

Product Catalogue

Raufoss Couplings



Enhancing the driving experience

Valid from 2013

*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 is-

sues, vehicle manufacturers prefer a close cooperation 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**



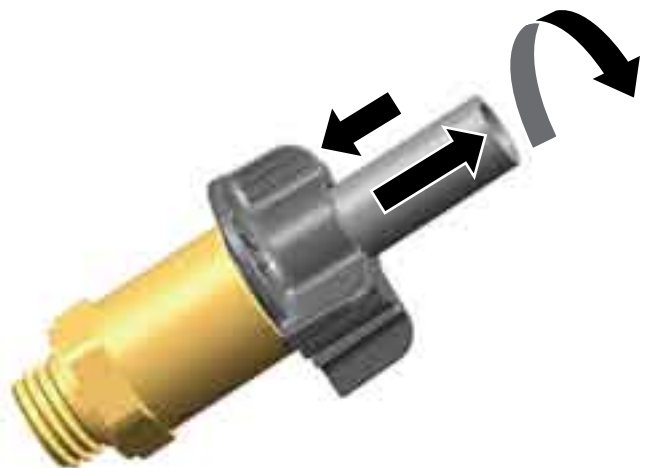
**ABC Threadless
Push-in**



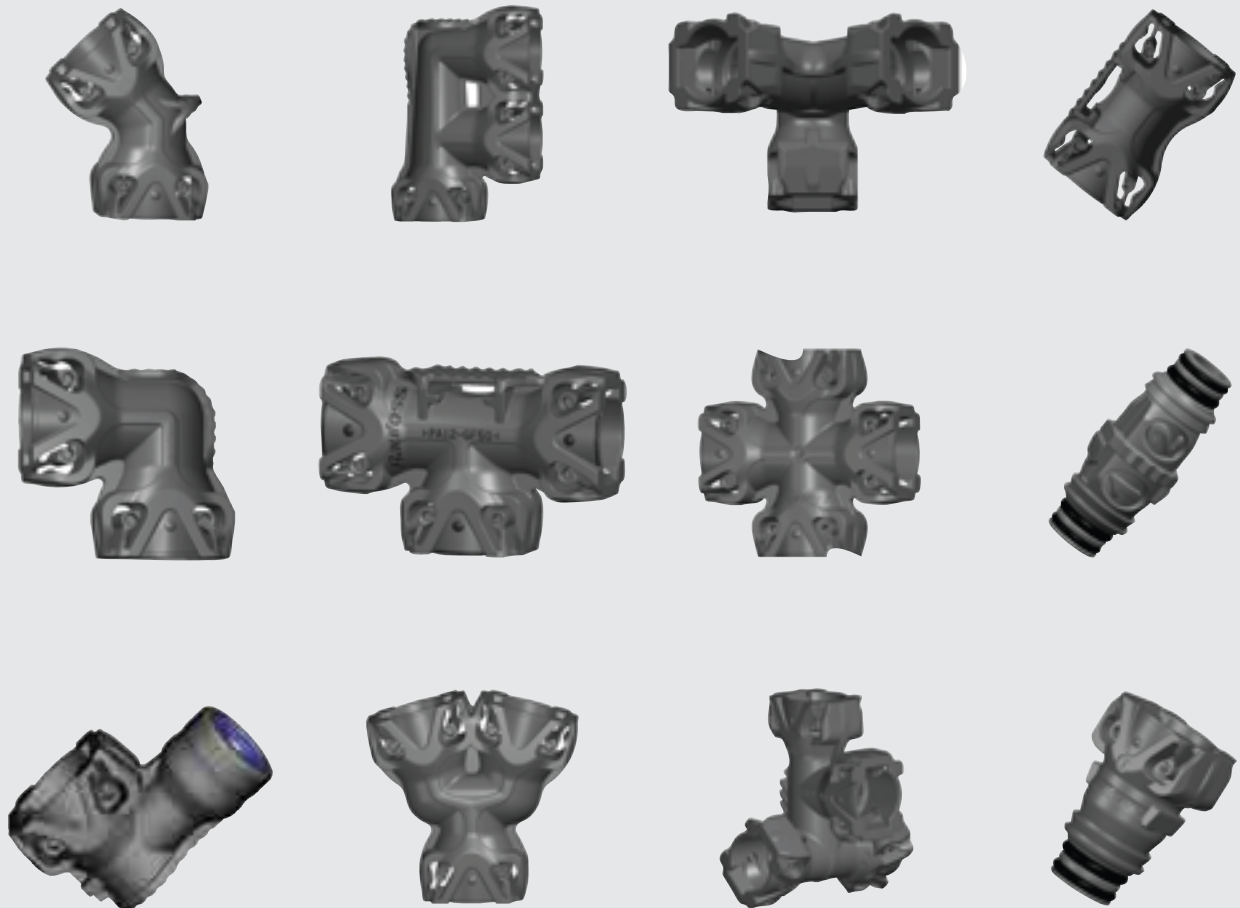
**ABC Integral
Push-in**

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



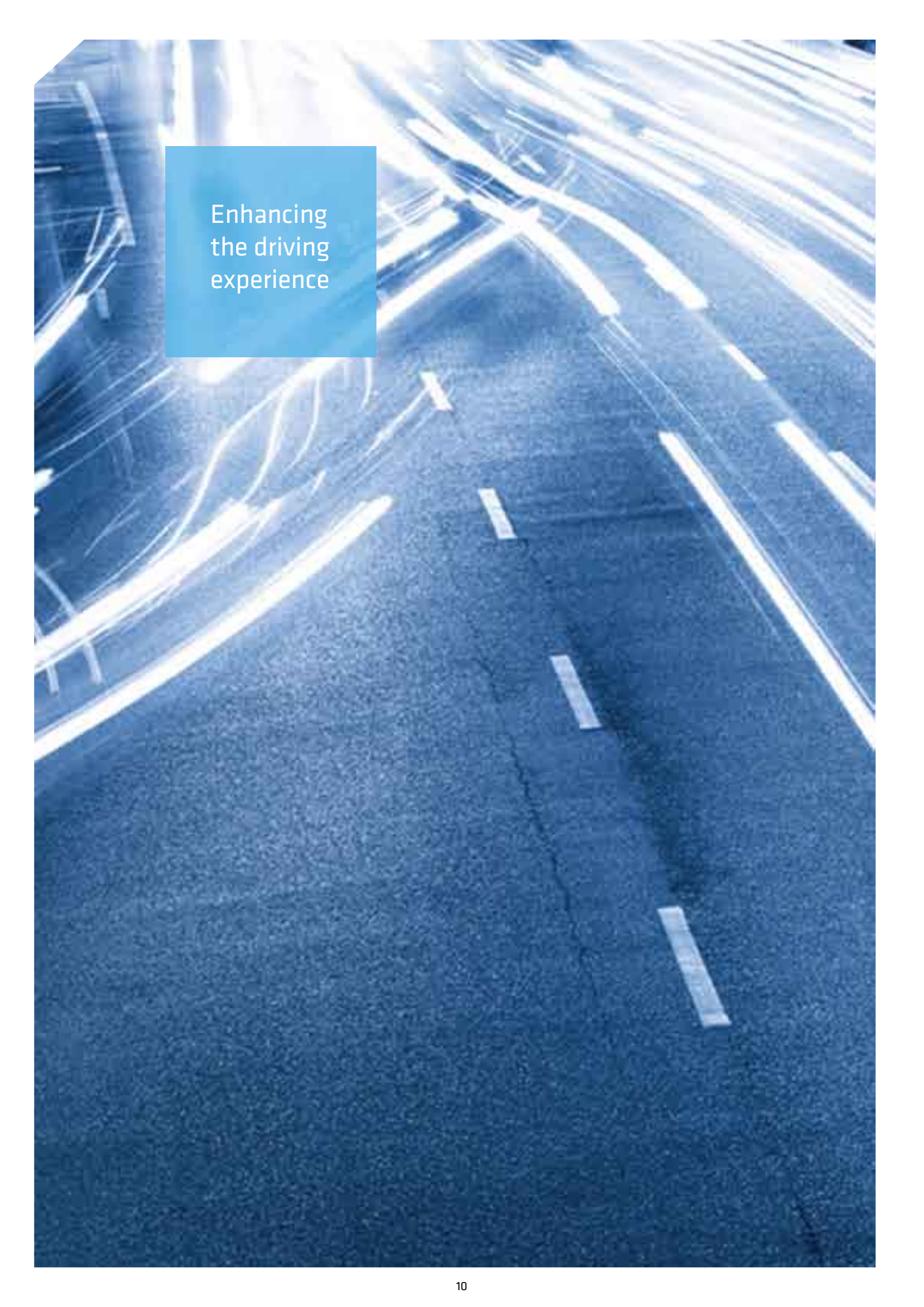
ABC Building Block release



Standard circlip plier - 90° elbow

Standard circlip plier - Straight





Enhancing
the driving
experience

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GB / FR / DE / IT

SYMBOLS - SYMBOLES - SIMBOLE - 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.

Informations générales sur le système

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 concept réfléchi comprenant les éléments suivants :

- 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 et canelées
- accessoires

Les raccords **Raufoss ABC™** peuvent être utilisés avec des tubes polyamide (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.

TABLE 1	Product Produit	Material Designation ¹⁾ Spécification Matière ¹⁾	Comments Commentaires	TABLEAU 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.

¹⁾Unless otherwise specified

²⁾Steel components are marked with # in the product list

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 #

Allgemeine System Information

Kongsberg Automotive als kompetenter Systemlieferant der weltweiten Nutzfahrzeugindustrie hat, in Kooperation mit führenden Nutzfahrzeugherstellern, 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.

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.

Produkt Prodotto		Material Spezifikation ¹⁾ Descrizione del materiale ¹⁾	Anmerkungen Commenti
TABELLE 1	Messing System-Komponenten	EN 12164 CW617N (CuZn39Pb3)	TABELLA 1
	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	
	Parti in acciaio ²⁾		Gelbverzinkt nach 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

Non è consentito l'uso del sistema Raufoss ABC™ Couplings con fluidi diversi dall'aria, salvo specifica approvazione.

Il sistema Raufoss ABC™ Couplings prodotto dalla Kongsberg Automotive è approvato e certificato dal: TÜV Nord

Il sistema Qualità della Kongsberg è conforme ai seguenti standard:

- ISO/TS 16 949
- ISO 14001

Per applicazioni diverse o per ricevere supporto tecnico sul sistema di raccordi Raufoss ABC™ Couplings, vogliate consultare Kongsberg Raufoss Distribution SAS.

¹⁾ Salvo diversa specifica

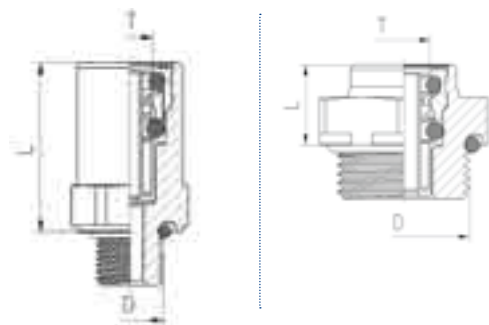
²⁾ I componenti in acciaio sono contrassegnati da # sul catalogo

GB: ABC New Line Push-in Coupling

DE: ABC New Line Gerade Steckverbindungen

FR: ABC New Line Union Mâle

IT: ABC New Line Raccordo ad innesto rapido



Version 1



Version 2



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 06 049	6x1,0	1/8 NPTF	25	1	18	100	28
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	33	1	28	50	96
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	White
Regular	6x1 - 12x1,5	Green
Heavy Duty	12x1,5 / 15x1,5 / 16x2	Blue



Small



Regular



Heavy Duty

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 filetée

IT: ABC Innesto girevole



Article no.	S	D	Cap	Rotolock			
931 40 010	Small	M10x1,0	White	964 42 016	18	175	30
931 40 012	Small	M12x1,5	White	964 42 018	18	175	31
931 40 014	Small	M14x1,5	White	NA	20	150	35
931 40 016	Small	M16x1,5	White	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 50 049	Regular	1/8 NPTF	Green	964 52 018	18	120	38
931 50 050	Regular	1/4 NPTF	Green	965 52 018	18	75	40
931 50 051	Regular	3/8 NPTF	Green	966 52 018	18	100	49
931 50 052	Regular	1/2 NPTF	Green	964 50 022	22	65	57
931 60 016	Heavy Duty	16x1,5	Blue	964 60 022	22	75	56
931 60 022	Heavy Duty	M22x1,5	Blue	964 60 028	28	60	66
931 60 051	Heavy Duty	3/8 NPTF	Blue	964 60 022	22	70	74
931 60 052	Heavy Duty	1/2 NPTF	Blue	964 60 022	22	65	70

GB: ABC Swivel with 24° cone connection

DE: ABC Anschlußstutzen mit 24° Konus

FR: ABC Embase filetée 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	100	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	50	63

GB: ABC Swivel Bulkhead

DE: ABC Anschlußschottstutzen

FR: ABC Embase filetée passe-cloison

IT: ABC Innesto girevole con passaparete



Article no.	S	D1	D2	L	Cap	Rotolock			
933 51 218	Regular	M18x1,5	M12x1,5	14	Green	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	NA	36	30	131

GB: ABC Swivel Bulkhead

DE: ABC Anschlußschottstutzen

FR: ABC Embase filetée 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	NA	24	50	99

GB: ABC Swivel Bulkhead

DE: ABC Anschlußschottstutzen

FR: ABC Embase filetée 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 filetée double/ passe-cloison

IT: ABC Innesto girevole x2 con passaparete



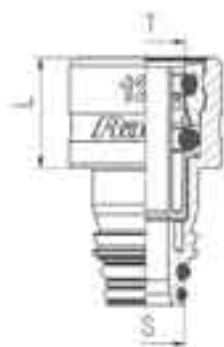
Article no.	S	D1	D2	Cap	Rotolock			
933 52 205	Regular	M22x1,5	20	Green	964 52 028	28	30	124
933 62 206	Heavy Duty	M22x1,5	20	Blue	964 60 028	28	30	141

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



* Body made of brass

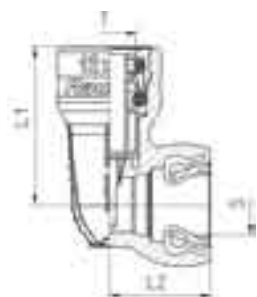
Article no.	T	S	L	Cap		
902 04 004*	4x1,0	Small	19	White	150	32
902 06 004	6x1,0	Small	4	White	500	4
902 08 004	8x1,0	Small	10	White	500	5
902 04 005*	4x1,0	Regular	19	Green	100	40
902 06 005	6x1,0	Regular	4	Green	450	6
902 08 005	8x1,0	Regular	8	Green	375	7
902 10 005	10x1,0	Regular	11	Green	275	10
902 10 105	10x1,25	Regular	11	Green	275	10
902 10 205	10x1,5	Regular	11	Green	275	10
902 12 005	12x1,5	Regular	18	Green	200	12
902 12 006	12x1,5	Heavy Duty	18	Blue	200	12
902 15 006	15x1,5	Heavy Duty	21	Blue	125	21
902 16 006	16x2,0	Heavy Duty	21	Blue	120	21

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°



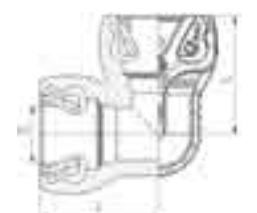
Article no.	S (2x)	L		
920 40 045	Small	22	150	8
920 50 045	Regular	25	120	13
920 60 045	Heavy Duty	30	75	21

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



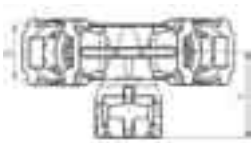
Article no.	S (3x)	L1	L2	L3		
920 40 015	Small	27	22	23	100	16
920 50 015	Regular	31	26	27	50	25
920 60 015	Heavy Duty	36	31	32	35	40

GB: Union T&L
DE: T&L - Stück
FR: Té T&L
IT: Raccordo a T&L

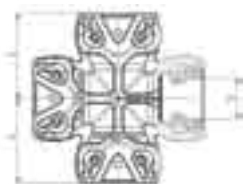

Article no.	S (3x)	L1	L2		
920 40 010	Small	53	22	90	14
920 50 010	Regular	62	26	70	22
920 60 010	Heavy Duty	73	31	40	35

GB: Union Y
DE: Y - Stück
FR: Union Y
IT: Raccordo a Y

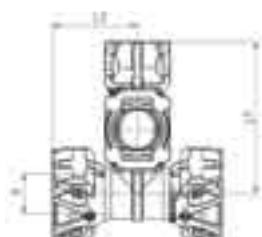

Article no.	S (3x)	L		
920 40 030	Small	47	100	13
920 50 030	Regular	55	70	21

GB: 3 - Way Block
DE: 3 - Wege Block
FR: Té ABC à clipser
IT: Raccordo a 3 vie


Article no.	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


Article no.	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


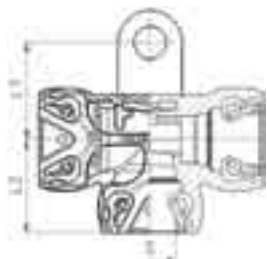
Article no.	S (4x)	L1	L2		
920 50 061	Regular	50	28	50	28
920 60 061	Heavy Duty	59	33	30	45

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



Article no.	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



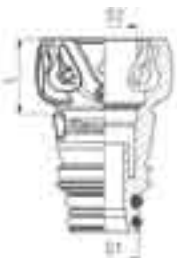
Article no.	S		
960 50 000	Regular	200	14

GB: ABC Reducer

DE: ABC Reduzierstück

FR: Réducteur ABC

IT: Riduzione ABC



Article no.	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



Article no.	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

GB: ABC Union Female
DE: Gerader ABC Verbinder

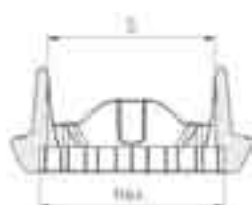
FR: Union double ABC
IT: Giunzione ABC femmina x2



Article no.	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



Article no.	S	Hex	Color Code		
964 42 016	Small	16	Dark Grey	500	2
964 42 018	Small	18	Light Grey	500	2
964 42 022	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 62 028	Heavy Duty	28	Dark Grey	250	5

GB: Push - In Plug
DE: Stopfen für Steckverbindung

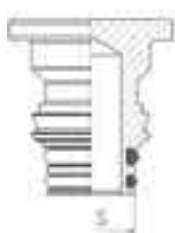
FR: Bouchon
IT: Tappo per innesto rapido



Article no.	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



Article no.	S		
962 40 000	Small	170	24
962 50 000	Regular	150	33
962 60 000	Heavy Duty	100	54

GB: ABC Swivel with Internal Threads

DE: ABC Anschluß mit Innengewinde



FR: Adaptateur ABC à filetage femelle

IT: Adattatore ABC con innesto senza filetto

Article no.	S	D	Cap	Rotolock			
931 50 112	Regular	M12x1,5	Green	964 52 018	18	150	30
931 50 114	Regular	M14x1,5	Green	964 52 018	18	120	32
931 50 116	Regular	M16x1,5	Green	964 60 022	22	80	52
931 50 122	Regular	M22x1,5	Green	964 62 028	28	40	60
931 50 149	Regular	1/8 NPTF	Green	964 52 018	18	100	33
931 50 150	Regular	1/4 NPTF	Green	964 52 018	18	150	34

GB: Transportation plug

DE: Transport Stopfen



FR: Bouchon pour transport

IT: Tappo di protezione

Article no.	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 Adapter

FR: Adaptateur

IT: Bocchettone per

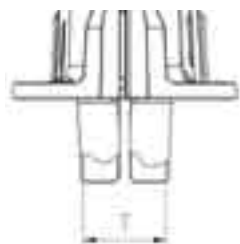
Only for Push - In: 901 12 0xx



Article no.	T	H	L		
943 11 012	12x1,5	11	30	150	30

GB: Release Tool Standard

DE: Demontage Werkzeug



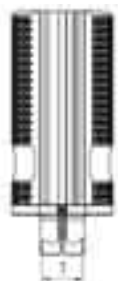
FR: Outil de déconnexion

IT: Attrezzo smontaggio tubi

Article no.	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

GB: Release Tool Professional

DE: Demontage Werkzeug Metall



FR: Outil de deconnexion metallique

IT: Attrezzo in metallo smontaggio tubi

Article no.	T	T	T		
966 06 020	6x1,0			36	65
966 08 020	8x1,0			36	67
966 10 020	10x1,0	10x1,25	10x1,5	36	67
966 12 020	12x1,5			36	67
966 15 020	15x1,5			16	108
966 16 020	16x2,0			16	108



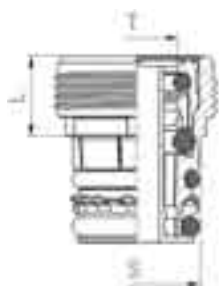
If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

GB: ABC KArtridge* Press - in coupling

DE: ABC KArtridge* Gerader Steckverbinder

FR: ABC KArtridge* Union mâle

IT: ABC KArtridge* Ad innesto rapido



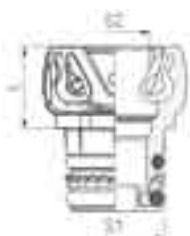
T	S	L			
6x1,0	Small	11	450/	TBA	5
8x1,0	Small	11	450/	TBA	6
8x1,0	Regular	8		TBA	9
12x1,5	Regular	13		TBA	9
15x1,5	Heavy Duty	13		TBA	20
16x2,0	Heavy Duty	13		TBA	20

GB: ABC KArtridge* Adapter

DE: ABC KArtridge* Adapter

FR: ABC KArtridge* Adaptateur

IT: ABC KArtridge* Adattatore



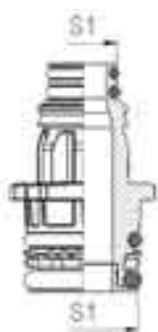
S1	S2	L		
Regular	Regular	17	TBA	6

GB: ABC KArtridge* Swivel

DE: ABC KArtridge* Anschlußstutzen

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



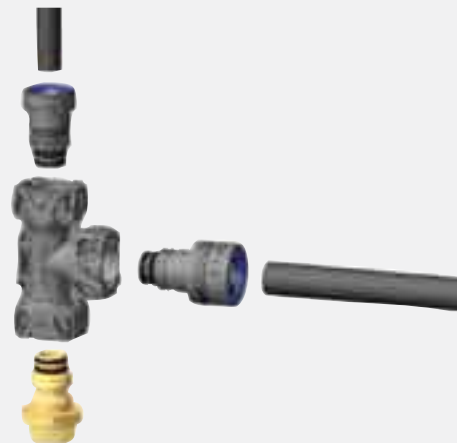
Integral-coupling with rotolock



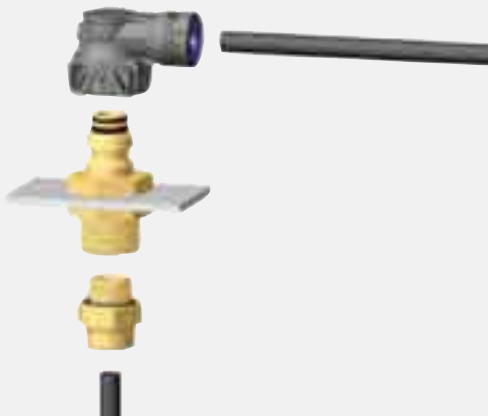
T-coupling



L-coupling



Bulkhead with integral coupling



F-coupling



Raufoss ABC™ System - Assembly proposals

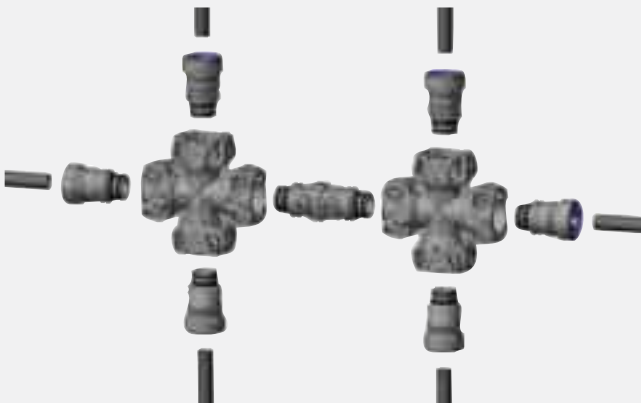
Union coupling



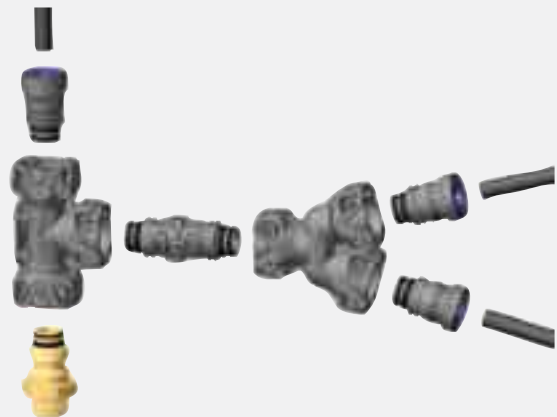
4-Way Cross with Reducer



4 - way Union couplings

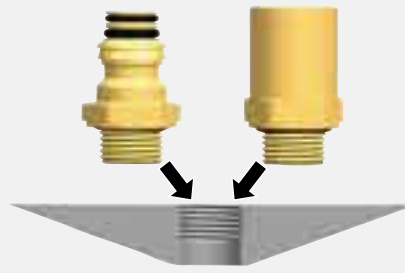


Combined couplings



Parallel thread

Assembly instructions



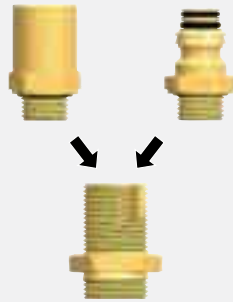
The installation of the metric Push-In couplings, ABC™ swivels, locking nuts etc. shall be directly tightened into the thread (acc. DIN 3852, ISO 6149, ISO 4039-1, ISO 4039-2, Voss port geometry) without any further preparation. The necessary torque values according to Table 2a:

Rapides Métriques

Instructions de montage

Les raccords rapides métriques, embases et contre écrous 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	10 Nm	12 Nm	
	M 12 x 1.5	14 Nm	16 Nm	
	M 16 x 1.5	20 Nm	24 Nm	

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.

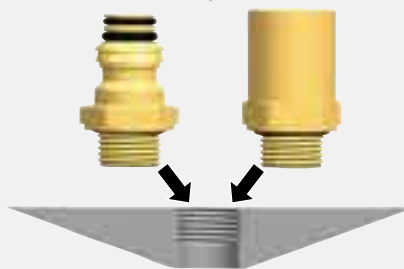
2) Please refer to the max. torque of the valve, air reservoir etc

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.

Parallel Gewinde

Montagehinweise



Die geraden Steckverbindungen, ABC Anschlußstutzen, Kontermuttern etc. werden ohne weitere Vorbereitung in die Aufnahmegehwinde. (DIN 3852, ISO 6149, ISO 4039-1, ISO 4039-2, Voss Geometrie) geschraubt.

Die Anzugsdrehmomente sind der Tabelle 2a zu entnehmen:

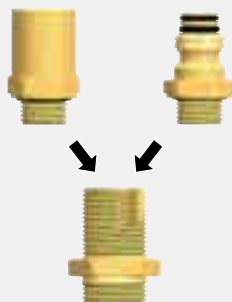
Filettatura metrica

Istruzioni di montaggio

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:

TABELLE 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:

TABELLE 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	10 Nm	12 Nm	
	M 12 x 1.5	14 Nm	16 Nm	
	M 16 x 1.5	20 Nm	24 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.

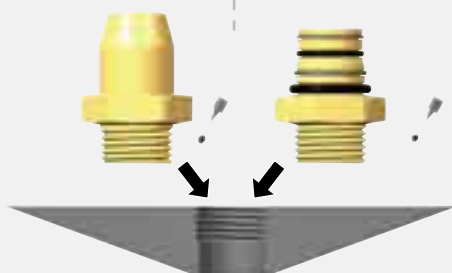
2) Considerare le coppie Max prescritte per le sedi dei componenti quali valvole, serbatoi aria, etc.

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	TABLEAU 2C
	1/4 - 18 NPTF	24 Nm	28 Nm	
	3/8 - 18 NPTF	32 Nm	38 Nm	
	1/2 - 18 NPTF	36 Nm	42 Nm	
	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	

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.

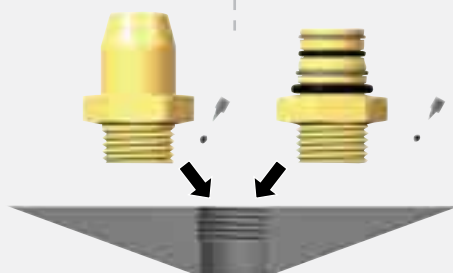
2) Veuillez également ne pas dépasser le couple de serrage maximum pour les valves, bouteilles d'air etc.

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:

TABELLE 2C	Gewinde Filetto	Empfohlenes Anzugsdrehmoment 1) 2) Coppia di serraggio prescritta 1) 2)	Max. Anzugsdrehmoment 2) Coppia di serraggio max. 2)	TABELLA 2C
	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	
	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	

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.

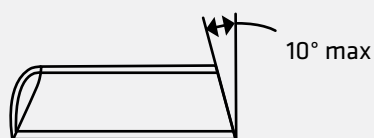
1) Le coppie di serraggio si riferiscono a montaggi su sedi in ottone, alluminio od acciaio e senza l'impiego di lubrificanti. Utilizzare chiavi dinamometriche.

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

Tube assembly

Assembly instructions

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.

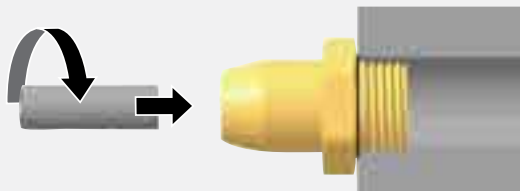
A marking for visual control of the push-in length is optional; the Push-In length is mentioned in Table 3. In cases the tube is not pushed in correctly, only passing the grip ring (see above), an audible whistle can be heard, as a measurable, controlled leakage will occur. Depending on the tube dimension 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 $\leq 12 \times 1,5$.

Montage des tubes

Instructions de montage

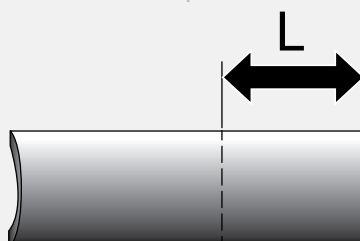
Couper le tube à angle droit, 90°. Un écart angulaire de 10° maximum est admissible



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

	Ø External tube Filetage	Push- in length	Max. push-in force 1)
	Ø Extérieur du tube	Longueur d'emmanchement	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

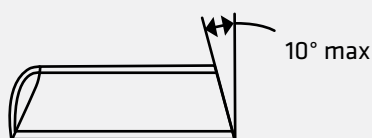
1) Tube diameter, tolerances, ovality and cutting quality may affect the Push-In force.

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

Montage 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.

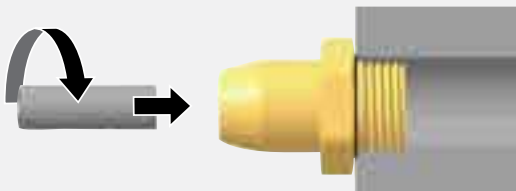
Stufe 2: Passieren des O-Rings und Erreichen des Steckendpunktes, Eindeutiges Montagegefühl beim passieren des Klemmrings und durch Auslösen des "Feed Back Signals"

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

Montaggio del tubo

Istruzioni di montaggio

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

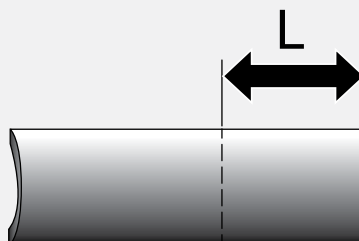


Il tubo può essere innestato a mano e senza l'ausilio di attrezzature. L'operazione di montaggio è più lineare se durante l'innesto si effettua con la mano anche una rotazione del tubo. Il fissaggio del tubo è garantito in quanto si esegue la tenuta meccanica prima di quella pneumatica:

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 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.



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.

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.

	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	TABELLA 3
	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	

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

¹⁾ Il diametro, le tolleranze, l'ovalizzazione del tubo e la qualità del taglio possono influire sulla forza d'innesto.

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 filetés 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 Baukasten-teil 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



2



3



4



- 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

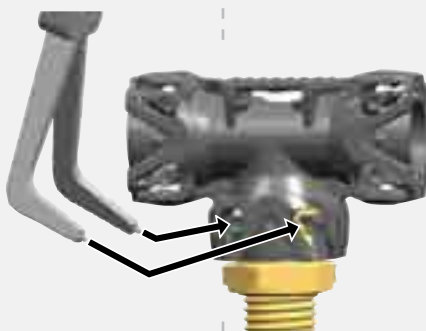
Avec le système Raufoss ABC l'échange de valves, réservoirs, coussin d'air peut se faire sans problème.

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.

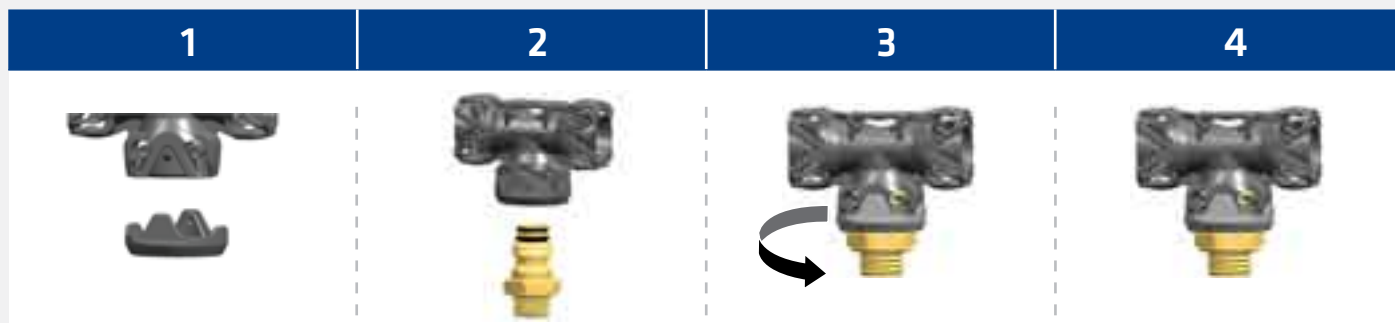
Les raccords composés à partir des éléments du système ABC peuvent être aisément désassemblés avec une pince à circlips ordinaire¹⁾. Les composants démontés peuvent être réutilisés.

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

Montage des Rotolock

Montagehinweise

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



- 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 Systems, ist der Austausch von Ventilen, Luftbehältern, Luftfederbälge problemlos möglich.

Gehen Sie wie folgt vor:

- Entlüften Sie Druckluftanlage vollständig, um das Rohr aus der Verschraubung lösen zu können.
- Entfernen Sie der 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. Das Rohr soll Schmutz- und Staubfrei sein.

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) 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

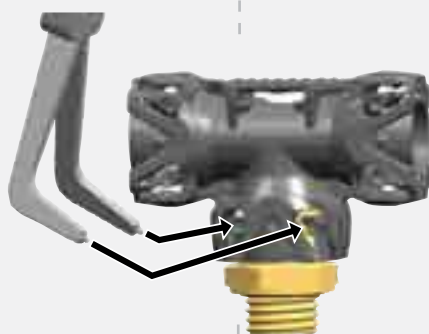
Con l'impiego del sistema Raufoss ABC, è possibile sostituire valvole, serbatoi, ecc, semplicemente smontando il tubo dal raccordo.

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



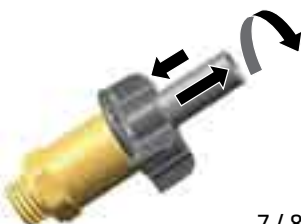
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INSTRUCTION POUR LE DEMONTAGE DU TUBE

1. Pousser le tube au fond du 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 en libre 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 (Rohrbereich), zum Beispiel mit Druckluft, um eventuelle Verschmutzungen zu entfernen, stellen sicher, dass 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 um dem Rohr.



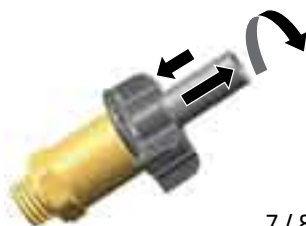
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ISTRUZIONI PER LO SGANCIO DEL TUBO

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

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.

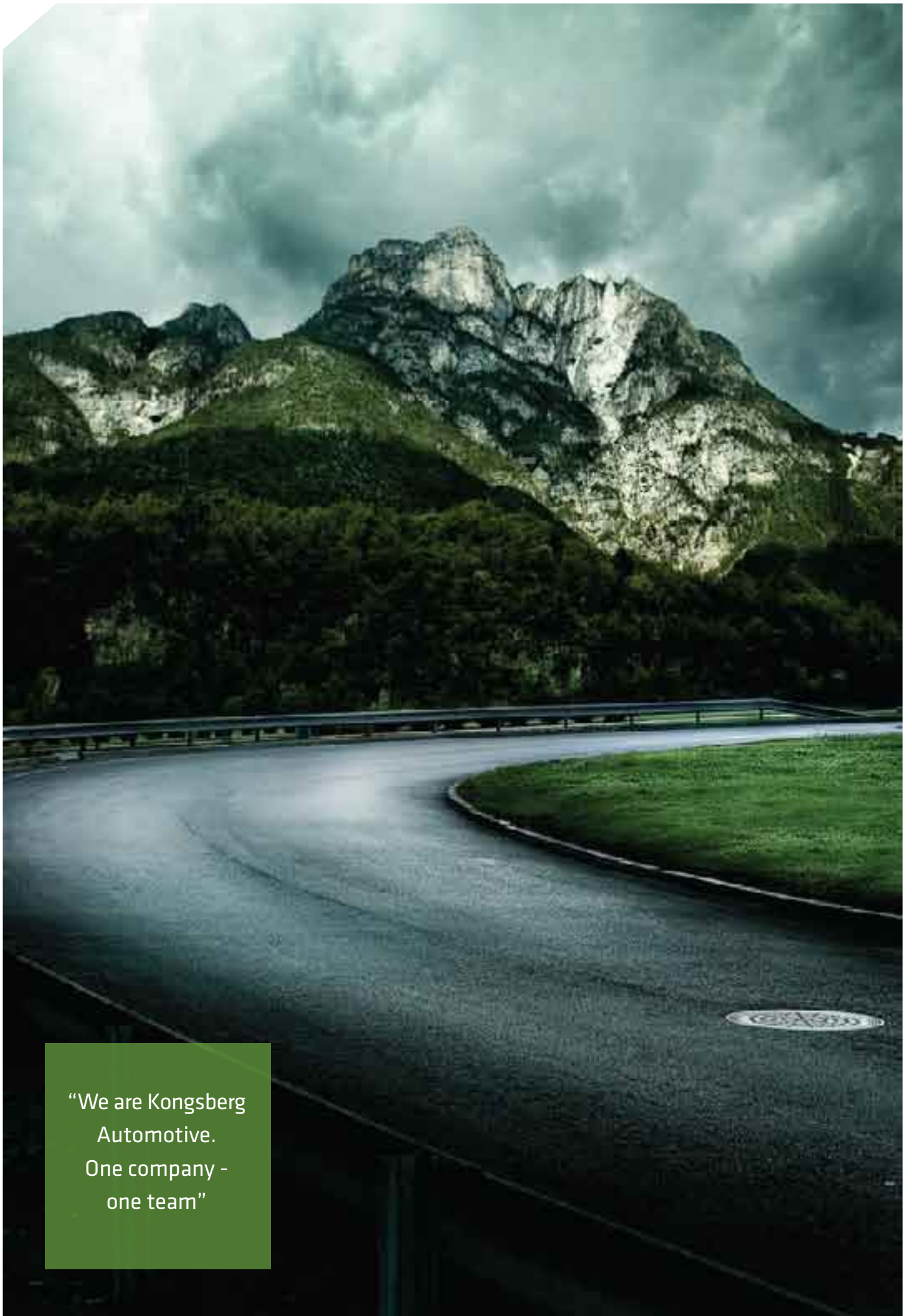


Threadless - 2008



KArtridge - 2008

Long
experience
and high
quality level.



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

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62	Test point	Prise de pression	Prüfanschluß	Raccordo presa pressione
62	Drain plug	Purge de bouteille	Entwässerungsanschluss	Raccordo spurgo condensa
63	Hose nipple	Raccord queue lisse/cannelée	Schlauchstutzen	Bocchettone
65	Accessories/Spare parts	Accessoires/ pièces de rechange	Zubehör/Ersatzteile	Accessori/Ricambi
67	Assembly proposals	Exemples de montage	Baukastenbeispiele	Esempi di montaggio
68	Installation instructions	Instructions de montage	Montagehinweise	Istruzioni di installazione
76	Repair instruction	Instructions de réparation	Reparaturhinweise	Istruzioni per l'assistenza
81	Note	Note	Notizen	Note
82	Index	Index	Index	Indice

SYMBOLS - SYMBOLES - SYMBOLE - LEGENDA



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



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



Weight/Poids/Gewicht/Peso [g]

General system information

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 95MnPb28 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.

Informations générales sur le système

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 95MnPb28 selon la norme DIN 1651 et bichromatés jaune selon ISO 4042/A3C sont repérés 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** ou votre distubuteur.

Attention:

Certain produits ne sont disponibles que chez Kongsberg Raufoss Distribution SAS.

Allgemeine System Information

Kongsberg Automotive als kompetenter Systemlieferant der weltweiten Nutzfahrzeugindustrie hat, in Kooperation mit führenden Nutzfahrzeugherstellern, ein Steckverbindingssystem für Kunststoffrohre für die Druckluftbremsanlage in Nutzfahrzeugen 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 hytel 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 distributori del sistema di raccordi Kongsberg Raufoss Distribution SAS più vicini a Voi.

Nota:

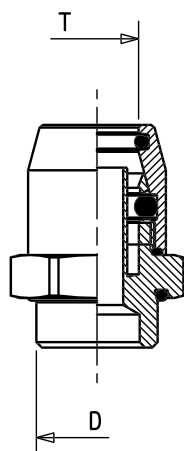
Alcuni componenti presenti in questo catalogo, sono solo disponibili presso la Kongsberg Raufoss Distribution SAS in Francia.

GB: Push-in coupling

DE: Gerader Steckverbinding

FR: Union male

IT: Raccordo ad innesto rapido



Article no.	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

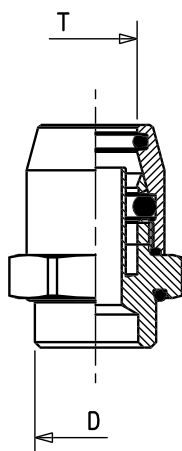
** Article availability may vary. Please contact us for further information.

GB: Push-in coupling

FR: Union male

DE: Gerade Steckverbindung

IT: Raccordo ad innesto rapido



Article no.	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 7456	16x2	M16x1,5			26	65	86
623 7457	16x2	M22x1,5			28	60	89
623 7468	16x2	M26x1,5			32	40	119
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

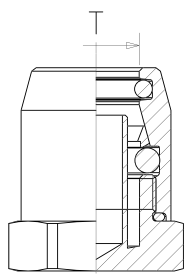
** Article availability may vary. Please contact us for further information.

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



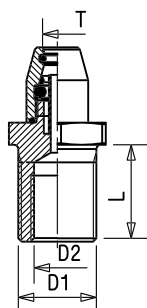
Article no.	T						
623 7221	6x1,0				16	80	20
623 7371	12x1,5				22	100	55

GB: Push-in coupling, for bulkhead

DE: Gerader Steckverbinding, mit Schottstutzen

FR: Union male, passe-cloison

IT: Raccordo ad innesto rapido, con passaparete



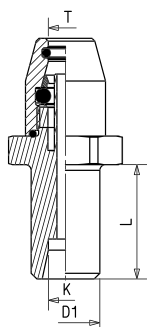
Article no.	T	D1	D2	L			
623 7208	6x1,0	M18x1,5	M12x1,5	22	22	100	57
623 7246	8x1,0	M16x1,5	M10x1	20	22	110	48

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°



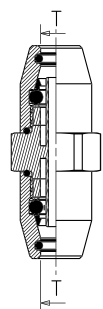
Article no.	T	D1	K	L			
623 7202	6x1,0	M12x1,5	K24°-6	20	18	175	37
623 7224	8x1,0	M14x1,5	K24°-8	20	18	130	47
623 7385	12x1,5	M18x1,5	K24°-12	34	22	40	106

GB: Tube connector

DE: Rohr Verbinder

FR: Union double

IT: Giunzione



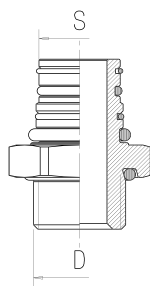
Article no.	T							
623 7195	4x1,0						200	25
623 7205	6x1,0						200	40
623 7225	8x1,0						125	53
623 7265	9x1,5						80	80
623 7305	10x1,0						80	81
623 7315	10x1,25						80	80
623 7325	10x1,5						80	81
623 7355	11x1,5						60	75
623 7365	12x1,5						60	95
623 7445	15x1,5						40	131
623 7465	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

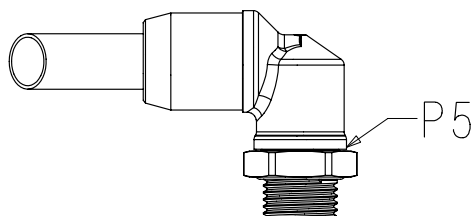
FR: Embase P5

IT: Innesto girevole P5



Article no.	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.

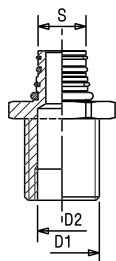
If the product you are looking for is not in this catalogue, please contact us for information on alternative solutions.

GB: Plug-in P5, for bulkhead

DE: P5 Anschluß-Stutzen, mit Schottstutzen

FR: Embase P5, passe-cloison

IT: Innesto girevole P5, con passaparete



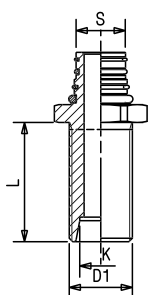
Article no.	S	D1	D2	L			
623 7043	P 5	M22x1,5	3/8NPFT	20	28	50	57
623 7036	P 5	M22x1,5	M16x1,5	24	28	50	75

GB: Plug-in P5, with 24° cone for bulkhead

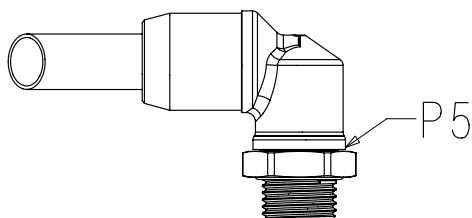
DE: P5 Anschluß-Stutzen, mit Schottstutzen und 24°-Konus

FR: Embase P5, passe-cloison avec cône 24°

IT: Innesto girevole P5, con passaparete e cono 24°



Article no.	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.

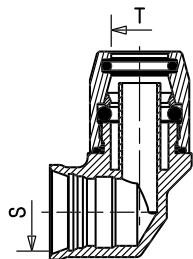
IT: Leggere attentamente i consigli per il montaggio a pagg. 70/71.

GB: 90° Push-in coupling, for plug-in P5

DE: 90° Steckverbinder, mit P5 Anschluß

FR: Coude prémonté 90°, pour embase orientable P5

IT: Raccordo rapido a 90°, per innesto girevole P5



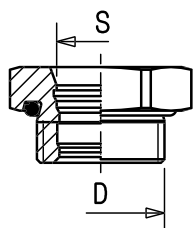
Article no.	T	S					
623 6816	6x1	P 5				125	41
623 6826	8x1	P 5				100	53
623 6991	10x1	P 5				80	62
623 6814	10x1,25	P 5				70	62
623 6824	10x1,5	P 5				80	63
623 6836	12x1,5	P 5				75	68
623 6992	15x1,5	P 5				40	94
623 6993	15x2	P 5				40	89
623 6840	16x2	P 5				40	92

GB: Connector, for plug-in P5

DE: Verbinder, für P5 Anschluß

FR: Adaptateur, pour embase P5

IT: Adattatore, per innesto girevole P5



Article no.	S	D1						
623 7057	P 5	M22x1,5				28	130	41

GB: 45° Elbow, for plug-in P5

DE: 45°-Bogen, für P5 Anschluß

FR: Coude 45°, pour embase P5

IT: Gomito a 45°, per innesto girevole P5



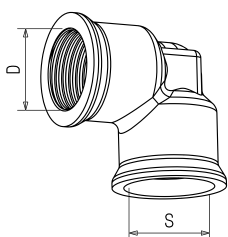
Article no.	S	D1					
623 6832	P 5	M16x1,5				80	43

GB: 90° Elbow, for plug-in P5

DE: 90°-Bogen, für P5 Anschluß

FR: Coude 90°, pour embase P5

IT: Gomito a 90°, per innesto girevole P5



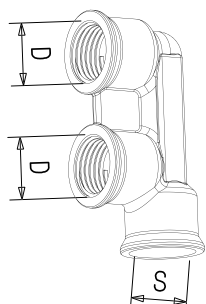
Article no.	S	D					
623 6803	P 5	M12x1,5				80	58
623 6833	P 5	M16x1,5				90	45

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



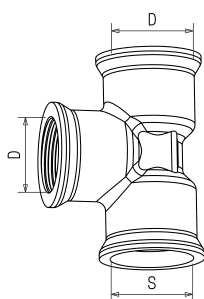
Article no.	S	D1						
623 6845	P 5	M16x1,5					40	68

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



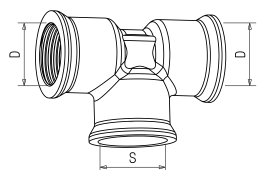
Article no.	S	D						
623 6804	P 5	M12x1,5					50	86
623 6834	P 5	M16x1,5					50	61

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



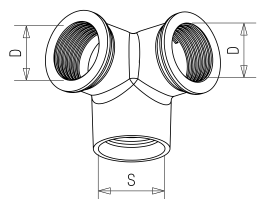
Article no.	S	D						
623 6805	P 5	M12x1,5					50	86
623 6835	P 5	M16x1,5					50	62

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



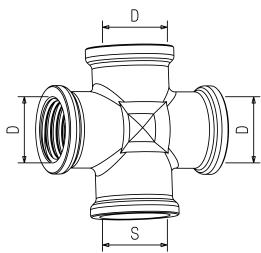
Article no.	S	D1						
623 6846	P 5	M16x1,5					50	66

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



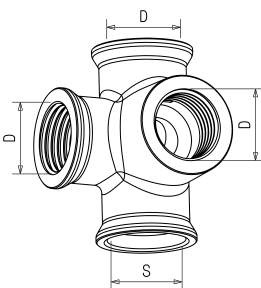
Article no.	S	D1						
623 6838	P 5	M16x1,5					40	78

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



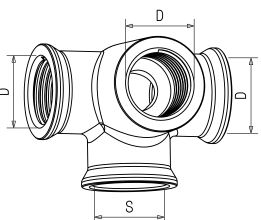
Article no.	S	D						
623 6839	P 5	M16x1,5					35	80

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



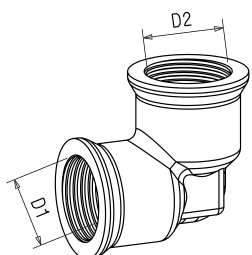
Article no.	S	D						
623 6837	P 5	M16x1,5					35	80

GB: 90° Elbow, 2 x thread

DE: 90°-Bogen, 2 x Gewinde

FR: Coude 90°, taraudé

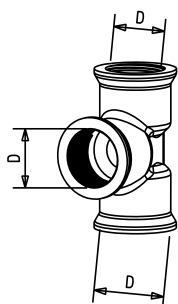
IT: Gomito a 90°, con 2 filettature



Article no.	D1	D2						
623 7823	M12x1,5	M12x1,5					100	47
623 7862	M16x1,5	M16x1,5					80	52
623 7865	M16x1,5	M18x1,5					70	58
623 7867	M22x1,5	M22x1,5					40	80

GB: Union T, 3 x thread
DE: T-Stück, 3 x Gewinde

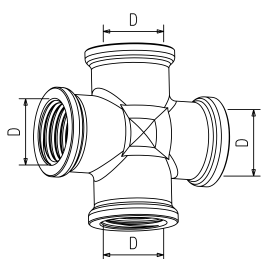
FR: Té taraudé, 3 filetages
IT: Raccordo a T, con 3 filettature



Article no.	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

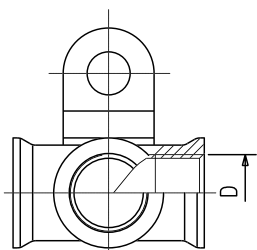
FR: Croix taraudée, 4 filetages
IT: Raccordo a croce a 4 vie, con 4 filettature



Article no.	D								
623 7828	M16x1,5							40	81

GB: Union, 2 x thread with bracket. See assembly sketch.
DE: Gerade Befestigung, 2 x Gewinde. Siehe Montageskizze

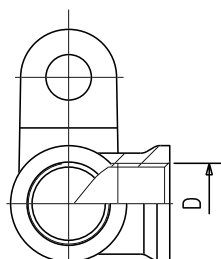
FR: Union, avec fixation 2 x taraudages. Voir dessin.
IT: Manicotto filettato, con staffa di fissaggio. Vedi istruzioni.



Article no.	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



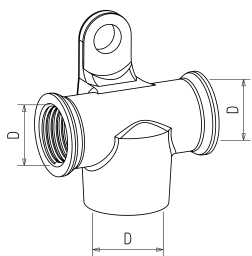
Article no.	D								
612 6934	M16x1,5							40	95

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.



Article no.

D

623 7863

M16x1,5



40



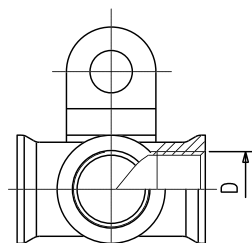
80

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.



Article no.

D

612 6935

M16x1,5

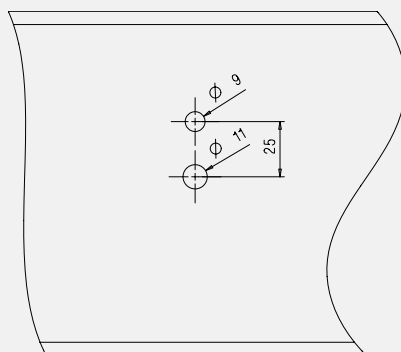


30



112

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

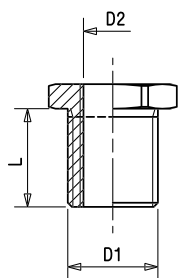


GB: Bulkhead coupling

DE: Schottstutzen

FR: Passe-cloison

IT: Passaparete



Article no.	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

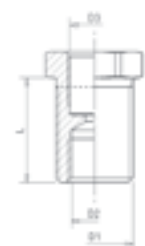
** Article availability may vary. Please contact us for further information.

GB: Adapter for pressurgauge

DE: Anschluß für manometer

FR: Passe-cloison

IT: Passaparete



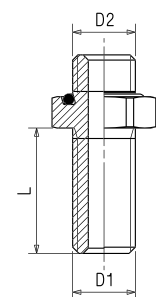
Article no.	D1	D2	D3	L			
623 7625	M18x1,5	M12x1,5	G1/4" ISO 837/1	22	20	120	46

GB: Bulkhead coupling

DE: Schottstutzen

FR: Passe-cloison

IT: Passaparete



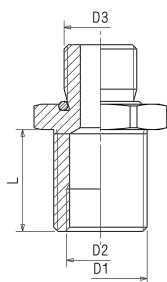
Article no.	D1	D2		L			
623 7622	M12x1,5	M12x1,5		24	18	200	29
623 7624	M12x1,5	M14x1,5		24	20	200	35
623 7693	M16x1,5	M16x1,5		24	22	110	42
623 7697	M16x1,5	M16x1,5		35	22	75	75
623 9116	M16x1,5	R1/4"		35	22	75	75
623 7735	M22x1,5	M16x1,5		24	28	50	76

GB: Bulkheadcoupling

DE: Schottstutzen

FR: Passe-cloison

IT: Passaparete



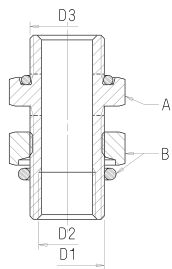
Article no.	D1	D2	D3		L			
623 7728	M22x1,5	M16x1,5	3/8-18 NPTF*		24	28	60	83
623 7729	M22x1,5	M16x1,5	1/2-14 NPTF*		24	28	50	88
623 7731	M22x1,5	M16x1,5	M16x1,5		24	28	50	70
623 7733	M22x1,5	M16x1,5	M16x1,5		40	28	50	94
623 7730	M22x1,5	M16x1,5	M22x1,5		24	28	50	70
623 7721	M22x1,5	M16x1,5	M22x1,5		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

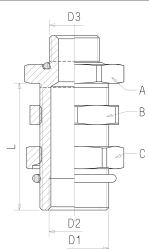
FR: Passe-cloison, avec contre-ecrou et joints
IT: Passaparete, completo di dado e o-ring



Article no.	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

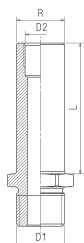
FR: Passe-cloison, avec cône 24°
IT: Passaparete, con cono 24°



Article no.	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⁾

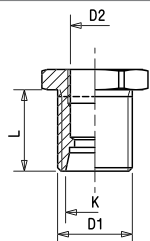
FR: Passe-cloison, pour fixation de reservoir d'air ¹⁾
IT: Passaparete, di supporto serbatoio aria ¹⁾



Article no.	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°



Article no.	D1	K	D2		L			
623 7694	M22x1,5	K24°-15	M16x1,5		24	28	80	60

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.

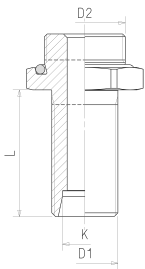
Material: Steel/Matière: Acier/Material: Stahl/Materiale: Acciaio

GB: Bulkhead coupling, with 24° cone

DE: Schottstutzen, mit 24°-Konus

FR: Passe-cloison, avec cône 24°

IT: Passaparete, con cono 24°



Article no.	D1	K	D2		L			
623 9113	M12x1,5	K24°-6	M12x1,5	#	34	20	100	45
623 7695	M16x1,5	K24°-10	M16x1,5		34	24	50	76
623 9108**	M16x1,5	K24°-10	M16x1,5	#	34	22	50	61
623 7732	M18x1,5	K24°-12	M16x1,5		34	24	50	60
623 9111	M18x1,5	K24°-12	M16x1,5	#	34	22	60	66

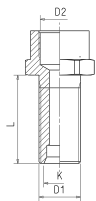
** Article availability may vary. Please contact us for further information.

GB: Bulkhead coupling, with 24° cone

DE: Schottstutzen, mit 24°-Konus

FR: Passe-cloison, avec cône 24°

IT: Passaparete, con cono 24°



Article no.	D1	K	D2	D3	L			
623 7696	M16x1,5	K24°-10	M16x1,5	M22x1,5	34	24	50	70

GB: 90° Elbow, for bulkhead

DE: 90° Winkel, mit Schottstutzen

FR: Coude 90°, passe-cloison

IT: Gomito a 90°, con passaparete



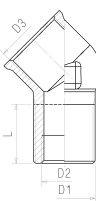
Article no.	D1	D2			L			
623 8882	M22x1,5	M16x1,5			Min. 20	28	25	260

GB: 45° Elbow, for bulkhead

DE: 45° Winkel, mit Schottstutzen

FR: Coude 45°, passe-cloison

IT: Gomito a 45°, con passaparete



Article no.	D1	D2	D3	L		
623 7881	M22x1,5	M16x1,5	M16x1,5	Min 21	40	86
623 8873	M 16 x 1,5		M 16 x 1,5	Min 22	50	88

GB: 45° Elbow, for bulkhead pre-assembled with o-ring and nut

DE: 45° Winkel, mit Schottstutzen mit vormontierter Kontermutter incl. O-Ring

FR: Coude 45°, passe-cloison avec contre-ecrou et joint

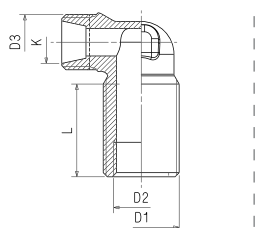
IT: Gomito a 45°, con passaparete completo di dado e o-ring



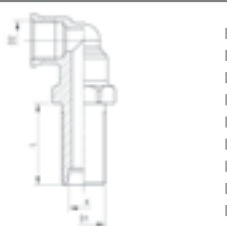
Article no.	D1	D2	A	B	L		
623 8912	M16x1,5	M16x1,5	623 8873	623 7746	22	40	100

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

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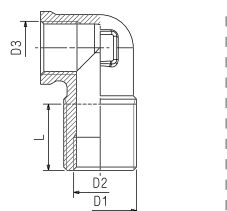
GB: 90° Elbow, with 24° cone for bulkhead**DE: 90° Winkel, mit Schottstutzen und 24°-Konus****FR: Coude 90°, passe-cloison avec cône 24°****IT: Gomito a 90°, con cono 24° e passaparete**

Article no.	D1	D2	D3	K	L		
623 7866	M22x1,5	M16x1,5	M18x1,5	K24°-12	17	50	77

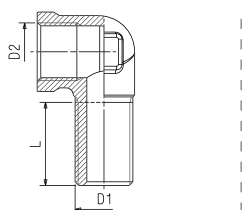
GB: 90° Elbow, with 24° cone for bulkhead**DE: 90° Winkel, mit Schottstutzen und 24°-Konus****FR: Coude 90°, passe-cloison avec cône 24°****IT: Gomito a 90°, con passaparete e cono 24°**

Article no.	D1	D2	K		L		
623 7872**	M18x1,5	K24°-12	M16x1,5		34	30	125

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

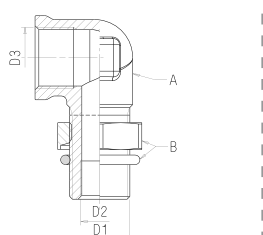
GB: 90° Elbow, for bulkhead**DE: 90° Winkel, mit Schottstutzen****FR: Coude 90°, passe-cloison****IT: Gomito a 90°, con passaparete**

Article no.	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**

Article no.	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**

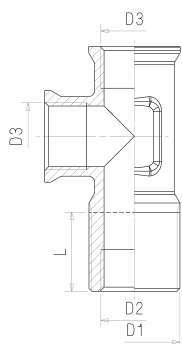
Article no.	D1	D2	D3	A	B			
623 8902	M12x1,5		M12x1,5	623 7807	623 7745		80	45
623 7993	M16x1,5		M16x1,5	623 7808	623 7746		50	77
623 7998	M22x1,5	M16x1,5	M16x1,5	623 7809	623 7747		40	90
623 9970	M26x1,5		M22x1,5			#	90	258

GB: L-coupling, for bulkhead

DE: L-Schottstutzen

FR: Raccord L passe-cloison

IT: Raccordo a L, con orientabile



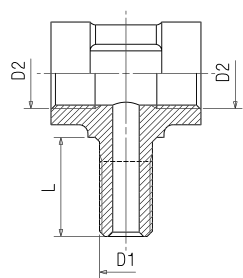
Article no.	D1	D2	D3	L		
623 7816	M16x1,5		M16x1,5	20	40	77
623 7875	M22x1,5	M16x1,5	M16x1,5	20	40	90

GB: T-coupling, for bulkhead

DE: T-Schottstutzen

FR: Té, passe-cloison

IT: Raccordo a T orientabile



Article no.	D1	D2	L		
616 2895**	M12x1,5	M16x1,5	21	60	84
616 1895	M16x1,5	M16x1,5	21	50	86

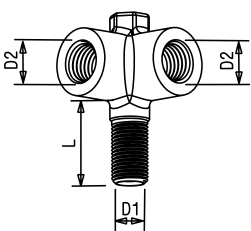
** Article availability may vary. Please contact us for further information.

GB: 3-way coupling, for bulkhead

DE: 3-Wege Schottstutzen

FR: Té forme "L", passe-cloison taraudé 2 X

IT: Raccordo a 3 vie orientabile



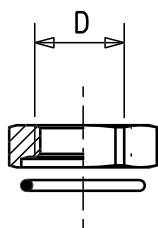
Article no.	D1	D2	L		
616 1897	M12x1,5	M12x1,5	18	60	79
616 1899	M16x1,5	M16x1,5	21	40	100

GB: Locking nut, with o-ring

DE: Kontermutter, mit O-Ring

FR: Contre écrou, avec joint torique

IT: Controdado, con o-ring



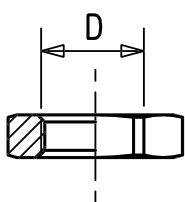
Article no.	D						
623 7745	M12x1,5				18	200	9
623 7742	M14x1,5				20	200	11
623 7746	M16x1,5				22	200	12
623 7778	M18x1,5				24	100	15
623 7747	M22x1,5				28	100	17

GB: Locking nut

DE: Kontermutter

FR: Contre écrou

IT: Controdado



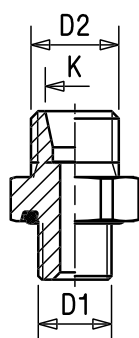
Article no.	D						
623 9134	M12x1,5			#	17	200	7
623 9135	M14x1,5			#	19	200	8
623 7748	M16x1,5				22	500	12
623 9136	M16x1,5			#	22	200	11
623 7775	M18x1,5				24	300	14
623 9137	M18x1,5			#	24	200	12
623 7749	M22x1,5				28	300	16
623 9138	M22x1,5			#	27	200	23
623 9749	M26x1,5			#	36	10	30

GB: Transfer adapter, with o-ring and 24° cone

DE: Ü-Stück, mit O-Ring und 24°-Konus

FR: Adaptateur, avec joint torique et cône 24°

IT: Adattatore filettato, con o-ring e cono 24°



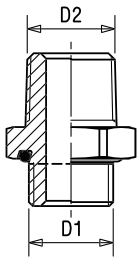
Article no.	D1	D2	K				
623 7781	M10x1,0	M12x1,5	K24°-6		16	400	18
623 7782	M16x1,5	M12x1,5	K24°-6		22	200	32
623 7783	M12x1,5	M16x1,5	K24°-10		18	200	24
623 7784	M16x1,5	M16x1,5	K24°-10		22	150	35
623 9109	M16x1,5	M16x1,5	K24°-10	#	22	100	31
623 7785	M16x1,5	M18x1,5	K24°-12		22	150	32
623 9110	M16x1,5	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

GB: Transfer adapter
DE: Ü-Stück

FR: Adaptateur
IT: Adattatore filettato

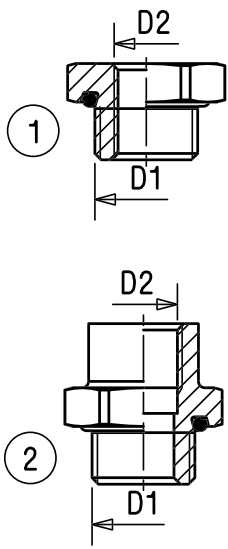


Article no.	D1	D2					
623 7714**	M16x1,5	3/8-18NPTF*			22	150	41
623 7900	M16x1,5	M22x1,5			24	125	50

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

GB: Transfer adapter
DE: Adapter

FR: Adaptateur
IT: Adattatore filettato



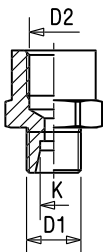
Article no.	D1	D2	Form				
623 7626	1/4"-18 NPTF*	M12x1,5	2		18	200	31
623 7628	1/4"-18 NPTF*	M16x1,5	2		22	125	48
623 7633	3/8"-18 NPTF*	M16x1,5	2		22	130	46
623 7655	M16x1,5	1/8-27 NPTF	1		22	200	25
623 7656	M16x1,5	1/4-18 NPTF	1		22	150	33
623 7657	M16x1,5	3/8-18 NPTF	1		22	100	40
623 7904	M16x1,5	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™)



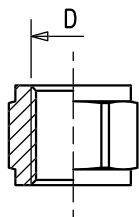
Article no.	D1	D2	K				
623 9102	M12x1,5	M12x1,5	K24°-6	#	19	120	32
623 9104	M16x1,5	M16x1,5	K24°-10	#	22	100	38

* 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

GB: Socket joint
DE: Gewindemuffe

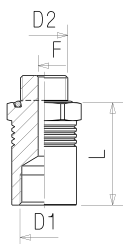
FR: Manchon
IT: Manicotto filettato



Article no.	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

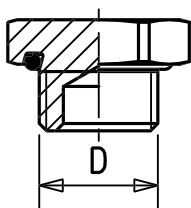
FR: Adaptateur, réducteur de débit
IT: Adattatore filettato, con riduttore per l'aria



Article no.	D1	D2	F	L			
623 7692	M16x1,5	M16x1,5	10	27	22	100	57

GB: Plug
DE: Stopfen

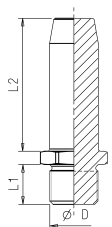
FR: Bouchon
IT: Tappo



Article no.	D						
623 7604	M10x1,0				16	350	12
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⁾



Article no.	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

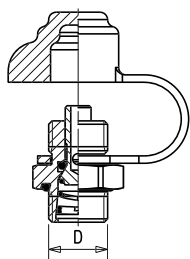
Material: Steel/Matière: Acier/Material: Stahl/Materiale: Acciaio

GB: Test point, ISO 3583

DE: Prüfanschluß, ISO 3583

FR: Prise de pression, ISO 3583

IT: Raccordo presa pressione, ISO 3583



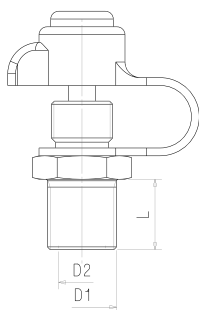
Article no.	D						
623 7776	M16x1,5				22	75	42
623 7777	M22x1,5				28	60	68

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



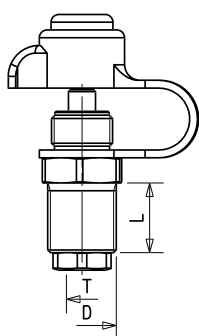
Article no.	D1	D2		L			
623 9144	M18x1,5	M12x1,5		18	22	50	60

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



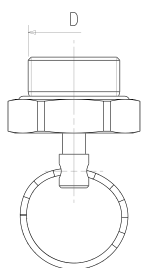
Article no.	D	T		L			
623 7207	M18x1,5	6x1,0		18	22	60	65
623 7227	M22x1,5	8x1,0		18	22	60	57

GB: Drain plug, DIN 74292

DE: Entwässerungs anschluss, DIN 74292

FR: Purge deboutei, DIN 74292

IT: Raccordo spurgo condensa, DIN 74292



Article no.	D						
623 7787	M22x1,5				28	60	54

with keg ring

GB: Drain plug, DIN 74292

FR: Purge de bouteille, DIN 74292

DE: Entwässerungsanschluss, DIN 74292

IT: Raccordo spurgo condensa, DIN 74292



Article no.	D						
623 7788	M22x1,5				28	75	54

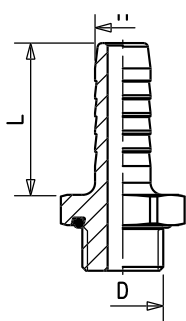
without keg ring

GB: Hose nipple, with o-ring Raufoss couplings™ standard

FR: Raccord queue cannelée, avec joint torique incorporé norme Raufoss couplings™

DE: Schlauchstutzen, nach Raufoss couplings™ System Norm

IT: Bocchettone, con O-ring a norma Raufoss couplings™



Article no.	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

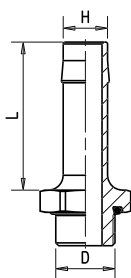
** Article availability may vary. Please contact us for further information.

GB: Hose nipple, with o-ring DIN std.

FR: Raccord queue lisse, avec joint torique incorporé norme DIN

DE: Schlauchstutzen, nach DIN

IT: Bocchettone, con o-ring a norma DIN



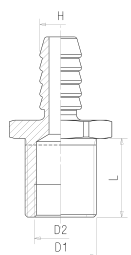
Article no.	H (Ø Hose size)	D1		L			
623 7994	11	M16x1,5		40	22	100	44
623 7997	11	M22x1,5		40	28	50	69
623 7995	13	M16x1,6		40	22	90	60
623 7996	13	M22x1,6		40	28	50	70

GB: Hose nipple.

FR: Raccord queue cannelée

DE: Schlauchstutzen

IT: Bocchettone

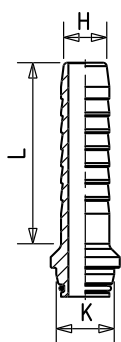


Article no.	H (Ø Hose size)	D1	D2	L			
623 7752**	3/8"	M22x1,5	M16x1,5	24	28	50	77

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

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



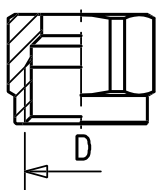
Article no.	H (Ø Hose size)	K	Nut/Ecrou/Mutter/Dado	L		
623 8992**	9	K24°-10	616 1146	40	200	23
623 8993	11.0	K24°-12	616 1147	40	100	18

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



Article no.	D1					
616 1146**	M16x1,5	623 8992		19	300	18
616 1147	M18x1,5	623 8993		22	200	25

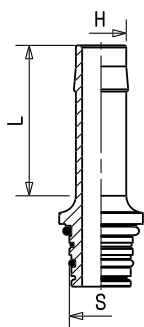
** Article availability may vary. Please contact us for further information.

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)



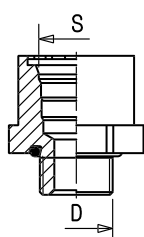
Article no.	H (Ø Hose size)	S		L		
623 7046	11	P5s		40	100	32
623 7047**	13	P5s		40	100	44

Remarks: Kindly use the counterparts 623 7044 or 623 7045.
 Remarques: Ne s'utilise qu'avec les adaptateurs 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



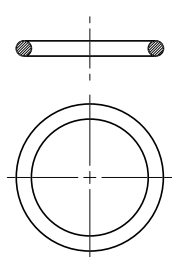
Article no.	D	S				
623 7044	M16x1,5	P5s		26	80	55
623 7045	M22x1,5	P5s		28	75	62

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



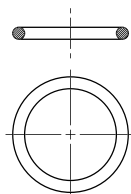
Article no.	D								
623 9139	M10x1,0								100
623 9140	M12x1,5								100
623 9141	M14x1,5								100
623 9142	M16x1,5								100
623 9143	M22x1,5								100
623 9149	M26x1,5								100

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



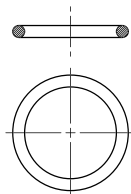
Article no.	D								
357 9081	M10x1,0								500
357 9089	M12x1,5								500
357 9093	M14x1,5								500
357 9088	M16x1,5								500
357 9086	M22x1,5								500

GB: O-ring 8, for locking nut

DE: O-Ring 8, für Kontermutter

FR: Joint torique, pour contr-écrous

IT: O-Ring 8, per - controdamo



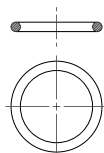
Article no.	D								
357 9119	M12x1,5								500
357 9094	M14x1,5								500
357 9092	M16x1,5								500
357 9219	M18x1,5								500
357 9086	M22x1,5								500

GB: O-ring, for hose nipple

DE: O-Ring, für Schlauchstutzen

FR: Joint torique, pour nipples

IT: O-Ring, per - bocchettone



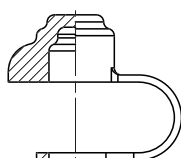
Article no.	K24°	House nipple							
357 9121	Ø10	623 8992							500
357 9122	Ø12	623 8993							500

GB: Safety cap, for test point

DE: Schutzkappe, für Prüfventil

FR: Capuchon, pour prise de pression

IT: Tappo di protezione, per Raccordo presa pressione

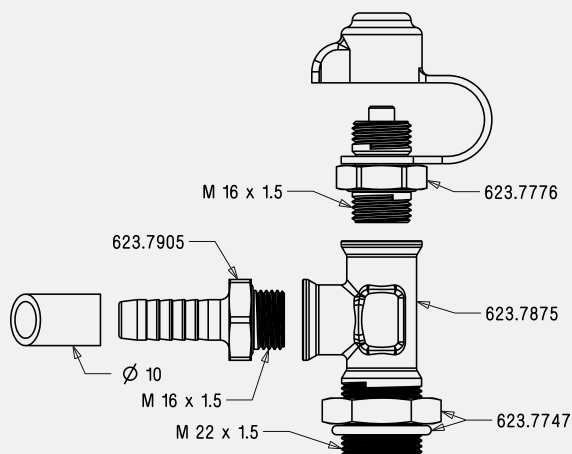


Article no.									
357 9076									50

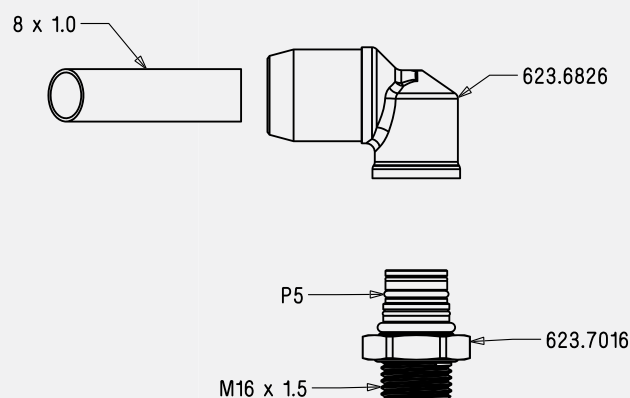


Raufoss Couplings™ BRK/P5 assembly proposals

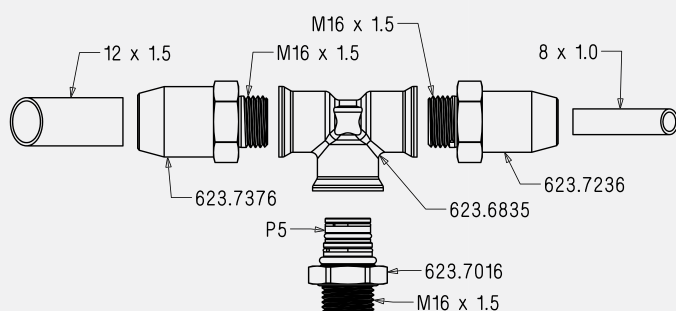
Brake hose



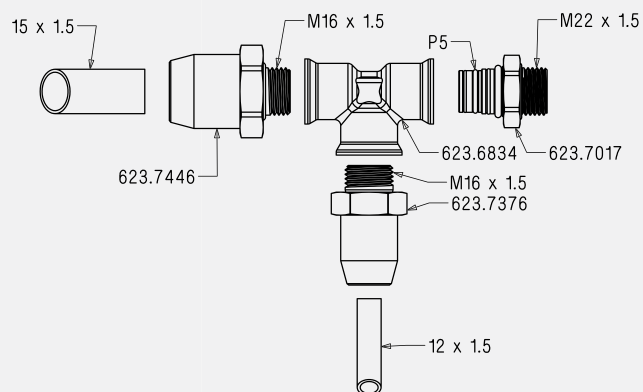
Position coupling



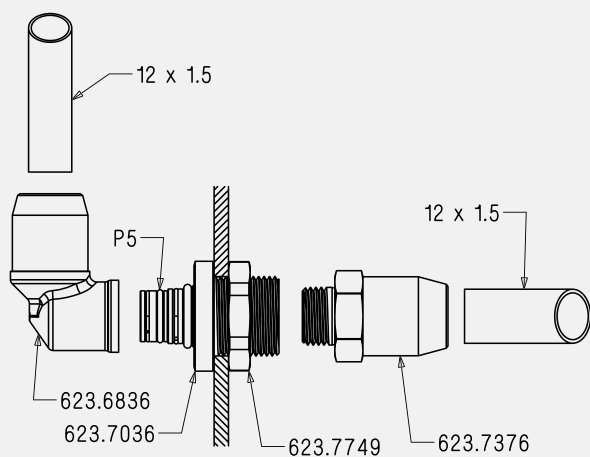
Position union "T"



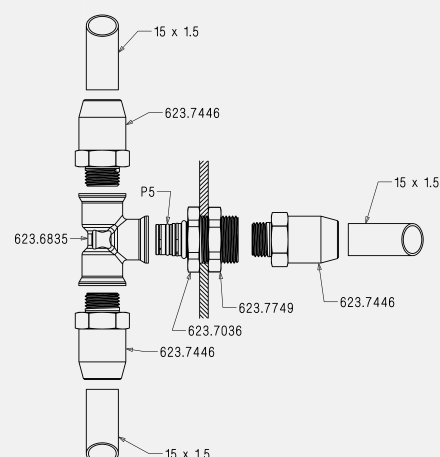
Position union "L"



Bulkhead coupling with elbow



Bulkhead coupling with union "T"

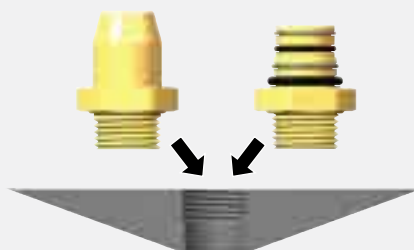


Parallel thread

Assembly information

Rapides Métriques

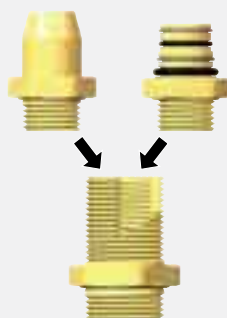
Instructions de montage



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 écrous 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	14 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.

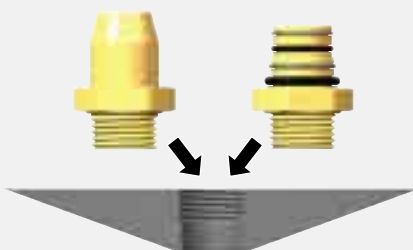
** Veuillez également ne pas dépasser le couple de serrage maximum pour les valves, bouteilles d'air etc.

Parallel Gewinde

Montagehinweise

Sistema Metrico

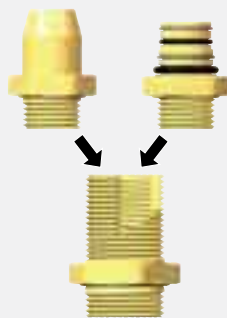
Istruzioni di installazione



Die metrischen Steckverbinder P5 Anschlußstutzen, Kontermuttern etc. werden ohne weitere Vorbereitung direkt in die Aufnahme Gewinde (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	14 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.

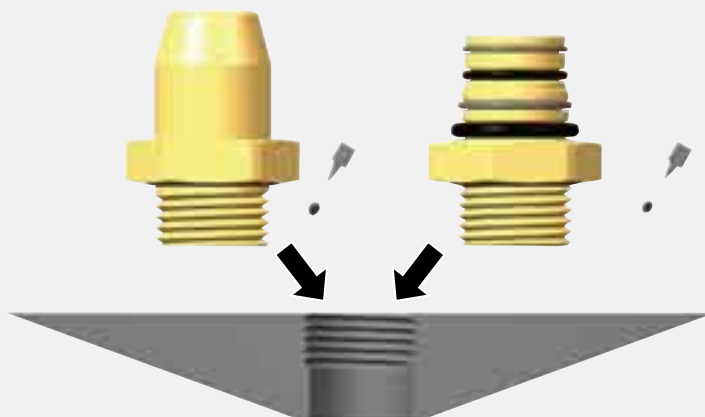
** Considerare anche la coppia di serraggio massima prevista per il componente, serbatoio aria, valvola, etc.

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	TABLEAU 1C
	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.

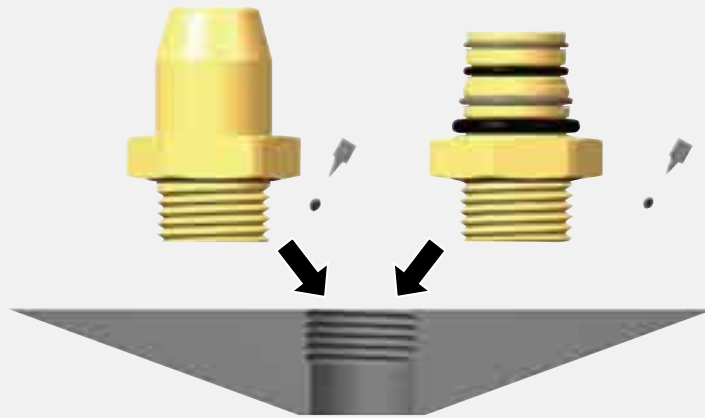
** Veuillez également ne pas dépasser le couple de serrage maximum pour les valves, bouteilles d'air etc.

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
			TABELLA 1C

* 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. Raccomandiamo l'uso di una chiave dinamometrica.

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

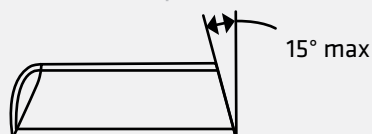
Tube assembly

Assembly information

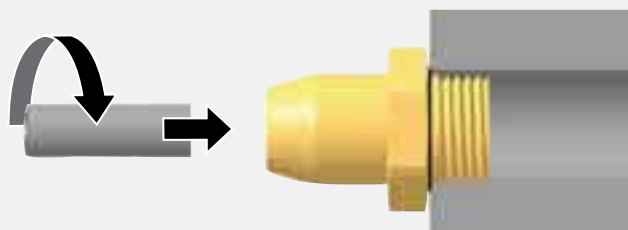
Montage des tubes

Instructions de montage

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.

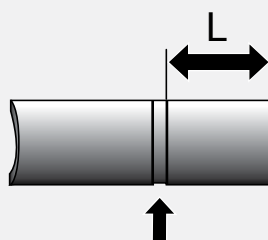
Introduire le tube manuellement dans le raccord jusqu'à la butée. Une pression et une rotation simultanée du tube facilite l'introduction. L'introduction du tube se fait en deux phases bien distinctes:

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.

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



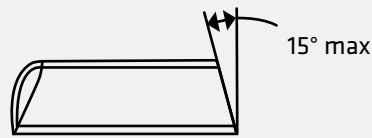
Il est recommandé de marquer sur les tubes les longueurs d'emmanchement selon le tableau pour un contrôle visuel.

	Ø External tube Ø Ext. du tube	Push-in length Longueur d'emmanchement	Max. push-in force Force Maximale	
TABLE 2	4 mm	17,2 mm	70 N	TABLEAU 2
	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"	25,5 mm	110 N	
	5/8"	27,5 mm	130 N	

Montage des Rohres

Montagehinweise

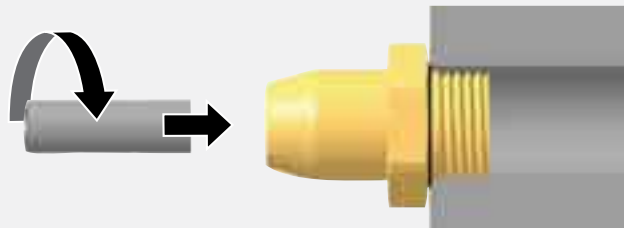
Die Rohre sollten rechtwinklig abgeschnitten werden. Eine max. Abweichung von 15° ist zulässig.



Inserimento del tubo

Istruzioni di installazione

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 erleichtert 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.

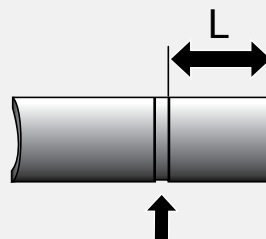
Die max. Einsteckkräfte entnehmen Sie bitte Tabelle 2. Die Normalkräfte entsprechen ca. 2/3 der angegebenen Werte.

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 graffiaggio.
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.

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



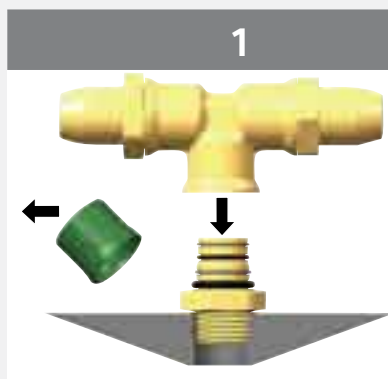
Si raccomanda, per facilitare il controllo visivo, di segnare sulla parte terminale del tubo la lunghezza d'innesto indicata nella tabella 2.

	Ø Rohr-Außen Ø Esterno tubo	Einstecklänge Lunghezza d'inserimento	Max. Einsteckkraft Forza massima d'inserimento	
TABELLE 2	4 mm	17,2 mm	70 N	TABELLA 2
	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"	25,5 mm	110 N	
	5/8"	27,5 mm	130 N	

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.

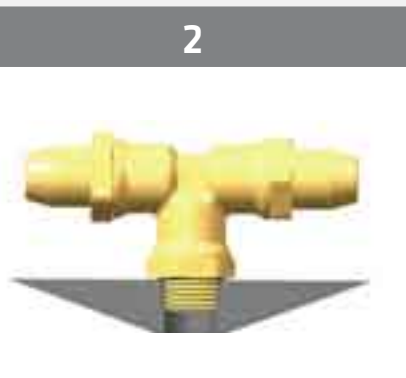
The thread of the plug-in shall be tightened with the necessary torque. The protective cap should be left in place, and only removed when installing the mating part.

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.

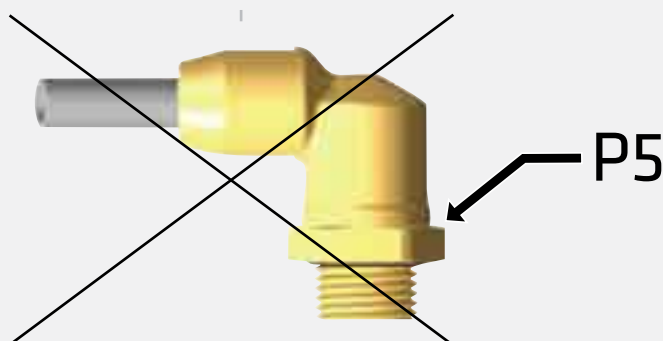
Par ailleurs l'attention de l'utilisateur est attirée sur le fait que si le système d'embases a pour but:

- 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.

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

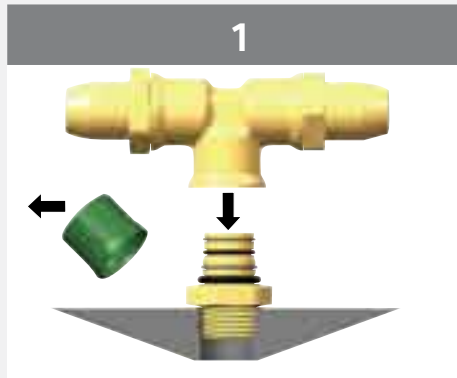
ATTENTION

- Le système d'embases P5 ne devra donc jamais être utilisé notamment sur des tubes 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

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.

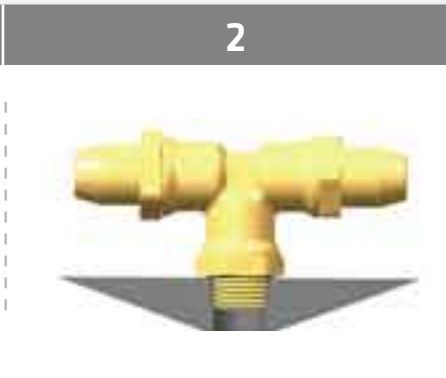
Das Einschrauben des Stutzens erfolgt mit dem erforderlichen Drehmoment. Die Schutzkappe wird unmittelbar vor dem Aufsetzen des Gegenstücks entfernt.

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.

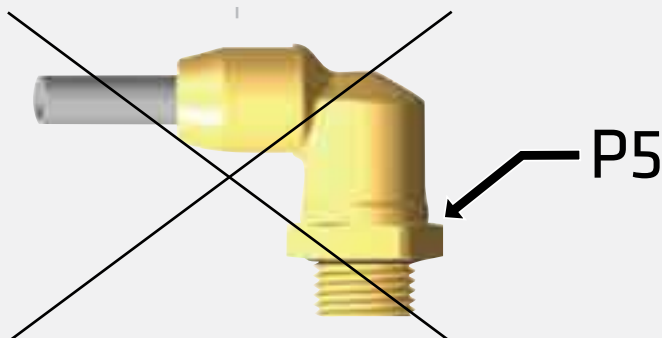
Con il primo scatto il raccordo è inserito in posizione di sicurezza, ma non completamente montato. In questa posizione, si verifica una leggera fuoriuscita di aria udibile dall'operatore. Con il secondo scatto si completa l'inserimento del raccordo che, in questa posizione garantisce la perfetta tenuta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

Zwischen Rahmen und Achse

Montagehinweise

Tra telaio e ponte

Istruzioni di installazione



ACHTUNG

Die P5 Verbindung darf nicht verwendet werden als

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

ATTENZIONE

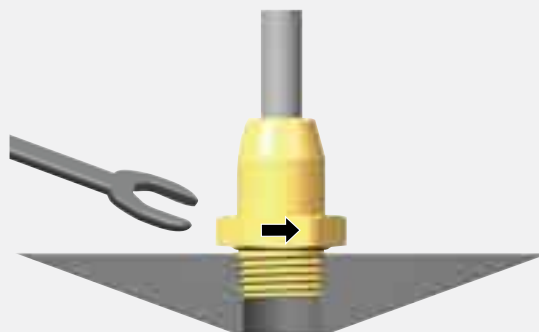
Il raccordo P5 non è idoneo per le seguenti applicazioni

- 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

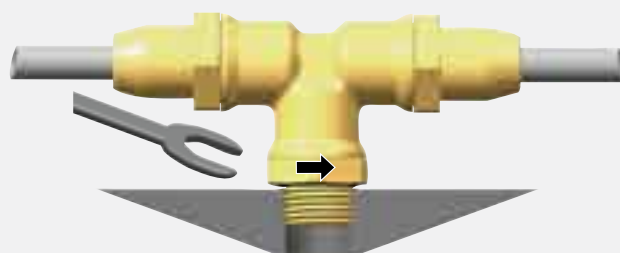
Assembly information

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 en libre rotation sur le tube.

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

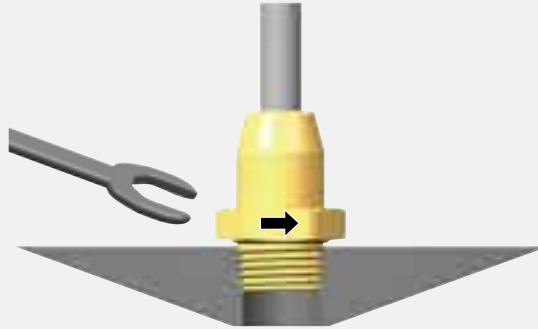
En cas de réutilisation forcée, ex. réparation d'urgence, veuillez respecter scrupuleusement la procédure suivante:

- 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

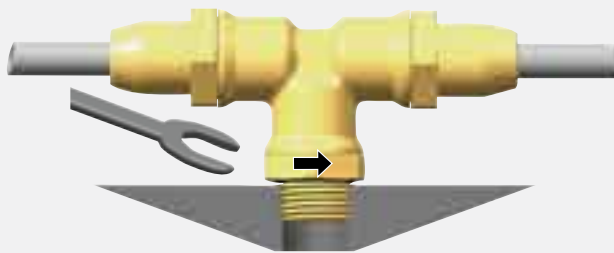
Montagehinweise

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 den 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.

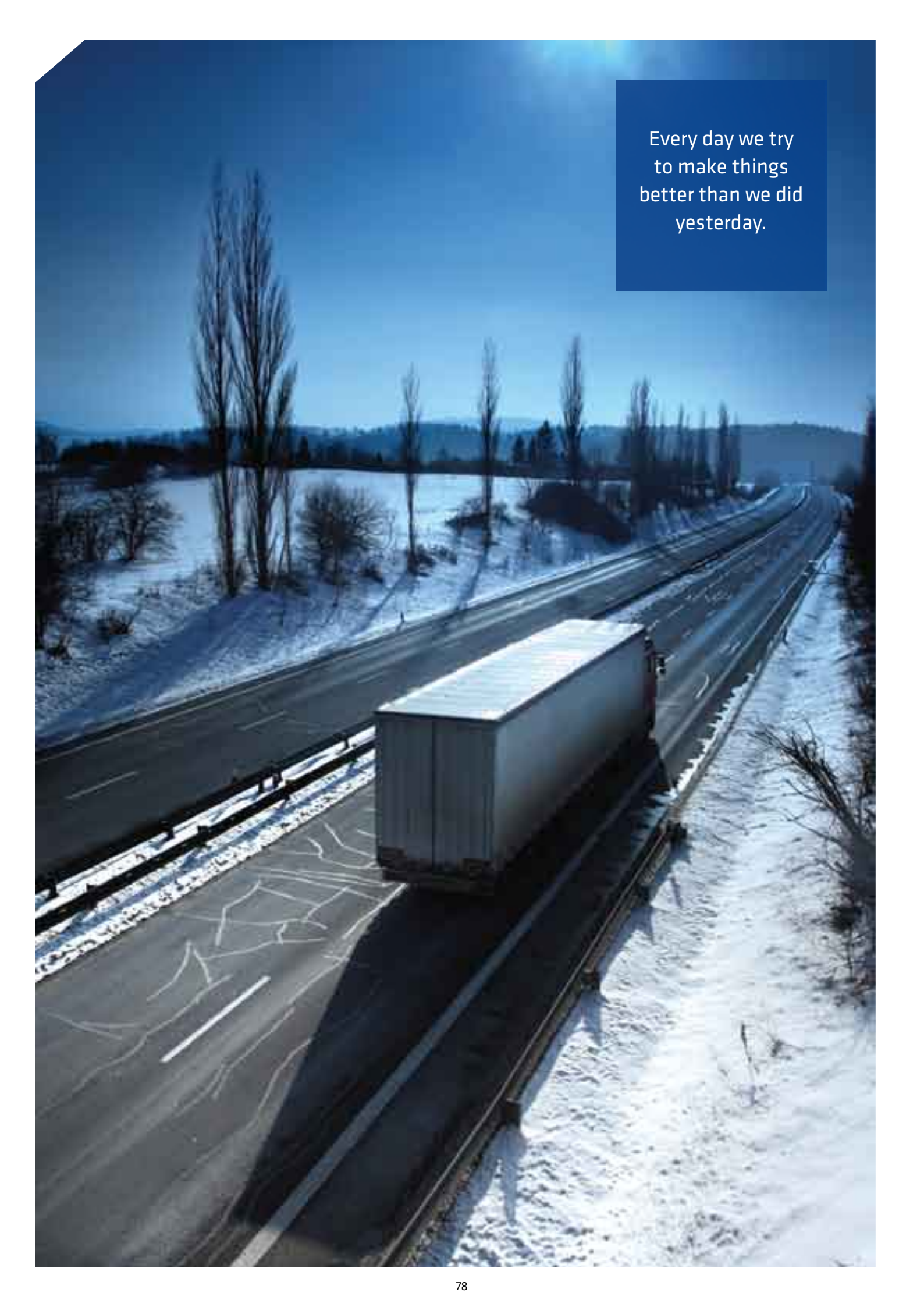
Prima di riavvitare nuovamente il raccordo, controllare che l'o-ring sia posizionato bene, garantendone così la tenuta. In caso contrario sostituirlo.

- 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.

A high-angle photograph of a white semi-truck traveling on a two-lane highway covered in snow. The road curves to the right in the distance. The surrounding landscape is a winter scene with snow-covered ground, bare trees, and a body of water in the background under a clear blue sky. A long shadow of the truck is cast onto the snow to its right.

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

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