Steckverbindungen
- **ABC™** Schnellanschlußstutzen
- **ABC™** Baukastenteile
- Schottverschraubungen
- Prüfanschluß
- Schlauchstutzen
- Zubehörteile

Raufoss ABC™ Couplings können für Polyamid-Rohre (PA 11 / PA12) sowie Hytrel-Rohre der folgenden Normen verwendet werden:

- ISO 7628
- DIN 74324
- DIN 73378
- SAE J844

Die Betriebstemperatur für das **ABC Couplings™** ist -40°C bis + 100°C ausgelegt, mit einer Spitzentemperatur von bis + 130°C (drucklos, für die Dauer von ca. 2 Stunden).

Der zulässige Betriebsdruck ist 12,5 bar. Bitte beachten Sie den max. erlaubten Betriebsdruck der Rohre.

	Produkt Prodotto	Material Spezifikation ¹⁾ Descrizione del materiale ¹⁾	Anmerkungen Commenti
TABELLE 1	Messing System-Komponenten	EN 12164 CW617N (CuZn39Pb3)	
	Parti in ottone	EN 12164 CW614N (CuZn39Pb3)	
	Gehäuse des ABC™	PA12 GF50	
	Corpi dei raccordi ABC™		
	O-Ringe	EPDM	
	O-rings		
	Stahlteile ²⁾	EN 10087 9SMnPb28	Gelbverzinkt nach
	Parti in acciaio ²⁾		Zincatura gialla
			ISO 4042/A3C

Andere Medien als Druckluft dürfen nur mit besonderer Freigabe verwendet werden.

Die Raufoss ABC™- Verschraubungen von Kongsberg Automotive ist geprüft und zertifiziert von: TÜV Nord

Das Qualitätssicherungssystem von Kongsberg Automotive ist nach den folgenden international anerkannten Normen zertifiziert:

- ISO/TS 16 949
- ISO 14001

Für Rückfragen stehen Ihnen die Anwendungsberater von Kongsberg Automotive oder von Kongsberg Raufoss Distribution SAS gerne zur Verfügung, sowie unsere Händler.

¹⁾Abweichungen sind gekennzeichnet
²⁾Die Stahl-Komponenten sind mit # gekennzeichnet

Informazioni sul sistema

Kongsberg Automotive, in collaborazione con i principali costruttori di veicoli industriali, ha sviluppato un tecnologico sistema di raccordi ad innesto rapido in materiale composito ed ottone idoneo al collegamento delle tubazioni termoplastiche degli impianti pneumatici.

La produzione del sistema di raccordi **ABC™** Couplings è stata avviata dopo un'attenta fase di ricerca, sviluppo e collaudi, e consiste dei seguenti componenti:

- Raccordi ad innesto rapido New Line
- Raccordi girevoli **ABC™**
- Raccordi **ABC™** multipli
- Raccordi passaparete
- Raccordi presa pressione
- Bocchettoni
- Accessori

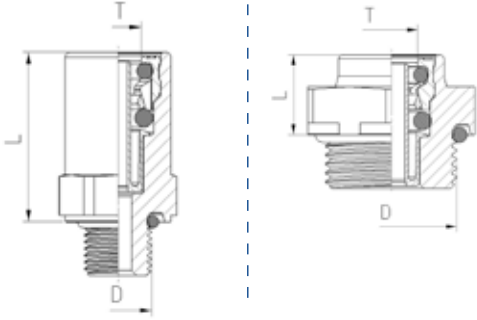
Il sistema **Raufoss ABC™** Couplings può essere impiegato con tubazioni in poliamide (PA11 / PA12) od in Hytrel conformi ai seguenti standard:

- ISO 7628
- DIN 74324
- DIN 73378
- SAE J844

La temperatura di lavoro prescritta è compresa tra i -40°C ed i +100°C, con una temperatura di picco di +130°C (senza pressione per un periodo max di 2 ore).

La pressione di lavoro massima è di 12,5 bar, tenendo in considerazione la pressione massima prescritta per i tubi.

GB: ABC New Line Push-in Coupling
DE: ABC New Line Gerade Steckverbindungen



Version 1





Version 2



FR: ABC New Line Union Mâle
IT: ABC New Line Raccordo ad innesto rapido

Article no.	T	D	L	Version			
901 06 010	6x1,0	M10x1,0	25	1	18	200	33
901 06 012	6x1,0	M12x1,5	24	1	18	170	35
901 06 014	6x1,0	M14x1,5	16	2	20	150	30
901 06 016	6x1,0	M16x1,5	12	2	22	175	32
901 06 022	6x1,0	M22x1,5	12	2	28	100	62
901 08 010	8x1,0	M10x1,0	27	1	18	150	38
901 08 012	8x1,0	M12x1,5	26	1	18	150	39
901 08 014	8x1,0	M14x1,5	25	1	20	150	43
901 08 016	8x1,0	M16x1,5	17	2	22	150	35
901 08 022	8x1,0	M22x1,5	13	2	28	100	61
901 10 012	10x1,0	M12x1,5	28	1	22	100	48
901 10 014	10x1,0	M14x1,5	28	1	22	100	53
901 10 016	10x1,0	M16x1,5	28	1	22	90	54
901 10 022	10x1,0	M22x1,5	17	2	28	80	59
901 10 112	10x1,25	M12x1,5	28	1	22	100	48
901 10 116	10x1,25	M16x1,5	28	1	22	90	54
901 10 122	10x1,25	M22x1,5	17	2	28	80	59
901 10 212	10X1,5	M12x1,5	28	1	20	100	48
901 10 216	10X1,5	M16x1,5	28	1	22	90	54
901 10 222	10X1,5	M22x1,5	17	1	28	70	59
901 12 012	12x1,5	M12x1,5	31	1	22	80	53
901 12 016	12x1,5	M16x1,5	30	1	22	75	55
901 12 022	12x1,5	M22x1,5	19	2	28	75	58
901 15 016	15x1,5	M16x1,5					
901 15 022	15x1,5	M22x1,5	31	1	28	50	100
901 16 016	16x2,0	M16x1,5	33	1	28	50	87
901 16 022	16x2,0	M22x1,5	31	1	28	50	85

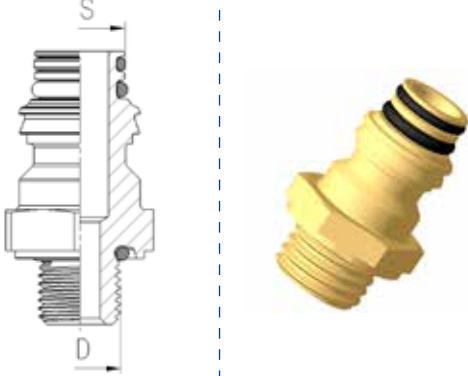
ABC Port Sizes

Swivel / Building Block Size	Tube	Cap Color
Small	6x1 / 8x1	Grey
Regular	6x1 - 12x1,5	Green
Heavy Duty	12x1,5 / 15x1,5 / 16x2	Blue



If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

GB: ABC Swivel
DE: ABC Anschlußstutzen



FR: ABC Embase fileté
IT: ABC Innesto girevole

Article no.	S	D	CAP	Rotolock			
931 40 010	Small	M10x1,0	Grey	964 40 016	18	175	30
931 40 012	Small	M12x1,5	Grey	964 40 018	18	175	31
931 40 014	Small	M14x1,5			20	150	35
931 40 016	Small	M16x1,5	Grey	964 40 022	22	125	43
931 50 010	Regular	M10x1,0	Green	964 52 018	18	125	37
931 50 012	Regular	M12x1,5	Green	964 52 018	18	125	37
931 50 014	Regular	M14x1,5	Green	964 50 020	20	100	42
931 50 016	Regular	M16x1,5	Green	964 50 022	22	100	47
931 50 022	Regular	M22x1,5	Green	964 52 028	28	70	63
931 60 016	Heavy Duty	M16x1,5	Blue	964 60 022	22	75	56
931 60 022	Heavy Duty	M22x1,5	Blue	964 60 028	28	60	66

GB: ABC Swivel with 24° cone connection
DE: ABC Anschlußstutzen mit 24° Konus



FR: ABC Embase fileté avec cone 24°
IT: Raccordo girevole ABC con cono 24°

Article no.	S	D	K	Rotolock			
931 52 412	Regular	M12x1,5	24°	964 52 018	18	TBA	40

GB: ABC Extended Swivel
DE: ABC Anschlußstutzen, verlängert



FR: Extension d'embase ABC
IT: Girevole ABC con prolunga

Article no.	S	D	L	Rotolock			
931 59 014	Regular	M14x1,5	55	964 50 022	20	TBA	63

GB: ABC Swivel Bulkhead
DE: ABC Anschlußschottstutzen



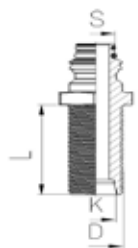
FR: ABC Embase fileté passe-cloison
IT: ABC Innesto girevole con passaparete

Article no.	S	D1	D2	L	Cap	Rotolock			
933 51 218	Regular	M22x1,5	M16x1,5	14		964 50 022	22	TBA	59
933 51 622	Regular	M22x1,5	M16x1,5	23	Green	964 52 028	28	40	84
933 62 228	Heavy Duty	M28x1,5	M22x1,5	24	Blue		36	30	131

If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

GB: ABC Swivel Bulkhead
DE: ABC Anschlußschottstutzen

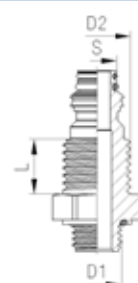
FR: ABC Embase fileté passe-cloison
IT: ABC Innesto girevole con passaparete



Article no.	S	D1	L	K	Cap	Rotolock			
933 52 416	Regular	M16x1,5	35	24°	Green	964 50 022	22	50	71
933 52 418	Regular	M18x1,5	42	24°	Green		24	50	99

GB: ABC Swivel Bulkhead
DE: ABC Anschlußschottstutzen

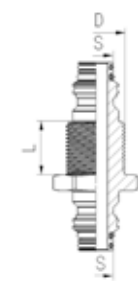
FR: ABC Embase fileté passe-cloison
IT: ABC Innesto girevole con passaparete



Article no.	S	D1	D2	L	Cap	Rotolock			
933 52 216	Regular	M16x1,5	M22x1,5	18	Green	964 52 028	28	25	115
933 52 222	Regular	M22x1,5	M22x1,5	18	Green	964 52 028	28	40	110

GB: ABC Double Swivel Bulkhead
DE: ABC Doppel Anschlußschottstutzen

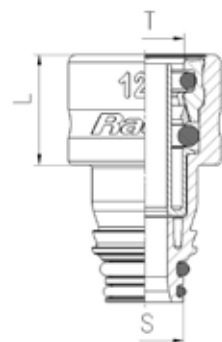
FR: ABC Embase fileté double/ passe-cloisen
IT: ABC Innesto girevole x2 con passaparete



Article no.	S	D1	D2	Cap	Rotolock			
933 52 205	Regular	M22x1,5	20	Green	964 52 028	28	30	124
933 62 206	Heavy Duty	M22x1,5	20	Blue	964 60 028	28	30	141

GB: ABC Threadless Push-in Coupling
DE: ABC Threadless Gewindeloses Steckverbindung

FR: ABC Threadless Raccord pour tube à clipser
IT: ABC Threadless Raccordo ad innesto rapido senza filetto

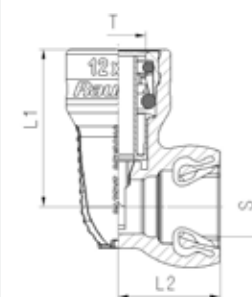


Article no.	T	S	L		
902 06 004	6x1,0	Small	4	500	4
902 08 004	8x1,0	Small	10	500	5
902 06 005	6x1,0	Regular	4	450	6
902 08 005	8x1,0	Regular	8	375	7
902 10 005	10x1,0	Regular	11	275	10
902 10 105	10x1,25	Regular	11	275	10
902 10 205	10x1,5	Regular	11	275	10
902 12 005	12x1,5	Regular	18	200	12
902 12 006	12x1,5	Heavy Duty	18	200	12
902 15 006	15x1,5	Heavy Duty	21	125	21
902 16 006	16x2,0	Heavy Duty	21	120	21

If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

GB: ABC Integral Push-in
DE: 90° ABC Push-In Steckverbinder

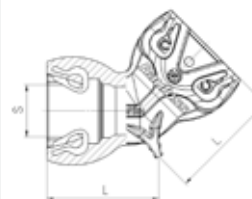
FR: Coude intégré ABC à clipser
IT: Raccordo ABC 90° integrato



Article no.	T	S	L1	L2		
903 06 004	6x1,0	Small	32	18	150	12
903 08 004	8x1,0	Small	34	18	150	12
903 06 005	6x1,0	Regular	31	21	150	14
903 08 005	8x1,0	Regular	33	21	150	17
903 10 005	10x1,0	Regular	35	24	125	18
903 10 105	10x1,25	Regular	35	24	125	18
903 10 205	10x1,5	Regular	35	24	125	18
903 12 205	12x1,5	Regular	37	24	120	19
903 15 006	15x1,5	Heavy Duty	46	24	75	36
903 16 006	16x2,0	Heavy Duty	46	24	70	30

GB: 45° Elbow
DE: 45° Winkel

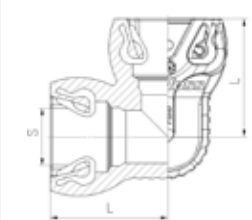
FR: Coude 45°
IT: Gomito 45°



Article no.	S (2x)	L		
920 40 045	Small	22	150	8
920 50 045	Regular	25	120	13
920 60 045	Heavy Duty	30	75	21

GB: 90° Elbow
DE: 90° Winkel

FR: Coude 90°
IT: Gomito 90°



Article no.	S (2x)	L		
920 50 090	Regular	29	100	15
920 60 090	Heavy Duty	34	60	25

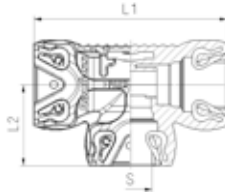
GB: Union F
DE: F - Stück

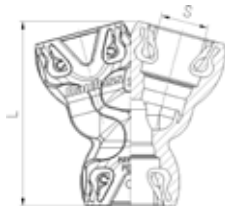
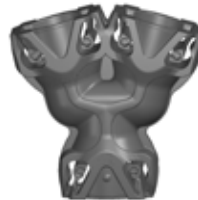
FR: Coude F
IT: Raccordo a F

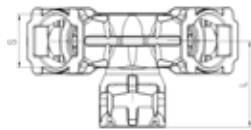


Article no.	S (3x)	L1	L2	L3		
920 40 015	Small	27	22	23	100	16
920 50 015	Regular	31	26	27	50	25
920 60 015	Heavy Duty	36	31	32	35	40

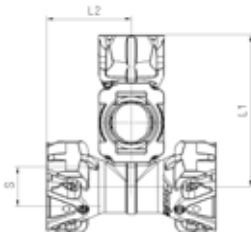
If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

GB: Union T&L DE: T&L - Stück		FR: Té T&L IT: Raccordo a T&L					
			S (3x)	L1	L2		
		920 40 010	Small	53	22	90	14
		920 50 010	Regular	62	26	70	22
		920 60 010	Heavy Duty	73	31	40	35

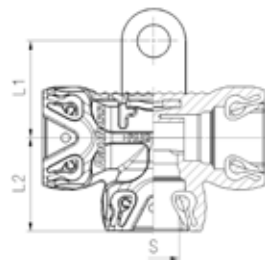
GB: Union Y DE: Y - Stück		FR: Union Y IT: Raccordo a Y					
			S (3x)	L			
		920 40 030	Small	47	100	13	
		920 50 030	Regular	55	70	21	

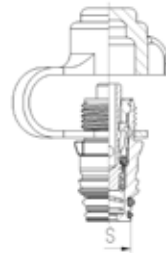
GB: 3 - Way Block DE: 3 - Wege Block		FR: Té ABC à clipser IT: Raccordo a 3 vie					
			S (3x)	L			
		920 40 060	Small	24	75	15	
		920 52 060	Regular	28	50	25	
		920 60 060	Heavy Duty	33	35	39	

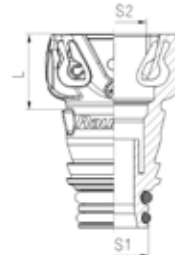
GB: 4 - Way Cross DE: Kreuzstück		FR: Croix IT: Raccordo a croce					
			S (4x)	L			
		920 50 070	Regular	29	50	25	
		920 60 070	Heavy Duty	34	35	40	

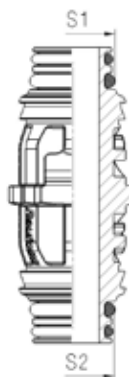
GB: 4 - Way Block DE: 4 - Wege Block		FR: Croix renversée IT: Raccordo a 4 vie					
			S (4x)	L1	L2		
		920 50 061	Regular	50	28	50	28
		920 60 061	Heavy Duty	59	33	30	45

If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

GB: Union T&L w/ Bracket clip 90° DE: T-Stück mit Lasche		FR: Té ABC à clipser avec fixation IT: Raccordo a T&L con staffa					
			S (3x)	L1	L2		
		920 50 025	Regular	27	26	50	34

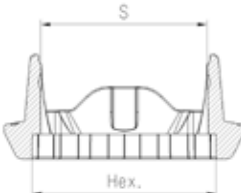
GB: ABC Threadless Test point ISO 3583 DE: ABC Prüfanschluß ISO 3583		FR: ABC Prise de pression à clipser ISO 3583 IT: ABC Presa pressione senza filetto ISO 3583			
			S		
		960 50 000	Regular	200	14

GB: ABC Reducer DE: ABC Reduzierstück		FR: Réducteur ABC IT: Riduzione ABC						
			S1	S2	L	Rotolock		
		961 50 106	Heavy Duty	Regular	15		175	12

GB: ABC Union Male DE: Gewindeloser ABC Verbinder		FR: Jonction ABC IT: Giunzione ABC maschio x2					
			S1	S2	Rotolock		
		965 40 004	Small	Small	964 40 018	120	9
		965 40 005	Regular	Small	964 40 018	240	10
		965 50 005	Regular	Regular	964 50 018	200	11
		965 50 006	Heavy Duty	Regular	964 50 018	150	13
		965 60 006	Heavy Duty	Heavy Duty	964 60 022	140	16

If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

GB: ABC Union Female DE: Gerader ABC Verbinder		FR: Union double ABC IT: Giunzione ABC femmina x2				
			S (2x)	L		
		961 40 004	Small	39	70	8
		961 50 205	Regular	45	80	13

GB: Rotolock DE: Rotolock		FR: Rotolock IT: Rotolock					
			S	Hex	Color Code		
		964 40 016	Small	16	Dark Grey	500	2
		964 40 018	Small	18	Light Grey	500	2
		964 40 022	Small	22	Light Grey	500	2
		964 52 018	Regular	18	Light Grey	400	3
		964 50 020	Regular	20	Dark Grey	400	3
		964 50 022	Regular	22	Light Grey	400	3
		964 52 028	Regular	28	Dark Grey	300	3
		964 60 022	Heavy Duty	22	Light Grey	250	5
		964 60 028	Heavy Duty	28	Dark Grey	250	5

GB: Push - In Plug DE: Stopfen für Steckverbindung		FR: Bouchon IT: Tappo per innesto rapido				
			T			
		962 10 004	4x1,0		1000	1
		962 10 006	6x1,0		1000	1
		962 10 008	8x1,0		700	1
		962 10 012	12x1,5		250	2
		962 10 015	15x1,5		150	3
		962 10 016	16x2,0		150	4

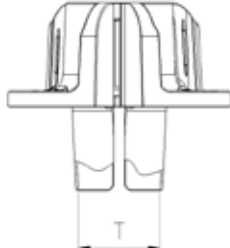
GB: ABC Threadless Swivel Plug DE: Gewindeloser ABC Stopfen		FR: Obturateur ABC à clipser IT: Tappo ABC senza filetto				
			S			
		962 40 000	Small		170	24
		962 50 000	Regular		150	33
		962 60 000	Heavy Duty		100	54

If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

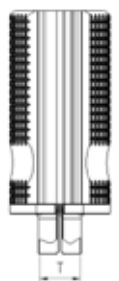
GB: ABC Swivel with Internal Threads DE: ABC Anschluß mit Innengewinde		FR: Adaptateur ABC à filetage femelle IT: Adattatore ABC con innesto senza filetto					
			S	D			
		931 50 112	Regular	M12x1,5	18	150	30
		931 50 114	Regular	M14x1,5	18	120	32
		931 50 116	Regular	M16x1,5	22	80	52
		931 50 122	Regular	M22x1,5	28	40	60

GB: Transportation plug DE: Transport Stopfen		FR: Bouchon pour transport IT: Tappo di protezione			
			T		
		967 06 000	6x1,0	1000	1
		967 08 000	8x1,0	1000	1
		967 12 000	12x1,5	500	1
		967 15 000	15x1,5	250	2
		967 16 000	16x2,0	250	2

GB: Hose Adapter DE: Schlauchstutzen Adatper		FR: Adaptateur IT: Bocchettone per					
Only for Push - In / nur für Steckverbindung: 901 12 0xx / 902 12 0xx / 903 12 0xx							
			T	H	L		
		943 11 012	12x1,5	11	30	150	30

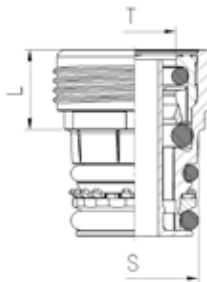
GB: Release Tool Standard DE: Demontage Werkzeug		FR: Outil de cléconnection IT: Attrezzo smontaggio tubi					
			T	T	T		
		966 06 010	6x1,0			150	5
		966 08 010	8x1,0			125	5
		966 10 010	10x1,0	10x1,25	10x1,5	100	6
		966 12 710	12x1,5			100	6
		966 15 010	15x1,5			75	7
		966 16 010	16x2,0			75	7

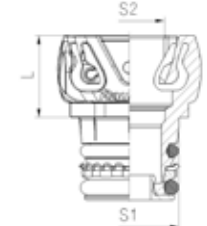
If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

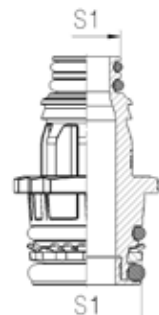
GB: Release Tool Professional DE: Demontage Werkzeug Metall		FR: Outil de deconnection metallique IT: Attrezzo in metallo smontaggio tubi				
		T	T	T		
		966 06 020	6x1,0		36	65
		966 08 020	8x1,0		36	67
		966 10 020	10x1,0	10x1,25	36	67
		966 12 020	12x1,5		36	67
		966 15 020	15x1,5		16	108
		966 16 020	16x2,0		16	108

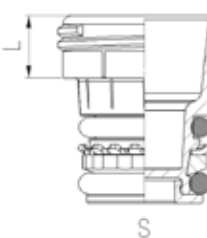


If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

GB: ABC KArtridge* Press - in coupling DE: ABC KArtridge* Gerader Steckverbinder		FR: ABC KArtridge* Union mâle IT: ABC KArtridge* Ad innesto rapido					
		T	S	L			
		6x1,0	Small	11	450/	TBA	5
		8x1,0	Small	11	450/	TBA	6
		8x1,0	Regular	8		TBA	9
		12x1,5	Regular	13		TBA	9
		15x1,5	Heavy Duty	13		TBA	20
16x2,0	Heavy Duty	13		TBA	20		

GB: ABC KArtridge* Adapter DE: ABC KArtridge* Adapter		FR: ABC KArtridge* Adaptateur IT: ABC KArtridge* Adattatore				
		S1	S2	L		
		Regular	Regular	17	TBA	6

GB: ABC KArtridge* Swivel DE: ABC KArtridge* Anschluß Stutzen		FR: ABC KArtridge* Embase IT: ABC KArtridge* Innesto girevole			
		S1	S2		
		Small	Small	TBA	7
		Heavy Duty	Heavy Duty	TBA	16

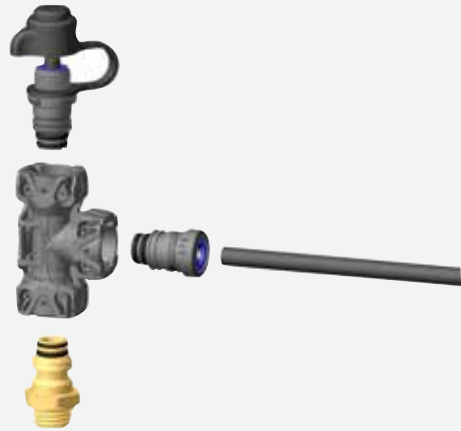
GB: ABC KArtridge* Port Plug DE: ABC KArtridge* Stopfen		FR: ABC KArtridge* Bouchon IT: ABC KArtridge* Tappo				
		S	L			
		Small	7	TBA	5	

TBA = To be agreed
* For KArtridge availability, please take contact with one of our sales representatives.

If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

Raufoss ABC™ System - Assembly proposals

L-coupling with test point



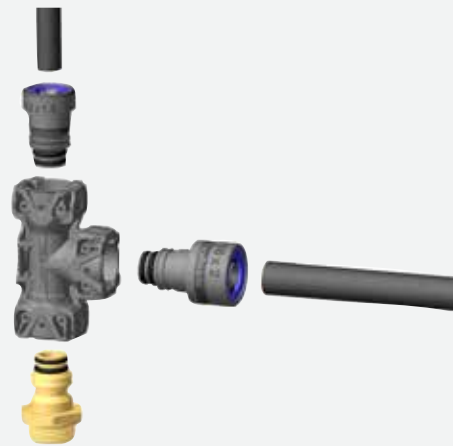
Integral-coupling with rotolock



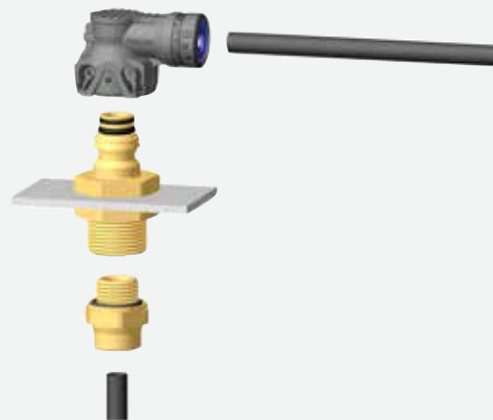
T-coupling



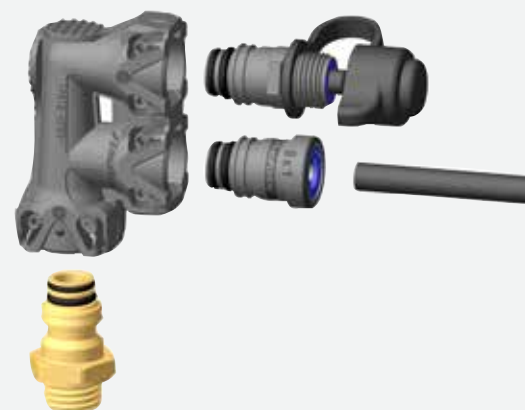
L-coupling



Bulkhead with integral coupling



F-coupling



Raufoss ABC™ System - Assembly proposals

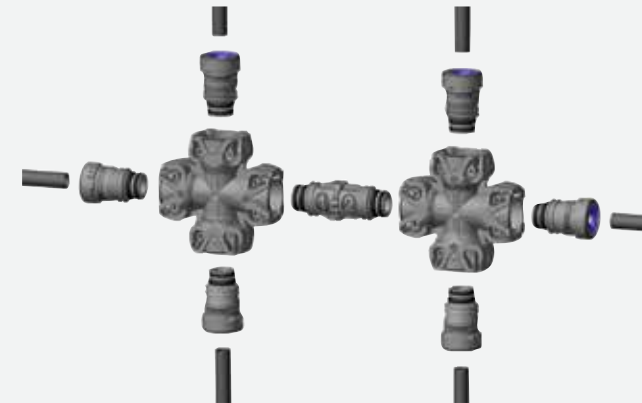
Union coupling



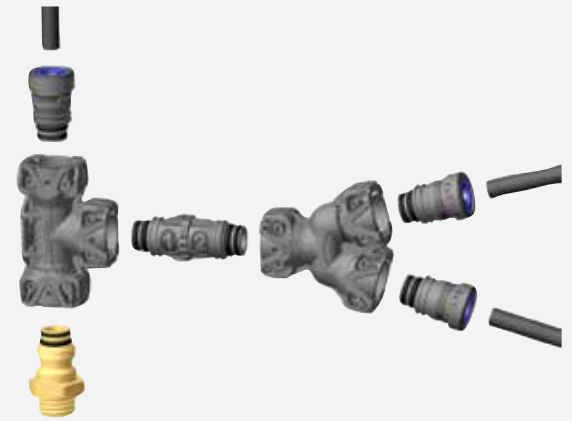
T - couplings stacked on bracket



4 - way Union couplings



Combined couplings

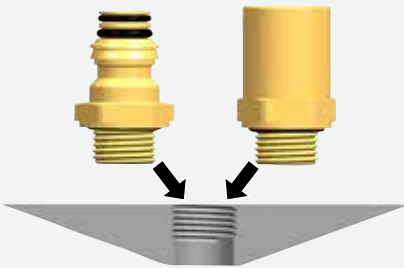


Parallel thread

Assembly intstructions

Rapides Métriques

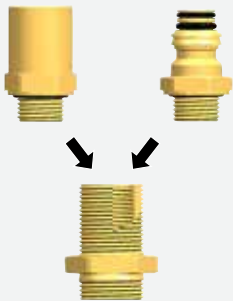
Instructions de montage



The installation of the metric Push-In couplings, ABC™ swivels, locking nuts etc. shall be directly tightened into the thread (ace. DIN 3852, ISO 6149, ISO 4039-1, ISO 4039-2, Voss port geometry) without any further preparation. The necessary torque values according to Table 2a:

Les raccords rapides métriques, embases et contre ecrous etc, sont vissés sans préparation, directement dans le taraudage récepteur. (DIN 3852, ISO 6149, ISO 4039-1, ISO 4039-2, Voss) Les couples de serrage sont indiqués dans le tableau 2a ci-dessous:

TABLE 2A	Thread Filetage	Recommended torque 1) 2) Couple de serrage recommandé 1) 2)	Max. torque 2) Couple de serrage max 2)	TABLEAU 2A
	G 1/8"	15 Nm	18 Nm	
	G 1/4"	24 Nm	28 Nm	
	M 10 x 1.0	15 Nm	18 Nm	
	M 12 x 1.5	20 Nm	24 Nm	
	M 14 x 1.5	24 Nm	28 Nm	
	M 16 x 1.5	30 Nm	35 Nm	
	M 22 x 1.5	34 Nm	40 Nm	
	M 26 x 1.5	43 Nm	50 Nm	



When using Push-In couplings or swivels together with Raufoss couplings™ bulkheads, the following reduced torque values (Table 2b) are applicable:

Pour le montage de raccords rapides et d'embases orientables dans les passe-cloisons Raufoss Couplings™, appliquer les couples de serrage réduits selon le tableau 2b:

TABLE 2B	Thread Filetage	Recommended torque 1) 2) Couple de serrage recommandé 1) 2)	Max. torque 2) Couple de serrage max 2)	TABLEAU 2B
	M 10 x 1.0	15 Nm	18 Nm	
	M 12 x 1.5	24 Nm	28 Nm	
	M 16 x 1.5	10 Nm	18 Nm	

1) The recommended torques are based on the threads without lubrication. The rec-ommended torques applies to ports of aluminum, brass or steel. A “torque wrench” should be used.

2) Please refer to the max. torque of the valve, air reservoir etc

1) Les couples de serrage recommandés sont basés sur des filetages non lubrifiés. Les couples de serrage recommandés s'appliquent aux taraudages en aluminium, en laiton ou en acier. Une clé à cliquet dynamométrique doit être utilisée.

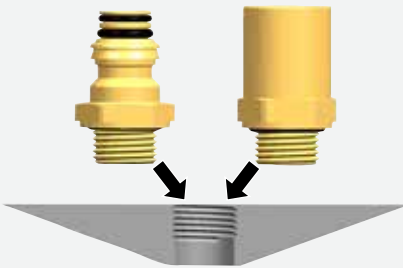
2) Veuillez également ne pas dépasser le couple de serrage maximum pour les valves, bouteilles d'air etc.

Parallel Gewinde

Montagehinweise

Filettatura metrica

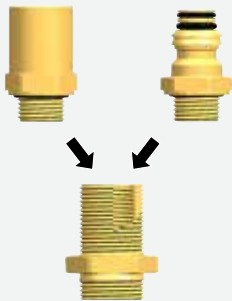
Istruzioni di montaggio



Die geraden Steckverbindungen, ABC Anschlußstutzen, Kontermuttern etc. werden ohne weitere Vorbereitung in die Aufnahme Gewinde. (DIN 3852, ISO 6149, ISO 4039-1, ISO 4039-2, Voss Geometrie) geschraubt. Die Anzugsdrehmomente sind der Tabelle 2a zu entnehmen:

Le filettature dei raccordi ABC (New Line, girevoli, dadi, ecc) sono idonei per le sedi secondo gli standard. (DIN 3852, ISO 6149, ISO 4039-1, ISO 4039-2, Voss) Le coppie di serraggio prescritte sono illustrate nella tabella 2a:

TABLE 2A	Gewinde Filetto	Empfohlenes Anzugsdrehmoment 1) 2) Coppia di serraggio prescritta 1) 2)	Max. Anzugsdrehmoment 2) Coppia di serraggio max. 2)	TABELLA 2A
	G 1/8"	15 Nm	18 Nm	
	G 1/4"	24 Nm	28 Nm	
	M 10 x 1.0	15 Nm	18 Nm	
	M 12 x 1.5	20 Nm	24 Nm	
	M 14 x 1.5	24 Nm	28 Nm	
	M 16 x 1.5	30 Nm	35 Nm	
	M 22 x 1.5	34 Nm	40 Nm	
	M 26 x 1.5	43 Nm	50 Nm	



Bei Verwendung von Steckverbindungen, ABC Anschlußstutzen in Raufoss Couplings™ - Schottstutzen gelten die nachfolgend aufgeführten, reduzierten Drehmomente gemäß Tabelle 2b:

Quando i raccordi rapidi New Line o girevoli vengono montati su raccordi passaparete, la coppia di serraggio si riduce come prescritto nella tabella 2b:

TABLE 2B	Gewinde Filetto	Empfohlenes Anzugsdrehmoment 1) 2) Coppia di serraggio prescritta 1) 2)	Max. Anzugsdrehmoment 2) Coppia di serraggio max. 2)	TABLEAU 2B
	M 10 x 1.0	15 Nm	18 Nm	
	M 12 x 1.5	24 Nm	28 Nm	
	M 16 x 1.5	10 Nm	18 Nm	

1) Die empfohlenen Anzugsdrehmomente gelten für nicht vor- behandelte Gewinde. Die empfohlen Anzugsdrehmomente gelten für Gewinde in Aluminium, Messing, oder Stahl. Die Verwendung eines Drehmomentschlüssels wird empfohlen.

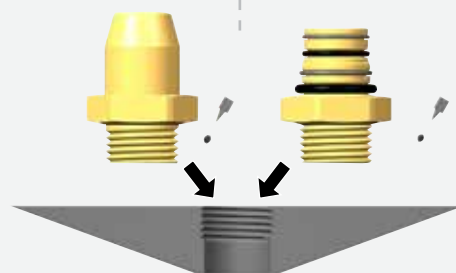
2) Bitte beachten Sie das max. zulässige Anzugsdrehmoment des Ventils, Luftbehälter, etc.

1) Le coppie di serraggio si riferiscono a montaggi su sedi in ottone, alluminio od acciaio e senza l'impiego di lubrificanti. Utilizzare chiavi dinamometriche.

2) Considerare le coppie Max prescritte per le sedi dei componenti quali valvole, serbatoi aria, etc.

Conical thread

Assembly instructions



Filetage Conique

Instructions de montage

For the installation of Push-In couplings and ABC™ swivels with “NPTF” - “R” thread, a sealing fluid should be used for tightening. The following Table 2c shows the recommended torque values

Pour le montage de raccords rapides et d'embases orientables ABC avec le filetage "NPTF" - "R", il est nécessaire d'utiliser une pâte d'étanchéité avant de visser. Les couples de serrage sont indiqués dans le tableau 2c ci-dessous.

Thread Filetage		Recommended torque 1) 2) Couple de serrage recommandé 1) 2)	Max. torque 2) Couple de serrage max 2)
TABLE 2C	1/8 - 27 NPTF	15 Nm	18 Nm
	1/4 - 18 NPTF	24 Nm	28 Nm
	3/8 - 18 NPTF	32 Nm	38Nm
	1/2 - 18 NPTF	36 Nm	42Nm
	R 1/4"	24 Nm	28 Nm
	R 3/8"	32 Nm	38 Nm
	R 1/2"	36 Nm	42 Nm
	R 5/8"	43 Nm	50 Nm
		TABLEAU 2C	

1) The recommended torques are based on the threads without lubrication. The recommended torques applies to ports of aluminum, brass or steel. A “torque wrench” should be used.

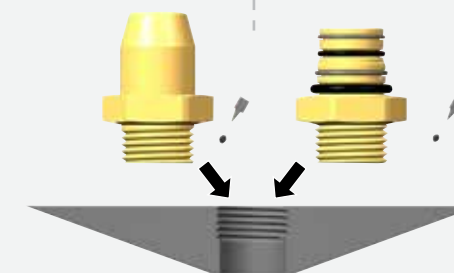
2) Please refer to the max. torque of the valve, air reservoir etc.

1) Les couples de serrage recommandés sont basés sur des filetages non lubrifiés. Les couples de serrage recommandés s'appliquent aux taraudages en aluminium, en laiton ou en acier. Une clé à cliquet dynamométrique doit être utilisée.

2) Veuillez également ne pas dépasser le couple de serrage maximum pour les valves, bouteilles d'air etc.

Konisches Gewinde

Montagehinweise



Sedi coniche

Istruzioni di montaggio

Für gerade Steckverbindungen und ABC Anschlußstutzen mit "NPTF"; "R" Gewinde soll ein Dichtmittel verwendet werden. Die Anzugsdrehmomente sind der Tabelle 2c zu entnehmen.

Per il montaggio dei raccordi New Line ed ABC girevoli con filettature "NPTF", "R", deve essere utilizzato un liquido sigillante. Le coppie di serraggio prescritte sono illustrate nella tabella 2c:

Gewinde Filetto		Empfohlenes Anzugsdrehmoment 1) 2) Coppia di serraggio prescritta 1) 2)	Max. Anzugsdrehmoment 2) Coppia di serraggio max. 2)
TABLE 2C	1/8 - 27 NPTF	15 Nm	18 Nm
	1/4 - 18 NPTF	24 Nm	28 Nm
	3/8 - 18 NPTF	32 Nm	38Nm
	1/2 - 18 NPTF	36 Nm	42Nm
	R 1/4"	24 Nm	28 Nm
	R 3/8"	32 Nm	38 Nm
	R 1/2"	36 Nm	42 Nm
R 5/8"	43 Nm	50 Nm	
		TABLEAU 2C	

1) Die empfohlenen Anzugsdrehmomente gelten für nicht vor-behandelte Gewinde. Die empfohlen Anzugsdrehmomente gelten für Gewinde in Aluminium, Messing, oder Stahl. Die Verwendung eines Drehmomentschlüssels wird empfohlen.

2) Bitte beachten Sie das max. zulässige Anzugsdrehmoment des Ventils, Luftbehälter, etc.

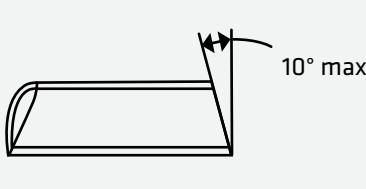
1) Le coppie di serraggio si riferiscono a montaggi su sedi in ottone, alluminio od acciaio e senza l'impiego di lubrificanti. Utilizzare chiavi dinamometriche.

2) Considerare le coppie Max prescritte per le sedi dei componenti quali valvole, serbatoi aria, etc.

Tube assembly

Assembly intstructions

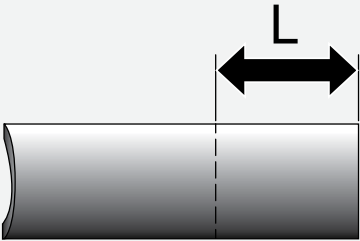
The tube has to be cut with a tube cutter by 90°. A maximum deviation of 10° is allowed.



The tube can be assembled in the push-in coupling by hand without using any tool. Tube assembly is simplified by pushing and turning the tube at the same time. Positioning is accomplished according to the Grip-then-seal principle:

1. Grip: Passing the grip ring.
2. Seal: Passing the O-ring main seal. When the tube has passed the grip ring, no slip out of tube is possible. Before reaching the mechanical stop at the full-push-in length, a small mechanical clip will be released, giving a distinct assembly feeling and securing correct assembly.

The maximum required tube push-in forces are shown in table 3. Approx. 2/3 of the given values is serial standard.



A marking for visual control of the push-in length is optional; the Push-In length is mentioned in Table 3, In cases the tube is not pushed in correctly, only passing the grip ring (see above), an audible whistle can be heard, as a measurable, controlled leakage will occur. Depending on the tube dimension it can be re-pushed under pressure and is then 100% sealed.

For connections between chassis and axle it is recommend using the tube size ≤ 12x1,5.

Ø External tube Filetage Ø Extérieur du tube		Push- in length Longueur d’emmanchement	Max. push-in force 1) Force d’emmanchement (Moyenne)1)
TABLE 3	4 mm	17,2 mm	70 N
	6 mm	19,5 mm	80 N
	8 mm	20,5 mm	90 N
	10 mm	24,0 mm	100 N
	12 mm	25,0 mm	110 N
	15 mm	27,0 mm	125 N
	16 mm	27,0 mm	130 N

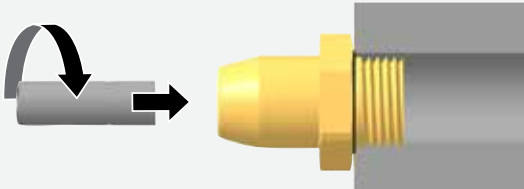
TABLEAU 3

1) Tube diameter, tolerances, ovality and cutting quality may affect the Push-In force.

Montages des tubes

Instructions de montage

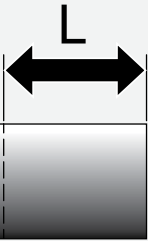
Couper le tube à angle droit, 90°. Un écart angulaire de 10° maximum est admissible



L'emmanchement du tube dans le raccord se fait manuellement sans avoir besoin d'un quelconque outil. Il est facilité si l'on pousse et tourne le tube en même temps. L'introduction se décompose en 2 phases distinctes :

- 1ère phase: Le passage de l'anneau de retenue du tube.
- 2ème phase: Le passage du dispositif d'étanchéité (joint) jusqu'en butée au fond du raccord qui déclenchera le signal sonore et tactile de parfait emmanchement. Quand le tube a passé l'anneau de retenue il ne peut pas être ressorti.

Les forces d'emmanchement maximum sont indiquées sur le tableau ci-dessous. En pratique l'effort nécessaire équivaut aux 2/3 de ces valeurs.



Pour un contrôle visuel de la longueur d'emmanchement, mentionnée sur le tableau 3, une marque peut être apposée sur le tube. Il y a une alerte sonore en cas de fuite si le tube n'est pas complètement emmanché. Selon la taille et l'accessibilité du tube celui-ci peut-être repoussé jusqu'en butée pour une parfaite étanchéité.

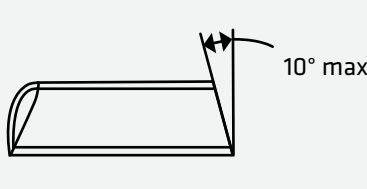
Il est recommandé d'utiliser un tube de 12x1,5 pour une connexion entre essieu et châssis

1) Diamètre du tube, tolérances, rondeur et qualité de coupe peuvent influencer la force d'emmanchement.

Montages des Rohres

Montagehinweise

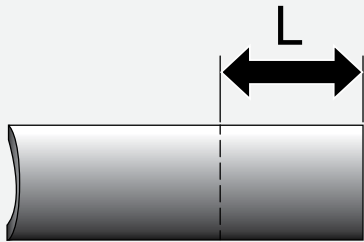
Die Rohre werden rechtwinklig mit einem Rohrschneider abgeschnitten. Eine max. Abweichung von 10° ist zulässig.



Die Rohre werden einfach von Hand, bis zum Anschlag in die Steckverbindung eingeschoben. Gleichzeitiges drücken und drehen erleichtern das Einstecken. Deutlich spürbar ist der Einschub in zwei Stufen:

- Stufe 1: Passieren des Klemmrings.
- Stufe 2: Passieren des O-Rings und erreichen des Steckendpunktes, Eindeutiges Montagegefühl beim passieren des Klemmring und durch auslösen des "Feed Back Signals"

Die max. Einsteckkräfte sind in Tabelle 3 aufgeführt. Ca. 2/3 der angebenen Kräfte ist der Serienstandard.



Für eine visuelle Kontrolle kann die Einstecklänge gemäß Tabelle 3 auf den Rohren gekennzeichnet werden. Wenn das Rohr nicht korrekt gesteckt ist, hören sie einen Ton und können eine kontrollierte Leckage messen. In Abhängigkeit von Rohrabmessung kann es unter Druck nachgesteckt werden

Für Verbindungen Rahmen – Achse ist die Verwendung von Rohrabmessungen ≤ 12x1,5 empfohlen.

Ø Rohr-Außen Ø esterno del tubo		Einstecklänge Lunghezza di innesto	Niveau des Einsteckkraft (Durchschnitt)1) Forza d’innesto (Media)1) (Moyenne)1)
TABELLE 3	4 mm	17,2 mm	70 N
	6 mm	19,5 mm	80 N
	8 mm	20,5 mm	90 N
	10 mm	24,0 mm	100 N
	12 mm	25,0 mm	110 N
	15 mm	27,0 mm	125 N
	16 mm	27,0 mm	130 N

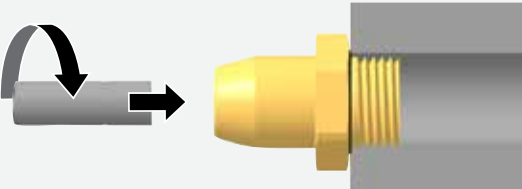
TABELLA 3

1) Rohrdurchmesser, Toleranzen, Qualität und Schnittqualität können die Einsteckkräfte beeinflussen.

Montaggio del tubo

Istruzioni di montaggio

Il tubo deve essere tagliato con una taglierina effettuando un taglio netto. E' tollerato uno scostamento max di 10°.



Il tubo può essere innestato a mano e senza l'ausilio di attrezzature. L'operazione di montaggio è più lineare se durante l'innesto si effettua con la mano anche una rotazione del tubo. Il fissaggio del tubo è garantito in quanto si esegue la tenuta meccanica prima di quella pneumatica:

1. Meccanica: il tubo supera il segmento di graffaggio in ottone.
2. Pneumatica: il tubo supera anche l'oring di tenuta

Quando il tubo ha superato il segmento di graffaggio in ottone, viene da questo trattenuto e non può più sfilarsi. Quindi superando l'oring si raggiunge anche la tenuta pneumatica. Quando il tubo ha superato i sistemi di tenuta prima meccanica, poi pneumatica, esso fa scattare un terzo meccanismo che genera un "clic!", segnale questo che è stata raggiunta la battuta al fondo della sede di innesto.

Le forze di innesto Max dei tubi sono illustrate nella tabella 3. I valori standard corrispondono ai 2/3 dei valori Max.

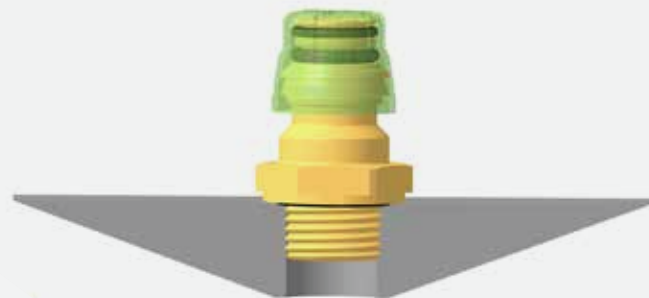
Per un controllo visivo dell'avvenuto montaggio del tubo, è possibile effettuare una marcatura come indicato sulla tabella 3. Qualora il tubo abbia passato solamente il segmento di tenuta meccanica (vedere Montaggio del tubo) non appena l'impianto viene messo in pressione, il raccordo emette un sibilo quale segnale di una piccola e controllata perdita d'aria. Talvolta è possibile completare l'operazione di montaggio del tubo anche con l'impianto in pressione.

Per collegamenti tra telaio e ponte è consigliabile l'impiego di tubazioni ≤ 12x1,5.

Assembly of the ABC™ Building Block system

Assembly instructions

It is not allowed to mix the ABC™ Building Block system with similar systems produced by other manufacturers.



The swivel shall be mounted with the recommended torque (equal as for Push-In). Remove the protection cap after mounting, directly before assembling the Building Block.



The ABC Building Block system is a 2 step connection. The parts are pressed together by hand. The connection swivel and Building Block can be turned for positioning.

When reaching the 1st (safety) position only, a controlled leakage will be discharged, this is slightly audible. Depending on the dimension and accessibility the connection can be re-pressed under pressure and is then sealed.

IMPORTANT RECOMMENDATIONS

In these cases:

- Connection between truck and trailer (e.g. brake hose/Air coils)
- Between axle and chassis (e.g. brake hose)
- The tube orientation has to be fixed use the RotoLock in combination with ABC Building Block

Assemblage des pièces de forme du système ABC™

Instructions de montage

Il n'est pas permis de mélanger les pièces de forme ABC avec des composants d'une autre marque.

Les embases filetées seront vissées selon les couples préconisés, les mêmes que pour les unions mâles. Le capuchon de protection ne doit pas être enlevé avant utilisation.

La connexion des pièces de forme ABC et des composants à «clipser» (embases et raccords pour tube) peut être décomposée en 2 temps. 1er temps : position de sécurité (1er clic). Il est encore possible de donner aux pièces l'orientation désirée mais l'étanchéité de l'assemblage n'est pas encore assurée (fuite volontairement audible).

2ème temps : poursuite de l'emmanchement (2ème clic) les joints toriques sont comprimés, l'étanchéité est assurée. Aucune de ces opérations ne nécessite l'usage d'un quelconque outil.

RECOMMANDATIONS IMPORTANTES

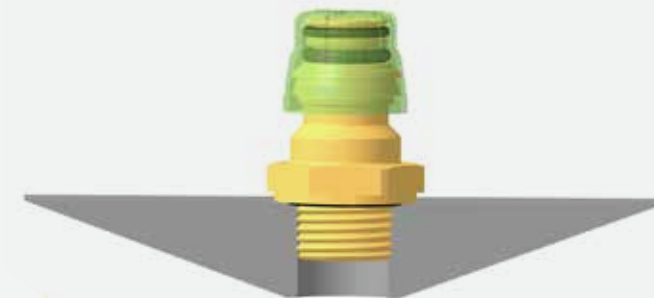
En cas de connexion:

- Entre tracteur et remorque
- Entre châssis et essieux
- L'orientation du tube doit être figée au moyen de RotoLock bloquant les embases en rotation.

Montage des ABC™ Baukastensystems

Montagehinweise

Das ABC-Baukastensystem darf nicht mit ähnlichen Systemen anderer Hersteller gemischt werden



Das Einschrauben des Stutzens erfolgt mit dem erforderlichen Drehmoment (siehe Steckverbindungen). Die Schutzkappe wird unmittelbar vor der Montage des Gegenstücks entfernt.



Das ABC Baukastensystem hat eine zweistufige Verbindung. Die Teile werden von Hand zusammengefügt. Die Verbindung Anschlußstutzen und Baukastenteil ist drehbar zur Positionierung.

Wenn lediglich die erste Verriegelungsstufe (Sicherungsstufe) erreicht wird, tritt eine kontrollierte, leicht hörbare Leckage auf, die durch nachdrücken der Verbindung problemlos behoben werden kann.

WICHTIGE HINWEISE

In den Fällen:

- Verbindung zwischen Motorwagen und Anhängerfahrzeug (z.B. Bremsschlauch / IWendelflex)
 - Zwischen Achse und Fahrgestellrahmen (z.B. Bremsschlauch)
 - Das Rohr eine feste Ausrichtung haben muß
- Nutzen Sie den RotoLock In Verbindung mit dem ABC Baukastensystem

Montaggio del sistema di raccordi ABC™

Istruzioni di montaggio

Non è consentito il montaggio dei raccordi del sistema ABC su raccordi di sistemi simili di altri produttori.

I raccordi girevoli devono essere montati rispettando le coppie di serraggio prescritte (medesime dei raccordi New Line). Montato il raccordo girevole, rimuovere il cappuccio subito prima del montaggio del raccordo multiplo.

Il sistema di innesto dei raccordi multipli ABC si esegue a mano e prevede 2 scatti: posizione di sicurezza e posizione di aggancio. Quando si ode il primo scatto, posizione di sicurezza, il montaggio del raccordo multiplo è incompleto in quanto è trattenuto solo meccanicamente e non pneumaticamente. Esso rilascerà una limitata e controllabile perdita d'aria non appena l'impianto verrà messo in pressione. Talvolta è possibile completare il montaggio raggiungendo il secondo scatto anche con l'impianto in pressione.

Premendo ulteriormente, si raggiunge il secondo scatto, posizione di aggancio, che segnala il completamento del montaggio. In questa posizione, il raccordo multiplo può essere orientato.

IMPORTANTE

Per i seguenti collegamenti è obbligatorio applicare il rotoLock al raccordo multiplo:

- Tra motrice e rimorchio
- Tra telaio e ponte
- Quando l'orientamento del tubo deve essere fisso

Assembly of Rotolock

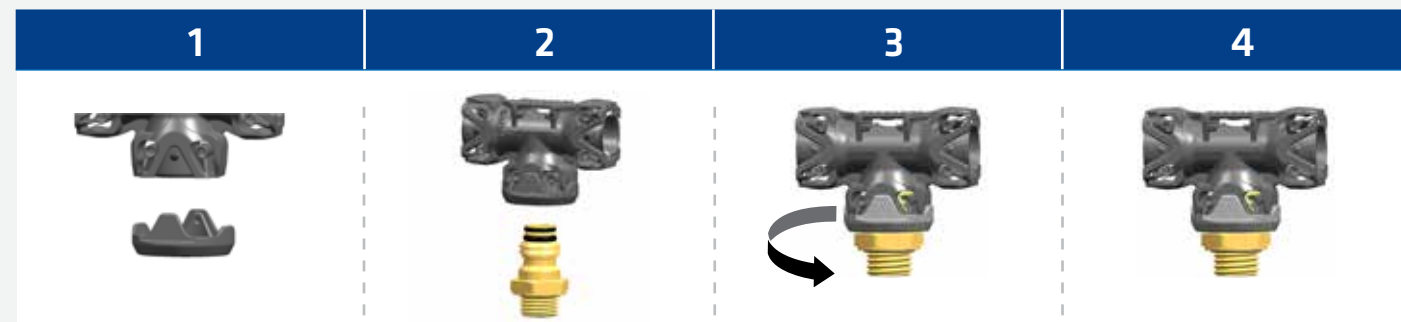
Assembly instructions

It is not allowed to mix the ABC™ Building Block system with similar systems produced by other manufacturers.

Montage des bagues de blocage Rotolock

Instructions de montage

Il n'est pas permis de mélanger les pièces de forme ABC avec des composants d'une autre marque.



- 1) Press Rotolock + ABC Building Block together
- 2) Plug this assembly on top of the swivel (1st/safety position).
- 3) Define the orientation.
- 4) Click the ABC Building Block into the 2nd/locked position.

REPAIR INSTRUCTIONS

When using the Raufoss ABC™ system, the exchange of valves, air reservoirs, air bellows etc. can be performed without any problem.

Before starting to work on the couplings:

- Remove air pressure completely out of the pneumatic system, to be able to release the tubing / couplings.
- Remove cable ties close to coupling. Tube must be accessible (as straight as possible)
- Clean the push-in area around the tube / the locking area of the Building Block. Make sure that no dirt or contamination will be pushed into the tube or coupling

- 1) Clipser la bague Rotolock sur le corps ABC.
- 2) Clipser l'embase partiellement (1ère position de sécurité)
- 3) Choisir l'orientation désirée
- 4) Emmancher l'embase complètement (2ème position d'étanchéité)

CONSEILS POUR LA RÉPARATION

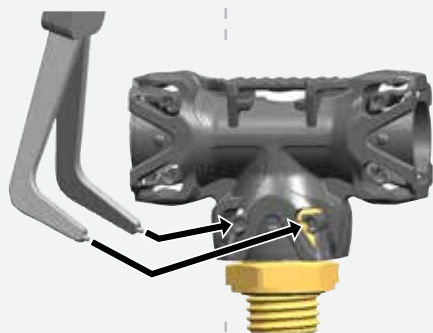
Avec le système Raufoss ABC l'échange de valves, réservoirs, coussin d'air peut se faire sans problème.

Instruction pour la déconnexion des tubes

- Dépressuriser complètement le circuit
- Enlever les colliers de serrage à proximité du raccord pour rendre le tube accessible (aussi droit que possible).
- Nettoyer la zone autour du tube. S'assurer qu'aucune impureté ne puisse s'introduire dans le tube ou le raccord.

Instruction for Building Block Release

Instruction pour le démontage des composants ABC



The ABC Building Block system can be disconnected with a standard circlip plier¹⁾. The parts are reusable.

¹⁾Pliers with thin tips are to prefer; i.ex. Knipex 46 21 A2 or 46 11 A2.

Les raccords composés à partir des éléments du système ABC peuvent être aisément désassemblés avec une pince à circlips ordinaire¹⁾. Les composants démontés peuvent être réutilisés.

¹⁾Par préférence des pinces avec des pointes fines p.ex Knipex 46 21 A2 or 46 11 A2.

Montage des Rotolock

Montagehinweise

It is not allowed to mix the ABC™ Building Block system with similar systems produced by other manufacturers.

Montaggio del Rotolock

Istruzioni di montaggio

Non è consentito il montaggio dei raccordi del sistema ABC su raccordi di sistemi simili di altri produttori.



- 1) Zusammenstecken von Rotolock + ABC Baukastenteil.
- 2) Stecken dieser Kombination auf den Anschlußstutzen (erste / Sicherheits-Position).
- 3) Ausrichtung
- 4) Drücken das ABC Baukastenteil in die zweite / Dichtposition.

REPARATUR HINWEISE

Bei Verwendung des Raufoss ABC System, ist der Austausch von Ventilen, Luftbehältern, Luftfederbälge problemlos möglich.

Gehen Sie wie folgt vor:

- Entlüften die Druckluftanlage vollständig, um das Rohr aus der Verschraubung lösen zu können.
 - Entfernen Sie Kabelbinder nahe der Verschraubung, Rohr muß frei zugänglich (so gerade wie möglich) sein.
 - Säubern Sie den Push-In Bereich um das Rohr/ den Verschlußbereich des Baukastenteils. Schmutz oder Verunreinigungen Rohr oder Verschraubung
- When using the Raufoss ABC™ system, the exchange of valves, air reservoirs, air bellows etc. can be performed without any problem.

- 1) Montare il Rotolock sul raccordo multiplo
- 2) Montare l'insieme sul raccordo girevole premendo fino al primo scatto - posizione di sicurezza
- 3) Orientare il raccordo multiplo
- 4) Premere il raccordo multiplo fino a raggiungere il secondo scatto - posizione di aggancio

ISTRUZIONI PER LA SOSTITUZIONE

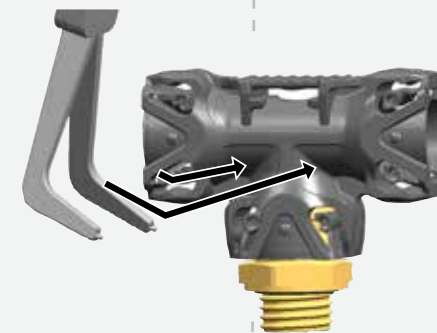
Con l'impiego del sistema Raufoss ABC, è possibile sostituire valvole, serbatoi, ecc, semplicemente smontando il tubo dal raccordo.

Prima di effettuare questa operazione

- Scaricare completamente l'impianto pneumatico
- Garantire il miglior accesso possibile al tubo rimuovendo eventuali fascette o altro.
- Ripulire l'area intorno al collegamento tubo-raccordo.

Hinweise für die Baukasten demontage

Istruzioni per lo smontaggio del raccordo multiplo



Die ABC Baukastenteile können mit einer Standard Seegerringzange¹⁾ demontiert werden. Die Teile sind wiederverwendbar.

¹⁾Seegerringzange z.B Knipex 46 21 A2 oder 46 11 A2.

I raccordi multipli del sistema ABC possono essere smontati utilizzando una pinza standard per seeger¹⁾.

¹⁾Consigliamo le pinze Knipex 4621 A2 oppure 4611 A2

Handling of ABC Release Tool

Assembly instructions

Manipulation de l'outil

de déconnexion ABC

Instructions de montage

INSTRUCTION FOR TUBE RELEASE

1. Push the tube to the bottom of the coupling to move the grip ring out of locking position.
2. Check that the Release Tool is not damaged or blunt. If so, then replace it.
3. Apply Release Tool on to tube
4. Ensure tight contact between Release Tool and tube
5. Push the Release Tool to stop with the flange at the top of the coupling without using extensive force.
6. Silicone spray can be used to ease the injection of the Release Tool.
7. While pushing the Release Tool towards the coupling; pull the tube out. Rotating the tube may ease the release.
8. Remove the Release Tool.
9. Assure that tube end is clean and undamaged. If not cut the tube end.
10. Clean the inside of the push-in coupling (tube section), by sample with compressed air, to remove eventual contamination, secure that no dirt is going inside the port.
11. Push-in the clean tube.
12. Kongsberg Automotive recommends that each single push-in coupling experience a total number of maximum five (5) tube assemblies and releases in a lifetime perspective.

In cases where ABC Release Tool is not available, the connection can be released together with the tube.

The Push-In coupling is turning on the tube



INSTRUCTION POUR LE DEMONTAGE CLU TUBE

1. Pousser le tube à fond de raccord pour décoller l'anneau de retenue de tube.
2. Vérifier que l'outil de déconnexion n'est pas endommagé. Dans ce cas il faut le remplacer.
3. Le disposer sur le tube en l'enveloppant étroitement.
4. Assurer un bon contact entre l'outil de déconnexion et le tube.
5. Pousser l'outil jusqu'à ce que la collerette touche le haut du raccord, sans force excessive.
6. Pour faciliter l'introduction de l'outil on peut pulvériser un peu de silicone
7. Tenir l'outil de déconnexion et retirer le tube en le tournant légèrement.
8. Enlever l'outil de déconnexion.
9. Vérifier que le tube est propre et pas endommagé, si non il faut couper le bout de tube.
10. Nettoyer l'intérieur du raccord (partie tube) avec par exemple de l'air comprimé afin d'enlever d'éventuelles saletés et s'assurer qu'elles ne pourront pas s'introduire dans la valve.
11. Emmancher le tube propre.
12. Kongsberg Automotive recommande de ne pas excéder 5 connexions tube-union mâle avec le même raccord.

Sans outil de déconnexion il reste possible d'ôter, sans enlever le tube, de dévisser le raccord de la valve, celui-ci étant libre en rotation sur le tube.

Les unions mâles sont libres en rotation sur les tubes.

Handhabung des ABC

Demontage Werkzeug

Montagehinweise

Uso dell'utensile di sgancio

del tubo

Istruzioni di montaggio

HINWEISE FÜR DIE ROHR-DEMONTAGE

1. Drücken Sie das Rohr bis zum Anschlag in die Verschraubung und drehen es zum lösen des Klemmrings.
2. Prüfen, ob das Lösewerkzeug unbeschädigt ist, gegebenenfalls ersetzen.
3. Überstülpen des Lösewerkzeuges um das Rohr
4. Sicherstellung eines engen Kontaktes zwischen Lösewerkzeug und Rohr.
5. Drücken des Lösewerkzeuges in die Verschraubung bis auf dem Rand der Verschraubung, wenden keine große Kraft auf. Silikonspray kann zum leichteren Einführen des
6. Lösewerkzeuges verwendet werden.
7. Halten das Lösewerkzeug fest in der Verschraubung und ziehen das Rohr bei gleichzeitigem drehen aus der Verschraubung.
8. Entfernen das Lösewerkzeug.
9. Prüfen ob das Rohr sauber und unbeschädigt ist, wenn nicht Rohrende abschneiden.
10. Reinigen der Verschraubung (Rohrbe-reich), zum Beispiel mit Druckluft, um eventuelle Verschmutzungen zu entfernen, stellen sicher das keine Verunreinigungen in das Ventil geraten
11. Stecken des sauberen Rohrs
12. Kongsberg Automotive empfiehlt für die Nutzungsdauer der Steckverbindungen max. 5 Montagen und Demontagen durchzuführen.

Sollte das ABC Release Tool nicht zur Verfügung stehen, kann die Verschraubung mit dem Rohr zusammen aus dem Anschluß geschraubt werden.

Die Steckverbindung dreht sich auf dem Rohr.

ISTRUZIONI PER LO SGANCIO DEL TUBO

1. Ruotandolo, premere il tubo verso il raccordo.
2. Verificare l'integrità dell'utensile. Sostituire se danneggiato.
3. Dilatare l'utensile premendo sulle apposite alette
4. Calzare l'utensile sul tubo (lato sottile verso il raccordo) assicurandosi che esso sia aderente al tubo.
5. Spingere l'utensile all'interno del raccordo. Non sforzare durante l'inserimento.
6. Può essere usato spray al silicone per facilitare l'operazione
7. Mantenendo premuto l'utensile all'interno del raccordo, estrarre il tubo
8. Estrarre l'utensile
9. Prima di reinserire il tubo nel raccordo, verificare che esso sia pulito e non danneggiato. Eventualmente tagliare l'estremità danneggiata.
10. Verificare che l'interno del raccordo sia pulito
11. Inserire il tubo applicando una leggera rotazione.
12. Kongsberg Automotive ha previsto un massimo di 5 operazioni di sostituzione del tubo su ciascun raccordo.

Qualora non sia disponibile l'utensile specifico per lo sgancio del tubo, è possibile svitare il raccordo con il tubo montato.

Il raccordo ruoterà sul tubo.





BRK - 1985



Newline - 2006



Threadless - 2008

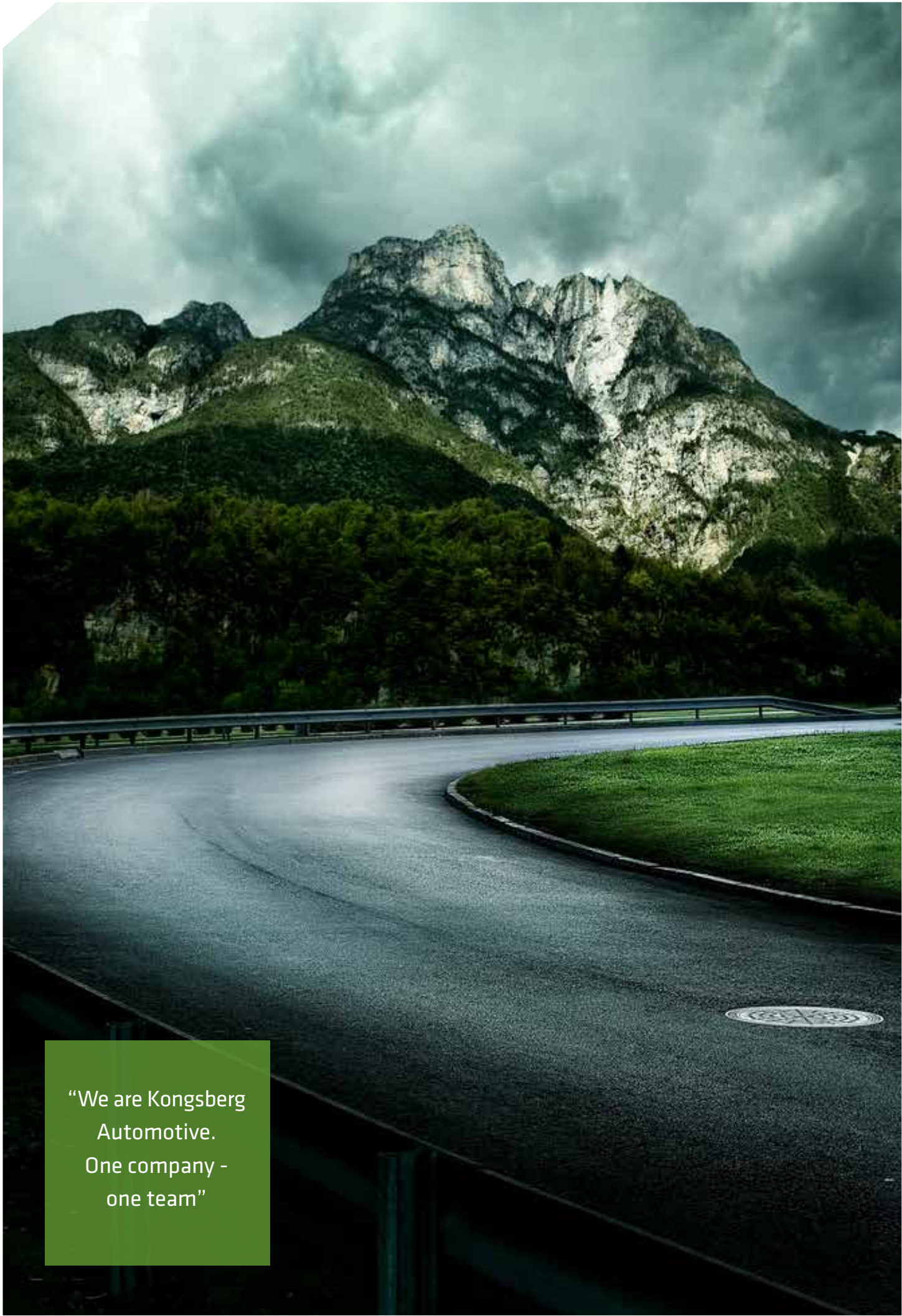


KArtridge - 2008

Raufoss Couplings™ Evolution

A high end Air Brake System that has been in the market for more than 30 years and with more than 2 billion parts sold. Build on long experience and high quality level we are proud to present our new ABC generation.

Long
experience
and high
quality level.



“We are Kongsberg Automotive.
One company -
one team”

Our business		ABC	ABC Product Information	BRK	BRK Product Information
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SYMBOLS - SYMBOLES - SYMBOLE - LEGENDA

 Hexagon width/Clé de/Schlüsselweite/Chiave [mm]

 Packing unit/Unité emballage/Verpackungseinheit/Unità d'imballo

 Weight/Poids/Gewicht/Peso [g]

41

General system information

Kongsberg Automotive **Kongsberg Automotive** has, in co-operation with various commercial vehicle manufacturers, developed an advanced air-coupling system based on composite material and brass for use with plastic tubing for the compressed air circuits used on commercial vehicles.

The carefully developed, matured and thought out **Raufoss couplings**™ consists of the following elements:

- Push-in couplings
- Plug-ins
- Building Blocks
- Bulkhead couplings
- Test points
- Hose nipples
- Accessories

Raufoss couplings™ system can be used with polyamide or hytrel tubing to one of the following standards:

- ISO 7628
- DIN 74324
- DIN 73378
- SAE J844
- NFR 12-632

The couplings´ operating temperature is between -40°C to +100°C, with peak-temperature up to +140°C (for a period of approximately 2 hours.)

The operating pressure for the couplings meet with the requirements for non metallic tubes.

All brass components are manufactured from(CuZn40Pb2/CuZn39Pb3) in compliance with DIN 17600, unless otherwise specified.

All steel components are manufactured from 9SMnPb28 in compliance with DIN 1651 and yellow chromated acc. ISO 4042/A3C. See separate notes in the catalogue.

All o-rings are manufactured from EPDM.

The use of our couplings with other media than air is not permitted without prior approval.

Kongsberg Automotive has been approved and certified by the following organisations:

**TÜV
UTAC**

Kongsberg Automotive´s quality system is approved according to the following international standards:

**ISO/TS 16 949
ISO 14001**

For any further specific requirements, applications of our product or support for technical solutions, please ask for individual consultation from Kongsberg Automotive, our subsidiary **Kongsberg Raufoss Distribution SAS** or our distributors.

Please note:
Some items within this catalogue are only available from Kongsberg Raufoss Distribution SAS.

Systeme général d’informations

Kongsberg Automotive, partenaire reconnu des plus grands constructeurs européens de véhicules industriels, s'est imposé comme un fournisseur privilégié, en développant un programme de raccords de freinage pour tubes polyamide destiné aux circuits d'air comprimé des véhicules industriels.

Le système de raccords de freinage **Raufoss couplings**™ repose sur une conception modulaire avec:

- des unions mâles
- des embases orientables P5
- des pièces de forme (coudes, tés, croix, etc.)
- des passe-cloisons polyvalents
- des nipples

Les raccords **Raufoss couplings**™ doivent être utilisés avec des tubes polyamide ou hytrel conformes aux normes suivantes:

- ISO 7628
- DIN 74324
- DIN 73378
- SAE J844
- NFR 12-632

La température de service des raccords peut varier entre -40° et +100°C (avec une possibilité de pointe à 140°C pendant 2 heures).

La pression de service des raccords n'est limitée que par la possibilité de résistance des tubes.

Sauf indication contraire, les composants sont en laiton CuZn40Pb2/CuZn39Pb3 selon la norme DIN 17600.

Les composants en acier 9SMnPb28 selon la norme DIN 1651 et bichromatés jaune selon ISO 4042/A3C sont reperés par le symbole # dans le catalogue.

Les joints toriques sont en EPDM.

L'utilisation de nos raccords avec des fluides autres que l'air n'est pas autorisée sauf accord express de nos services techniques.

Kongsberg Automotive a été certifiée et approuvée par les organismes suivants:

**TÜV
UTAC**

La démarche de qualité Kongsberg Automotive est certifiée par les normes internationales suivantes:

**ISO/TS 16 949
ISO 14001**

Pour tous renseignements complémentaires sur les applications de nos produits ou pour obtenir une aide technique, veuillez contacter votre distributeur ou revendeur **Kongsberg Raufoss Distribution SAS** on votre distubuteur.

Attention:
Certain produits ne sont disponible que chez Kongsberg Raufoss Distribution SAS.

Generelle System Information

Kongsberg Automotive als kompetenter Systemlieferant derwelt-weiten Nutzfahrzeugindustrie hat, in Kooperation mit führenden Nutz-fahrzeugherstellern, ein Steckverbindingssystem für Kunststoffrohre für die Druckluftbremsanlage in Nutzfahr-zeugen entwickelt.

Das ausgereifte, durchdachte **Raufoss couplings**™ System besteht aus den folgenden System-Komponenten:

- Gerade Steckverbinder
- P5 Schnellanschlussstutzen
- Formstücke für P5 Schnellanschlüsse
- Schottverschraubungen
- Schlauchstutzen
- Zubehörteile

Das **Raufoss couplings**™ System kann für Polyamid-Rohre (PA11/ PA12) sowie HYTREL-Rohre der folgenden Normen verwendet werden:

- ISO 7628
- DIN 74324
- DIN 73378
- SAE J844
- NFR 12-632

Das Steckverbinder-System ist für einen Dauertemperatur einsatz von -40°C bis +100°C ausgelegt, im drucklosen Zustand bis +140°C (für die Dauer von ca. 2 Stunden).

Der Betriebsdruck des Steckverbinder-Systems entspricht dem der jeweils verwendeten Kunststoffrohre.

Alle System-Komponenten sind aus Messing (CuZn40Pb2/CuZn39Pb3) nach DIN 17600 gefertigt; Abweichungen sind gekennzeichnet.

Die Stahl-Komponenten werden aus 9SMnPb28 nach DIN 1651 gefertigt und gelbverzinkt nach ISO 4042/A3C. Die Artikel sind mit # gekennzeichnet.

Die O-Ringe sind aus EPDM hergestellt.

Andere Medien als Druckluft dürfen nur mit besonderer Freigabe verwendet werden.

Kongsberg Automotive ist von den folgenden Organisationen geprüft und zertifiziert:

**TÜV
UTAC**

Kongsberg Automotives Qualitätssicherungssystem ist nach den folgenden international anerkannten Normen zertifiziert:

**ISO/TS 16 949
ISO 14001**

Für Rückfragen und Problemlösungen stehen Ihnen unsere erfahrenen Anwendungsberater gerne zur Verfügung.

Bitte beachten:
Einige der System-Komponenten sind nur über Kongsberg Raufoss Distribution SAS verfügbar.

Informazioni sul sistema

Kongsberg Automotive, fornitore di provata competenza a livello mondiale nell'industria dei veicoli industriali, ha sviluppato l'ormai affermato sistema di raccordi ad innesto rapido idoneo per tubi termoplastici per i circuiti pneumatici per veicoli industriali.

Il sistema di raccordi **Raufoss couplings**™ sviluppato con la massima accuratezza, consta dei seguenti particolari:

- Raccordi ad innesto rapido
- Raccordi girevoli
- Raccordi multipli
- Passaparete
- Accessori
- Bocchettoni per tubi

Il sistema di raccordi rapidi **Raufoss couplings**™ è applicabile a tubi in poliamide od hytrel rispondenti ad una delle seguenti normative:

- ISO 7628
- DIN 74324
- DIN 73378
- SAE J844
- NFR 12-632

La temperatura d'esercizio dell'intero sistema di raccordi è compresa tra -40°C e +100°C con picchi fino a +140°C (per la durata massima di ca. 2 ore).

La pressione d'esercizio corrisponde a quella dei tubi termoplastici impiegati.

I componenti in ottone (CuZn40Pb2/CuZn39Pb3) rispettano la norma DIN 17600, se non diversamente specificato.

I componenti in acciaio (9SMnPb28) rispettano la norma DIN 1651 e sono zincati gialli secondo la norma ISO 4042/A3C. Vedere note nel catalogo.

Gli o-ring sono EPDM.

Non sono raccomandate applicazioni con fluidi diversi dall'aria, salvo specifica approvazione del costruttore.

Il sistema di raccordi Kongsberg Automotive è stato approvato e certificato dalle seguenti organizzazioni:

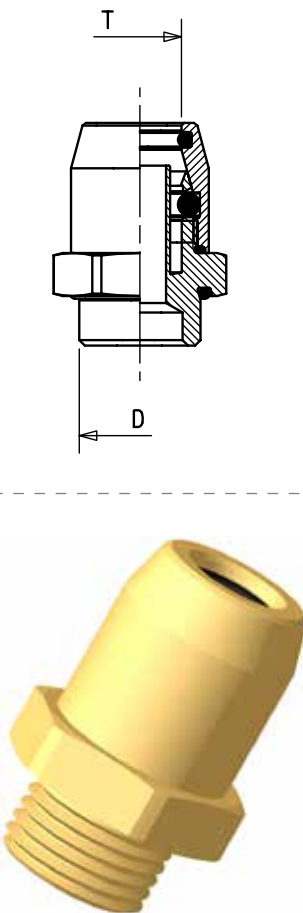
**TÜV
UTAC**

La qualità dei prodotti Kongsberg Automotive risponde ai parametri richiesti dalle seguenti normative internazionali:

**ISO/TS 16 949
ISO 14001**

Per ogni ulteriore informazione in merito all'applicazione dei nostri prodotti o per consulenze tecniche, rivolgersi alle agenzie o distri butori del sistema di raccordi Kongsberg Raufoss Distribution SAS più vicini a Voi.

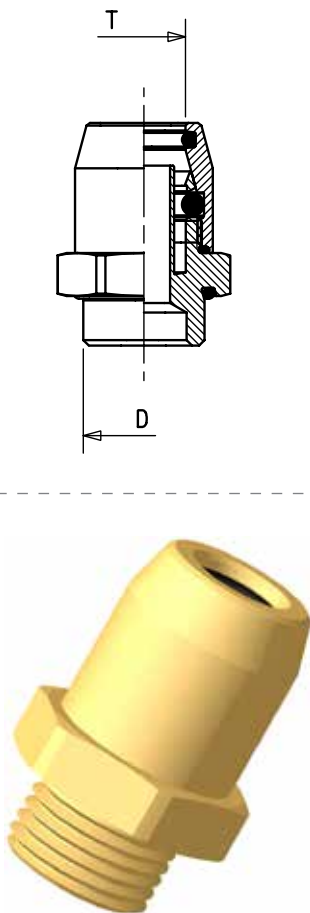
Nota:
Alcuni componenti presenti in questo catalogo, sono solo disponibili presso la Kongsberg Raufoss Distribution SAS in Francia.

GB: Push-in coupling DE: Gerader Steckverbinding		FR: Union male IT: Raccordo ad innesto rapido						
			T	D				
		623 7190	4x1,0	M10x1*		16	275	19
		623 7192	4x1,0	M12x1,5		18	275	22
		623 7201	6x1,0	1/8NPTF*		14	200	28
		623 7203	6x1,0	1/4NPTF*		16	200	26
		623 7210	6x1,0	M10x1		16	275	24
		623 7212	6x1,0	M12x1,5		18	225	28
		623 7214	6x1,0	M14x1,5		20	150	33
		623 7216	6x1,0	M16x1,5		22	150	38
		623 7217	6x1,0	M22x1,5		28	100	57
		623 7223	8x1,0	1/4NPTF*		18	100	42
		623 7233	8x1,0	3/8NPTF*		18	125	49
		623 7230	8x1,0	M10x1		18	200	33
		623 7232	8x1,0	M12x1,5		18	200	34
		623 7234	8x1,0	M14x1,5		20	150	40
		623 7236	8x1,0	M16x1,5		22	125	46
		623 7237	8x1,0	M22x1,5		28	90	67
		623 7262	9x1,5	M12x1,5		20	130	45
		623 7300	10x1,0	M10x1		20	130	47
		623 7302	10x1,0	M12x1,5		20	130	47
		623 7304	10x1,0	M14x1,5		20	100	46
		623 7306	10x1,0	M16x1,5		22	100	51
		623 7307	10x1,0	M22x1,5		28	80	72
		623 7318	10x1,25	G1/4		20	100	49
		623 7322**	10x1,25	R3/8"*		20	100	60
		623 7312	10x1,25	M12x1,5		20	130	47
		623 7314	10x1,25	M14x1,5		20	100	50
		623 7316	10x1,25	M16x1,5		22	100	53
		623 7317	10x1,25	M22x1,5		28	80	71
		623 7323	10x1,5	1/4NPTF*		20	100	52
		623 7330	10x1,5	M10x1		20	100	47
		623 7332	10x1,5	M12x1,5		20	125	48
		623 7334	10x1,5	M14x1,5		20	125	45
		623 7336	10x1,5	M16x1,5		22	100	51
		623 7337	10x1,5	M22x1,5		28	80	73
		623 7356	11x1,5	M16x1,5		22	100	59
		623 7363	12x1,5	1/4NPTF*		22	100	63
		623 7370	12x1,5	M10x1		22	100	58
		623 7372	12x1,5	M12x1,5		22	100	59

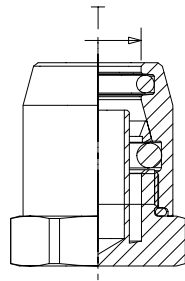
* Without o-ring sealing against port/Sans joint torique/
Ohne O-Ring Dichtung am Gewinde/Senza o-ring su filetto

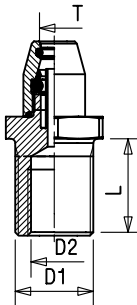
** Article availability may vary. Please contact us for further information.

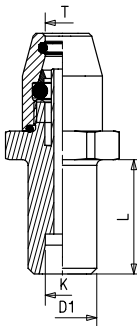
If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

GB: Push-in coupling DE: Gerader Steckverbinding		FR: Union male IT: Raccordo ad innesto rapido						
			T	D				
		623 7374	12x1,5	M14x1,5		22	100	57
		623 7376	12x1,5	M16x1,5		22	100	61
		623 7377	12x1,5	M22x1,5		28	70	81
		623 7412	15x1,5	R1/2"*		26	45	101
		623 7444	15x1,5	M14x1,5		26	50	81
		623 7446	15x1,5	M16x1,5		26	50	84
		623 7447	15x1,5	M22x1,5		28	50	87
		623 7451	15x1,5	M26x1,5		32	40	121
		623 7448	15x2	M16x1,5		26	50	98
		623 7449	15x2	M22x1,5		28	50	102
		623 7452**	16x2	M12x1,5		26	65	84
		623 7454**	16x2	M14x1,5		26	65	84
		623 7476	18x2	M16x1,5		28	50	98
		623 7477	18x2	M22x1,5		28	50	99
		623 7478	18x2	M26x1,5		32	40	131
		623 7101**	1/4"	1/8NPTF*		14	250	25
		623 7102**	1/4"	1/4NPTF*		16	200	34
		623 7104**	1/4"	3/8NPTF*		18	150	48
		623 7110**	1/4"	M10x1		16	275	22
		623 7112	1/4"	M12x1,5		18	225	26
		623 7114**	1/4"	M14x1,5		20	150	36
		623 7116	1/4"	M16x1,5		22	150	41
		623 7122	3/8"	1/4 NPTF*		18	150	44
		623 7124	3/8"	3/8 NPTF*		18	100	56
		623 7125**	3/8"	1/2 NPTF*		22	100	100
		623 7130**	3/8"	M10x1,0		18	150	39
		623 7132	3/8"	M12x1,5		18	150	44
		623 7134	3/8"	M14x1,5		20	120	45
		623 7136	3/8"	M16x1,5		22	125	47
		623 7142**	1/2"	1/4 NPTF*		22	100	69
		623 7144	1/2"	3/8 NPTF*		22	90	75
		623 7145	1/2"	1/2 NPTF*		22	80	96
		623 7152**	1/2"	M12x1,5		22	100	60
		623 7154**	1/2"	M14x1,5		22	100	62
		623 7156	1/2"	M16x1,5		22	100	62
		623 7164**	5/8"	3/8 NPTF*		26	45	78
		623 7165**	5/8"	1/2 NPTF*		26	40	97
		623 7176	5/8"	M16x1,5		26	65	65
		623 7177	5/8"	M22x1,5		28	50	95
* Without o-ring sealing against port/Sans joint torique/ Ohne O-Ring Dichtung am Gewinde/Senza o-ring su filetto								
** Article availability may vary. Please contact us for further information.								

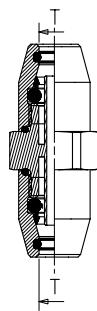
If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

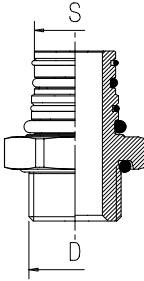
GB: Push-in coupling, tube sealing plug DE: Gerader Steckverbinding, Gerader Steckstopfen		FR: Union male, bouchon pour tube IT: Raccordo ad innesto rapido, raccordo rapido cieco							
			T						
		623 7221	6x1,0				16	80	20
		623 7371	12x1,5				22	100	55

GB: Push-in coupling, for bulkhead DE: Gerader Steckverbinding, mit Schottstutzen		FR: Union male, passe-cloison IT: Raccordo ad innesto rapido, con passaparete							
			T	D1	D2	L			
		623 7208	6x1,0	M18x1,5	M12x1,5	22	22	100	57
		623 7246	8x1,5	M16x1,5	M10x1	20	22	110	48

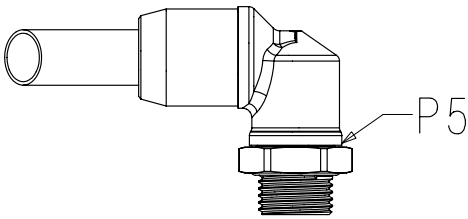
GB: Push-in coupling, with 24° cone for bulkhead DE: Gerader Steckverbinding, mit Schottstutzen und 24°-Konus		FR: Union male, passe-cloison avec cône 24° IT: Raccordo ad innesto rapido, con passaparete e cono 24°							
			T	D1	K	L			
		623 7202	6x1,0	M12x1,5	K24°-6	20	18	175	37
		623 7224	8x1,0	M14x1,5	K24°-8	20	18	130	47
		623 7385	12x1,5	M18x1,5	K24°-12	34	22	40	106

If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

GB: Tube connector DE: Rohr Verbinder		FR: Union double IT: Giunzione							
			T						
		623 7195	4x1,0					200	25
		623 7205	6x1,0					200	40
		623 7225	8x1,0					125	53
		623 7265	9x1,5					80	80
		623 7305	10x1,0					80	81
		623 7315	10x1,25					80	80
		623 7325	10x1,5					80	81
		623 7355	11x1,5					60	75
		623 7365	12x1,5					60	95
		623 7445	15x1,5					40	131
		623 7465	16x2					40	136
		623 7475	18x2					40	151
		623 7115	1/4"					180	40
		623 7135	3/8"					100	68
		623 7155	1/2"					60	100
623 7175	5/8"					40	140		

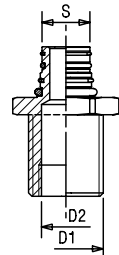
GB: Plug-in P5 DE: P5 Anschluß-Stutzen		FR: Embase P5 IT: Innesto girevole P5								
			S	D						
		623 7031	P 5	1/8 NPTF*				20	150	28
		623 7032	P 5	1/4 NPTF*				20	100	34
		623 7033	P 5	3/8 NPTF*				20	100	38
		623 7034	P 5	1/2 NPTF*				22	100	57
		623 7021	P 5	G1/4"				20	125	33
		623 7026	P 5	R3/8"*				20	100	39
		623 7027	P 5	R1/2"*				22	100	63
		623 7010	P 5	M10x1,0				17	175	25
		623 7012	P 5	M12x1,5				18	150	29
		623 7014	P 5	M14x1,5				20	150	30
		623 7016	P 5	M16x1,5				22	125	33
		623 7017	P 5	M22x1,6				28	75	48
		623 7019	P 5	M26x1,5				32	50	77

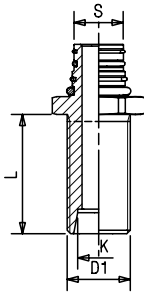
* Without o-ring sealing against port/Sans joint torique/
Ohne O-Ring Dichtung am Gewinde/Senza o-ring su filetto

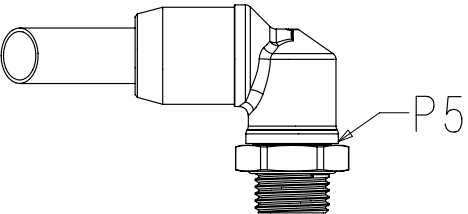


GB: Please refer to assembly instructions on page 70/71 for limitations of use.
FR: Veuillez faire attention aux instructions de montage sur les pages 70/71.
DE: Bitte beachten Sie die Montagehinweise auf Seite 70/71.
IT: Leggere attentamente i consigli per il montaggio a pagg. 70/71.

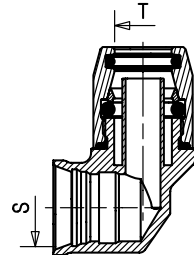
If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

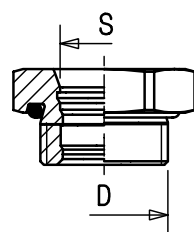
GB: Plug-in P5, for bulkhead		FR: Embase P5, passe-cloison							
DE: P5 Anschluß-Stutzen, mit Schottstutzen		IT: Innesto girevole P5, con passaparete							
			S	D1	D2	L			
		623 7043	P 5	M22x1,5	3/8NPFT	20	28	50	57
		623 7036	P 5	M22x1,5	M16x1,5	24	28	50	75

GB: Plug-in P5, with 24° cone for bulkhead		FR: Embase P5, passe-cloison avec cône 24°							
DE: P5 Anschluß-Stutzen, mit Schottstutzen und 24°-Konus		IT: Innesto girevole P5, con passaparete e cono 24°							
			S	D1	K	L			
		623 7037	P 5	M18x1,5	K24°-12	24	28	60	75

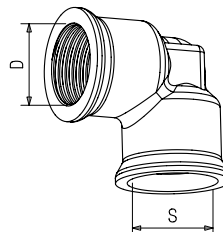


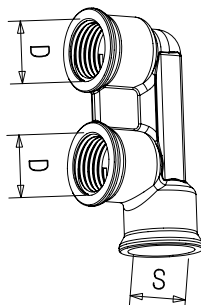
GB: Please refer to assembly instructions on page 70/71 for limitations of use.
FR: Veuillez faire attention aux instructions de montage sur les pages 70/71.
DE: Bitte beachten Sie die Montagehinweise auf Seite 70/71.
IT: Leggere attentamente i consigli per il montaggio a pagg. 70/71.

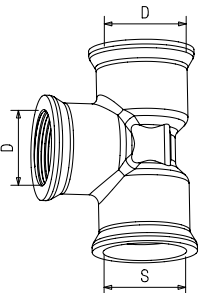
GB: 90° Push-in coupling, for plug-in P5		FR: Coude prémonté 90°, pour embase orientable P5							
DE: 90° Steckverbinder, mit P5 Anschluß		IT: Raccordo rapido a 90°, per innesto girevole P5							
			T	S					
		623 6816	6x1	P 5				125	41
		623 6826	8x1	P 5				100	53
		623 6991	10x1	P 5				80	62
		623 6814	10x1,25	P 5				70	62
		623 6824	10x1,5	P 5				80	63
		623 6836	12x1,5	P 5				75	68
		623 6992	15x1,5	P 5				40	94
		623 6993	15x2	P 5				40	89
		623 6840	16x2	P 5				40	92

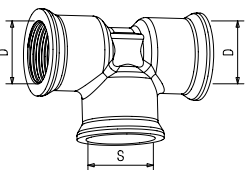
GB: Connector, for plug-in P5		FR: Adaptateur, pour embase P5								
DE: Verbinder, für P5 Anschluß		IT: Adattatore, per innesto girevole P5								
			S	D1						
		623 7057	P 5	M22x1,5				28	130	41

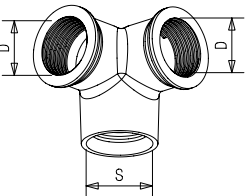
GB: 45° Elbow, for plug-in P5		FR: Coude 45°, pour embase P5							
DE: 45°-Bogen, für P5 Anschluß		IT: Gomito a 45°, per innesto girevole P5							
			S	D1					
		623 6832	P 5	M16x1,5				80	43

GB: 90° Elbow, for plug-in P5		FR: Coude 90°, pour embase P5							
DE: 90°-Bogen, für P5 Anschluß		IT: Gomito a 90°e, per innesto girevole P5							
			S	D					
		623 6803	P 5	M12x1,5				80	58
		623 6833	P 5	M16x1,5				90	45

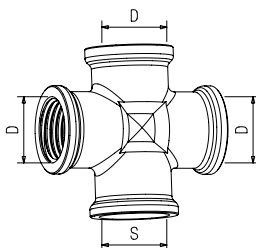
GB: Union F , for plug-in P5 2 x thread DE: F-Stück , mit P5 Anschluß		FR: Coude F , pour embase P5 avec 2 sorties taraudées IT: Raccordo a F , per innesto girevole P5 con 2 filettature							
			S	D1					
		623 6845	P 5	M16x1,5				40	68

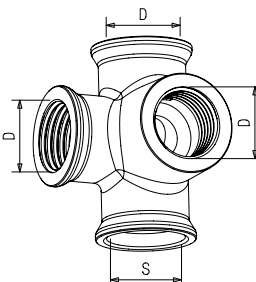
GB: Union L , for plug-in P5 2 x thread DE: L-Stück , mit P5 Anschluß		FR: Raccod L , pour embase orientable P5 IT: Raccordo a L , per innesto girevole P5 con 2 filettature							
			S	D					
		623 6804	P 5	M12x1,5				50	86
		623 6834	P 5	M16x1,5				50	61

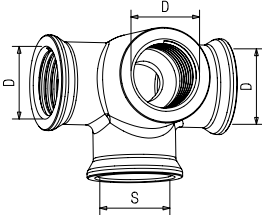
GB: Union T , for plug-in P5 2 x thread DE: T-Stück , mit P5 Anschluß		FR: Té , pour embase orientable P5 IT: Raccordo a T , per innesto girevole P5 con 2 filettature							
			S	D					
		623 6805	P 5	M12x1,5				50	86
		623 6835	P 5	M16x1,5				50	62

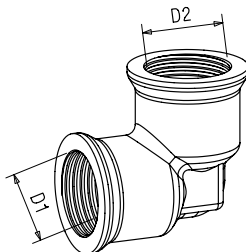
GB: 3-way block , for plug-in P5 2 x thread DE: 3-Wege Winkelblock , mit P5 Anschluß		FR: Raccord 3 voies , pour embase orientable P5 IT: Raccordo a 3 vie , per innesto girevole P5 con 2 filettature							
			S	D1					
		623 6846	P 5	M16x1,5				50	66

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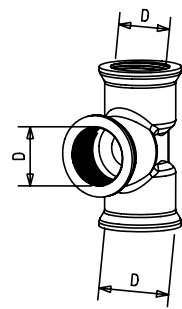
GB: 4-way cross block , for plug-in P5 3 x thread DE: Kreuzstück , mit P5 Anschluß		FR: Croix , pour embase orientable P5 IT: Raccordo a croce a 4 vie , per innesto girevole P5 con 3 filettature							
			S	D1				 	
		623 6838	P 5	M16x1,5				4078	

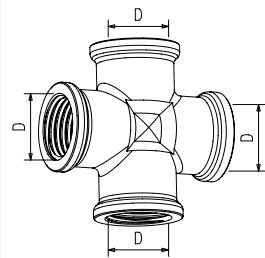
GB: 4-way block L , for plug-in P5 3 x thread DE: 4-Wege Block L-Form , mit P5 Anschluß		FR: Croix renversée forme L , pour embase orientable P5 IT: Raccordo L a 4 vie , per innesto girevole P5 con 3 filettature							
			S	D				 	
		623 6839	P 5	M16x1,5				3580	

GB: 4-way block T , for plug-in P5 3 x thread DE: 4-Wege Block T-Form , mit P5 Anschluß		FR: Croix forme T , pour embase orientable P5 IT: Raccordo T a 4 vie , per innesto girevole P5 con 3 filettature							
			S	D				 	
		623 6837	P 5	M16x1,5				3580	

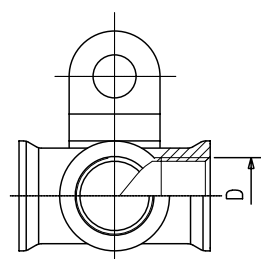
GB: 90° Elbow , 2 x thread DE: 90°-Bogen , 2 x Gewinde		FR: Coude 90° , taraudé IT: Gomito a 90° , con 2 filettature							
			D1	D2				 	
		623 7823	M12x1,5	M12x1,5				10047	
		623 7862	M16x1,5	M16x1,5				8052	
		623 7865	M16x1,5	M18x1,5				7058	
		623 7867	M22x1,5	M22x1,5				4080	

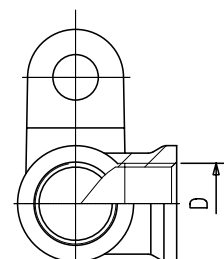
If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

GB: Union T, 3 x thread DE: T-Stück, 3 x Gewinde		FR: Té taraudé, 3 filetages IT: Raccordo a T, con 3 filettature									
					D						
		623 7825		M12x1,5						80	64
		623 7864		M16x1,5						50	68
		623 7868		M22x1,5						30	95

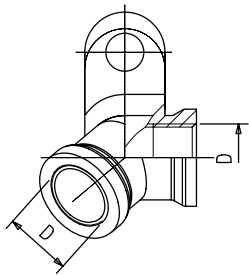
GB: 4-way cross block, 4 x thread DE: Kreuzblock, 4 x Gewinde		FR: Croix taraudée, 4 filetages IT: Raccordo a croce a 4 vie, con 4 filettature									
					D						
		623 7827**		M12x1,5						40	126
		623 7828		M16x1,5						40	81

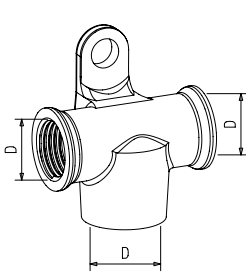
** Article availability may vary. Please contact us for further information.

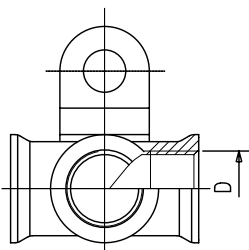
GB: Union, 2 x thread with bracket. See assembly sketch. DE: Gerade Befestigung, 2 x Gewinde. Siehe Montageskizze		FR: Union, avec fixation 2 x taraudages. Voir dessin. IT: Manicotto filettato, con staffa di fissaggio. Vedi istruzioni.									
					D						
		612 6933		M16x1,5						60	76

GB: Union, 2 x thread with bracket. See assembly sketch DE: Gerade Befestigung, 2 x Gewinde. Siehe Montageskizze		FR: Union, avec fixation 2 x taraudages. Voir dessin IT: Gomito a 90° filettato, con staffa di fissaggio. Vedi istruzioni									
					D						
		612 6934		M16x1,5						40	95

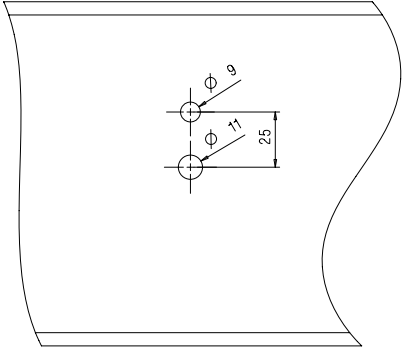
If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

GB: 40° Elbow, 2 x thread with bracket. See assembly sketch DE: 40° Winkel Befestigung, 2 x Gewinde. Siehe Montageskizze		FR: 40° Coude, avec fixation 2 x taraudages Voir dessin IT: Gomito a 40°, con staffa di fissaggio. Vedi istruzioni							
		612 6903**	M16x1,5						
								40	164
** Article availability may vary. Please contact us for further information.									

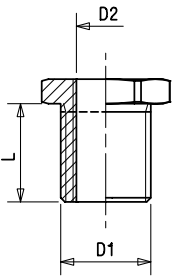
GB: Union T, 3 x thread with bracket DE: T-Befestigung, 3 x Gewinde		FR: Té taraudé, avec fixation IT: Raccordo a T, con 3 filettature e staffa di fissaggio.							
		623 7863	M16x1,5						
								40	80

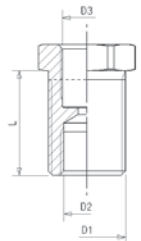
GB: 90° Union T, 3 x thread with bracket. See assembly sketch DE: 90° T-Befestigung, 3 x Gewinde. Siehe Montageskizze.		FR: 90° Té taraudé, avec fixation 3 x taraudages. Voir dessin IT: Raccordo a T 90°, con 3 filettature e staffa di fissaggio a 90°. Vedi istruzioni.							
		612 6935	M16x1,5						
								30	112

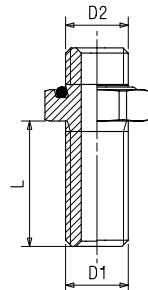
GB: Assembly sketch
FR: Dessin d'assemblage
DE: Montageskizze
IT: Istruzioni di installazione

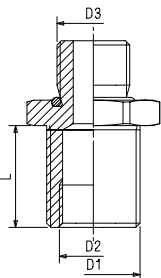


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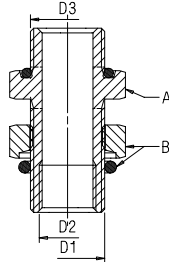
GB: Bulkhead coupling DE: Schottstutzen		FR: Passe-cloison IT: Passaparete							
			D1	D2		L			
		623 7722	M16x1,5	M10x1,0		20	22	150	35
		616 1182**	M16x1,5	M10x1,0		28	22	100	47
		623 7723	M16x1,5	M10x1,0		35	22	75	48
		623 7726	M22x1,5	M16x1,5		24	28	80	57
		623 7727**	M26x1,5	M16x1,5		24	32	50	100
** Article availability may vary. Please contact us for further information.									

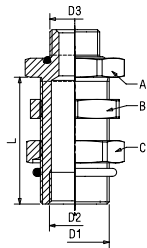
GB: Adapter for pressurgauge DE: Anschluß für manometer		FR: Passe-cloison IT: Passaparete							
			D1	D2	D3				
		623 7625	M18x1,5	M12x1,5	G1/4"ISO 837/1		20	120	46

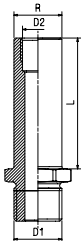
GB: Bulkhead coupling DE: Schottstutzen		FR: Passe-cloison IT: Passaparete							
			D1	D2		L			
		623 7622	M12x1,5	M12x1,5		24	18	200	29
		623 7624	M12x1,5	M14x1,5		24	20	200	35
		623 7693	M16x1,5	M16x1,5		24	22	110	42
		623 7697	M16x1,5	M16x1,5		35	22	75	75
		623 9116	M16x1,5	R1/4"		35	22	75	75
		623 7735	M22x1,5	M16x1,5		24	28	50	76

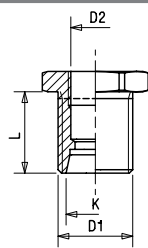
GB: Bulkheadcoupling DE: Schottstutzen		FR: Passe-cloison IT: Passaparete								
			D1	D2	D3		L			
		623 7728	M22x1,5	M16x1,5	3/8-18 NPTF*		24	28	60	83
		623 7729	M22x1,5	M16x1,5	1/2-14 NPTF*		24	28	50	88
		623 7731	M22x1,5	M16x1,5	M16x1,5		24	28	50	70
		623 7733	M22x1,5	M16x1,5	M16x1,5		40	28	50	94
		623 7730	M22x1,5	M16x1,5	M22x1,5		24	28	50	70
		623 7721	M22x1,5	M16x1,5	M22x1,5		40	28	40	94
		623 9735	M22x1,5	M16x1,5	M22x1,5	#	30	27	50	99
		623 9115	M22x1,5	M16x1,5	R 1/2"*	#	24	27	50	79
* Without o-ring sealing against port/Sans joint torique/ Ohne O-Ring Dichtung am Gewinde/Senza o-ring su filetto										

If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

GB: Bulkhead coupling, pre-assembled with o-ring and nut DE: Schottstutzen, mit vormontierter Kontermutter incl. O-Ring		FR: Passe-cloison, avec contre-ecrou et joints IT: Passaparete, completo di dado e o-ring							
			D1	D2	D3	A	B		
		623 7991	M16x1,5		M16x1,5	623 7693	623 7746	100	53
		623 8907	M22x1,5	M16x1,5	M16x1,5	623 7731	623 7747	50	88
		623 7992	M22x1,5	M16x1,5	M22x1,5	623 7730	623 7747	50	86

GB: Bulkhead coupling, with 24° cone DE: Schottstutzen, mit 24°-Konus		FR: Passe-cloison, avec cône 24° IT: Passaparete, con cono 24°										
			D1	D2	D3	A	B	C	L			
		623 7999	M12x1,5	M16x1,5	M16x1,5	623 7733	623 7749	623 7747	40	28	40	127

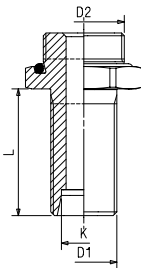
GB: Bulkhead coupling, for fixing air reservoir ¹⁾ DE: Schottstutzen, für Luftbehälter-Lagerung ¹⁾		FR: Passe-cloison, pour fixation de reservoir d'air ¹⁾ IT: Passaparete, di supporto serbatoio aria ¹⁾								
			D1	D1	R		L			
		623 9736	M22x1,5	M16x1,5	Ø22	#	60	27	30	170

GB: Bulkhead coupling, with 24° cone DE: Schottstutzen, mit 24°-Konus		FR: Passe-cloison, avec cône 24° IT: Passaparete, con cono 24°								
			D1	K	D2		L			
		623 7694	M22x1,5	K24°-15	M16x1,5		24	28	80	60
		623 9101	M22x1,5	K24°-15	M16x1,5	#	16	27	100	38
		623 9129	M26x1,5	K24°-18	M16x1,5	#	34	32	40	78

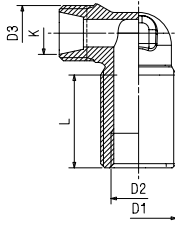
¹⁾ GB: The producer of the air reservoir must approve fixing it with the ports.
FR: Nécessité de l'approbation du producteur de reservoir.
DE: Bitte beachten Sie, daß der Luftbehälterproduzent die Lagerung über die Anschlüsse freigeben muß.
IT: Salvo approvazione del produttore del serbatoio aria.

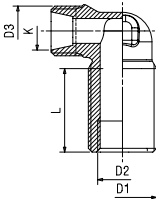
Material: Steel/Matière: Acier/Material: Stahl/Materiale: Acciaio

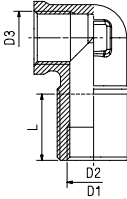
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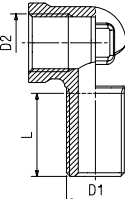
GB: Bulkhead coupling, with 24° cone DE: Schottstutzen, mit 24°-Konus		FR: Passe-cloison, avec cône 24° IT: Passaparete, con cono 24°	
			
		D1	K
		D2	
			L

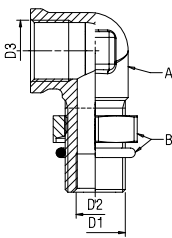
If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

GB: 90° Elbow, with 24° cone for bulkhead DE: 90° Winkel, mit Schottstutzen und 24°-Konus		FR: Coude 90°, passe-cloison avec cône 24° IT: Gomito a 90°, con cono 24° e passaparete							
			D1	D2	D3	K	L		
		623 7866	M22x1,5	M16x1,5	M18x1,5	K24°-12	17	50	77

GB: 90° Elbow, with 24° cone for bulkhead DE: 90° Winkel, mit Schottstutzen und 24°-Konus		FR: Coude 90°, passe-cloison avec cône 24° IT: Gomito a 90°, con passaparete e cono 24°							
			D1	D2	K		L		
		623 7872**	M18x1,5	M16x1,5	K24°-12		34	30	125
** Article availability may vary. Please contact us for further information.									

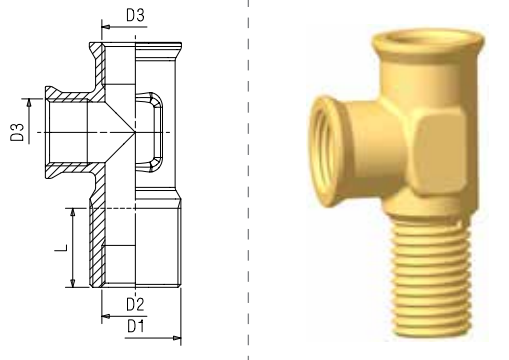
GB: 90° Elbow, for bulkhead DE: 90° Winkel, mit Schottstutzen		FR: Coude 90°, passe-cloison IT: Gomito a 90°, con passaparete							
			D1	D2	D3		L		
		6237809	M22x1,5	M16x1,5	M16x1,5		20	50	75
		6237880	M22x1,5	M16x1,5	M22x1,5		22	25	190

GB: 90° Elbow, for bulkhead DE: 90° Winkel, mit Schottstutzen		FR: Coude 90°, passe-cloison IT: Gomito a 90°, con passaparete							
			D1	D2			L		
		623 7807	M12x1,5	M12x1,5			18	80	45
		623 7813**	M14x1,5	M12x1,5			22	100	48
		623 7808	M16x1,5	M16x1,5			22	50	62
** Article availability may vary. Please contact us for further information.									

GB: 90° Elbow, for bulkhead pre-assembled with o-ring and nut DE: 90° Winkel, mit Schottstutzen mit vormontierter Kontermutter incl. O-Ring		FR: Coude 90°, passe-cloison avec contre-ecrou et joint IT: Gomito a 90°, con passaparete completo di dado e o-ring								
			D1	D2	D3	A	B			
		623 8902	M12x1,5		M12x1,5	623 7807	623 7745		80	45
		623 7993	M16x1,5		M16x1,5	623 7808	623 7746		50	77
		623 7998	M22x1,5	M16x1,5	M16x1,5	623 7809	623 7747		40	90
		623 9970	M26x1,5		M22x1,5			#	90	258

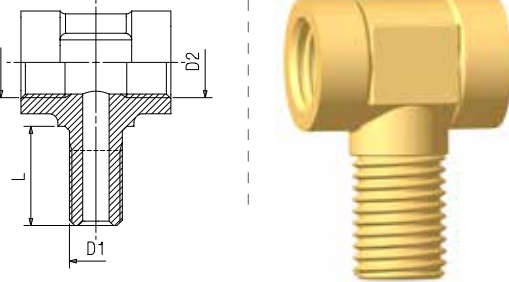
If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

GB: L-coupling, for bulkhead
DE: L-Schottstutzen



	D1	D2	D3	L		
623 7816	M16x1,5		M16x1,5	20	40	77
623 7875	M22x1,5	M16x1,5	M16x1,5	20	40	90

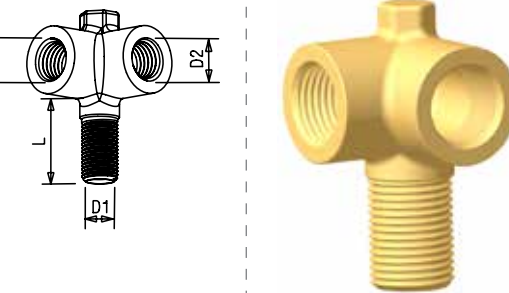
GB: T-coupling, for bulkhead
DE: T-Schottstutzen



	D1	D2	L		
616 2895**	M12x1,5	M16x1,5	21	60	84
616 1895	M16x1,5	M16x1,5	21	50	86

** Article availability may vary. Please contact us for further information.

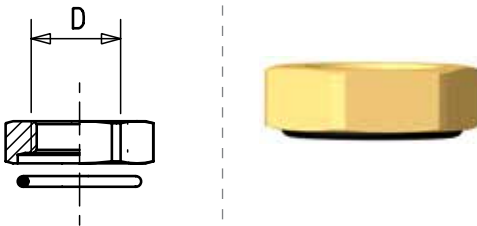
GB: 3-way coupling, for bulkhead
DE: 3-Wege Schottstutzen



	D1	D2	L		
616 1897	M12x1,5	M12x1,5	18	60	79
616 1899	M16x1,5	M16x1,5	21	40	100

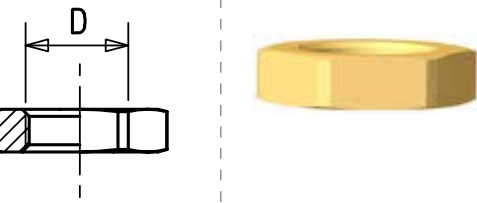
If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

GB: Locking nut, with o-ring
DE: Kontermutter, mit O-Ring



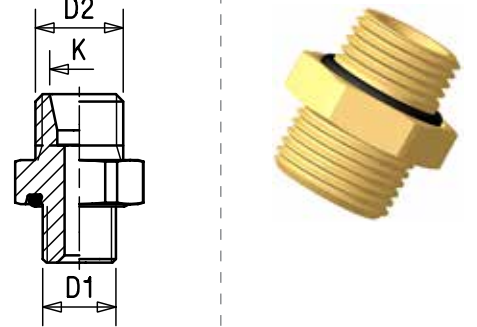
	D			
623 7745	M12x1,5	18	200	9
623 7742	M14x1,5	20	200	11
623 7746	M16x1,5	22	200	12
623 7778	M18x1,5	24	100	15
623 7747	M22x1,5	28	100	17

GB: Locking nut
DE: Kontermutter



	D				
623 9134	M12x1,5	#	17	200	7
623 9135	M14x1,5	#	19	200	8
623 7748	M16x1,5		22	500	12
623 9136	M16x1,5	#	22	200	11
623 7775	M18x1,5		24	300	14
623 9137	M18x1,5	#	24	200	12
623 7749	M22x1,5		28	300	16
623 9138	M22x1,5	#	27	200	23
623 9749	M26x1,5	#	36	10	30

GB: Transfer adapter, with o-ring and 24° cone
DE: Ü-Stück, mit O-Ring und 24°-Konus



	D1	D2	K				
623 7781	M10x1,0	M12x1,5	K24°-6	16	400	18	
623 7782	M16x1,5	M12x1,5	K24°-6	22	200	32	
623 9106	M16x1,5	M12x1,5	K24°-6	#	22	100	29
623 7783	M12x1,5	M16x1,5	K24°-10		18	200	24
623 7784	M16x1,5	M16x1,5	K24°-10		22	150	35
623 9109	M16x1,5	M16x1,5	K24°-10	#	22	100	31
623 7785	M16x1,5	M18x1,5	K24°-12		22	150	32
623 9110	M16x1,5	M18x1,5	K24°-12	#	22	100	30
623 7786	M22x1,5	M16x1,5	K24°-10		28	100	51
612 6278**	M22x1,5	M22x1,5	K24°-15		28	75	69

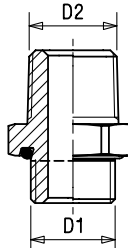
** Article availability may vary. Please contact us for further information.

Material: Steel/Matière: Acier/Material: Stahl/Materiale: Acciaio

If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

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GB: Transfer adapter
DE: Ü-Stück

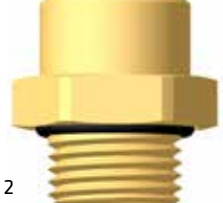
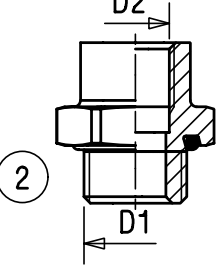
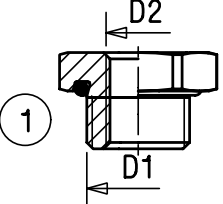


FR: Adaptateur
IT: Adattatore filettato

	D1	D2				
623 7714**	M16x1,5	3/8-18NPTF*		22	150	41
623 7900	M16x1,5	M22x1,5		24	125	50

** Article availability may vary. Please contact us for further information.

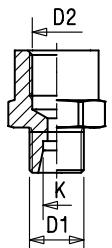
GB: Transfer adapter
DE: Adapter



FR: Adaptateur
IT: Adattatore filettato

	D1	D2	Form				
623 7626	1/4"-18 NPTF*	M12x1,5	2	18	200	31	
623 7628	1/4"-18 NPTF*	M16x1,5	2	22	125	48	
623 7633	3/8"-18 NPTF*	M16x1,5	2	22	130	46	
623 7655	M16x1,5	1/8-27 NPTF	1	22	200	25	
623 7656	M16x1,5	1/4-18 NPTF	1	22	150	33	
623 7657	M16x1,5	3/8-18 NPTF	1	22	100	40	
623 7904	M16x1,5	3/8"-32 UNEF	1	22	250	25	
623 7614	M16x1,5	M12x1,5	1	22	150	20	
623 7615	M22x1,5	M12x1,5	1	28	150	45	
623 7616	M22x1,5	M16x1,5	1	28	150	34	
623 7618	M26x1,5	M16x1,5	1	32	100	73	
623 9131	R1/4"*	M10x1,0	2	#	17	200	23
623 9130	R3/8"*	M12x1,5	2	#	19	200	32
623 9132	R1/2"	M16x1,5	2	#	27	80	75

GB: Transfer adapter, with 24° cone (Adapter: Steel tube to Raufoss couplings™)
DE: Adapter, mit 24°-Konus (Adapter: Stahlrohr auf Raufoss couplings™ System)



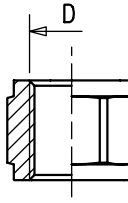
FR: Adaptateur, M/F à cône 24° (connexion entre tube acier et système Raufoss couplings™)
IT: Adattatore, con cono 24° (intermedio tubo in acciaio e sistema Raufoss couplings™)

	D1	D2	K				
623 9102	M12x1,5	M12x1,5	K24°-6	#	19	120	32
623 9103	M14x1,5	M16x1,5	K24°-8	#	22		72
623 9104	M16x1,5	M16x1,5	K24°-10	#	22	100	38
623 9105	M18x1,5	M16x1,5	K24°-12	#	22	100	39

* Without o-ring sealing against port/Sans joint torique/Ohne O-Ring Dichtung am Gewinde/Senza o-ring su filetto
Material: Steel/Matière: Acier/Material: Stahl/Materiale: Acciaio

If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

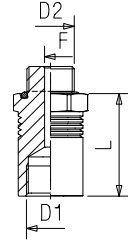
GB: Socket joint
DE: Gewindemuffe



FR: Manchon
IT: Manicotto filettato

	D					
623 7741	M12x1,5			18	250	24
623 7743	M16x1,5			22	175	35
623 7744	M22x1,5			28	100	48

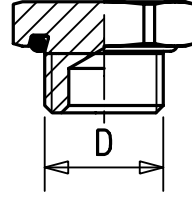
GB: Transfer adapter, with air flow reducer
DE: Reduzieradapter



FR: Adaptateur, réducteur de débit
IT: Adattatore filettato, con riduttore per l'aria

	D1	D2	F	L			
623 7692	M16x1,5	M16x1,5	10	27	22	100	57

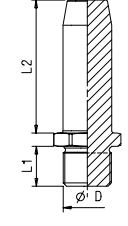
GB: Plug
DE: Stopfen



FR: Bouchon
IT: Tappo

	D					
623 7605	M12x1,5			18	350	19
623 7606	M14x1,5			20	250	25
623 7607	M16x1,5			22	220	29
623 7608	M22x1,5			28	150	53

GB: Plug, for fixing air reservoir ¹⁾
DE: Stopfen, für Luftbehälterlagerung ¹⁾



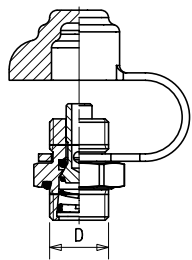
FR: Bouchon, pour fixation de reservoir d'air ¹⁾
IT: Tappo, di supporto serbatoio aria ¹⁾

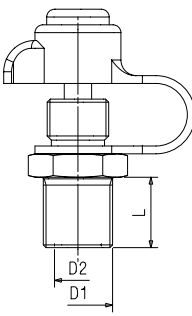
	D	L1	L2				
623 9738	M22x1,5	18	60	#	27	30	248

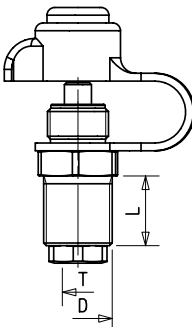
¹⁾ GB: The producer of the air reservoir must approve fixing it with the ports.
FR: Nécessité de l'approbation du producteur de reservoir.
DE: Bitte beachten Sie, daß der Luftbehälterproduzent die Lagerung über die Anschlüsse freigeben muß.
IT: Salvo approvazione del produttore del serbatoio aria.

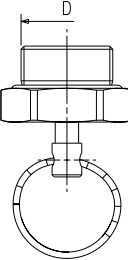
* Without o-ring sealing against port/Sans joint torique/Ohne O-Ring Dichtung am Gewinde/Senza o-ring su filetto
Material: Steel/Matière: Acier/Material: Stahl/Materiale: Acciaio

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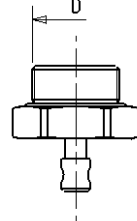
GB: Test point, ISO 3583 DE:Prüfanschluß, ISO 3583		FR: Prise de pression, ISO 3583 IT: Raccordo presa pressione, ISO 3583								
			D							
		623 7776	M16x1,5					22	75	42
		623 7777	M22x1,5					28	60	68

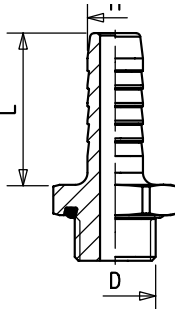
GB: Test point, for bulkhead ISO 3583 DE:Prüfanschluß, mit Schottstutzen ISO 3583		FR: Prise de pression, passe-cloison ISO 3583 IT: Raccordo presa pressione, con passaparete ISO 3583							
			D1	D2		L			
		623 9144	M18x1,5	M12x1,5		18	22	50	60

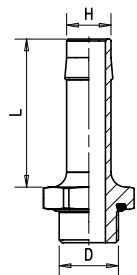
GB: Test point, with integrated push-in for bulkhead ISO 3583 DE:Prüfanschluß, mit Steckverbinder ISO 3583		FR: Prise de pression, passe-cloison avec Union male ISO 3583 IT: Raccordo presa pressione, con passaparete e raccordo rapido ISO 3583							
			D	T		L			
		623 7207	M18x1,5	6x1,0		18	22	60	65
		623 7227	M22x1,5	8x1,0		18	22	60	57

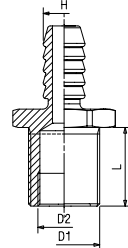
GB: Drain plug, DIN 74292 DE: Entwässerungs anschluss, DIN 74292		FR: Purge deboutei, DIN 74292 IT: Raccordo spurgo condensa, DIN 74292								
			D							
		623 7787	M22x1,5					28	60	54
		with keg ring								

If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

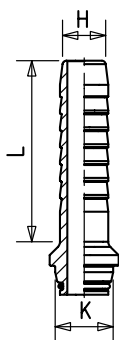
GB: Drain plug, DIN 74292 DE: Entwässerungs anschluss, DIN 74292		FR: Purge de bouteille, DIN 74292 IT: Raccordo spurgo condensa, DIN 74292						
			D					
		623 7788	M22x1,5			28	60	54
		without keg ring						

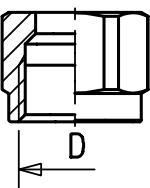
GB: Hose nipple, with o-ring Raufoss couplings™ standard DE: Schlauchstutzen, nach Raufoss couplings™ System Norm		FR:Raccord queue cannelée, avec joint torique incorporé norme Raufoss couplings™ IT: Bocchettone, con O-ring a norma Raufoss couplings™							
			H (Ø Hose size)	D		L			
		623 7926**	9,5	M16x1,5		30	22	100	45
		623 7905	10	M16x1,5		30	22	100	43
		623 7912	10	M22x1,5		30	28	75	71
		623 7906**	11	M12x1,5		30	18	150	44
		623 7907	11	M16x1,5		30	22	130	38
		623 7915	11	M22x1,5		30	28	75	53
		623 7908	13	M16x1,5		30	22	120	37
		623 7914	13	M22x1,5		30	28	60	61
		623 7911	14,5	M16x1,5		30	22	11	46
		623 7913	14,5	M22x1,5		30	28	75	73
		** Article availability may vary. Please contact us for further information.							

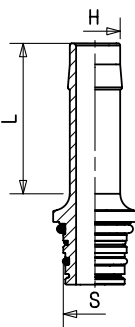
GB: Hose nipple, with o-ring DIN std. DE: Schlauchstutzen, nach DIN		FR: Raccord queu lissee, avec joint torique incorporé norme DIN IT: Bocchettone, con o-ring a norma DIN							
			H (Ø Hose size)	D1		L			
		623 7994	11	M16x1,5		40	22	100	44
		623 7997	11	M22x1,5		40	28	50	69
		623 7995	13	M16x1,6		40	22	90	60
		623 7996	13	M22x1,6		40	28	50	70

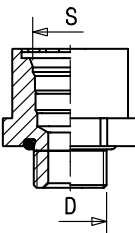
GB: Hose nipple, with o-ring DIN std. DE: Schlauchstutzen, nach DIN		FR: Raccord queue cannelée, avec joint torique incorporé norme DIN IT: Bocchettone, con o-ring a norma DIN							
			H (Ø Hose size)	D1	D2	L			
		623 7752**	3/8"	M22x1,5	M16x1,5	24	28	50	77
** Article availability may vary. Please contact us for further information.									

If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

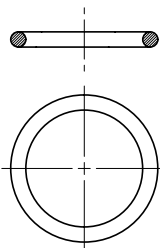
GB: Hose nipple, with cone and o-ring DE: Schlauchstutzen, mit Konus und O-Ring		FR: Raccord queue cannelée, Avec cône et joint torique IT: Bocchettone, con cono o-ring e dado						
			H (Ø Hose size)	K	Nut/Ecrou/Mutter/Dado	L		
		623 8992**	9	K24°-10	616 1146	40	200	23
		623 8993	11.0	K24°-12	616 1147	40	100	18
		Remarks: a) Kindly purchase the nut separately. b) Connection to bulkhead or adapter with cone (24°).						
Remarques:		a) Ecrou vendu séparément. b) Raccordement à un passe-cloison ou un adaptateur avec cône (24°).						
Hinweis:		a) Bitte Überwurfmuttern extra bestellen. b) Anschluß an Schottstutzen oder Ü - Stücke mit Konus (24°).						
Note:		a) Dado da ordinare separatamente. b) Collegamento a passaparete o adattatore con attacco conico da 24°.						
** Article availability may vary. Please contact us for further information.								

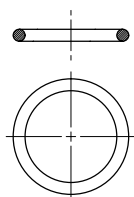
GB: Nut, for hose nipple DE: Überwurfmutter, für Schlauchstutzen		FR: Ecrou, pour Raccord queue cannelée IT: Dado, per bocchettone					
			D1				
		616 1147	M18x1,5	623 8993		22	200

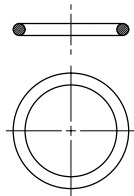
GB: Hose nipple, with plug-in P5s. Cannot be rotated, therefore permitted between frame and axle. DE: Schlauchstutzen, mit P5s Stutzen. Nicht drehbar, geeignet für die Verbindung Rahmen & Achse		FR: Raccord queue lisse, à embase P5 non orientable convient pour la connexion entre châssis et essieux IT: Bocchettone, con innesto P5s. Non è girevole, pertanto utilizzabile per collegamenti con moto relativo (es. telaioassale)						
			H (Ø Hose size)	S		L		
		623 7046	11	P5s		40	100	32
		623 7047**	13	P5s		40	100	44
		Remarks: Kindly use the counterparts 623 7044 or 623 7045. Remarques: Ne s'utilise qu'avec les adapteurs 623 7044, 623 7045. Hinweis: Bitte nur die Gegenstücke 623 7044, 623 7045 benutzen. Nota: Da utilizzare con i particolari 623 7044, 623 7045.						
** Article availability may vary. Please contact us for further information.								

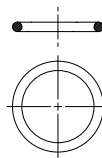
GB: Connector, for hose nipple P5s DE: Anschluß für Schlauch stutzen, mit P5s Anschluß		FR: Adaptateur, Pour Raccord queue lisse à embase P5s IT: Raccordo di passaggio P5s						
			D	S				
		623 7044	M16x1,5	P5s		26	80	55
		623 7045	M22x1,5	P5s		28	75	62

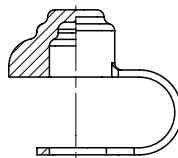
If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

GB: Pressure ring, with o-ring DE: Druckring, mit O-Ring		FR: Cuvette, avec joint torique IT: Guarnizione per raccordi in acciaio, con o-ring						
			D					
		623 9139	M10x1,0					100
		623 9140	M12x1,5					100
		623 9141	M14x1,5					100
		623 9142	M16x1,5					100
		623 9143	M22x1,5					100
623 9149	M26x1,5					100		

GB: O-ring, for push-in for plug-in P5 DE: O-Ring, für GE-Steckverbinder, für P5 Abschlußstutzen		FR: Joint torique, pour raccords rapides pour embases P5 IT: O-Ring, per raccordo rapido raccordo girevole						
			D					
		357 9081	M10x1,0					500
		357 9089	M12x1,5					500
		357 9093	M14x1,5					500
		357 9088	M16x1,5					500
		357 9086	M22x1,5					500

GB: O-ring 8, for locking nut DE: O-Ring 8, für Kontermutter		FR: Joint torique, pour contr-écrous IT: O-Ring 8, per - controdado						
			D					
		357 9119	M12x1,5					500
		357 9094	M14x1,5					500
		357 9092	M16x1,5					500
		357 9219	M18x1,5					500
		357 9086	M22x1,5					500

GB: O-ring, for hose nipple DE: O-Ring, für Schlauchstutzen		FR: Joint torique, pour nipples IT: O-Ring, per - bocchettone						
			K24°	House nipple				
		357 9121	Ø10	623 8992				500
		357 9122	Ø12	623 8993				500

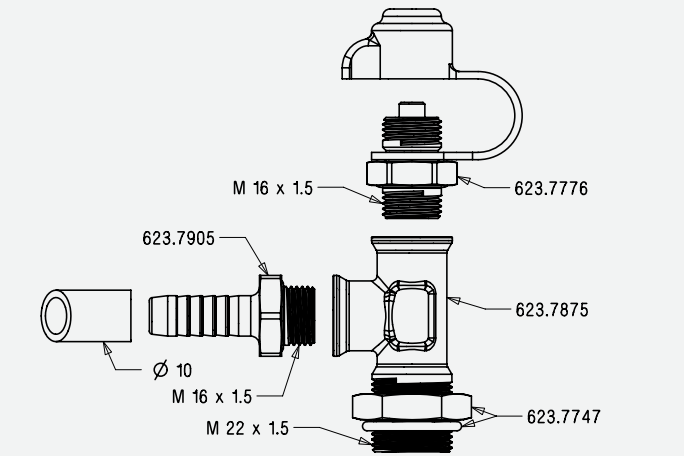
GB: Safety cap, for test point DE: Schutzkappe, für Prüfventil		FR: Capuchon, pour prise de pression IT: Tappo di protezione, per Raccordo presa pressione						
								
		357 9076						50

If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

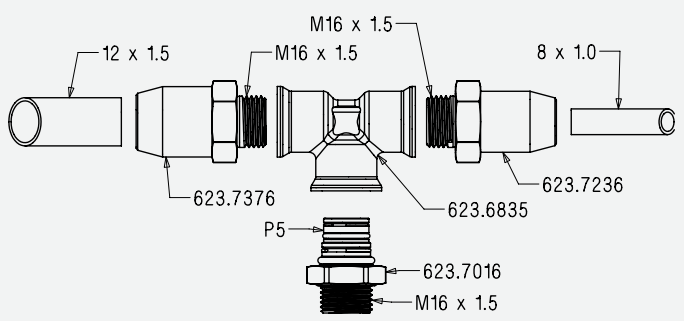


Raufoss Couplings™ BRK/P5 assembly proposals

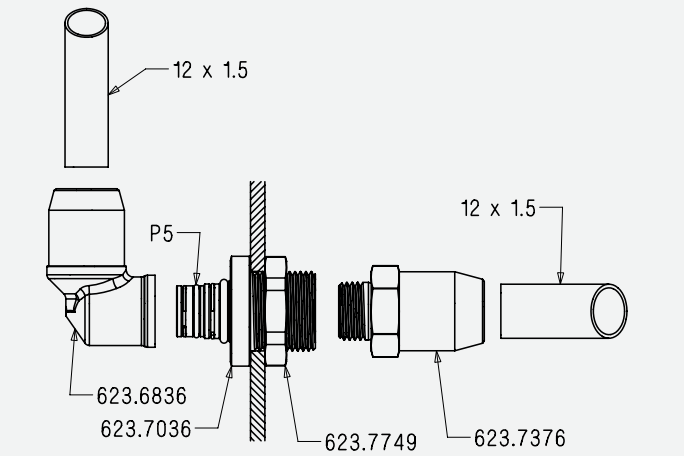
Brake hose



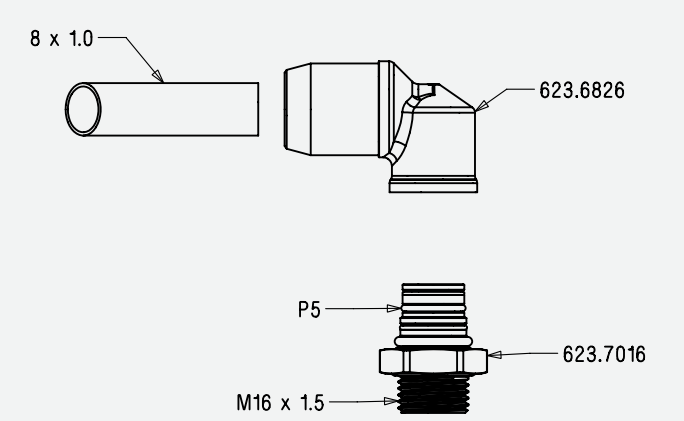
Position union “T”



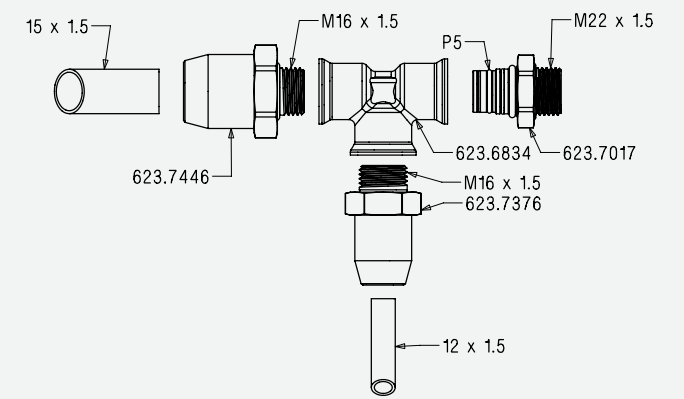
Bulkhead coupling with elbow



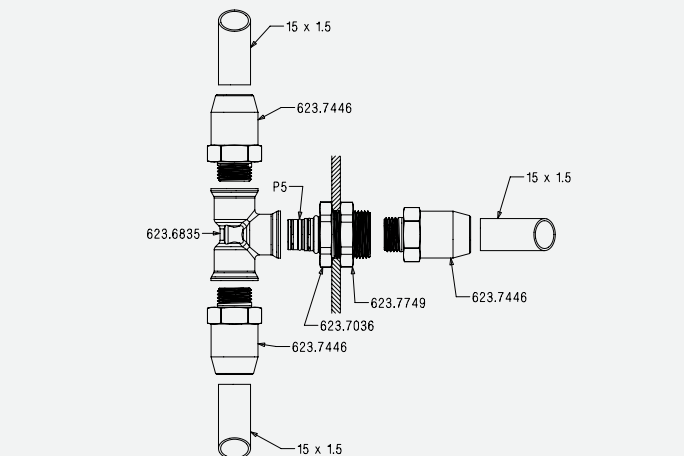
Position coupling



Position union “L”



Bulkhead coupling with union “T”

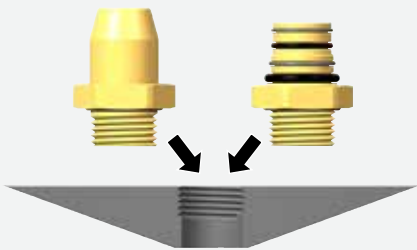


Parallel thread

Assembly information

Rapides Métriques

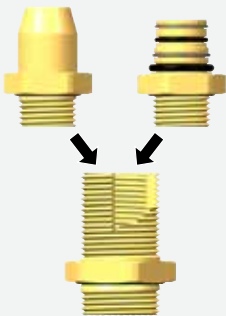
Instructions de montage



The installation of the metric push-in couplings, plug-ins, locking nuts etc. shall be directly tightened into the thread (acc. DIN 3852, ISO 6149, ISO 4039-2, Voss) without any further preparation. The necessary torque values according to table 1a:

Les raccords rapides métriques, embases et contre ecrous etc., sont vissés sans préparation, directement dans le taraudage récepteur (selon DIN 3852, ISO 6149, ISO 4039-2, Voss). Les couples de serrage sont indiqués dans le tableau ci-dessous:

TABLE 1A	Thread Filetage	Recommended torque ^{*)} Couple de serrage recommandé ^{*)}	Max. torque ^{**)} Couple de serrage max ^{**)}	TABLEAU 1A
	G 1/8"	15 Nm	18 Nm	
	G 1/4"	24 Nm	28 Nm	
	M10x1.0	15 Nm	18 Nm	
	M12x1.5	20 Nm	24 Nm	
	M14 x1.5	24 Nm	28 Nm	
	M16x1.5	30 Nm	35 Nm	
	M22x1.5	34 Nm	40 Nm	
	M26x1.5	43 Nm	50 Nm	



When using push-in couplings or plug-ins together with **Raufoss couplings™** bulkheads, the following reduced torque values (table 1b) are applicable:

Pour le montage de raccords rapides et d'embases orientables dans les passe-cloisons **Raufoss couplings™**, appliquer les couples de serrage réduits:

TABLE 1B	Thread Filetage	Recommended torque ^{*)} Couple de serrage recommandé ^{*)}	Max. torque Couple de serrage max	TABLEAU 1B
	M10x1.0	10 Nm	12 Nm	
	M12x1.5	12 Nm	16 Nm	
	M16x1.5	20 Nm	24 Nm	

* The recommended torques are based on threads without lubrication. The recommended torques apply to ports of aluminium, brass or steel. A “click type” torque spanner should be used.
** Please refer to the max. torque of the valve, air reservoir etc.

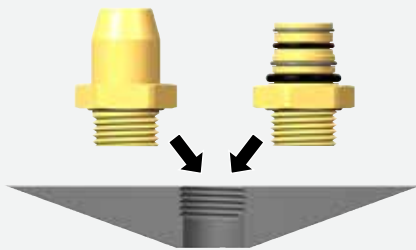
* Les couples de serrage recommandés sont basés sur des filetages non lubrifiés. Les couples de serrage recommandés s'appliquent aux taraudages en aluminium, en laiton ou en acier. Une clé à cliquet dynamométrique doit être utilisée.
** Veuillez également ne pas dépasser le couple de serrage maximum pour les valves, bouteilles d'air etc.

Parallel Gewinde

Montagehinweise

Sistema Metrico

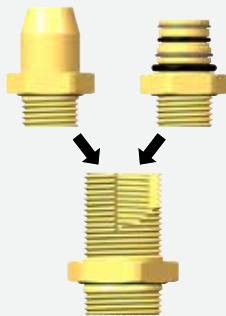
Istruzioni di installazione



Die metrischen Steckverbinder P5 Anschlußstutzen, Kontermuttern etc. werden ohne weitere Vorbereitung direkt in die Aufnahmegewinde (nach DIN 3852, ISO 6149, ISO 4039-2, Voss) geschraubt. Die Anzugsdrehmomente sind der Tabelle 1a zu entnehmen.

I raccordi metrici (ad innesto rapido, girevoli, controdadi etc.) vengono avvitati direttamente nelle filettature (a norma DIN 3852, ISO 6149, ISO 4039-2, Voss) e non richiedono operazioni preliminari. Le coppie di serraggio sono indicate nella tabella 1a:

TABELLE 1A	Gewinde Filettatura	Empfohlener Anzugsmoment ^{*)} Coppia di serraggio consigliata ^{*)}	Max. Anzugsdrehmoment ^{**)} Coppia di serraggio max ^{**)}	TABELLA 1A
	G 1/8"	15 Nm	18 Nm	
	G 1/4"	24 Nm	28 Nm	
	M10x1.0	15 Nm	18 Nm	
	M12x1.5	20 Nm	24 Nm	
	M14 x1.5	24 Nm	28 Nm	
	M16x1.5	30 Nm	35 Nm	
	M22x1.5	34 Nm	40 Nm	
	M26x1.5	43 Nm	50 Nm	



Bei Verwendung von Steckverbindern und P5 Schnellan schlußstutzen in **Raufoss couplings™** - Schottstutzen gelten die nachfolgend aufgeführten, reduzierten Drehmomente gemäß Tabelle 1b:

Per il montaggio di raccordi ad innesto rapido o girevoli su passaparete **Raufoss couplings™**, osservare le seguenti coppie di serraggio ridotte indicate in tabella 1b:

TABELLE 1B	Gewinde Filettatura	Empfohlener Anzugsmoment ^{*)} Coppia di serraggio consigliata ^{*)}	Max. Anzugsdrehmoment Coppia di serraggio max	TABELLA 1B
	M10x1.0	10 Nm	12 Nm	
	M12x1.5	12 Nm	16 Nm	
	M16x1.5	20 Nm	24 Nm	

* Die empfohlenen Anzugsdrehmomente gelten für nicht vorbehandelte Gewinde. Die empfohlenen Anzugsdrehmomente gelten für Anschlüsse in Aluminium, Messing oder Stahl. Die Verwendung eines einstellbaren Drehmomentschlüssels wird empfohlen.
** Bitte achten Sie auf das max. Anzugsdrehmoment des Ventils, Luftbehälters etc.

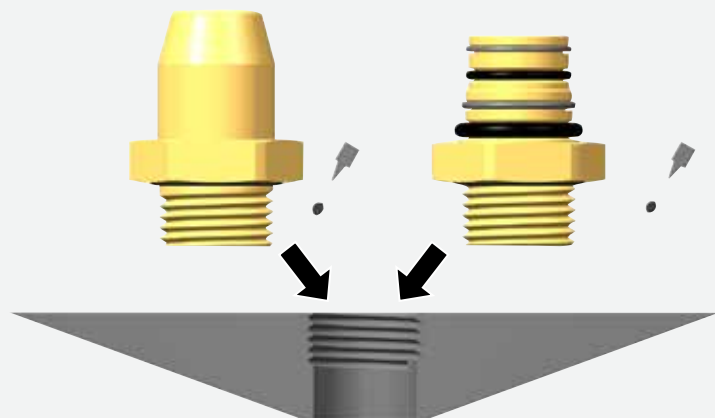
* Le coppie consigliate si riferiscono a filettature senza lubrificazione. Le coppie consigliate si riferiscono a sedi in alluminio, ottone o acciaio. Raccogliamo l'uso di una chiave dinamometrica.
** Considerare anche la coppia di serraggio massima prevista per il componente, serbatoio aria, valvola, etc.

Conical thread

Assembly information

Filetage Conique

Instructions de montage



For the installation of push-in couplings and plug-ins with “NPTF”- “R” thread, a dry seal has to be used before tightening. The following table 1c shows the recommended torque values:

Pour le montage de raccords rapides et d’embases orientables avec le filetage “NPTF”- “R”, il est nécessaire d’utiliser une pâte d’étanchéité avant de visser. Les couples de serrage sont indiqués dans le tableau ci-dessous:

Thread Filetage		Recommended torque ^{*)} Couple de serrage recommandé ^{*)}	Max. torque ^{**)} Couple de serrage max ^{**)}
TABLE 1C	1/8-27 NPTF	15 Nm	18 Nm
	1/4-18 NPTF	24 Nm	28 Nm
	3/8-18 NPTF	32 Nm	38 Nm
	1/2-18 NPTF	36 Nm	42 Nm
	R1/4"	24 Nm	28 Nm
	R3/8"	32 Nm	38 Nm
	R1/2"	36 Nm	42 Nm
	R5/8"	43 Nm	50 Nm

* The recommended torques are based on threads without lubrication. The recommended torques apply to ports of aluminium, brass or steel. A “click type” torque spanner should be used.

** Please refer to the max. torque of the valve, air reservoir etc.

* Les couples de serrage recommandés sont basés sur des filetages non lubrifiés. Les couples de serrage recommandés s’appliquent aux taraudages en aluminium, en laiton ou en acier. Une clé à cliquet dynamométrique doit être utilisée.

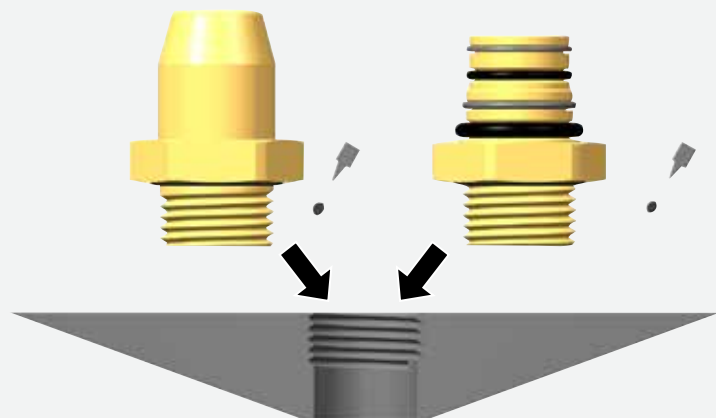
** Veuillez également ne pas dépasser le couple de serrage maximum pour les valves, bouteilles d’air etc.

Konisches Gewinde

Montagehinweise

Filettature Coniche

Istruzioni di installazione



Die Steckverbinder und P5 Schnellanschlußstutzen mit “NPTF”- “R” Gewinde werden mit einem Dichtmittel versehen und in die Aufnahmegewinde geschraubt. Die Anzugsdrehmomente sind der Tabelle 1c zu entnehmen.

Per il montaggio di raccordi ad innesto rapido e girevoli in filettature del tipo “NPTF”- “R” apporre prima dell’avvitamento un sigillante a secco. I valori di coppia di serraggio da osservare sono riportati nella tabella 1c:

Gewinde Filettatura		Empfohlener Anzugsmoment ^{*)} Coppia di serraggio consigliata ^{*)}	Max. Anzugsdrehmoment ^{**)} Coppia di serraggio max ^{**)}
TABELLE 1C	1/8-27 NPTF	15 Nm	18 Nm
	1/4-18 NPTF	24 Nm	28 Nm
	3/8-18 NPTF	32 Nm	38 Nm
	1/2-18 NPTF	36 Nm	42 Nm
	R1/4"	24 Nm	28 Nm
	R3/8"	32 Nm	38 Nm
	R1/2"	36 Nm	42 Nm
	R5/8"	43 Nm	50 Nm

* Die empfohlenen Anzugsdrehmomente gelten für nicht vorbehandelte Gewinde. Die empfohlenen Anzugsdreh momente gelten für Anschlüsse in Aluminium, Messing oder Stahl. Die Verwendung eines einstellbaren Drehmomentschlüssels wird empfohlen.

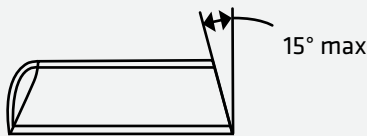
** Bitte achten Sie auf das max. Anzugsdrehmoment des Ventils, Luftbehälters etc.

* Le coppie consigliate si riferiscono a filettature senza lubrificazione. Le coppie consigliate si riferiscono a sedi in alluminio, ottone o acciaio. Raccomandiamo l'uso di una chiave dinamometrica.

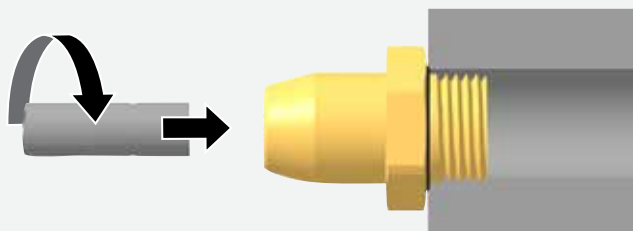
** Considerare anche la coppia di serraggio massima prevista per il componente, serbatoio aria, valvola, etc.

Tube assembly
Assembly information

The tube has to be cut at 90°. A maximum deviation of 15° is allowed.



Couper le tube à angle droit. Un écart angulaire de 15° maximum est admissible.

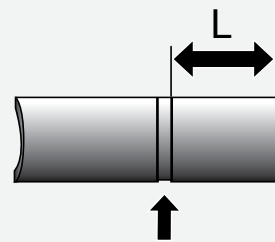


Assembly of the push-in couplings and the tube is performed manually without using a tool. Push-in is simplified by pushing and turning the tube at the same time. Positioning is accomplished in two quite distinct stages:

- Stage 1:** Passing the locking ring.
Stage 2: Reaching the position length.

The maximum required push-in forces are shown in table 2, approx. 2/3 of the given values is normal.

Marking the push-in length, mentioned in table 2, at the end of the tube is recommended for visual control.



Introduire le tube manuellement dans le raccord jusqu'à la butée. Une pression et une rotation simultanée du tube facilite l'introduction. L'introduction du tube se fait en deux phases bien distinctes:

- Phase 1:** Passage de la bague de serrage.
Phase 2: Emmanchement jusqu'à ce que le tube vienne buter au fond du raccord.

Les forces maximales pour l'introduction du tube sont indiquées dans le tableau ci-dessous. La normale correspond à 2/3 des valeurs indiquées.

Il est recommandé de marquer sur les tubes les longueurs d'emmanchement selon le tableau pour un contrôle visuel.

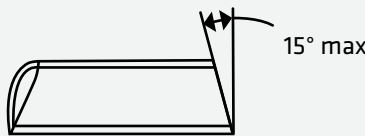
TABLE 2	Ø External tube Ø Ext. du tube	Push- in length Longueur d'emmanchement	Max. push-in force Force Maximale	TABLEAU 2
	4 mm	17,2 mm	70 N	
	6 mm	19,5 mm	80 N	
	8 mm	20,5 mm	90 N	
	9 mm	22,1 mm	95 N	
	10 mm	24,0 mm	100 N	
	11 mm	23,0 mm	105 N	
	12 mm	25,0 mm	110 N	
	15 mm	27,0 mm	125 N	
	16 mm	27,0 mm	130 N	
	18 mm	27,0 mm	130 N	
	25 mm	29,0 mm	150 N	
	1/8"	19,5 mm	80 N	
	3/8"	23,5 mm	100 N	

1/2"

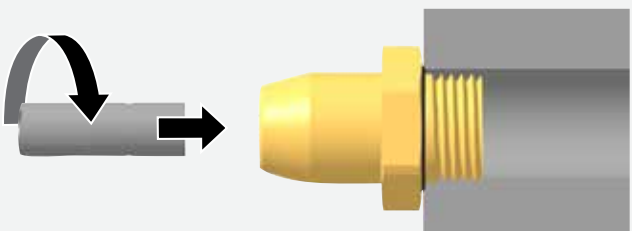
5/8"

Montage des Rohres
Montagehinweise

Die Rohre sollten rechtwinklig abgeschnitten werden. Eine max. Abweichung von 15° ist zulässig.



Tagliare il tubo nella lunghezza necessaria con un taglio ad angolo retto. Una deviazione di max. 15° è comunque tollerata.

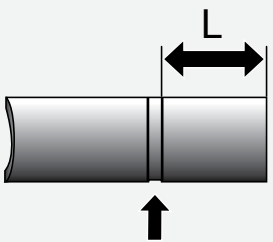


Die Rohre werden einfach von Hand, bis zum Anschlag in den Steckverbinder eingeschoben. Gleichzeitiges drücken und Drehen erleichtern das Einstecken. Deutlich spürbar ist der Einschub in zwei Stufen:

- 1. Stufe:** Passieren des Klemmrings.
2. Stufe: Erreichen des spürbaren Festanschlags am Boden des Steckverbinders.

Die max. Einsteckkräfte entnehmen Sie bitte Tabelle 2. Die Normalkräfte entsprechen ca. 2/3 der angebenen Werte.

Für eine visuelle Kontrolle empfehlen wir, die Einstecklänge gemäß Tabelle 2 auf den Rohren zu kennzeichnen.



L'inserimento dei tubi nei raccordi rapidi è eseguibile manualmente e non richiede alcuna attrezzatura ausiliaria. Esercitando una rotazione del tubo durante l'inserimento, si facilita l'operazione. L'operazione di inserimento è completata quando:

1. L'estremità del tubo ha superato il segmento di graffaggio.
2. Il tubo ha raggiunto il fondo del raccordo.

I carichi d'innesto massimi sono riportati nella tabella 2. Il carico medio per l'inserimento corrisponde ai 2/3 dei valori indicati.

Si raccomanda, per facilitare il controllo visivo, di segnare sulla parte terminale del tubo la lunghezza d'innesto indicata nella tabella 2.

TABELLE 2	Ø Rohr-Außen Ø Esterno tubo	Einstecklänge Lunghezza d'inserimento	Max. Einsteckkraft Forza massima d'inserimento	TABELLA 2
	4 mm	17,2 mm	70 N	
	6 mm	19,5 mm	80 N	
	8 mm	20,5 mm	90 N	
	9 mm	22,1 mm	95 N	
	10 mm	24,0 mm	100 N	
	11 mm	23,0 mm	105 N	
	12 mm	25,0 mm	110 N	
	15 mm	27,0 mm	125 N	
	16 mm	27,0 mm	130 N	
	18 mm	27,0 mm	130 N	
	25 mm	29,0 mm	150 N	
	1/8"	19,5 mm	80 N	
	3/8"	23,5 mm	100 N	

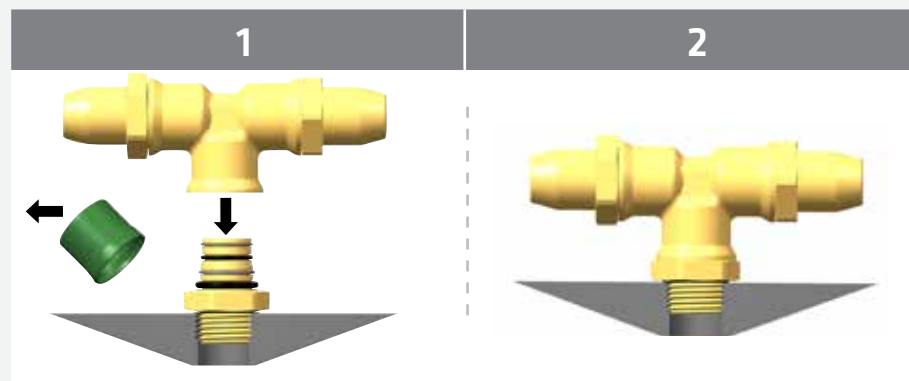
1/2"

5/8"

Plug-in system P5 assembly

Assembly information

The P5 system cannot, and must not be used with similar systems produced by other manufacturers.



The connection plug-in and building-block form a perfect junction, which can be turned for positioning.

The installation of both parts is performed manually.

The thread of the plug-in shall be tightened with the necessary torque. The protective cap should be left in place, and only removed when installing the mating part.

When reaching the first position only, a controlled leakage will be discharged, which is slightly audible. By completing the assembly the connection is 100% tight and secure.

Montage des embases filetées P5

Instructions de montage

Le système P5 permettant l'accouplement de pièces de forme avec des embases filetées fait appel à une technologie élaborée différente de celles qu'on peut trouver dans d'autres gammes ayant pu s'en inspirer.

Raufoss couplings décline donc toute responsabilité au cas où il serait fait usage avec un composant P5 (corps ou embase) de pièces en provenance d'autres marques.

Par ailleurs l'attention de l'utilisateur est attirée sur le fait que si le système d'embases a pour but:

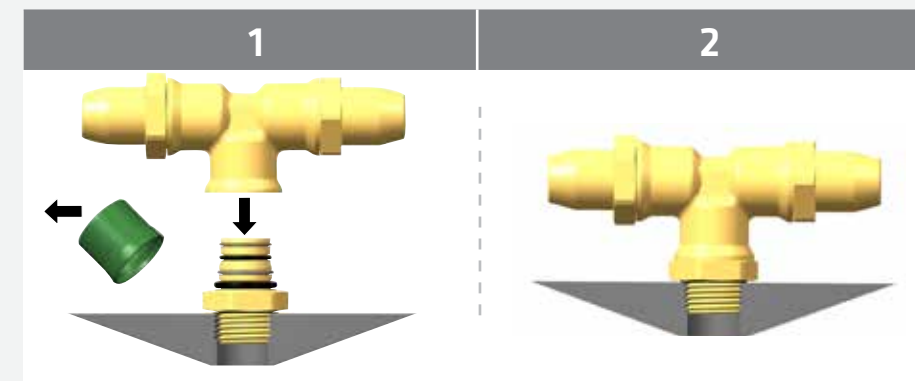
- de permettre le montage et le démontage aisé des raccords (coudes - tés - croix, etc.)

- ainsi qu'un parfait positionnement lors de leur installation, il ne s'agit pas pour autant de raccords tournants, mais uniquement orientables.

Montage des P5-Systems

Montagehinweise

Das P5-System darf nicht mit ähnlichen Systemen anderer Hersteller gemischt werden.



Die Verbindung Anschlußstutzen und Formteil bildet eine unlösbare Einheit, die nach der Montage zur Positionierung gedreht werden kann.

Beide Teile werden von Hand zusammengefügt.

Das Einschrauben des Stutzens erfolgt mit dem erforderlichen Drehmoment. Die Schutzkappe wird unmittelbar vor dem Aufsetzen des Gegenstücks entfernt.

Wenn lediglich die erste Verriegelungsstufe erreicht wird, tritt eine kontrollierte, leicht hörbare Leckage auf, die durch Nachdrücken der Verbindung problemlos behoben werden kann.

Inserimento raccordo girevole P5

Istruzioni di installazione

Non è possibile utilizzare il raccordo girevole P5 unitamente ad altri sistemi simili di marche e produttori diversi da Raufoss couplings.

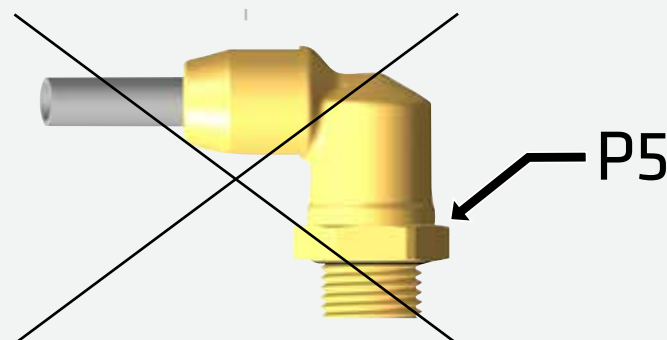
Il raccordo femmina ed il raccordo maschio formano un'unica unità girevole onde facilitarne il posizionamento. I due particolari vengono uniti manualmente.

Avvitare il raccordo filettato P5 rispettando la coppia prescritta. Rimuovere il tappo di protezione appena prima di inserire il raccordo femmina.

Con il primo scatto il raccordo è inserito in posizione di sicurezza, ma non completamente montato. In questa posizione, si verifica una leggera fuoriuscita di aria udibile dall'operatore. Con il secondo scatto si completa l'inserimento del raccordo che, in questa posizione garantisce la perfetta tenuta pneumatica.

Between frame and axle

Assembly information



WARNING

The P5 connection may not be used for the following applications

- Part of connection between the prime mover and the trailer (e.g. brake hose/air brake coils)
- between axle and chassis (e.g. brake hose)

Entre châssis et essieux

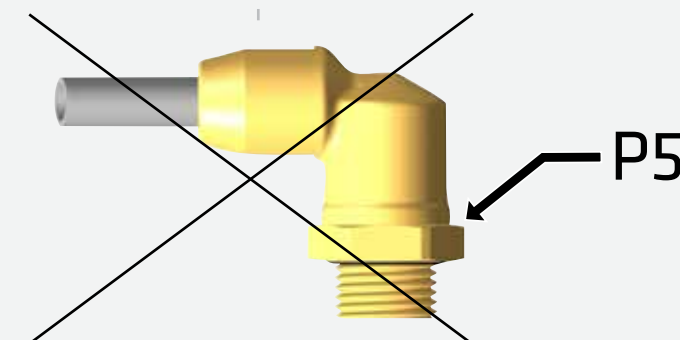
Instructions de montage

ATTENTION

- Le système d'embases P5 ne devra donc jamais être utilisé notamment sur des conduites reliant des organes suspendus (châssis) à des organes non suspendus (essieux) ou entre tracteurs et remorques
- En cas de service exposant le raccord à des sollicitations par oscillation ou rotation, l'utilisation d'un raccord ayant un filetage faisant partie intégrante du corps s'avère indispensable

Zwischen Rahmen und Achse

Montagehinweise



ACHTUNG

Die P5 Verbindung darf nicht verwendet werden als

- Teil der Verbindung zwischen Motorwagen und Anhängerfahrzeug (z.B. Bremsschlauch/Wendelflex)
- Zwischen Achse und Fahgestellrahmen

Tra telaio e ponte

Istruzioni di installazione

ATTENZIONE

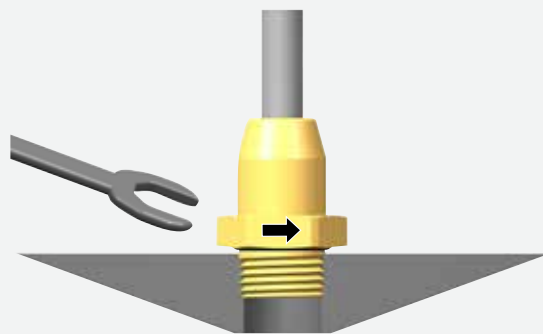
Il raccordo P5 non è idoneo per le seguenti applicazioni

- collegamento tra motrice (trattore) e rimorchio (ad esempio tubo flessibile freni e rotocamere)
- collegamento tra asse e telaio (esempio: tubi flessibili freni) collegamento di componenti con moto relativo tra loro

Repair instructions

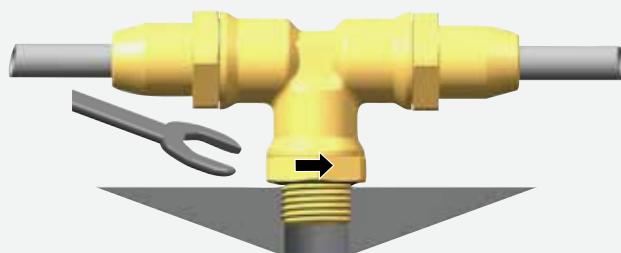
Assembly information

When using the Raufoss couplings™, the exchange of valves, air reservoirs, air bellows etc. can be performed without any problem. The connection is disconnected together with the tubes.



- The push-in coupling is turning on the tube.

Before re-assembly, the o-ring on the thread sealing should be inspected and if necessary, replaced.



- The P5-plug-in turns on the building-block.

Before re-assembly, the o-ring on the thread sealing should be inspected and if necessary, replaced.

If you are forced to re-use push-in coupling, e.g. emergency repair, kindly proceed as follows:

- Cut the PA-tube approx. 1 cm ahead of the push-in coupling.
- Dismantle the coupling, using a pipe-wrench and a spanner.
- Carefully push the tube through the nut.
- Re-assemble.
- Push the new PA-tube into the coupling.

Instructions de réparation

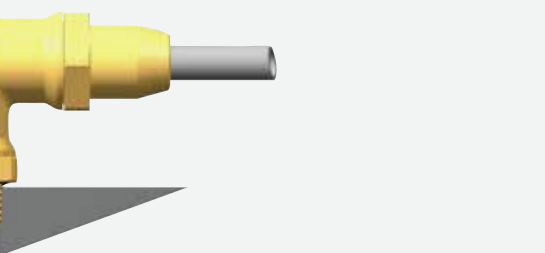
Instructions de montage

Avec le système Raufoss couplings™, le remplacement de valves, de réservoirs ou de tout autre composant peut être effectué très facilement. Le raccord peut être dévissé et revissé sans en extraire le tube.



- Le raccord rapide est libre en rotation sur le tube.

Avant le remontage, il est nécessaire de contrôler et éventuellement de remplacer le joint torique se situant sur la partie fileté du raccord.



- L'embase P5 pivote sur le plan de montage.

Avant le remontage, il est nécessaire de contrôler et éventuellement de remplacer le joint torique se situant sur la partie fileté du raccord.

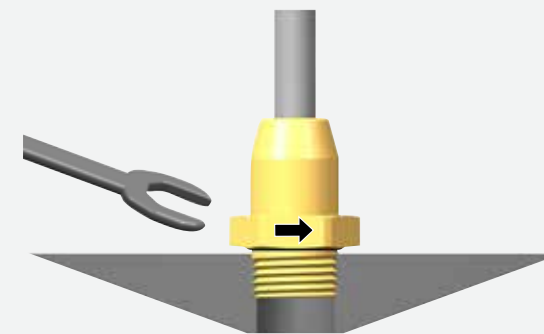
En cas de réutilisation forcée, ex. réparation d'urgence, veuillez respecter scrupuleusement la procédure suivante:

- Couper le tube PA à environ 1 cm du raccord. Démontez le raccord à l'aide d'une clé à griffes et d'une clé plate.
- Retirer prudemment le tube de l'écrou.
- Remonter le raccord en veillant à respecter le bon couple de serrage.
- Insérer de nouveau le tube dans le raccord.

Reparaturhinweise

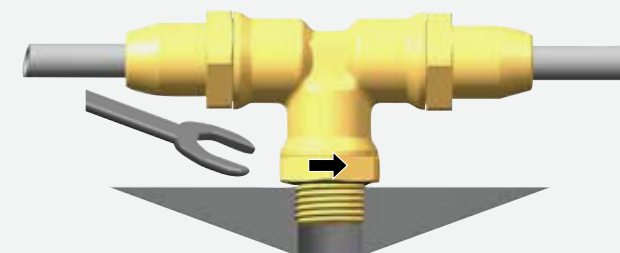
Montagehinweise

Bei Verwendung des Raufoss couplings™ System, ist der Austausch von Ventilen, Luftbehältern, Luftfederbälgen problemlos möglich. Im Gegensatz zu den Schneidring - Verschraubung werden bei dem Raufoss couplings die Verschraubungen mit dem Rohr zusammen aus dem Anschluß geschraubt.



- Der Steckverbinder dreht sich auf dem Rohr.

Bitte überprüfen Sie vor der Montage den Sitz des o-Ringes an der Gewindedichtung und tauschen Sie ihn gegebenenfalls aus.



- Der P5 Stutzen dreht sich in dem Formteil.

Bitte überprüfen Sie vor der Montage den Sitz des O-Ringes an der Gewindedichtung und tauschen Sie ihn gegebenenfalls aus.

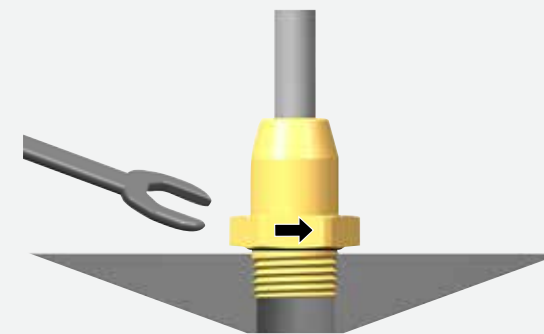
Sind Sie z.B. bei einer Notreparatur gezwungen, den Steckverbinder wiederzuverwenden, so gehen Sie wie folgt vor:

- Schneiden Sie das PA-Rohr 1 cm vor dem Steckverbinder ab.
- Schrauben Sie mit Rohrzange und Maulschlüssel den Steckverbinder auseinander.
- Schieben Sie das Rohr vorsichtig nach vorne durch die Mutter.
- Schrauben Sie beide Teile wieder mit dem gleichen Drehmoment zusammen.
- Schieben Sie ein neues PA-Rohr ein.

Istruzioni per l'assistenza

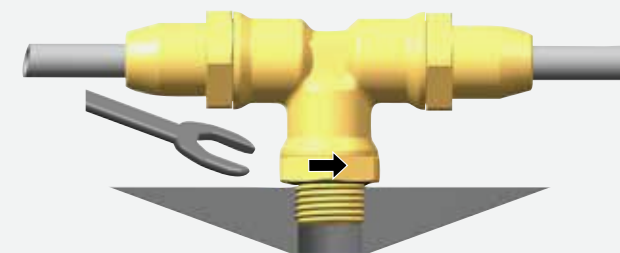
Istruzioni di installazione

Utilizzando il sistema di raccordi Raufoss couplings™, la sostituzione di valvole, serbatoi per l'aria, sospensioni ad aria e similari, risulta essere molto semplice. Il raccordo si può svitare unitamente al tubo che ruota all'interno del raccordo stesso.



- Raccordo ad innesto rapido e tubo.

Prima di riavvitare nuovamente il raccordo, controllare che l'o-ring sia posizionato bene, garantendone così la tenuta. In caso contrario sostituirlo.

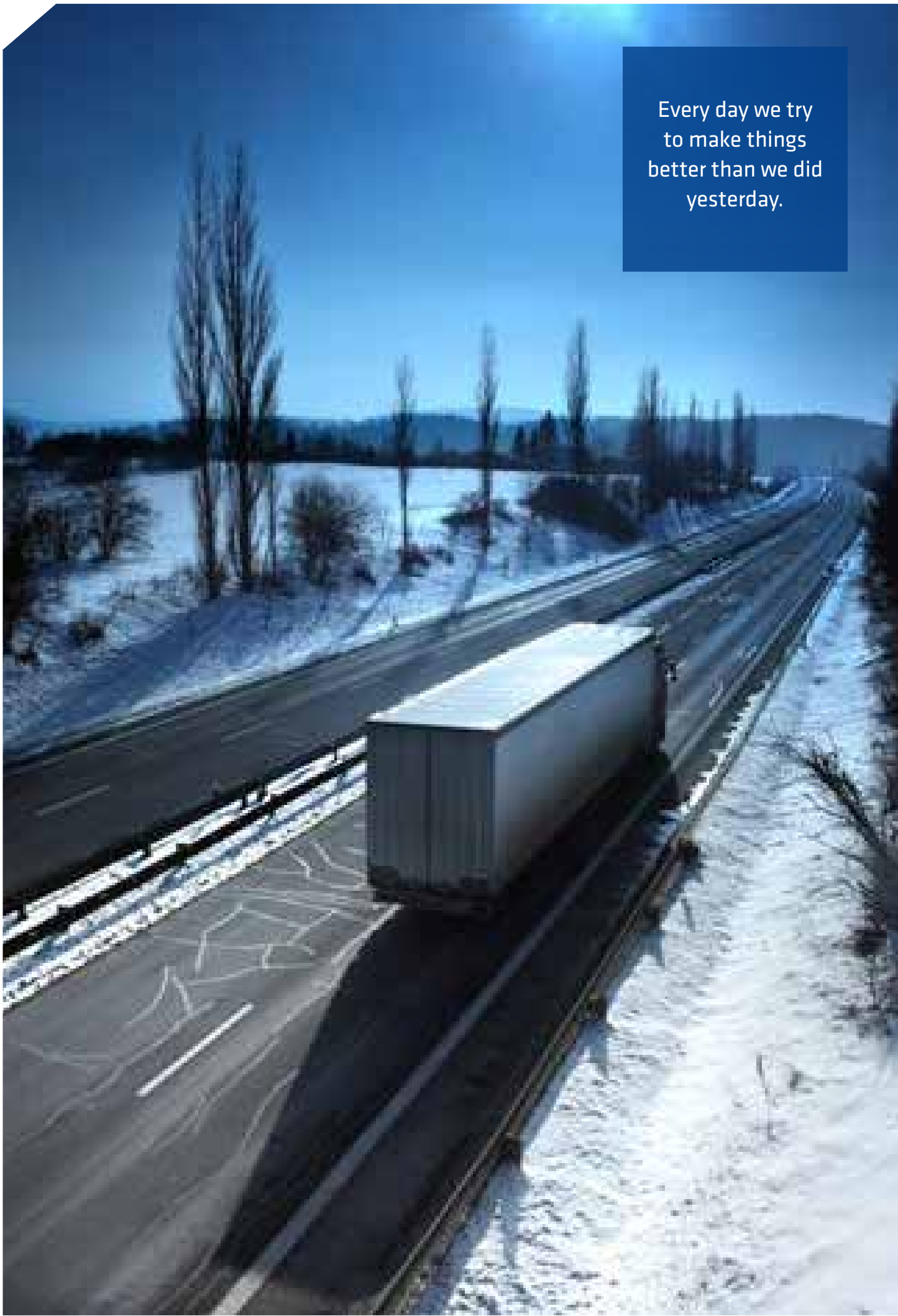


- L'innesto P5 ruota nel raccordo multiplo.

Prima di riavvitare nuovamente il raccordo, controllare che l'o-ring sia posizionato bene, garantendone così la tenuta. In caso contrario sostituirlo.

Qualora si rendesse necessario il riutilizzo del raccordo, per esempio in caso di un intervento d'emergenza, procedere come segue:

- Tagliare il tubo plastico ad una distanza dal raccordo di ca. 1 cm.
- Svitare il corpo del raccordo dall'esagono con l'ausilio di una pinza ed una chiave inglese.
- Estrarre il tubo spingendo l'estremità che fuoriesce dal raccordo.
- Riavvitare il corpo del raccordo sull'esagono con la corretta coppia di serraggio.
- Inserire nel raccordo il tubo plastico.



Every day we try
to make things
better than we did
yesterday.

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