

Product Catalogue

Raufoss Couplings™



Enhancing the driving experience

Valid from 01.2018

Kongsberg Automotive has operations in twenty countries on four continents. Our customer portfolio comprises all leading vehicle manufactures.

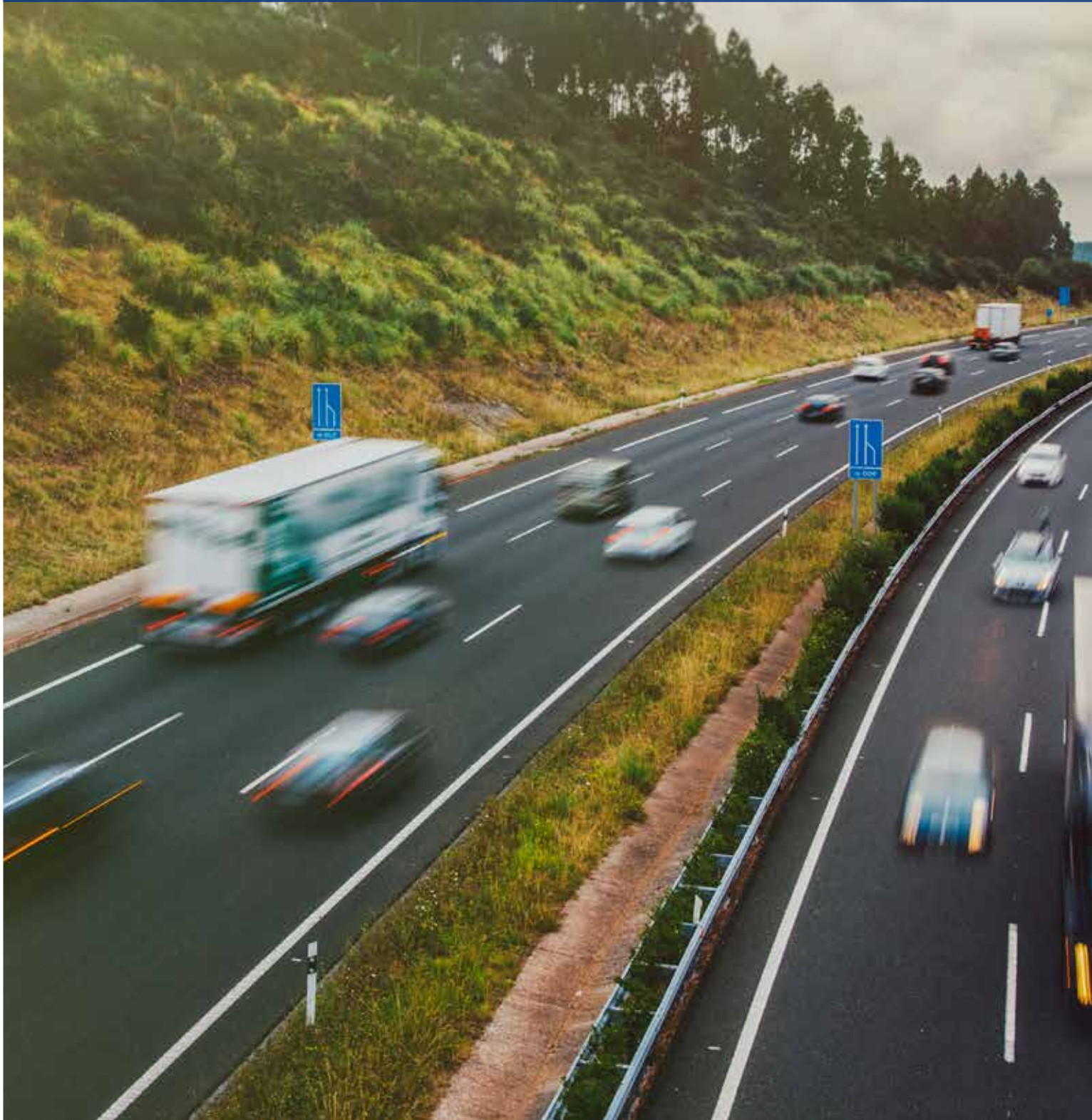




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A lifetime of service and support

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

To meet individual specifications on concept, design and technical

issues, vehicle manufacturers prefer a close 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

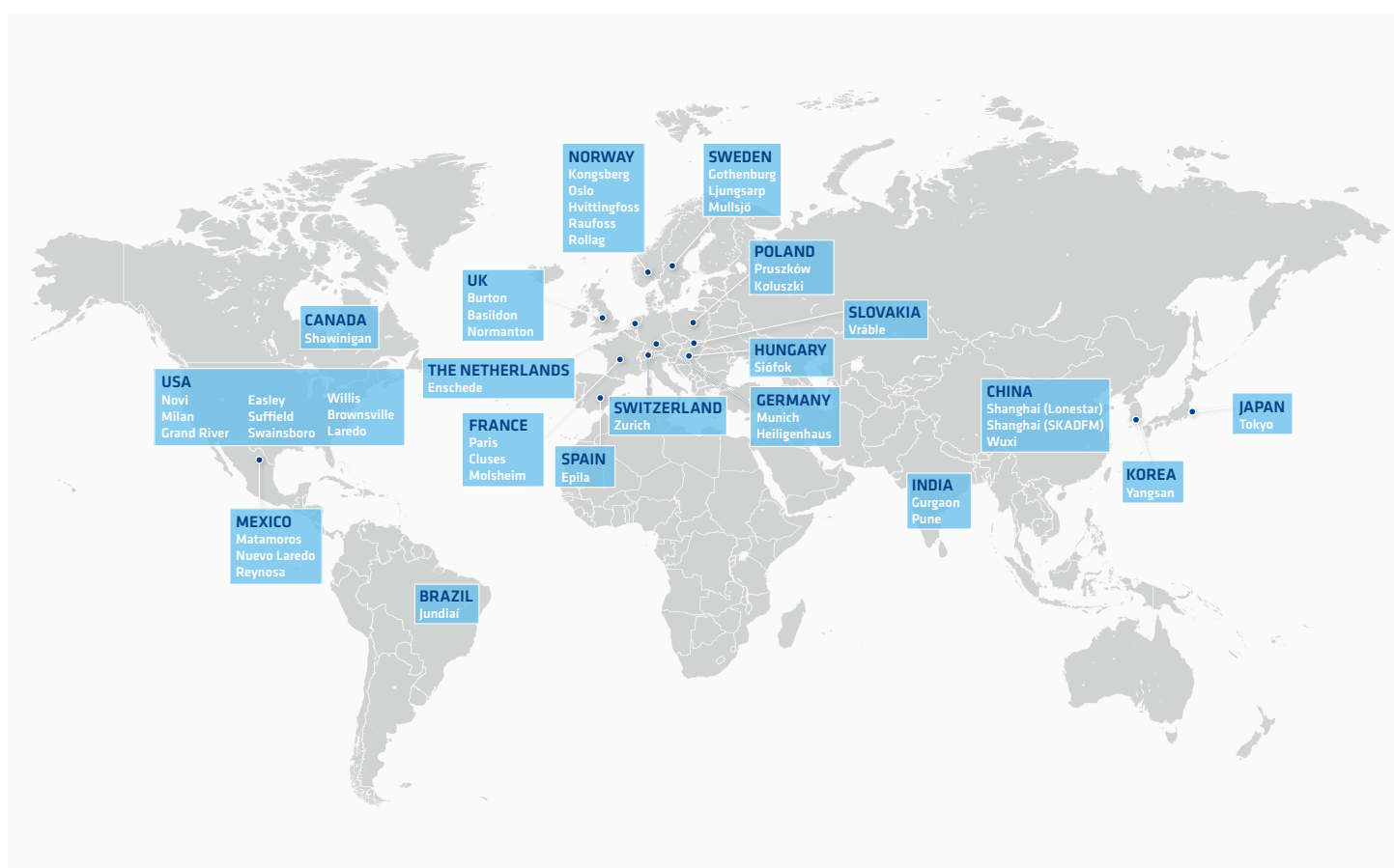
Close follow-up of deliveries is important to customers' success. Potential deviations are therefore resolved at an early phase or eliminated through product modifications. Kongsberg Automotive follows up after-market sales through close contact with vehicle manufacturers and dealers, as well as end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

Our manufacturing facilities and sales offices have a global reach, enabling us to optimize 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.



Our vision

“Enhancing the driving experience”

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 Kongsberg Automotive 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.



Raufoss ABC™ System

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

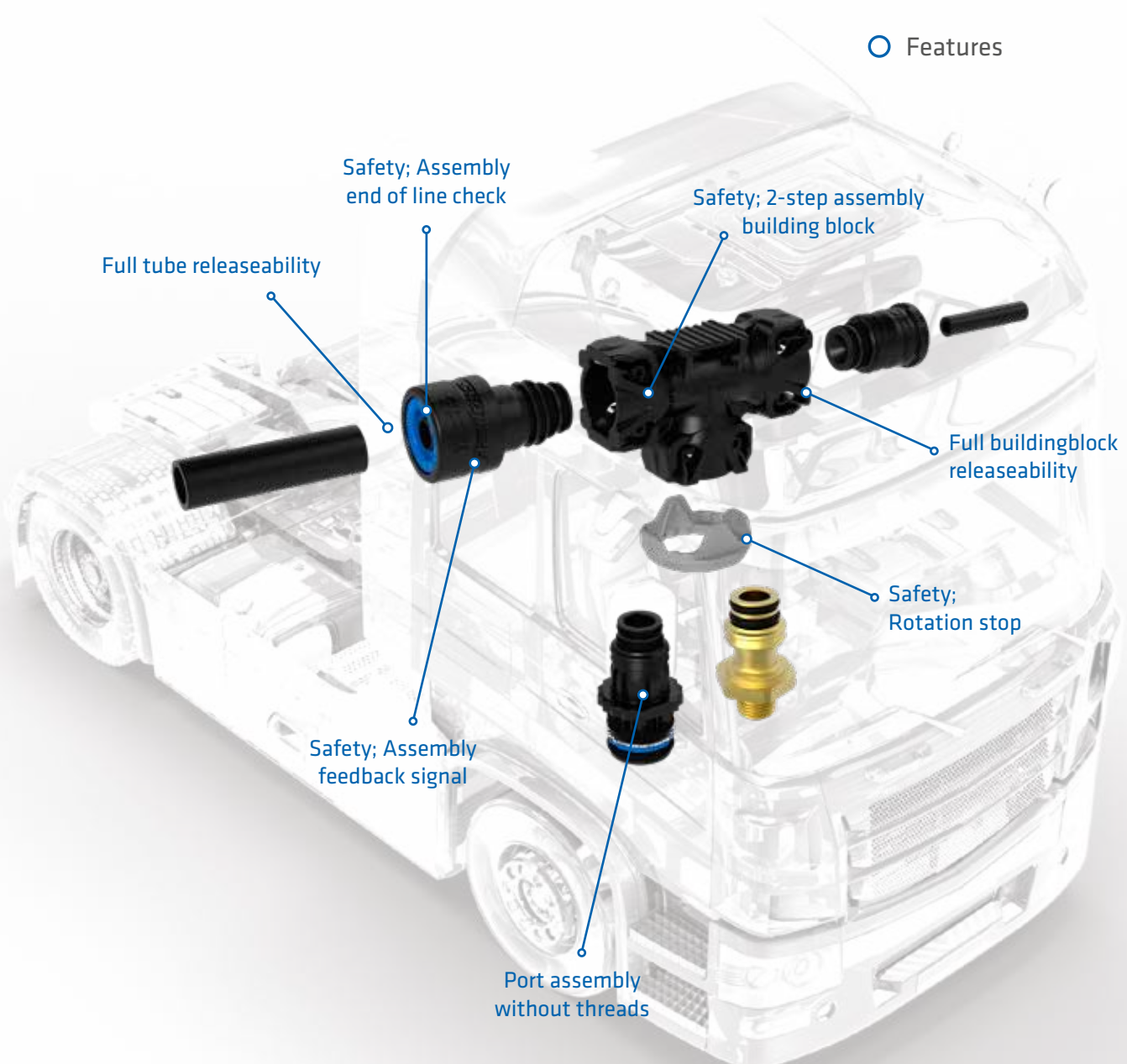
The system provides significant improvement in key coupling areas, and enables Raufoss to take a broader responsibility in pneumatic system building on commercial vehicles.

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.

○ Features



Raufoss ABC™ Push-in family



ABC New line



ABC KArtridge



ABC Threadless



ABC Integral

ABC Building Block – Program overview

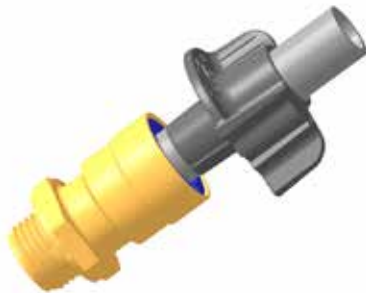


Release Tool

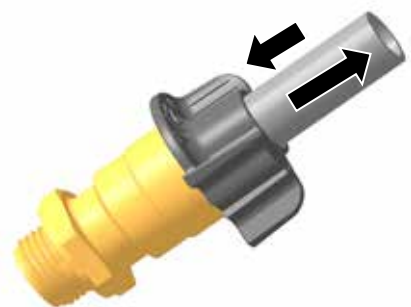
1. Remove the pressure totally from the system, and clean the coupling.
2. Push the tube to the bottom of the coupling to move the grip ring out of locking position.
3. Apply Release Tool on to the tube.
4. Push the Release Tool to stop with the flange at the top of the tube without using extensive force.
5. While pushing the Release Tool towards the coupling; pull the tube out.
6. Kongsberg Automotive recommends that each single push-in coupling experiences a total of maximum five (5) tube assemblies and releases in a lifetime perspective.



1



2



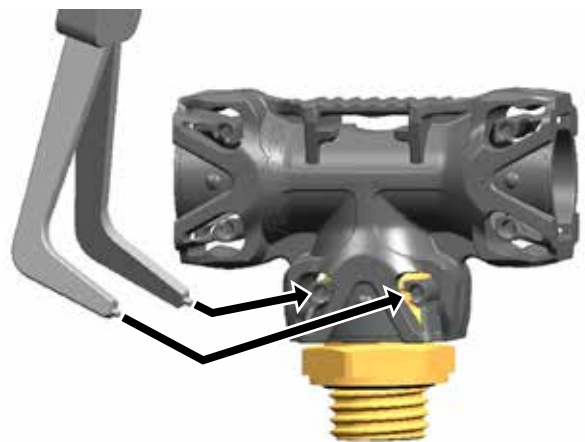
3/4/5

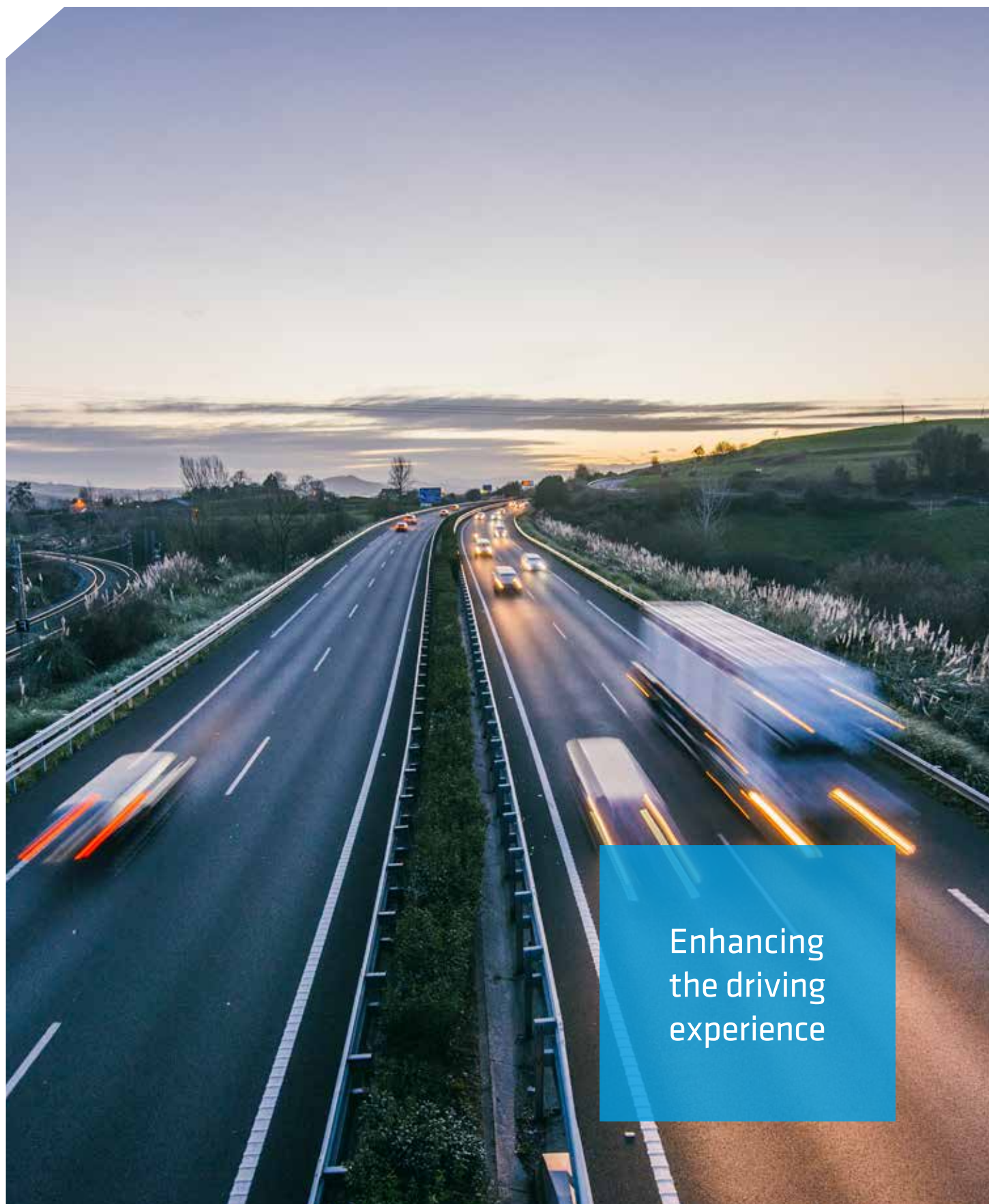
ABC Building Block release



Standard circlip plier – 90° elbow

Standard circlip plier – Straight





Enhancing
the driving
experience

GB / FR / DE / IT

SYMBOLS - SYMBOLES - SYMBOLE - LEGENDA



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



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



Weight/Poids/Gewicht/Peso [g]

BRK/P5 products on page 61.

PAGE	GB: CONTENTS	FR: SOMMAIRE	DE: INHALTSVERZEICHNIS	IT: INDICE
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14-15	ABC Push-in Couplings	ABC Union mâle	ABC Gerader Steckverbindungen	ABC Raccordo ad innesto rapido
16	ABC Swivel	ABC Embase fileté	ABC Anschlußstutzen	ABC Innesto girevole
17-18	ABC Swivel Bulkhead	ABC Embase fileté passe-cloison	ABC Anschlußschottstutzen	ABC Innesto girevole con passa- parete
18	ABC Swivel Double Bulkhead	ABC Embase fileté double/ passe- cloison	ABC Dopplete Anschlußschotts- tutzen x2	ABC Innesto girevole x2 con passaparete
20	Rotolock	Rotolock	Rotolock	Rotolock
20	ABC Threadless Push-in Couplings	ABC Threadless Raccord pour tube à clipser	ABC Threadless Gewindelose Steckverbindungen	ABC Threadless Raccordo ad in- nesto rapido senza filetto
20	ABC Integral Push-in	Coude intégré ABC à clipser	90° ABC Push-in Steckverbinder	Raccordo ABC 90° integrato
21	ABC Elbow	ABC Coude	ABC Winkel	ABC Gomito
21	ABC Union Female	Union double ABC	Gerader ABC Verbinder	Giunzione ABC femmina x2
21-22	Union F, T&L, Y	F, T&L, Y à clipser	F, T&L, Y - Stück	Raccordo a F, T&L, Y
22-23	3/4-Way block & 4-Way cross	Té / Croix ABC à clipser	3/4-Wege Block Kreuzstück	Raccordo a 3 vie/ a 4 vie Raccordo a croce
23	T-union with bracket	Té taraudé avec fixation	T-Stück mit Befestigung	Raccordi con staffa di fissaggio
23	Union Female with straight bracket clip	Union double femelle à clipser avec fixation	Gerader ABC Verbinder mit Lasche	Giunzione con staffa
23	ABC Tube connector with braket	Union double ABC à clipser avec fixation	Gerader ABC Verbinder mit Lasche	Giunzione ABC con staffa
24	ABC Threadless Test point ISO 3583	ABC Prise de pression à clipser ISO 3583	ABC Prüfanschluß ISO 3583	ABC Presa pressione senza filetto ISO 3583
24	ABC Swivel with Internal Threads	Adaptateur ABC à filetage femelle	Gewindloser ABC Adapter	Adattatore ABC con innesto senza filetto
24	ABC Reducer	Réducteur ABC à clipser	ABC Reduzierstück	Riduzione ABC
25	ABC Union Male	Jonction ABC	ABC Verbinder	Giunzione ABC maschio x2
25	ABC Threadless Swivel Plug	Obturateur ABC à clipser	Gewindloser ABC Stopfen	Tappo ABC senza filetto
25	Push-in Plug	Bouchon	Stopfen für Steckverbindungen	Tappo per innest rapido
25	Hose Adapter	Adaptateur	Schlauch Adapter	Adattatore per bochettone
26	Transportation plug	Bouchon pour transport	Transport Stopfen	Tappo di protezione
26-27	Release Tool Standard/ Professional	Outil de deconnexion/ déconnexion métallique	Demontage Werkzeug/ Werkzeug Metall	Attrezzo standard/ professionale per smontaggio tubi
27	Professional release tools kit	Kit d'outils de déconnexion métallique	Profi-Demontage Werkzeugskit	Attrezzi in metallo smontaggio tubi kit
27	Circlippliers	Pince à Circlips	Segering Zange	Pinze per anelli elastici
27	Tube cutter	Pince à couper les tubes polyamide	Schlauchsneider	Pinze tagliatubi
28	Union w bracket	Té taraudé, avec fixation	T-Befestigung	Raccordo a T con staffa di fissaggio
29-34	Bulkhead coupling	Passe-cloison	Schottstutzen	Passaparete
34-35	Transfer adapter	Adaptateur	Ü-Stück	Adattatore filettato
35-36	Locking nut	Contre écrou	Kontermutter	Controdado
36	Socket joint	Manchon	Gewindemuffe	Manicotto filettato
37	Plug & Testpoint	Bouchon & Prise de pression	Stopfen & Prüfanschluss	Tappo & Raccordo presa pressione
38	Drain plug	Purge de bouteille	Prüfanschluss	Raccordo spurgo condensa
38-39	Hose nipple	Raccord queue lisse/cannelée	Entwässerungsanschluss	Bocchettone
39	Nut, for hose nipple	Ecrou, pour Raccord queue cannelée	Überwurfmutter, für Schlauchs- tutzen	Dado, per bocchettone
40	Pressure ring, with o-ring	Cuvette, avec joint torique	Druckring, mit O-Ring	Guarnizione per raccordi, con o-ring
42-43	Assembly proposales	Exemples de montage	Baukastenbeispiele	Esempi di montaggio
44-53	Installation instructions	Instructions de montage	Montagehinweise	Istruzioni di installazione
54-55	Repair instructions	Instructions de réparation	Reparaturhinweise	Istruzioni per l'assistenza

General System Information

Kongsberg Automotive has, in co-operation with leading commercial vehicle manufacturers, developed and produced a new air coupling system based on composite material and brass. The Raufoss ABC™ system is developed for use with Polyamide and Hytrel tubing for the compressed air circuits on commercial vehicles, and is fulfilling all global requirements.

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

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

Raufoss ABC™ couplings can be used with polyamide (PA 12, PA 11, PA 10.10, PA 10.12 & PA 6.10), Multilayer 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 et soigneusement développé comprenant les éléments suivants:

- des unions mâles
- des embases orientables ABC™
- des pièces de forme (coudes, tés, croix etc.)
- des passe-cloisons
- des prises de pression
- des raccords queues lisses et cannelées
- des accessoires

Les raccords Raufoss ABC™ peuvent être utilisés avec des tubes polyamide (PA 12, PA 11, PA 10.10, PA 10.12 & PA 6.10), Multilayer ou Hytrel conformes aux normes suivantes:

- SO 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 de 12,5 bar. Merci de tenir compte de la pression maximale autorisée des tubes.

	Product Produit	Material Designation ¹ Spécification Matière ¹	Comments Commentaires
TABLE 1	Brass components	EN 12164 CW617N (CuZn39Pb2)	
	Composants laiton	EN 12164 CW614N (CuZn39Pb3)	
	ABC™ composite bodies	PA12 GF50	
	Corps ABC™ en composite	PA12GF50	
	O-rings	EPDM	
	Joints toriques	EPDM	

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

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 products or support for technical solutions, please ask for individual consultation from Kongsberg Automotive, or our subsidiary Kongsberg Raufoss Distribution SAS.

1) Unless otherwise specified

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

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) Sauf mention contraire

Allgemeine System Information

Kongsberg Automotive als kompetenter Systemlieferant der weltweiten Nutzfahrzeugindustrie hat, in Kooperation mit führenden Nutzfahrzeugherstellern, ein Steckverbindersystem für Kunststoffrohre in der Druckluftanlagen von Nutzfahrzeugen entwickelt.

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

- Gerade Steckverbinder
- ABC™ Schnellanschlußstutzen
- ABC™ Baukastenteile
- Schottverschraubungen
- Prüfanschluß
- Schlauchstutzen
- Zubehörteile

Raufoss ABC™ Couplings können für Polyamid-Rohre (PA 6.10, PA 10.10, PA 10.12, PA 11, PA 12) sowie Hytrel-Rohre der folgenden Normen verwendet werden:

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

Die Betriebstemperatur für die ABC Verschraubungen 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 sistema tecnologico 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 e sviluppo e consiste dei seguenti componenti:

- Raccordi ad innesto rapido New Line
- Raccordi girevoli ABC™
- Raccordi ABC™ multipli
- Raccordi di giunzione
- Raccordi presa pressione
- Bocchettoni
- Accessori

Il sistema di raccordi Raufoss ABC™ può essere impiegato con tubazioni in poliamide (PA 6.10, PA 10.10, PA 10.12, PA 11, PA 12) 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 Spezifikation¹ Descrizione del materiale¹	Anmerkungen Commenti
TABELLE 1	Messing System-Komponenten	EN 12164 CW617N (CuZn39Pb2)	TABELLA 1
	Parti in ottone	EN 12164 CW614N (CuZn39Pb3)	
	Gehäuse des ABC™	PA12 GF50	
	Corpi dei raccordi ABC™	PA12GF50	
	O-Ringe	EPDM	
	O-rings	EPDM	

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

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

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

Il sistema Qualità di Kongsberg Automotive 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

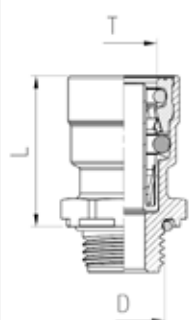
GB: ABC New Line Push-in Coupling

DE: ABC New Line Steckverbinder

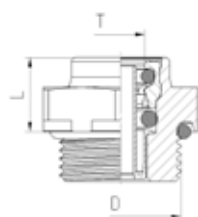
FR: Union mâle ABC New Line

IT: ABC New Line Raccordo ad innesto rapido

Version 1



Version 2



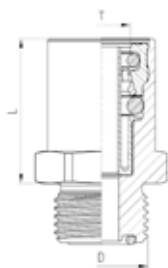
Article no.	T	D	L	Version	Support sleeve			
	4 x 1	see page 64						
901 06 010	6 x 1	M 10 x 1	24	1	Black	16	200	20
901 06 012	6 x 1	M 12 x 1,5	23	1	Black	18	170	25
901 06 014	6 x 1	M 14 x 1,5	16	2	Black	20	150	26
901 06 016	6 x 1	M 16 x 1,5	12	2	Black	22	175	29
901 06 022	6 x 1	M 22 x 1,5	12	2	Black	28	100	55
901 06 004	6 x 1	M 12 x 1,5 K	22	2	Black	16	150	35
901 06 049	6 x 1	1/8"NPTF	25	1	Black	16	100	21
901 08 010	8 x 1	M 10 x 1	26	1	Black	18	150	24
901 08 012	8 x 1	M 12 x 1,5	25	1	Black	18	150	28
901 08 014	8 x 1	M 14 x 1,5	24	1	Black	20	150	33
901 08 016	8 x 1	M 16 x 1,5	17	1	Black	22	150	30
901 08 022	8 x 1	M 22 x 1,5	13	2	Black	28	100	52
901 08 059	8 x 1	G 1/8"	20	1	Black	17	200	22
901 08 060	8 x 1	G 1/4"	25	1	Black	20	100	32
901 08 070	8 x 1	R 1/4"	24	1	Black	18	150	28
901 10 012	10 x 1	M 12 x 1,5	29	1	Light grey	20	100	34
901 10 014	10 x 1	M 14 x 1,5	29	1	Light grey	20	100	38
901 10 016	10 x 1	M 16 x 1,5	28	1	Light grey	22	90	41
901 10 022	10 x 1	M 22 x 1,5	20	2	Light grey	28	70	56
901 10 112	10 x 1,25	M 12 x 1,5	29	1	Black	20	100	34
901 10 114	10 x 1,25	M 14 x 1,5	28	1	Black	20	100	36
901 10 116	10 x 1,25	M 16 x 1,5	28	1	Black	22	90	41
901 10 122	10 x 1,25	M 22 x 1,5	20	2	Black	28	70	56
901 10 212	10 x 1,5	M 12 x 1,5	29	1	Dark grey	20	100	34
901 10 214	10 x 1,5	M 14 x 1,5	28	1	Dark grey	20	100	41
901 10 216	10 x 1,5	M 16 x 1,5	28	1	Dark grey	22	90	41
901 10 222	10 x 1,5	M 22 x 1,5	20	2	Dark grey	28	80	56
901 12 012	12 x 1,5	M 12 x 1,5	30	1	Black	22	80	39
901 12 016	12 x 1,5	M 16 x 1,5	30	1	Black	22	75	43
901 12 022	12 x 1,5	M 22 x 1,5	19	2	Black	28	75	50
901 12 061	12 x 1,5	G 3/8"	30	1	Black	22	75	44
901 14 022	14 x 2	M 22 x 1,5	23	1	Black	28	50	47
901 15 016	15 x 1,5	M 16 x 1,5	33	1	Black	28	50	64
901 15 022	15 x 1,5	M 22 x 1,5	23	2	Black	28	50	54
901 16 016	16 x 2	M 16 x 1,5	33	1	Black	28	50	62
901 16 022	16 x 2	M 22 x 1,5	30	1	Black	28	50	66
	18 x 2	see page 64						

GB: ABC New Line Push-in Coupling SAE J1453 sealing (face seal)

FR: Union mâle ABC New Line joint SAE J1453 (joint de tête)

DE: ABC New Line Steckverbinder SAE J1453 Dichtung (Kopfdichtung)

IT: ABC New Line Raccordo ad innesto rapido, SAE J1453



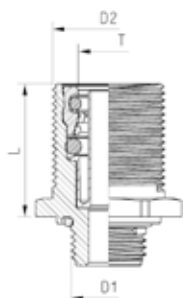
Article no.	T	D	L	Version	Support sleeve			
901 10 130	10x1,25	11/16"-16 UN	24	1	Black	22	80	56

GB: Bulkhead with ABC Push-in Coupling

FR: Union mâle ABC New Line passe cloison

DE: Schottstutzen mit ABC-Steckverbinder

IT: Passaparete con ABC New Line



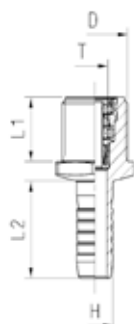
Article no.	T	D1	D2	L	Support sleeve			
909 12 016	12 x 1,5	16 x 1,5	M 24 x 1,5	30	Black	28	50	75
909 12 022	12 x 1,5	22 x 1,5	M 24 x 1,5	26	Black	28	50	71

GB: Hose nipple with ABC Push-in Coupling

FR: Union mâle ABC New Line queue cannelée

DE: Schottstutzen mit ABC-Steckverbinder

IT: Bocchettone con raccordo rapido



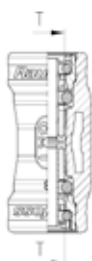
Article no.	T	H	D	L1	L2	Support sleeve			
910 08 011	8 x 1	Ø 11	M 22 x 1,5	20	30	Black	26	50	80

GB: ABC Tube connector

FR: Union double ABC

DE: ABC Rohrverbinder

IT: ABC Giunzione



Article no.	T			Support sleeve		
905 06 006	6 x 1			Black	250	10
905 08 008	8 x 1			Black	200	13
905 12 012	12 x 1,5			Black	150	23

Other tube dimensions see page 65

ABC Port Sizes



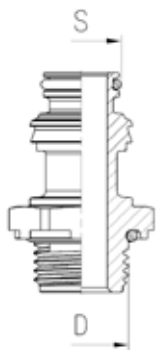
Swivel / Building Block Size	Tube	A	Cap Color
Small	6 x 1 / 8 x 1	15	White
Regular	6 x 1 - 12 x 1,5	17	Green
Heavy Duty	12 x 1,5 / 14 x 2 / 15 x 1,5 / 16 x 2	20	Blue

GB: ABC Swivel

DE: ABC Anschlussstutzen

FR: ABC Embase filetée

IT: ABC Innesto girevole



Article no.	S	D	Cap	Rotolock			
931 40 010	Small	M 10 x 1	White	964 42 018	18	175	25
931 40 012	Small	M 12 x 1,5	White	964 42 018	18	175	25
931 40 014	Small	M 14 x 1,5	White	/	20	150	32
931 40 016	Small	M 16 x 1,5	White	964 42 022	22	125	37
931 40 049	Small	1/8"-27 NPTF	White	964 42 016	16	200	22
931 40 050	Small	1/4"-18 NPTF	White	964 42 016	16	150	27
931 40 051	Small	3/8"-18 NPTF	White	964 42 018	18	125	38
931 40 059	Small	G 1/8"	White	/	17	150	27
931 40 069	Small	R 1/8"	White	964 42 016	16	175	20
931 50 010	Regular	M 10 x 1	Green	964 52 018	18	125	28
931 50 012	Regular	M 12 x 1,5	Green	964 52 018	18	125	29
931 50 014	Regular	M 14 x 1,5	Green	964 50 020	20	100	34
931 50 016	Regular	M 16 x 1,5	Green	964 50 022	22	100	39
931 50 022	Regular	M 22 x 1,5	Green	964 52 028	28	70	51
931 50 049	Regular	1/8"-27 NPTF	Green	964 52 018	18	120	28
931 50 050	Regular	1/4"-18 NPTF	Green	964 52 018	18	100	31
931 50 051	Regular	3/8"-18 NPTF	Green	964 52 018	18	100	40
931 50 052	Regular	1/2"-14 NPTF	Green	964 50 022	22	65	50
931 50 060	Regular	G 1/4"	Green	964 50 020	20	100	34
931 50 061	Regular	G 3/8"	Green	964 50 022	22	100	41
931 50 070	Regular	R1/4"	Green	964 52 018	18	250	31
931 50 071	Regular	R3/8"	Green	964 50 020	20	/	37
931 50 072	Regular	R1/2"	Green	964 50 022	22	/	59
931 60 016	Heavy Duty	M 16 x 1,5	Blue	964 60 022	22	75	45
931 60 022	Heavy Duty	M 22 x 1,5	Blue	964 60 028	28	50	60
931 60 026	Heavy Duty	M 26 x 1,5	Blue	/	32	30	81
931 60 051	Heavy Duty	3/8" - 18 NPTF	Blue	964 60 022	22	70	50
931 60 052	Heavy Duty	1/2" - 14 NPTF	Blue	964 60 022	22	65	59
931 60 071	Heavy Duty	R 3/8"	Blue	964 50 022	22	/	48
931 60 072	Heavy Duty	R 1/2"	Blue	964 50 022	22	50	67

GB: ABC Extended Swivel

DE: ABC Anschlussstutzen, verlängert

FR: Extension d'embase ABC

IT: Girevole ABC con prolunga



Article no.	S	D	L	Cap			
931 41 016	Small	M 16 x 1,5	37	White	22	50	66
931 51 014	Regular	M 14 x 1,5	36	Green	20	50	56
931 59 014	Regular	M 14 x 1,5	55	Green	20	50	63
931 51 022	Regular	M 22 x 1,5	42	Green	28	45	85

GB: ABC Swivel Bulkhead with ABC Push in

DE: ABC Anschlussstutzen

FR: ABC Embase fileté passe-cloison

IT: ABC Innesto girevole con passaparete



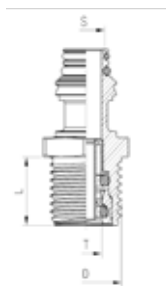
Article no.	S	D1	D2	L	Cap	Rotolock			
933 51 218	Regular	M 18x1,5	M 12x1,5	14	Green	964 50 022	22	50	58
933 51 622	Regular	M 22x1,5	M 16x1,5	23	Green	964 52 028	28	40	84
933 52 217	Regular	M22x1,5	M16x1,5	14	Green	96452028	28	60	63
933 62 228	Heavy Duty	M28x1,5	M 16x1,5	24	Blue	/	34	30	137

GB: ABC Swivel Bulkhead with ABC Push In

DE: ABC-Anschlussstutzen mit ABC-Steckverbinder

FR: ABC Embase fileté passe-cloison avec union mâle ABC

IT: ABC Innesto girevole con passaparete



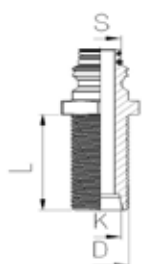
Article no.	S	T	D	L	Cap	Rotolock			
934 50 080	Regular	8 x 1	M 20 x 1,5	18	Green	/	24	80	57
934 50 101	Regular	10 x 1,25	M 22 x 1,5	23	Green	/	26	50	70
934 50 120	Regular	12 x 1,5	M 24 x 1,5	23	Green	964 52 028	28	50	72

GB: ABC Swivel Bulkhead

DE: ABC Anschlusschottstutzen

FR: ABC Embase filetée passe-cloison

IT: ABC Innesto girevole con passaparete



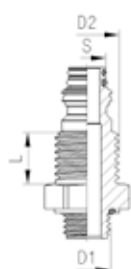
Article no.	S	D	L	K	Cap	Rotolock			
933 52 416	Regular	M 16x1,5	35	24°-10	Green	964 50 022	22	50	79
933 53 418	Regular	M 18x1,5	22	24°-12	Green	964 500 22	22	125	55
933 52 418	Regular	M 18x1,5	42	24°-12	Green	/	24	50	98
933 62 418	Heavy Duty	M 18x1,5	42	24°-12	Blue	/	24	30	111

GB: ABC Swivel Bulkhead

DE: ABC Anschlusschottstutzen

FR: ABC Embase filetée passe-cloison

IT: ABC Innesto girevole con passaparete



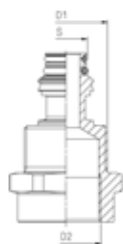
Article no.	S	D1	D2	L	Cap				
933 52 216	Regular	M 16x1,5	M 22x1,5	18	Green		26	25	115
933 52 222	Regular	M 22x1,5	M 22x1,5	18	Green		28	40	102

GB: ABC Swivel Bulkhead

DE: ABC Anschlusschottstutzen

FR: ABC Embase filetée passe-cloison

IT: ABC Innesto girevole con passaparete



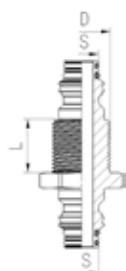
Article no.	S	D1	D2	L	Cap				
933 52 226	Regular	M26x1,5	M22x1,5	15	Green		32	50	98

GB: ABC Double Swivel Bulkhead

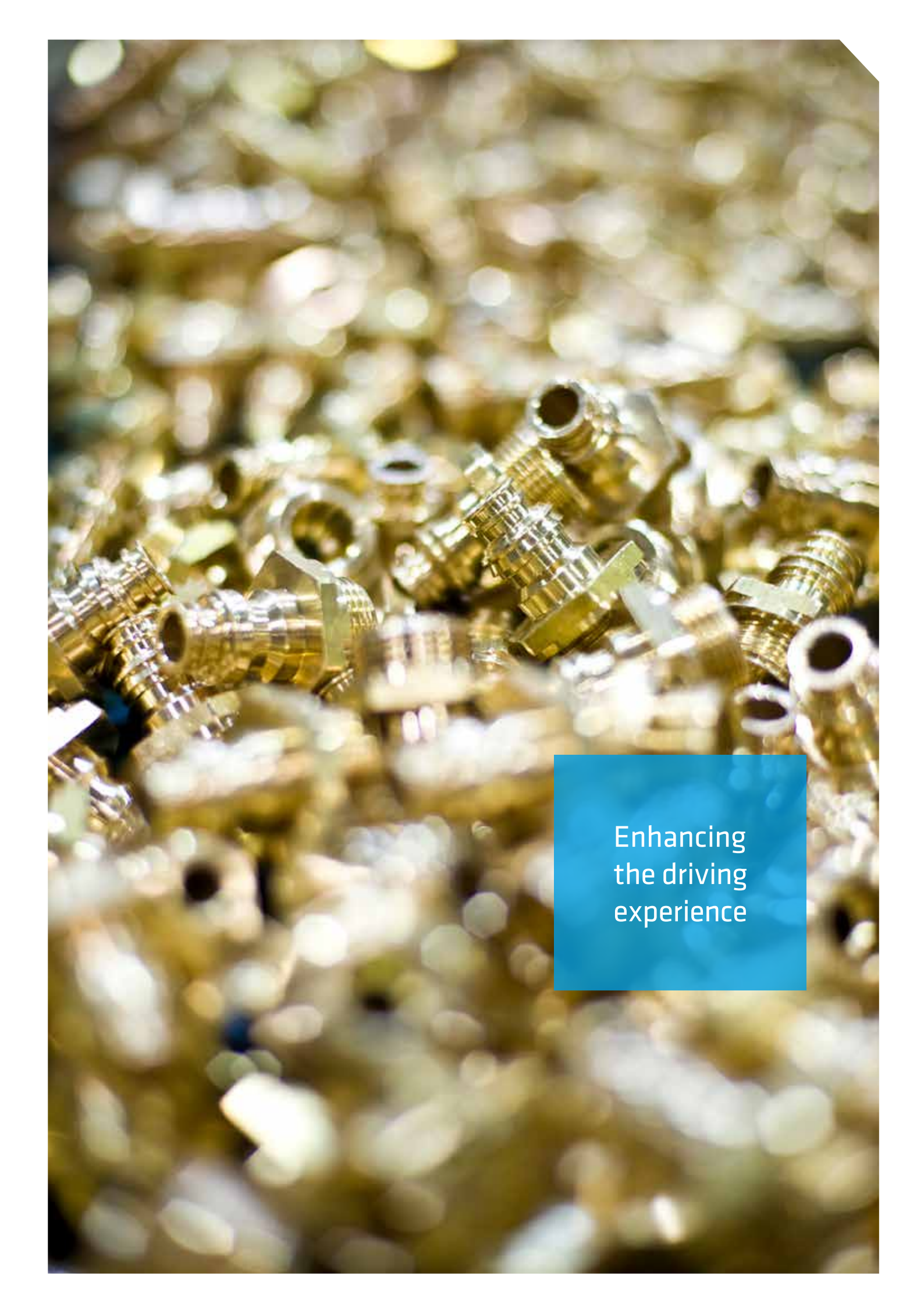
DE: ABC Doppel Anschlusschottstutzen

FR: ABC Embase filetée double/ passe-cloison

IT: ABC Innesto girevole x2 con passaparete



Article no.	S	D	L	Cap	Rotolock			
933 52 205	Regular	M22x1,5	20	Green	964 52 028	28	30	120
933 62 206	Heavy Duty	M22x1,5	20	Blue	964 60 028	28	30	140
933 62 216	Heavy Duty	M22x1,5	42	Blue	964 60 028	28	30	187



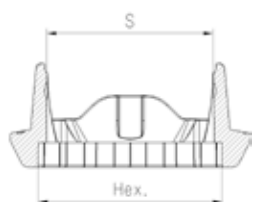
Enhancing
the driving
experience

GB: Rotolock

DE: Rotolock

FR: Rotolock

IT: Rotolock



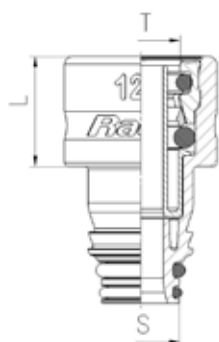
Article no.	S	Hex	Color Code		
964 42 016	Small	16	Dark grey	500	2
964 42 018	Small	18	Light grey	500	2
964 42 022	Small	22	Light grey	500	2
964 52 018	Regular	18	Light grey	400	3
964 50 020	Regular	20	Dark grey	400	2
964 50 022	Regular	22	Light grey	400	2
964 52 028	Regular	28	Dark grey	300	2
964 60 022	Heavy Duty	22	Light grey	250	4
964 62 028	Heavy Duty	28	Dark grey	250	4

GB: ABC Threadless Push-in Coupling

DE: ABC Threadless Gewindeloser Steckverbinder

FR: ABC Union Mâle ABC pour tube à clipser

IT: ABC Raccordo ad innesto rapido senza filetto



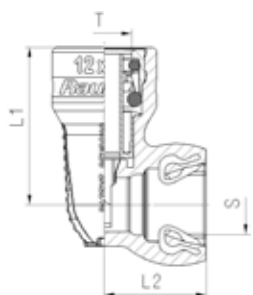
Article no.	T	S	L	Support sleeve	Cap		
902 04 004	4 x 1	Small (brass)	19	/	White	150	42
902 06 004	6 x 1	Small	4	Black	White	500	8
902 08 004	8 x 1	Small	10	Black	White	400	10
902 04 005	4 x 1	Regular (brass)	19	Black	Green	100	43
902 06 005	6 x 1	Regular	4	Black	Green	450	10
902 08 005	8 x 1	Regular	8	Black	Green	375	11
902 10 005	10 x 1	Regular	11	Light grey	Green	275	12
902 10 105	10 x 1,25	Regular	11	Black	Green	275	12
902 10 205	10 x 1,5	Regular	11	Dark grey	Green	275	12
902 12 005	12 x 1,5	Regular	18	Black	Green	200	17
902 12 006	12 x 1,5	Heavy duty	11	Black	Blue	200	13
902 14 006	14 x 2	Heavy duty	21	Black	blue	120	18
902 15 006	15 x 1,5	Heavy duty	21	Black	Blue	125	22
902 16 006	16 x 2	Heavy duty	21	Black	Blue	120	22

GB: 90° ABC Integral Push-in

DE: 90° ABC Push-In Steckverbinder

FR: Coude intégré ABC 90° à clipser

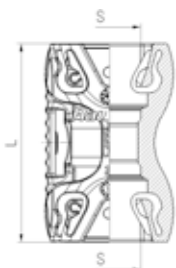
IT: Raccordo ABC 90° integrato



Article no.	T	S	L1	L2	Support sleeve		
903 06 004	6 x 1	Small	32	18	Black	150	12
903 08 004	8 x 1	Small	34	18	Black	150	12
903 06 005	6 x 1	Regular	31	21	Black	150	14
903 08 005	8 x 1	Regular	33	21	Black	150	17
903 10 005	10 x 1	Regular	35	24	Light grey	125	18
903 10 105	10 x 1,25	Regular	35	24	Black	125	18
903 10 205	10 x 1,5	Regular	35	24	Dark grey	125	19
903 12 205	12 x 1,5	Regular	37	24	Black	120	19
903 15 006	15 x 1,5	Heavy duty	46	31	Black	60	36
903 16 006	16 x 2	Heavy duty	46	31	Black	70	35

GB: ABC Union Female
DE: Gerader ABC Verbinder

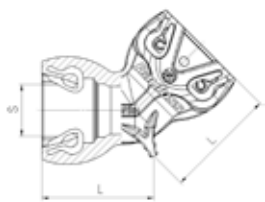
FR: Union double ABC
IT: Giunzione ABC femmina x2



Article no.	S (2x)	L		
961 40 004	Small	39	70	9
961 50 205	Regular	45	80	13

GB: 45° Elbow
DE: 45° Winkel

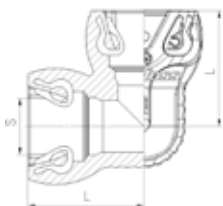
FR: Coude 45°
IT: Gomito 45°



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

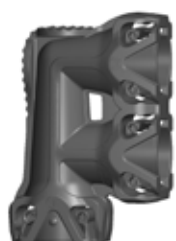
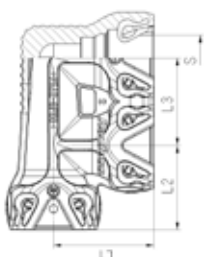
FR: Coude 90°
IT: Gomito 90°



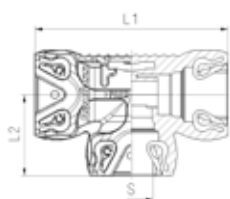
Article no.	S (2x)	L		
920 50 090	Regular	29	100	15
920 60 090	Heavy Duty	34	60	25

GB: Union F
DE: F - Stück

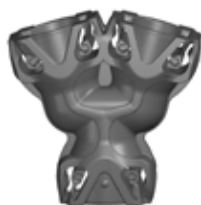
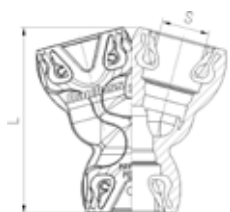
FR: Coude F
IT: Raccordo a F



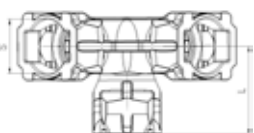
Article no.	S (3x)	L1	L2	L3		
920 40 015	Small	26.6	22.4	23	100	16
920 50 015	Regular	31	26.1	27	50	25
920 60 015	Heavy Duty	36.3	30.6	32	35	40

GB: Union T&L
DE: T&L - Stück
FR: Union 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	34

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


Article no.	S (3x)	L		
920 40 030	Small	46.9	100	13
920 50 030	Regular	54.8	70	21

GB: 3 - Way Block
DE: 3 - Wege Block
FR: 3 voies 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

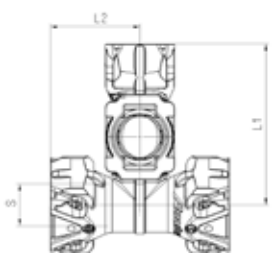

Article no.	S (4x)	L		
920 50 070	Regular	29	75	25
920 60 070	Heavy Duty	34	50	40

GB: 4 - Way Block

DE: 4 - Wege Block

FR: Bloc 4 voies

IT: Raccordo a 4 vie



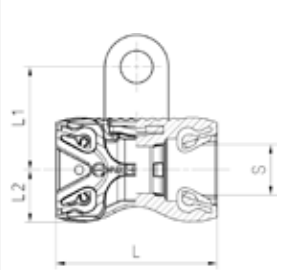
Article no.	S (4x)	L1	L2		
920 50 061	Regular	50	28	50	28
920 60 061	Heavy Duty	59	33	30	44

GB: Union Female with straight bracket clip

DE: Gerader ABC Verbinder mit Lasche

FR: Union double femelle à clipser avec fixation

IT: Giunzione con staffa



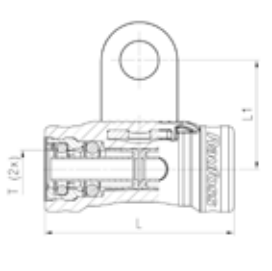
Article no.	S (2x)	L	L1		
961 40 024	Small	39	27	100	21
961 50 225	Regular	45	29	75	25

GB: ABC Tube connector with bracket

DE: Gerader ABC Verbinder mit Lasche

FR: Union double ABC à clipser avec fixation

IT: Giunzione ABC con staffa



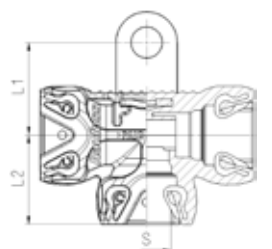
Article no.	T	L	L1	Support sleeve		
905 06 022	6x1	42	25	Black	/	22
905 08 022	8x1	45	26	Black	100	25
905 12 022	12x1,5	54	28	Black	/	35

GB: ABC Union T w/ Bracket clip

DE: ABC T-Stück mit Lasche

FR: Té ABC à clipser avec fixation

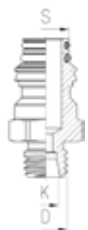
IT: ABC Raccordo a T con staffa



Article no.	S (3x)	L1	L2		
920 50 025	Regular	27	26	50	34
920 60 025	Heavy Duty	28	31	30	46

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

FR: Embase filetée ABC avec cône 24°
IT: Raccordo girevole ABC con cono 24°



Article no.	S	D	K	Rotolock			
931 52 412	Regular	M 12x1,5	24°	964 52 018	18	100	40

GB: ABC Swivel with Internal Threads
DE: ABC Anschlussstutzen mit Innengewinde

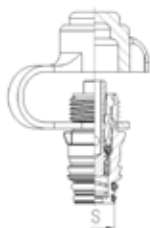
FR: Adaptateur ABC à filetage femelle
IT: Adattatore raccordo girevole ABC con filetto interno



Article no.	S	D	Cap	Rotolock			
931 50 110	Regular	M 10 x 1	Green	964 52 018	18	125	32
931 50 112	Regular	M 12 x 1,5	Green	964 52 018	18	150	30
931 50 114	Regular	M 14 x 1,5	Green	964 52 018	18	100	32
931 50 116	Regular	M 16 x 1,5	Green	964 50 022	22	80	52
931 50 122	Regular	M 22 x 1,5	Green	964 52 028	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
931 50 160	Regular	G1/4"	Green	964 52 018	18	150	23

GB: ABC Threadless Test point ISO 3583
DE: ABC Prüfanschluss ISO 3583

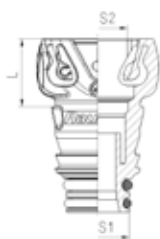
FR: Prise de pression ABC à clipser ISO 3583
IT: ABC Presa pressione senza filetto ISO 3583



Article no.	S	Cap		
960 50 000	Regular	Green	200	14

GB: ABC Reducer
DE: ABC Reduzierstück

FR: Réducteur ABC
IT: Riduzione ABC



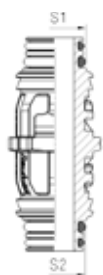
Article no.	S1	S2	L		
961 50 106	Heavy Duty	Regular	15,1	175	12

GB: ABC Union Male

DE: ABC Verbinder

FR: Jonction ABC

IT: Giunzione ABC maschio x2



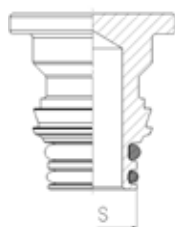
Article no.	S1	S2	Rotolock		
965 40 004	Small	Small	964 42 018	120	8
965 40 005	Small	Regular	964 42 018	240	10
965 50 005	Regular	Regular	964 52 018	200	11
965 50 006	Regular	Heavy Duty	964 52 018	150	13
965 60 006	Heavy Duty	Heavy Duty	964 60 022	140	16

GB: ABC Threadless Swivel Plug

DE: Gewindeloser ABC Stopfen

FR: Obturateur ABC à clipser

IT: Tappo ABC senza filetto



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

GB: Push - In Plug

DE: Stopfen für Steckverbindung

FR: Bouchon

IT: Tappo per innesto rapido



Article no.	T		
962 10 004	4 x 1	1000	1
962 10 006	6 x 1	1000	1
962 10 008	8 x 1	700	1
962 10 010	10 x 1 / 10 x 1,25 / 10 x 1,5	250	1
962 10 012	12 x 1,5	250	2
962 10 015	15 x 1,5	150	3
962 10 016	16 x 2	150	4

GB: Hose Adapter

DE: Schlauch Adapter

FR: Adaptateur

IT: Adattatore per bochettone



Article no.	T	H	L		
943 11 012	12 x 1,5	Ø 11	30	150	30

GB: Only to be used in combination Newline 901120XX

FR: A utiliser uniquement en combinaison avec raccord Newline 901120XX

DE: Nur in Verbindung 901120xx verwenden

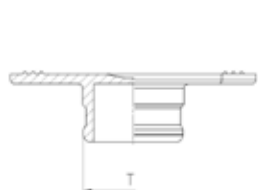
IT: Utilizzare solo in combinazione con raccordo 901120XX

GB: Transportation plug

DE: Transport Stopfen

FR: Bouchon pour transport

IT: Tappo di protezione



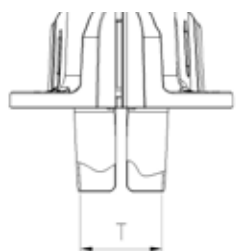
Article no.	T	Colour		
967 06 000	6 x 1	Red	1000	1
967 06 010	6 x 1	Yellow	1000	1
967 08 000	8 x 1	Red	1000	1
967 10 000	10 & 3/8"	Red	250	1
967 10 020	10 & 3/8"	Green	250	1
967 12 000	12 x 1,5	Red	500	1
967 15 000	15 x 1,5	Red	250	1
967 16 000	16 x 2	Red	250	2

GB: Release Tool Standard

DE: Demontage Werkzeug Standard

FR: Outil de déconnexion standard

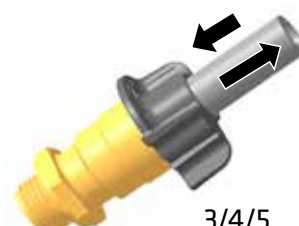
IT: Attrezzo smontaggio tubi standard



Article no.	T	T	T	T(SAE)		
966 06 010	6 x 1			1/4"	150	5
966 08 010	8 x 1				125	5
966 10 010	10 x 1	10 x 1,25	10 x 1,5	3/8"	100	5
966 12 710	12 x 1,5			1/2"	100	5
966 14 010	14 x 2				75	7
966 15 010	15 x 1,5				75	7
966 16 010	16 x 2			5/8"	75	7

Release Tool

1. Remove the pressure totally from the system and clean the coupling
2. Push the tube to the bottom of the coupling to move the grip ring out of locking position.
3. Apply Release Tool on to the tube.
4. Push the Release Tool to stop with the flange at the top of the tube without using extensive force.
5. While pushing the Release Tool towards the coupling; pull the tube out.
6. Kongsberg Automotive recommends that each single push-in coupling experiences a total of maximum five (5) tube assemblies and releases in a lifetime perspective.

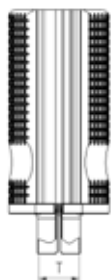


GB: Release Tool Professional

DE: Demontage Werkzeug Professional

FR: Outil de déconnexion métallique

IT: Attrezzo in metallo smontaggio tubi



Article no.	T	T	T	T(SAE)		
966 06 020	6x1			1/4"	36	57
966 08 020	8x1				36	57
966 10 020	10x1	10x1,25	10x1,5	3/8"	36	57
966 12 020	12x1,5			1/2"	36	57
966 14 020	14x2				16	113
966 15 020	15x1,5				16	113
966 16 020	16x2			5/8"	16	113

GB: Professional release tools kit

DE: Profi-Demontage Werkzeugskit

FR: Kit d'outils de déconnexion métallique

IT: Attrezzi in metallo smontaggio tubi kit



Article no.	6x1- 1/4"	8x1	10x1 -3/8"	12x1,5- 1/2"	14x2	15x1,5	16x2- 5/8"	
2600970	1	1	1	1		1	1	1x6
2600971	1	1	1	1				1x4

The release tool kits can be purchased through our distribution center in Molsheim, Kongsberg Raufoss Distribution

GB: Circlippliers

DE: Segering Zange

FR: Pince à Circlips

IT: Pinze per anelli elastici



Article no.					
892001	straight version				1
892000	90° version				1

The circlippliers can be purchased through our distribution center in Molsheim, Kongsberg Raufoss Distribution

GB: Tube cutter

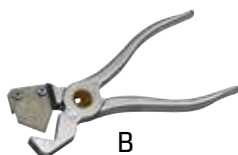
DE: Schlauchschneider

FR: Pince à couper les tubes polyamide

IT: Pinze tagliatubi



A



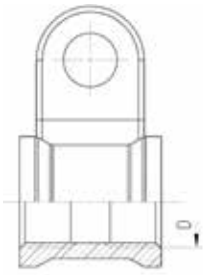
B

Article no.				
209010 (A)	Workshop clamp for polyamide			1
209013 (B)	Pocket plier for polyamide			1

The cutters can be purchased through our distribution center in Molsheim, Kongsberg Raufoss Distribution

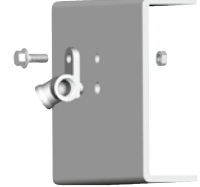
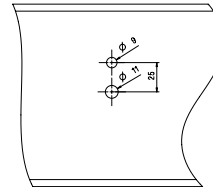
GB: Union, 2 x thread with bracket
DE: Gerade Befestigung, 2 x Gewinde

FR: Union, avec fixation 2 x taraudages
IT: Manicotto filettato, con staffa di fissaggio



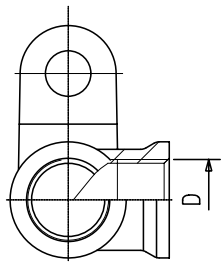
Article no.	D								
623 7847	M 12 x 1,5							60	92
623 7838	M 16 x 1,5							60	77

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



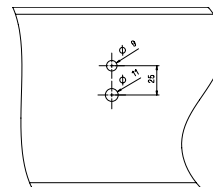
GB: Union, 2 x thread with bracket
DE: Gerade Befestigung, 2 x Gewinde

FR: Union, avec fixation 2 x taraudages
IT: Gomito a 90° filettato, con staffa di fissaggio



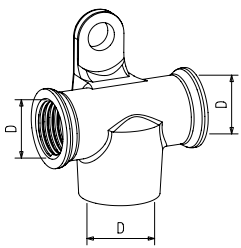
Article no.	D								
623 7839	M 16 x 1,5							40	95

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



GB: Union T, 3 x thread with bracket
DE: T-Befestigung, 3 x Gewinde

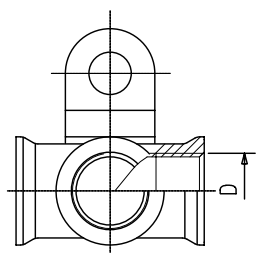
FR: Té taraudé, avec fixation
IT: Raccordo a T, con 3 filettature e staffa di fissaggio.



Article no.	D								
623 7863	M 16 x 1,5							40	95

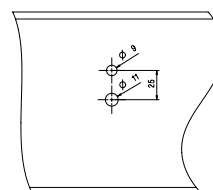
GB: 90° Union T, 3 x thread with bracket
DE: 90° T-Befestigung, 3 x Gewinde

FR: Té 90°, avec fixation et 3 taraudages
IT: Raccordo a T 90°, con 3 filettature e staffa di fissaggio a 90°



Article no.	D								
623 7840	M 16 x 1,5							30	112

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

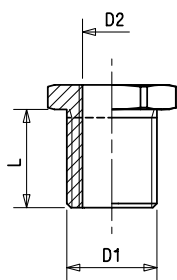


GB: Bulkhead coupling

DE: Schottstutzen

FR: Passe-cloison

IT: Passaparete



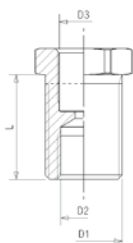
Article no.	D1	D2		L			
623 7722	M 16 x 1,5	M 10 x 1,0		20	22	150	35
616 1182	M 16 x 1,5	M 10 x 1,0		28	22	100	48
623 7723	M 16 x 1,5	M 10 x 1,0		35	22	75	48
623 7726	M 22 x 1,5	M 16 x 1,5		24	28	80	57
623 7727	M 26 x 1,5	M 16 x 1,5		24	32	50	97

GB: Adapter for pressure gauge

DE: Anschluß für Manometer

FR: Passe-cloison pour Manomètre

IT: Passaparete



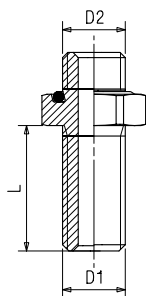
Article no.	D1	D2	D3	L			
623 7625	M 18 x 1,5	M 12 x 1,5	G1/4" -ISO837-1	22	20	120	38

GB: Bulkhead coupling

DE: Schottstutzen

FR: Passe-cloison

IT: Passaparete



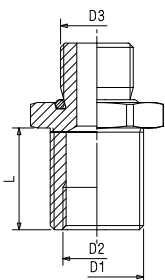
Article no.	D1	D2		L			
623 7622	M 12 x 1,5	M 12 x 1,5		24	18	200	29
623 7624	M 12 x 1,5	M 14 x 1,5		24	20	200	34
623 7693	M 16 x 1,5	M 16 x 1,5		24	22	110	41
623 7697	M 16 x 1,5	M 16 x 1,5		35	22	75	50
623 7675	M 16 x 1,5	R 1/4"		24	22	100	45
623 7735	M 22 x 1,5	M 16 x 1,5		24	28	50	73

GB: Bulkhead coupling

DE: Schottstutzen

FR: Passe-cloison

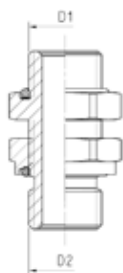
IT: Passaparete



Article no.	D1	D2	D3	L			
623 7728	M 22 x 1,5	M 16 x 1,5	3/8 - 18 NPTF	24	28	60	83
623 7729	M 22 x 1,5	M 16 x 1,5	1/2 - 14 NPTF	24	28	50	88
623 7731	M 22 x 1,5	M 16 x 1,5	M 16 x 1,5	24	28	50	70
623 7733	M 22 x 1,5	M 16 x 1,5	M 16 x 1,5	40	28	50	94
623 7730	M 22 x 1,5	M 16 x 1,5	M 22 x 1,5	24	28	50	70
623 7721	M 22 x 1,5	M 16 x 1,5	M 22 x 1,5	40	28	40	94
623 7674	M 22 x 1,5	M 16 x 1,5	R1/2"	24	27	50	77

GB: Bulkhead coupling, pre-assembled with o-ring and nut
DE: Schottstutzen, mit vormontierter Kontermutter incl. O-Ring

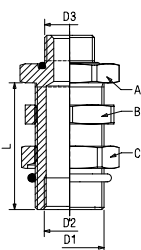
FR: Passe-cloison, avec contre-écrou et joints
IT: Passaparete, completo di dado e o-ring



Article no.	D1	D2					
623 7834	M 16 x 1,5	M 16 x 1,5				70	58
623 7835	M 22 x 1,5	M 16 x 1,5				50	120
623 7887	M 22 x 1,5	M 22 x 1,5				50	83
623 7780	M 22 x 1,5	1/2"-14 NPTF				50	97

GB: Bulkhead coupling
DE: Schottstutzen

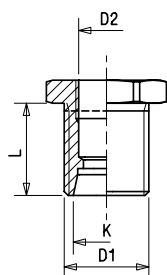
FR: Passe-cloison
IT: Passaparete



Article no.	D1	D2	D3		L			
623 7999	M 22 x 1,5	M 16 x 1,5	M 16 x 1,5		40	28	40	127

GB: Bulkhead coupling, with 24° cone
DE: Schottstutzen, mit 24°-Konus

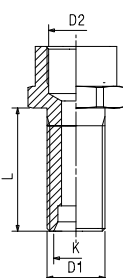
FR: Passe-cloison, avec cône 24°
IT: Passaparete, con cono 24°



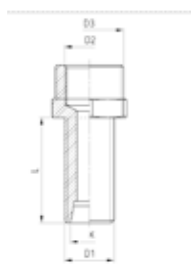
Article no.	D1	K	D2		L			
623 7694	M 22 x 1,5	K 24° - 15	M 16 x 1,5		24	28	80	60

GB: Bulkhead coupling, with 24° cone
DE: Schottstutzen, mit 24°-Konus

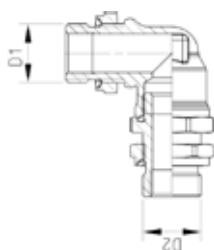
FR: Passe-cloison, avec cône 24°
IT: Passaparete, con cono 24°



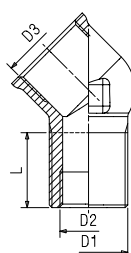
Article no.	D1	K	D2		L			
623 7673	M 12 x 1,5	K 24° - 6	M 12 x 1,5		34	20	100	48
623 7695	M 16 x 1,5	K 24° - 10	M 16 x 1,5		34	24	50	76
623 7732	M 18 x 1,5	K 24° - 12	M 16 x 1,5		34	24	50	60
623 7799	M 22 x 1,5	K 24° - 15	M 22 x 1,5		34	28	40	105

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	M 16 x 1,5	K 24° - 10	M 16 x 1,5	M 22 x 1,5	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						
623 8883	M 22 x 1,5	M 22 x 1,5				28	25	210

GB: 45° Elbow, for bulkhead**DE: 45° Winkel**, mit Schottstutzen**FR: Coude 45°**, passe-cloison**IT: Gomito a 45°**, con passaparete

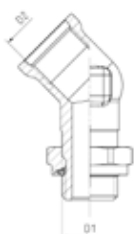
Article no.	D1	D2	D3		L			
623 7881	M 22 x 1,5	M 16 x 1,5	M 22 x 1,5		Min 21	40	125	

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

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

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

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



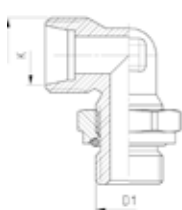
Article no.	D1	D2	A	B			
623 7831	M 16 x 1,5	M 16 x 1,5			22	40	59

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	K				
623 7962	M 16 x 1,5	M 18 x 1,5	K 24°-12		22	50	58
623 7960	M 22 x 1,5	M 18 x 1,5	K 24°-12		28	25	83

GB: 90° Elbow, for bulkhead

DE: 90° Winkel, mit Schottstutzen

FR: Coude 90°, passe-cloison

IT: Gomito a 90°, con passaparete



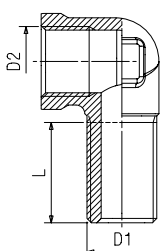
Article no.	D	D1	D2	L		
623 7809	M 22 x 1,5	M 16 x 1,5	M 16 x 1,5	20	50	75
623 7880	M 22 x 1,5	M 16 x 1,5	M 22 x 1,5	22	25	190

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	M 12 x 1,5	M 12 x 1,5		17	80	45
623 7813**	M 14 x 1,5	M 12 x 1,5		18	100	48
623 7808	M 16 x 1,5	M 16 x 1,5		22	50	62

** GB: No standard article; please ask for availability.

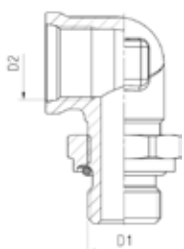
** DE: Kein Standardartikel, bitte Verfügbarkeit nachfragen.

** FR: Article sur demande, merci de vérifier la disponibilité.

** IT: Articolo a richiesta

GB: 90° Elbow, for bulkhead pre-assembled with o-ring and nut
DE: 90° Winkel, mit Schottstutzen mit vormontierter Kontermutter inkl. O-Ring

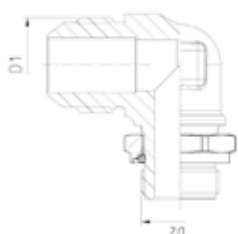
FR: Coude 90°, passe-cloison avec contre-écrou et joint
IT: Gomito a 90°, con passaparete completo di dado e o-ring



Article no.	D1	D2					
623 7928	M 10 x 1,0	M 12 x 1,5			16	80	38
623 7929	M 12 x 1,5	M 12 x 1,5			22	130	43
623 7830	M 16 x 1,5	M 16 x 1,5			22	70	65
623 7890	M 22 x 1,5	M 16 x 1,5			28	75	92
623 7891	M 22 x 1,5	M 22 x 1,5			28	35	129
623 9970	M 26 x 1,5	M 22 x 1,5			32	15	258

GB: 90° Elbow SAE J512 (45° seal) with nut and O-ring
DE: 90° Winkel, SAE J512 (45° Dichtung), mit Kontermutter inkl. O-Ring

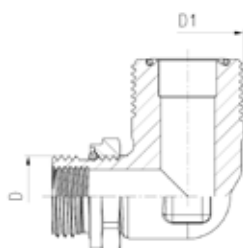
FR: Coude 90°, SAE J512 (45°) passe-cloison avec contre-écrou et joint
IT: Gomito a 90°, SAE J512 (45°) con passaparete completo di dado e o-ring



Article no.	D1	D SAE J512					
623 7755	M22x1,5	1-1/16 -14UNS			28	20	195

GB: 90° Elbow according SAE J1453 (face seal)
DE: 90° Winkel, nach SAE J1453 (Kopfdichtung)

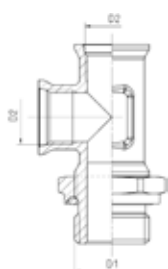
FR: Coude 90°, passe-cloison avec contre-écrou et joint
IT: Gomito a 90°, con passaparete completo di dado e o-ring



Article no.	D1	D2 (SAEJ1453)					
623 7961	M22x1,5	1-3/16-12UN			28	20	229

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

FR: Raccord L passe-cloison
IT: Raccordo a L, con passaparete



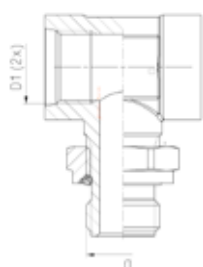
Article no.	D1	D2		L			
623 7980	M 16 x 1,5	M 16 x 1,5		20	22	40	81
623 7982	M 22 x 1,5	M 16 x 1,5		20	28	40	102

GB: T-Coupling, for bulkhead

DE: T-Schottstutzen

FR: Tê Passe-cloison

IT: Raccordo a T, con passaparete



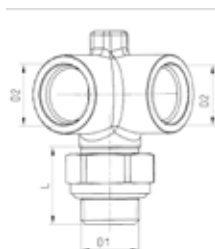
Article no.	D1	D		L		
623 7892	M 16 x 1,5	M 16 x 1,5		37	60	102

GB: 3-way coupling, for bulkhead

DE: 3-Wege Schottstutzen

FR: Raccord à 3 voies, passe-cloison taraudé 2 X

IT: Raccordo a 3 vie, con passaparete



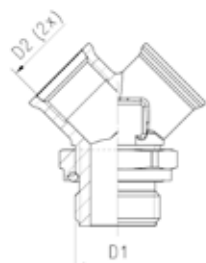
Article no.	D1	D2		L		
623 7829	M 16 x 1,5	M 16 x 1,5		21	40	109

GB: Y bulkhead

DE: Y Schottstutzen

FR: Y Passe-cloison

IT: Y con passaparete



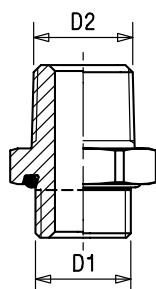
Article no.	D1	D2				
623 7981	M 22 x 1,5	M 16 x 1,5			40	100

GB: Transfer adapter

DE: Adapter

FR: Adaptateur

IT: Adattatore filettato



Article no.	D1	D2				
623 7714**	M 16 x 1,5	3/8" - 18 NPTF		22	150	41
623 7900	M 16 x 1,5	M 22 x 1,5		24	125	50

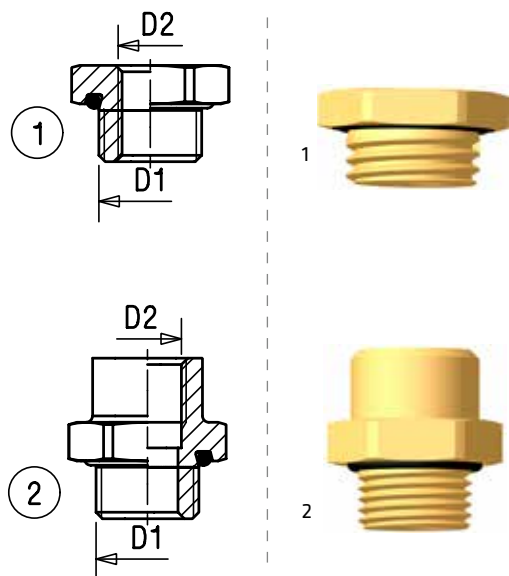
** NOT IN SERIAL PRODUCTION.

GB: Transfer adapter

DE: Adapter

FR: Adaptateur

IT: Adattatore filettato



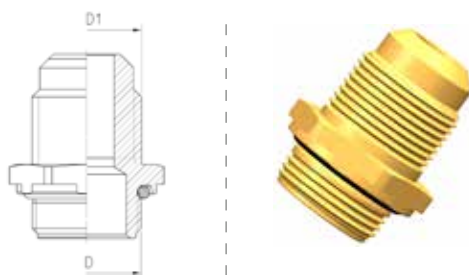
Article no.	D1	D2	Form			
623 7759	M12 x1,5	1/8" - 27 NPTF	1	18	250	23
623 7704	M14 x1,5	1/4" - 18 NPTF	2	20	200	32
623 7655	M16 x1,5	1/8" - 27 NPTF	1	22	200	25
623 7656	M 16 x 1,5	1/4" - 18 NPTF	1	22	150	33
623 7657	M 16 x 1,5	3/8" - 18 NPTF	2	22	100	40
623 7904	M 16 x 1,5	3/8" - 32 UNEF	1	22	250	25
623 7614	M 16 x 1,5	M 12 x 1,5	1	22	150	20
6237692	M16 x 1,5	M16 x 1,5	2	22	100	57
623 7671	M 16 x 1,5	M 22 x 1,5	2	28	150	62
623 7615	M 22 x 1,5	M 12 x 1,5	1	28	150	44
623 7616	M 22 x 1,5	M 16 x 1,5	1	28	150	33
623 7762	M 22 x 1,5	1/2" - 14 NPTF	1	28	150	70
623 7618	M 26 x 1,5	M 16 x 1,5	1	32	100	73
623 7626	1/4" - 18 NPTF	M 12 x 1,5	2	18	200	31
623 7628	1/4" - 18 NPTF	M 16 x 1,5	2	22	125	48
623 7633	3/8" - 18 NPTF	M 16 x 1,5	2	22	130	46
623 7710	3/4" - 14 NPTF	M 22 x 1,5	2	28	50	76
623 7677	R 1/4"	M 10 x 1	2	17	200	23
623 7676	R 3/8"	M 12 x 1,5	2	19	200	32
623 7678	R 1/ 2"	M 16 x 1,5	2	27	50	75

GB: Transfer Adapter SAE J512 (45° Flare)

DE: Adapter SAE J512

FR: Adaptateur SAE J512 (évasé 45°)

IT: Adattatore SAE J512



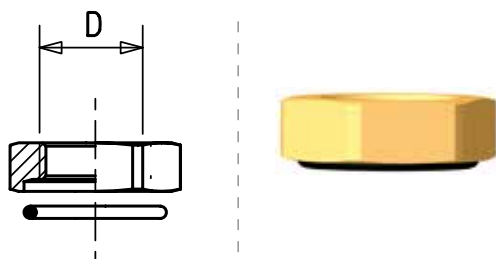
Article no.	D1	D2			
623 7760	M22 X 1,5	7/8-14 UNF	28	50	77

GB: Locking nut, with o-ring

DE: Kontermutter, mit O-Ring

FR: Contre écrou, avec joint torique

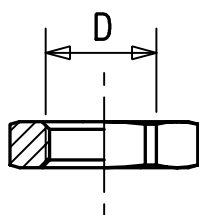
IT: Controdado, con o-ring



Article no.	D			
623 7745	M 12 x 1,5	18	200	9
623 7742	M 14 x 1,5	20	200	11
623 7746	M 16 x 1,5	22	200	12
623 7778	M 18 x 1,5	24	100	14
623 7747	M 22 x 1,5	28	100	17

GB: Locking nut
DE: Kontermutter

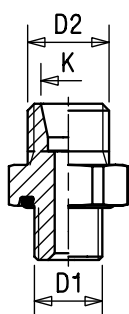
FR: Contre écrou
IT: Controdado



Article no.	D						
623 7748	M 16 x 1,5				22	500	12
623 7775	M 18 x 1,5				24	300	14
623 7751	M 20 x 1,5				27	400	11
623 7749	M 22 x 1,5				28	300	16
623 7753	M 24 x 1,5				28	300	13
623 7779	M 26 x 1,5				32	200	19
623 7798	M28 x 1,5				36	100	36

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

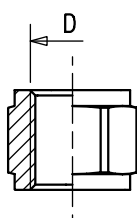
FR: Adaptateur, avec joint torique et cône 24°
IT: Adattatore filettato, con o-ring e cono 24°



Article no.	D1	D2	K				
623 7781	M 10 x 1,0	M 12 x 1,5	K 24° - 6		16	400	20
623 7782	M 16 x 1,5	M 12 x 1,5	K 24° - 6		22	200	32
623 7783	M 12 x 1,5	M 16 x 1,5	K 24° - 10		18	200	25
623 7784	M 16 x 1,5	M 16 x 1,5	K 24° - 10		22	150	39
623 7785	M 16 x 1,5	M 18 x 1,5	K 24° - 12		22	150	36
623 7786	M 22 x 1,5	M 16 x 1,5	K 24° - 10		28	100	51
612 6278	M 22 x 1,5	M 22 x 1,5	K 24° - 15		28	75	69

GB: Socket joint
DE: Gewindemuffe

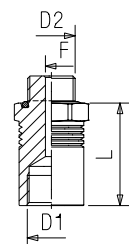
FR: Manchon
IT: Manicotto filettato



Article no.	D						
623 7741	M 12 x 1,5				18	250	24
623 7743	M 16 x 1,5				22	175	35
623 7744	M 22 x 1,5				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



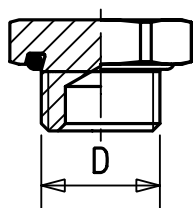
Article no.	D1	D2	F	L			
623 7647	G 3/8	M 16 x 1,5	1,5	31	22	100	52

GB: Plug

DE: Stopfen

FR: Bouchon

IT: Tappo



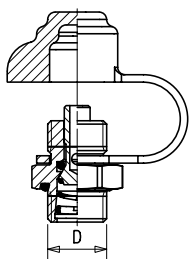
Article no.	D						
623 7604	M 10 x 1,5				16	350	14
623 7605	M 12 x 1,5				18	350	17
623 7606	M 14 x 1,5				20	250	23
623 7607	M 16 x 1,5				22	220	28
623 7608	M 22 x 1,5				28	120	44

GB: Test point, ISO 3583

DE:Prüfanschluß, ISO 3583

FR: Prise de pression, ISO 3583

IT: Raccordo presa pressione, ISO 3583



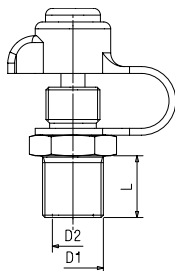
Article no.	D						
623 7776	M 16 x 1,5				22	75	40
623 7777	M 22 x 1,5				28	60	65

GB: Test point, ISO 3583 for bulkhead

DE:Prüfanschluß, ISO 3583 mit Schottstutzen

FR: Prise de pression, ISO 3583 passe-cloison

IT: Raccordo presa pressione, ISO 3583 con passaparete



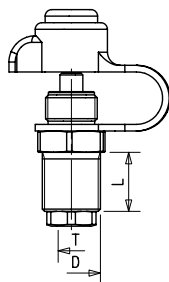
Article no.	D1	D2	L				
623 9144	M 18 x 1,5	M 12 x 1,5	18		22	50	57

GB: Test point, ISO 3583 with integrated push-in for bulkhead

DE:Prüfanschluß, ISO 3583 mit Steckverbinder

FR: Prise de pression, ISO 3583 passe-cloison avec Union mâle

IT: Raccordo presa pressione, ISO 3583 con passaparete



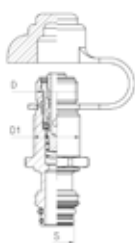
Article no.	D	T	L				
623 7207	M 18 x 1,5	6 x 1	18		22	60	68
623 7227	M 18 x 1,5	8 x 1	18		22	60	61

GB: Test Point ISO 3583, with ABC-swivel

DE: Prüfanschluss ISO 3583, mit ABC Anschluss-Stutzen

FR: Prise de pression passe-cloison ISO 3583 avec embase ABC

IT: Raccordo presa pressione, ISO 3583 con passaparete ISO



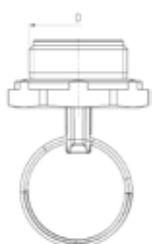
Article no.	D1	S	L	Rotolock			
9605 1800	M 18 x 1,5	Regular	18	964 50 022	22	50	69

GB: Drain plug, DIN 74292

DE: Entwässerungsanschluss, DIN 74292

FR: Purge de bouteille, DIN 74292

IT: Raccordo spurgo condensa, DIN 74292



Article no.	D			
623 8787	M 22 x 1,5	28	75	36

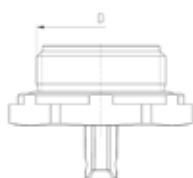
with key ring

GB: Drain plug, DIN 74292

DE: Entwässerungsanschluss, DIN 74292

FR: Purge de bouteille, DIN 74292

IT: Raccordo spurgo condensa, DIN 74292



Article no.	D			
623 8788	M 22 x 1,5	28	75	35

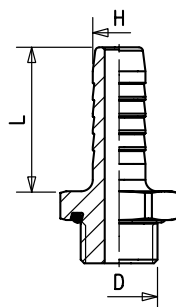
without key ring

GB: Hose nipple, Raufoss couplings™ standard

DE: Schlauchstutzen, nach Raufoss couplings™ Norm

FR: Raccord queue cannelée, norme Raufoss couplings™

IT: Bocchettone, a norma Raufoss couplings™



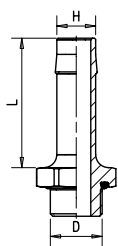
Article no.	H (Ø Hose size)	D	L			
623 7926	9,5 (3/8")	M 16 x 1,5	30	100	45	45
623 7927	9,5 (3/8")	M 22 x 1,5	30	75	73	73
623 7905	10	M 16 x 1,5	30	100	43	46
623 7912	10	M 22 x 1,5	30	75	71	71
623 7907	11	M 16 x 1,5	30	130	38	38
623 7915	11	M 22 x 1,5	30	75	53	53
623 7908	13	M 16 x 1,5	30	120	37	37
623 7914	13	M 22 x 1,5	30	60	61	61
623 7911	14,5	M 16 x 1,5	30	22	110	49
623 7913	14,5	M 22 x 1,5	30	75	73	73

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

DE: Schlauchstutzen, nach DIN

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

IT: Bocchettone, con o-ring a norma DIN



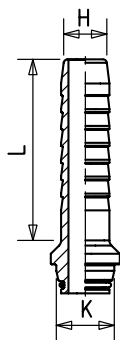
Article no.	H (Ø Hose size)	D1	L			
623 7994	11	M 16 x 1,5	40	22	100	44
623 7997	11	M 22 x 1,5	40	28	50	69
623 7995	13	M 16 x 1,5	40	22	90	60
623 7996	13	M 22 x 1,5	40	28	50	70

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 e oring



Article no.	H (Ø Hose size)	K	Nut/Ecrou/Mutter/Dado	L		
623 8993	11	K 24° - 12	6161147	40	100	21

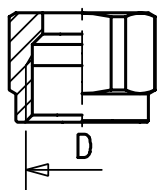
- Remarks: a) Kindly purchase the nut separately.
b) Connection to bulkhead or adapter with cone (24°).
- Remarques: a) Ecrou vendu séparément.
b) Raccordement à un passe-cloison ou un adaptateur avec cône (24°).
- Hinweis: a) Bitte Überwurfmuttern extra bestellen.
b) Anschluß an Schottstutzen oder Ü - Stücke mit Konus (24°).
- Note: a) Dado da ordinare separatamente.
b) Collegamento a passaparete o adattatore con attacco conico da 24°.

GB: Nut, for hose nipple

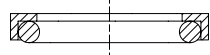
DE: Überwurfmutter, für Schlauchstutzen

FR: Ecrou, pour Raccord queue cannelée

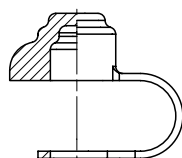
IT: Dado, per bocchettone



Article no.	D1						
616 1147	M 18 x 1,5	6238993			22	200	26

GB: Pressure ring, with o-ring**DE: Druckring, mit O-Ring****FR: Cuvette, avec joint torique****IT: Guarnizione per raccordi, con o-ring**

Article no.	D								
623 9139	M 10 x 1,0								100
623 9140	M 12 x 1,5								100
623 9141	M 14 x 1,5								100
623 9142	M 16 x 1,5								100
623 9143	M 22 x 1,5								100
623 9149	M 26 x 1,5								100

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 ABC™ SYSTEM

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

The system provides significant improvement in key coupling areas, and enables Raufoss to take a broader responsibility in pneumatic system building on commercial vehicles. New composite materials reduce system cost, weight, number of articles and increases design flexibility.

Brass components secure structural integrity in highly stressed areas. One global system, fulfilling different engineering philosophies within truck, bus, trailer and off-road applications.

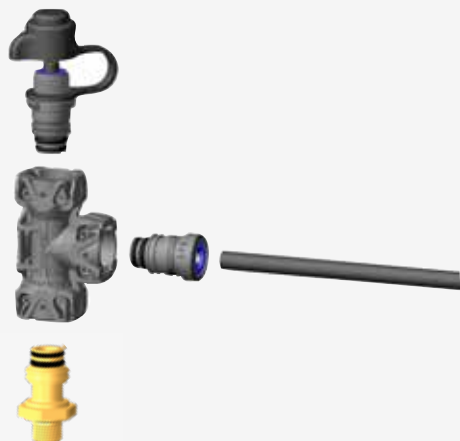


Features & Benefits:

- Design flexibility
- Full releasability
- Integrated safety
- System cost reduction
- One global system
- Up to 83 % weight reduction

Raufoss ABC™ System - Assembly proposals

L-coupling with test point



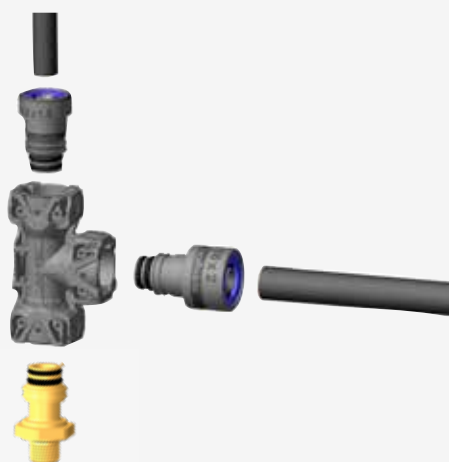
Integral-coupling with rotolock



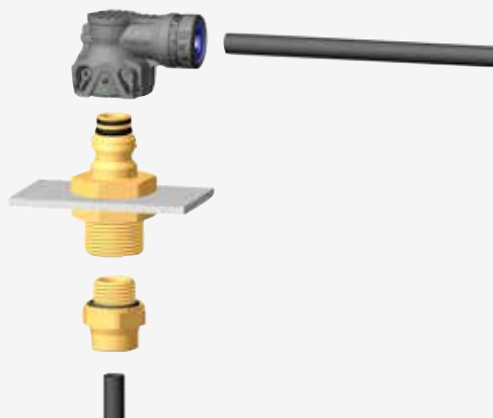
T-coupling



L-coupling



Bulkhead with integral coupling



F-coupling



Raufoss ABC™ System - Assembly proposals

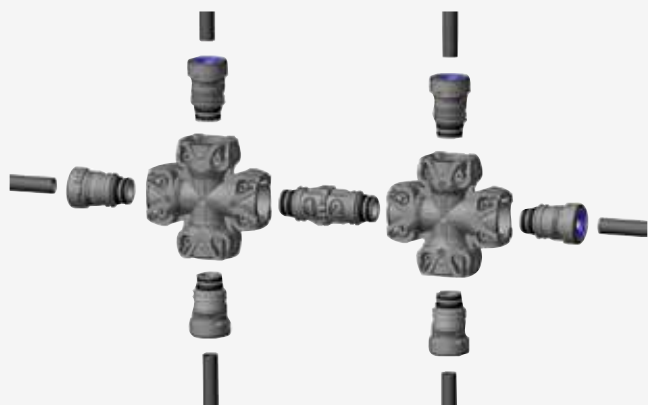
Reducer



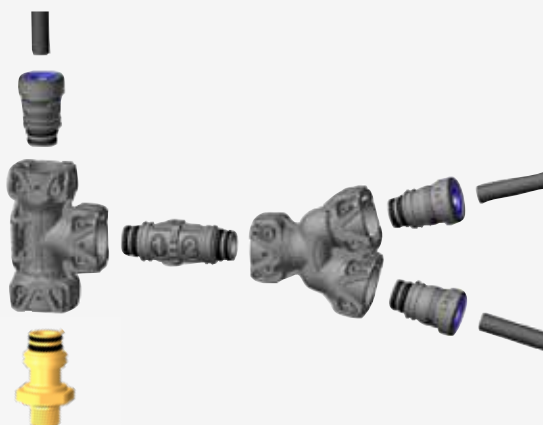
4-Way Cross with Reducer



4 - way Union couplings



Combined couplings



Parallel thread

Assembly instructions

Filetage Métrique

Instructions de montage



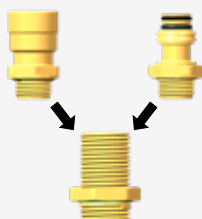
The installation of the metric thread side of the ABC™ Push-In couplings, ABC™ swivels, locking nuts etc. shall be directly tightened into the ports according: ISO 4039-1, ISO 4039-2, ISO 6149, ISO 9974-1, DIN 3852, Voss without any further preparation. The installation of the inch Threads ABC™ Push-In couplings, ABC™ swivels, locking nuts etc. shall be directly tightened into the ports according: ISO 1179-1, DIN 3852-2

The necessary torque values are according to Table 2a:

Les filetages métriques des embases, unions mâle ABC™, contre écrous etc, sont vissés sans préparation, directement dans le taraudage récepteur de norme ISO 4039-1, ISO 4039-2, ISO 6149, ISO 9974-1, DIN 3852 ou Voss). Les raccords avec des filetages en pouce sont à visser sur des ports selon les normes ISO 1179-1, DIN 3852-2

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
	M 10 x 1	15 Nm (11,1 lbf ft)	18 Nm (13,3 lbf ft)	
	M 12 x 1,5	20 Nm (14,8 lbf ft)	24 Nm (17,7 lbf ft)	
	M 14 x 1,5	24 Nm (17,7 lbf ft)	28 Nm (20,7 lbf ft)	
	M 16 x 1,5	30 Nm (22,1 lbf ft)	35 Nm (25,8 lbf ft)	
	M 18 x 1,5	30 Nm (22,1 lbf ft)	35 Nm (25,8 lbf ft)	
	M 20 x 1,5	34 Nm (25,1 lbf ft)	40 Nm (29,5 lbf ft)	
	M 22 x 1,5	34 Nm (25,1 lbf ft)	40 Nm (29,5 lbf ft)	
	M 24 x 1,5	34 Nm (25,1 lbf ft)	40 Nm (29,5 lbf ft)	
	M 26 x 1,5	43 Nm (31,7 lbf ft)	50 Nm (36,9 lbf ft)	
	M 28 x 1,5	43 Nm (31,7 lbf ft)	50 Nm (36,9 lbf ft)	
	G 1/8"	15 Nm (11,1 lbf ft)	18 Nm (13,3 lbf ft)	
	G 1/4"	24 Nm (17,7 lbf ft)	28 Nm (20,7 lbf ft)	
	G 3/8"	32 Nm (23,6 lbf ft)	38 Nm (28,0 lbf ft)	



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	10 Nm (7,4 lbf ft)	12 Nm (8,9 lbf ft)	
	M 12 x 1,5	14 Nm (10,3 lbf ft)	16 Nm (11,8 lbf ft)	
	M 16 x 1,5	20 Nm (14,8 lbf ft)	24 Nm (17,7 lbf ft)	

- 1) The recommended torques are based on threads without lubrication. The recommended torques applies to ports of aluminum, brass or steel. A "torque wrench" should be used.
- 2) If lower max torque values are specified for valves, air reservoir etc, these are valid.

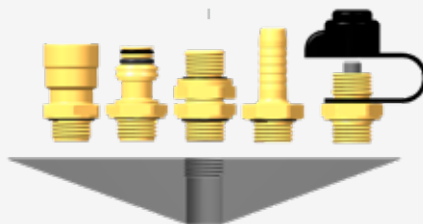
- 1) Les couples de serrage recommandés sont indiqués pour des filetages non lubrifiés. Les couples de serrage recommandés s'appliquent aux taraudages en aluminium, en laiton ou en acier. Une clé à cliquet dynamométrique doit être utilisée.
- 2) Veuillez également ne pas dépasser le couple de serrage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

Parallel Gewinde

Montagehinweise

Filettatura metrica

Istruzioni di montaggio



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

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

TABELLE 2A	Gewinde Filetto	Empfohlenes Anzugsdrehmoment ^{1,2} Coppia di serraggio prescritta ^{1,2}	Max. Anzugsdrehmoment ² Coppia di serraggio max. ²	TABELLA 2A
	M 10 x 1	15 Nm (11,1 lbf ft)	18 Nm (13,3 lbf ft)	
	M 12 x 1,5	20 Nm (14,8 lbf ft)	24 Nm (17,7 lbf ft)	
	M 14 x 1,5	24 Nm (17,7 lbf ft)	28 Nm (20,7 lbf ft)	
	M 16 x 1,5	30 Nm (22,1 lbf ft)	35 Nm (25,8 lbf ft)	
	M 18 x 1,5	30 Nm (22,1 lbf ft)	35 Nm (25,8 lbf ft)	
	M 20 x 1,5	34 Nm (25,1 lbf ft)	40 Nm (29,5 lbf ft)	
	M 22 x 1,5	34 Nm (25,1 lbf ft)	40 Nm (29,5 lbf ft)	
	M 24 x 1,5	34 Nm (25,1 lbf ft)	40 Nm (29,5 lbf ft)	
	M 26 x 1,5	43 Nm (31,7 lbf ft)	50 Nm (36,9 lbf ft)	
	M 28 x 1,5	43 Nm (31,7 lbf ft)	50 Nm (36,9 lbf ft)	
	G 1/8"	15 Nm (11,1 lbf ft)	18 Nm (13,3 lbf ft)	
	G 1/4"	24 Nm (17,7 lbf ft)	28 Nm (20,7 lbf ft)	
	G 3/8"	32 Nm (23,6 lbf ft)	38 Nm (28,0 lbf ft)	



Bei Verwendung von Steckverbinder, ABC Anschlussstutzen in Raufoss Couplings™ - Schottstutzen gelten die nachfolgenden, 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	10 Nm (7,4 lbf ft)	12 Nm (8,9 lbf ft)	
	M 12 x 1,5	14 Nm (10,3 lbf ft)	16 Nm (11,8 lbf ft)	
	M 16 x 1,5	20 Nm (14,8 lbf ft)	24 Nm (17,7 lbf ft)	

- 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 ABC™ Push-In couplings and ABC™ swivels with “NPTF” - “R” thread, a sealing fluid ³⁾ 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 ³⁾ avant de visser.

Les couples de serrage sont indiqués dans le tableau 2c ci-dessous.

	Thread ³ Filetage ³	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 (11,1 lbf ft)	18 Nm (13,3 lbf ft)	TABLEAU 2C
	1/4"-18 NPTF	24 Nm (17,7 lbf ft)	28 Nm (20,7 lbf ft)	
	3/8"-18 NPTF	32 Nm (23,6 lbf ft)	38 Nm (23,6 lbf ft)	
	1/2"-18 NPTF	36 Nm (26,6 lbf ft)	42 Nm (26,6 lbf ft)	
	R 1/8"	15 Nm (11,1 lbf ft)	18 Nm (13,3 lbf ft)	
	R 1/4"	24 Nm (17,7 lbf ft)	28 Nm (20,7 lbf ft)	
	R 3/8"	32 Nm (23,6 lbf ft)	38 Nm (23,6 lbf ft)	
	R 1/2"	36 Nm (26,6 lbf ft)	42 Nm (31,0 lbf ft)	
	R 5/8"	43 Nm (31,7 lbf ft)	50 Nm (36,9 lbf ft)	

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) If lower max torque values are specified for valves, air reservoir etc, these are valid

3) No O-ring seal on conical tread

1) Les couples de serrage recommandés sont indiqués pour 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 autorisé pour les valves, bouteilles d'air etc.

3) Ne pas utiliser de joint d'étanchéité sur filetage conique.

Konisches Gewinde

Montagehinweise

Sedi coniche

Istruzioni di montaggio



Für gerade Steckverbindungen und ABC Anschlussstutzen mit "NPTF"; "R" Gewinde wird ein Dichtmittel empfohlen. Die Anzugsdrehmomente sind der Tabelle 2c zu entnehmen.

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

	Gewinde ³	Empfohlenes Anzugsdrehmoment ^{1,2}	Max. Anzugsdrehmoment ²	
	Filetto ³	Coppia di serraggio prescritta ^{1,2}	Coppia di serraggio max. ²	
TABELLE 2C	1/8"-27 NPTF	15 Nm (11,1 lbf ft)	18 Nm (13,3 lbf ft)	TABELLA 2C
	1/4"-18 NPTF	24 Nm (17,7 lbf ft)	28 Nm (20,7 lbf ft)	
	3/8"-18 NPTF	32 Nm (23,6 lbf ft)	38 Nm (23,6 lbf ft)	
	1/2"-18 NPTF	36 Nm (26,6 lbf ft)	42 Nm (26,6 lbf ft)	
	R 1/8"	15 Nm (11,1 lbf ft)	18 Nm (13,3 lbf ft)	
	R 1/4"	24 Nm (17,7 lbf ft)	28 Nm (20,7 lbf ft)	
	R 3/8"	32 Nm (23,6 lbf ft)	38 Nm (23,6 lbf ft)	
	R 1/2"	36 Nm (26,6 lbf ft)	42 Nm (31,0 lbf ft)	
	R 5/8"	43 Nm (31,7 lbf ft)	50 Nm (36,9 lbf ft)	

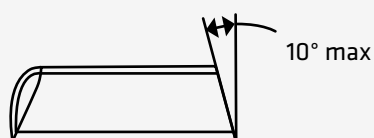
- 1) Die empfohlenen Anzugsdrehmomente gelten für nicht vor- behandelte Gewinde. Die empfohlen Anzugsdrehmomente gelten für Gewinde in Aluminium, Messing, oder Stahl. Die Verwendung eines Drehmomentschlüssels wird empfohlen.
- 2) Bitte beachten Sie das max. zulässige Anzugsdrehmoment des Ventils, Luftbehälter, etc.
- 3) Keine O-Ring Dichtung bei konischem Gewinde

- 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.
- 3) Sulle filettature coniche non ci sono o-ring.

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 end must be free of marks, stickers etc.

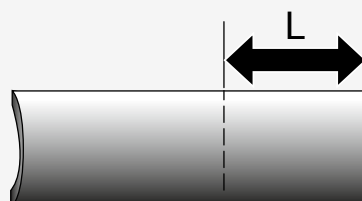


The tube can be assembled in the push-in coupling by hand without using any tool. Tube assembly is simplified by pushing and turning (a few degrees) the tube at the same time. Positioning is accomplished according to the Grip-then-seal principle:

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 with a click noise securing the correct assembly.
3. Pull back the tube by hand to secure the assembly

Customer decision depending of the criticality level of the application.

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



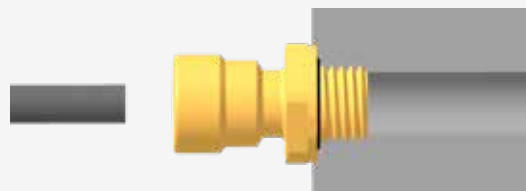
A marking for visual control of the push-in length is optional. The Push-In length is mentioned in Table 3. In cases the tube is not pushed in correctly, and only passing the grip ring (see above), a measurable controlled leakage will occur. An audible whistle can be heard. Depending on the dimension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

For connections between chassis and axle it is recommend using the tube size $\leq 12 \times 1,5$.

Montage des tubes

Instructions de montage

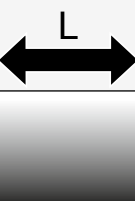
Couper le tube à angle droit (90°). Un écart angulaire de 10° maximum est admissible. L'extrémité du tube doit être exempte de toute trace de détérioration, d'adhésifs, etc.



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 légèrement le tube en même temps. Le montage se décompose en 2 phases distinctes :

1. phase: Le tube passe l'anneau de retenue.
2. phase: Le tube passe le joint d'étanchéité. Une fois que le tube a passé l'anneau de retenue, il ne peut pas ressortir du raccord. Avant d'atteindre le fond du raccord, un clip mécanique se déclenche automatiquement. Ce clip engendre un signal sonore et tactile qui vous confirme l'emmanchement correct du tube.
3. Tirez manuellement sur le tube pour s'assurer du bon emmanchement. La décision du client dépendra du niveau de criticité de l'application

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. Si le tube n'est pas emmanché correctement, cela provoquera une fuite qui sera détectable par un sifflement sonore. 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 $\leq 12 \times 1,5$ pour une connexion entre essieu et châssis.

TABLE 3	Tube Tube	Push-In length Longueur d'emmanchement	Max. Push-In force ⁴ Force d'emmanchement ⁴	TABLEAU 3
	6x1	19,5 mm (0,77 in)	80 N (18,0 lbf)	
	8x1	20,5 mm (0,81 in)	90 N (20,2 lbf)	
	10x1; x1,25; x1,5	24,0 mm (0,94 in)	100 N (21,5 lbf)	
	12x1,5	25,0 mm (0,98 in)	110 N (24,7 lbf)	
	14x2	25,0 mm (0,98 in)	120 N (27,0 lbf)	
	15x1,5	27,0 mm (1,06 in)	125 N (28,1 lbf)	
	16x2	27,0 mm (1,06 in)	130 N (29,2 lbf)	

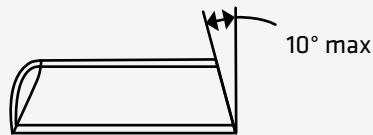
4) Tube diameter, tolerances, ovality and cutting quality may affect the push-in force

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

Rohrmontage

Montagehinweise

Die Rohre werden rechtwinklig mit einem Rohrschneider abgeschnitten. Eine max. Abweichung von 10° ist zulässig. Das Rohrende muss frei sein von Beschädigungen, Aufklebern usw.



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

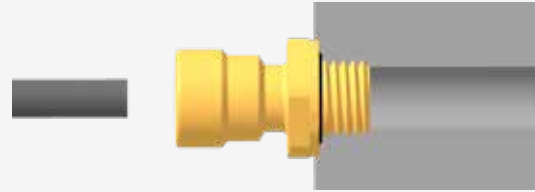
1. Stufe: Passieren des Klemmrings.
2. Stufe: Passieren des O-Rings und Erreichen des Steckendpunktes, Eindeutiges Montagegefühl beim passieren des Klemmrings und durch Auslösen des "Feed Back Signals".
3. Prüfen der Verbindung durch manuelles Ziehen des gesteckten Rohrs. Kundenentscheidung in Abhängigkeit der Sicherheitsstufe der Anwendung.

Die maximale Einsteckkraft entnehmen Sie bitte der Tabelle 3, der übliche Serienwert beträgt 2/3 dieser Kräfte.

Montaggio del tubo

Istruzioni di montaggio

Il tubo deve essere tagliato con una taglierina effettuando un taglio netto. E' tollerato uno scostamento max di 10°. L'estremità del tubo deve essere libera da marcatore, adesivi, ecc.

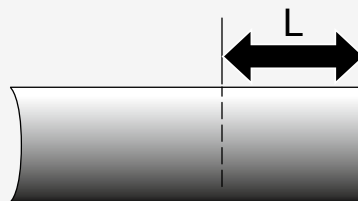


Il tubo può essere innestato a mano e senza l'ausilio di attrezzature. L'operazione di montaggio è più lineare se durante l'innesto si effettua con la mano anche una rotazione del tubo. Il fissaggio del tubo è garantito in quanto si esegue la tenuta meccanica prima di quella pneumatica:

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

Decisione Cliente a seconda del livello di criticità dell'applicazione.

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, tritt eine messbare, kontrollierte Leckage auf, ein Pfeifton zur Lokalisierung. 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 ha una piccola perdita controllata udibile per un sibilo. 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.

	Rohr Tubo	Einstecklänge Lunghezza di innesto	Max. Einsteckkraft ⁴ Forza d'innesto ⁴	
TABELLE 3	6x1	19,5 mm (0,77 in)	80 N (18,0 lbf)	TABELLA 3
	8x1	20,5 mm (0,81 in)	90 N (20,2 lbf)	
	10x1; x1,25; x1,5	24,0 mm (0,94 in)	100 N (21,5 lbf)	
	12x1,5	25,0 mm (0,98 in)	110 N (24,7 lbf)	
	14x2	25,0 mm (0,98 in)	120 N (27,0 lbf)	
	15x1,5	27,0 mm (1,06 in)	125 N (28,1 lbf)	
	16x2	27,0 mm (1,06 in)	130 N (29,2 lbf)	

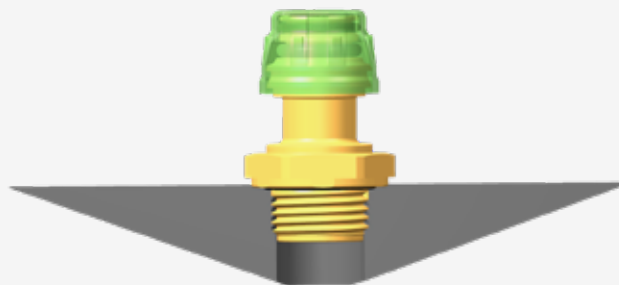
⁴) Rohrdurchmesser, Toleranzen, Qualität und Schnittqualität können die Einsteckkräfte beeinflussen.

⁴) 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 Raufoss ABC™ Building Block system with similar systems produced by other manufacturers.



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



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

When reaching the 1st step connection (safety), a controlled audible leakage will occur. Depending on the dimension and accessibility the connection can be re-pressed under pressure to seal the assembly.

IMPORTANT RECOMMENDATIONS

For all ABC™ Building Block system connections

- Between truck and trailer
- Between axle and chassis

The ABC-Building block has to be fixed against the swivel by using a RotoLock

Assemblage des pièces de forme du système ABC™

Instructions de montage

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

Les embases filetées seront vissées selon les couples préconisés, les mêmes que pour les unions mâles ABC. 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 par un sifflement).

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.

En cas de fuite d'air, et si le diamètre du tube et l'accessibilité du raccord le permettent, il est possible de repousser le tube sous pression pour étanchéifier le système et mettre fin au sifflement.

RECOMMANDATIONS IMPORTANTES

En cas de connexion:

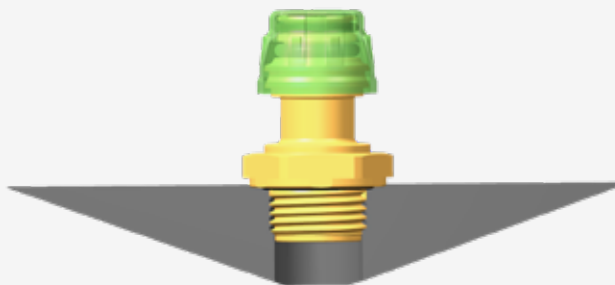
- Entre tracteur et remorque
- Entre châssis et essieux

L'orientation du tube doit obligatoirement être figée au moyen d'un RotoLock bloquant les embases en rotation.

Montage des ABC™ Baukastensystems

Montagehinweise

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



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



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

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

WICHTIGE HINWEISE

In den Fällen:

- Verbindung zwischen Motorwagen und Anhängerfahrzeug (z.B. Bremsschlauch / IWendelflex)
- Zwischen Achse und Fahrgestellrahmen (z.B. Bremsleitung)

Muss das ABC-Baukastenteil mit einem RotoLock gegenüber dem Anschlusstutzen fixiert werden.

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

- Tra mortice e rimorchio
- Tra telaio e asse

È obbligatorio applicare il RotoLock al raccordo multiplo.

Assembly of Rotolock

Assembly instructions

Montage des bagues de blocage Rotolock

Instructions de montage

1. Press RotoLock + ABC™ Building Block together.



2. Plug this pre-assembly on top of the swivel (1st/safety position).



3. Define the orientation.



4. Click the ABC Building Block into the 2nd/locked position.



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).

Montage des Rotolock

Montagehinweise

Montaggio del Rotolock

Istruzioni di montaggio

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.



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.

Repair instructions

General info

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 / building block must be accessible, and 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 the coupling

Conseils pour la réparation

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

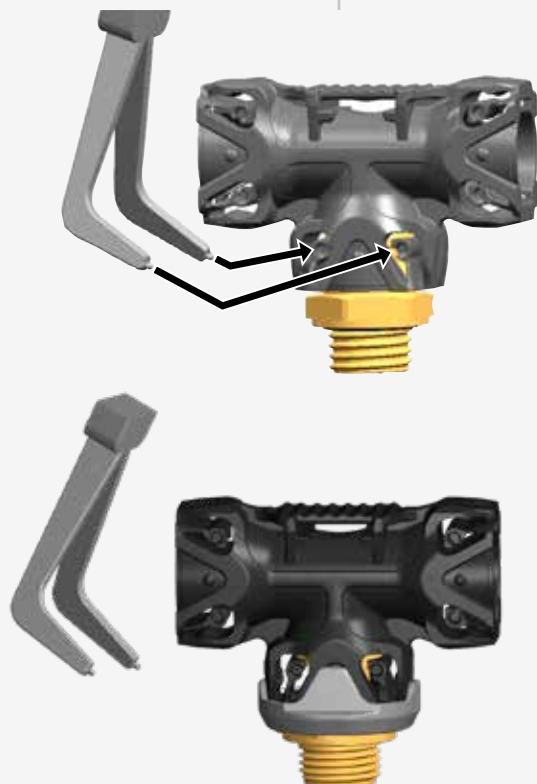
Instruction pour la déconnexion des tubes :

- Dépressuriser complètement le circuit
- Enlever les colliers de serrage à proximité du raccord pour rendre le tube accessible (et 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.

Repair instructions

Release of Building Block

Instruction pour le démontage des composants ABC



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

Kongsberg Automotive recommends that the ABC Building blocks can experience a total number of max. five (5) assemblies and releases in a lifetime perspective.

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, toutefois nous recommandons un maximum de 5 réutilisations au cours de la durée de vie du produit.

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

Reparatur Hinweise

Allgemeine Hinweise

Bei Verwendung des Raufoss ABC Systems, ist der Austausch von Ventilen, Luftbehältern, Luftfederbälge problemlos möglich. Bevor sie mit den Arbeiten beginnen:

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.

Istruzioni per la sostituzione

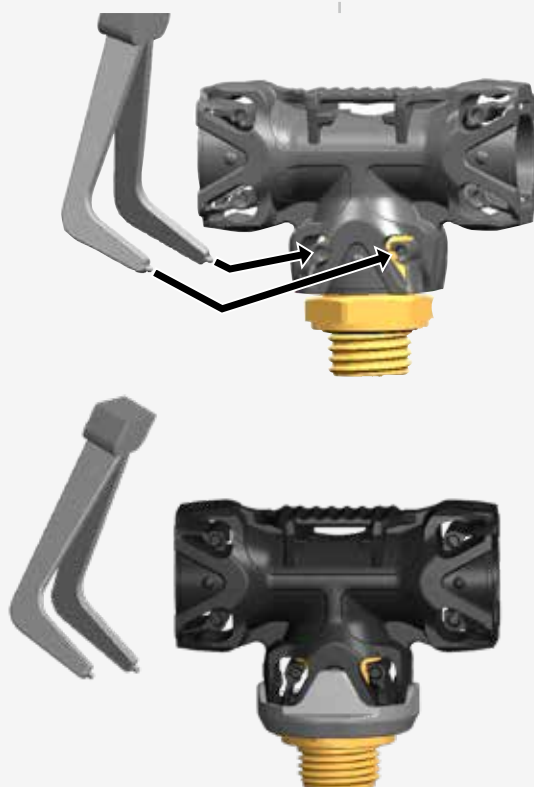
Con l'impiego del sistema Raufoss ABC, è possibile sostituire valvole, serbatoi, ecc, semplicemente smontando il tubo dal raccordo.

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

Repair instructions

Handling of ABC Tube Release Tool

Conseils pour la réparation

Manipulation de l'outil de déconnexion ABC des tubes

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 (a few degrees) 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. If necessary, 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. Please unscrew with a standard wrench.

The Push-In coupling is turning on the tube



1



2 / 3 / 4



5 / 6



7 / 8



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. Il faut le remplacer le cas échéant.
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 en bon état, dans le cas contraire il convient de couper le bout du tube.
10. Si nécessaire, 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 de dévisser le raccord connecté au tube en utilisant une clé standard.

Les unions mâles sont en libre rotation sur les tubes.

Reparatur Hinweise

Handhabung des ABC Rohr Demontage Werkzeug

1. Drücken Sie das Rohr bis zum Anschlag in die Verschraubung zu lösen Klemmring.
2. Prüfen, ob das Lösewerkzeug unbeschädigt ist, gegebenenfalls ersetzen.
3. Überstülpen des Lösewerkzeuges um das Rohr.
4. Schlissen sie das Werkzeug zwischen Lösewerkzeug und Rohr.
5. Drücken des Lösewerkzeugs in die Verschraubung bis auf dem Rand der Verschraubung, wenden keine große Kraft auf.
6. Silikonspray kann zum leichteren Einführen des. Lösewerkzeuges verwendet werden.
7. Halten das Lösewerkzeug fest in der Verschraubung und ziehen das Rohr bei gleichzeitigen leicht 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 Verschmut- zungen 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.

Istruzioni per la sostituzione

Uso dell'utensile di 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.



1



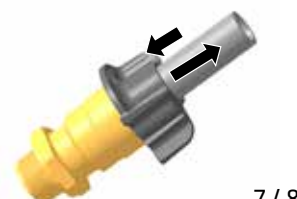
2 / 3 / 4



5 / 6



7 / 8





BRK – 1985



Newline – 2006



Threadless – 2008

Raufoss Couplings™ Evolution

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

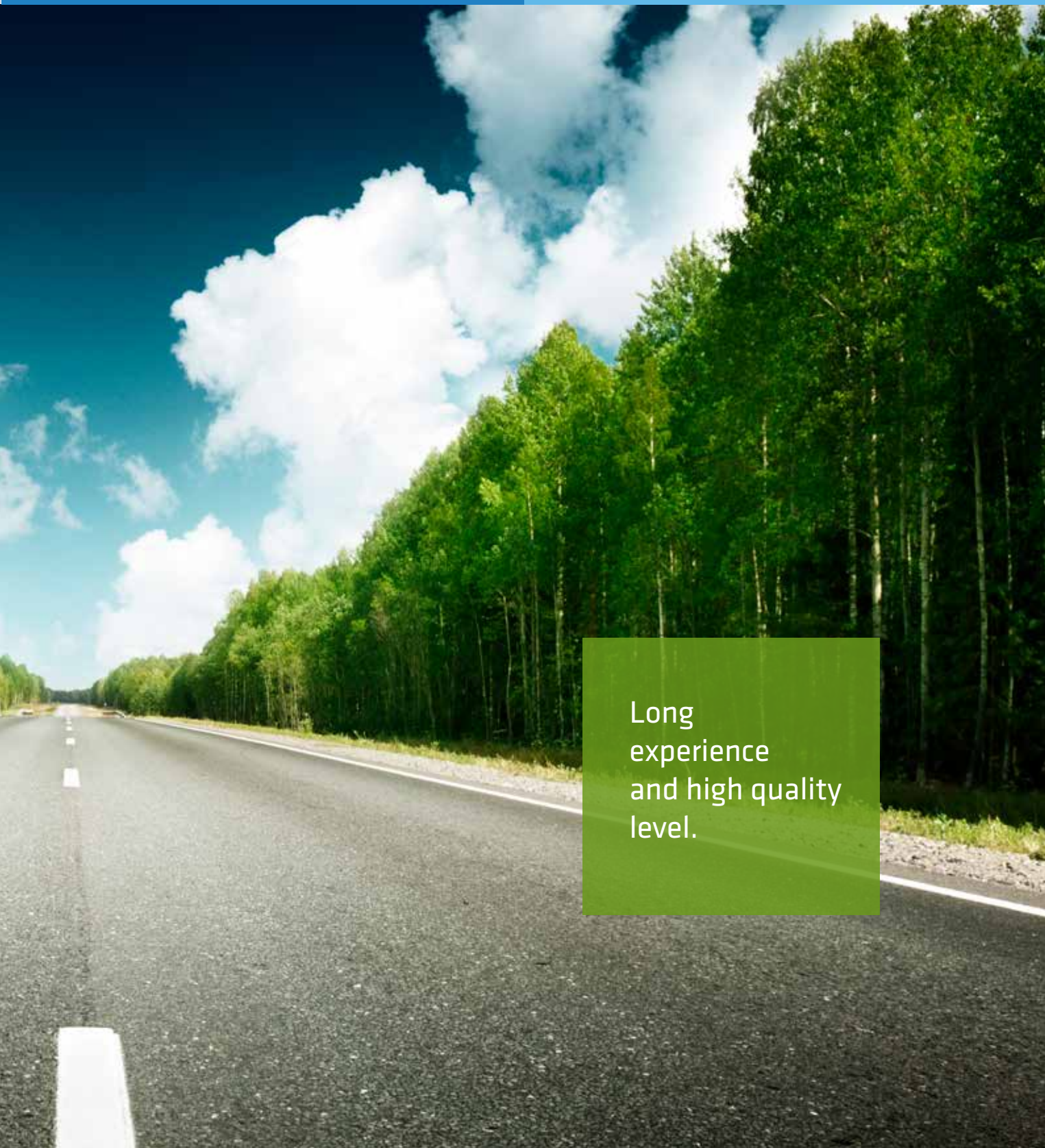




KArtridge – 2008



Weight optimization – 2015



Long
experience
and high quality
level.



Our values

Passionate
Accountable
Prepared

PAGE	GB: CONTENTS	FR: SOMMAIRE	DE: INHALTSVERZEICHNIS	IT: INDICE
62	General information	Généralités	Allgemeine Informationen	Informazioni generali
64	Push-in coupling	Unions mâle	Rohr Verbinder	BRK Giunzione
65	BRK Tube connector	BRK Union double	BRK Rohr Verbinder	BRK Giunzione
66	Plug-in P5	Embases P5	P5 Anschluß Stutzen	Innesto girevole P5
67	P5 Elbow	Coude P5	P5 Bogen	Gomito P5
68	P5 Unions F, L, T/ 3-way block	Té P5	P5 F-, L-, T-Stücke, 3-Weg Winkelblock	P5 Raccordi ad -F, -L, -T, a 3 vie
69-70	P5 4-way cross blocks/ 4-way blocks/ T-union	Croix P5, Té	P5 Kreuzstück, 4-Weg Winkelblock, T-stück	P5 Raccordi a croce a 4 vie, Raccordi a 4 vie
72	Installation instructions	Instructions de montage	Montagehinweise	Istruzioni di installazione
80	Repair instruction	Instructions de réparation	Reparaturhinweise	Istruzioni per l'assistenza
82	Note	Note	Notizen	Note
84	Index	Index	Index	Indice

GB / FR / DE / IT

SYMBOLS – SYMBOLES – SYMBOLE – LEGENDA

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



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



Weight/Poids/Gewicht/Peso [g]

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:

- Plug-ins
- Building Blocks

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 +130°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 o-rings are manufactured from EPDM.

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

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 embases orientables P5
- des pièces de forme (coudes, tés, croix, etc.)

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 130°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 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.

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**.

Attention :

Certains 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:

- P5 Schnellanschlussstutzen
- Formstücke für P5 Schnellanschlüsse

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 +130°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 O-Ringe sind aus EPDM hergestellt.

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

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 girevoli
- Raccordi multipli

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

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

La temperatura d'esercizio dell'intero sistema di raccordi è compresa tra -40°C e + 100°C con picchi fino a +130°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.

Gli o-ring sono EPDM.

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

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:

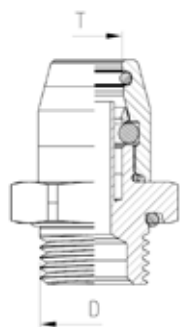
Alcuni componenti presenti in questo catalogo, sono solo disponibili presso la Kongsberg Raufoss Distribution SAS in Francia.

GB: BRK Push-in Coupling

DE: BRK Gerader Steckverbindung

FR: BRK Union mâle

IT: BRK Raccordo ad innesto rapido



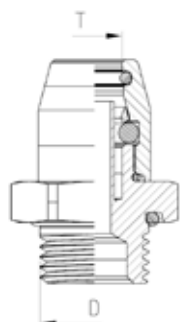
Article no.	T	D				
623 7190	4 x 1	M 10 x 1		16	275	19
623 7192	4 x 1	M 12 x 1,5		18	275	22
623 7476	18 x 2	M 16 x 1,5		28	50	98
623 7477	18 x 2	M 22 x 1,5		28	50	99
623 7478	18 x 2	M 26 x 1,5		32	40	131

GB: BRK Push-in Coupling

DE: BRK Gerader Steckverbindung

FR: BRK Union mâle

IT: BRK Raccordo ad innesto rapido



Article no.	T	D				
623 7101 **	1/4"	1/8 NPTF		14	250	25
623 7102 **	1/4"	1/4 NPTF *		16	200	34
623 7110 **	1/4"	M 10 x 1		16	275	22
623 7112	1/4"	M 12 x 1,5		18	225	26
623 7116	1/4"	M 16 x 1,5		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"	M 10 x 1,0		18	150	39
623 7132	3/8"	M 12 x 1,5		18	150	44
623 7136	3/8"	M 16 x 1,5		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 7156	1/2"	M 16 x 1,5		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"	M 16 x 1,5		26	65	65
623 7177	5/8"	M 22 x 1,5		28	50	95

* GB: Without o-ring sealing against port

* DE: Ohne O-Ring Dichtung am Gewinde

* FR: Sans joint torique

* IT: Senza o-ring su filletto

** GB: No standard article; please ask for availability.

** DE: Kein Standardartikel, bitte Verfügbarkeit nachfragen.

** FR: Article sur demande, merci de vérifier la disponibilité.

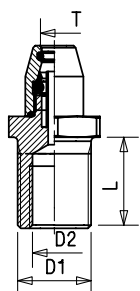
** IT: Articolo a richiesta

GB: BRK push-in coupling, for bulkhead

FR: BRK Union mâle, passe-cloison

DE: BRK Gerade Steckverbindung, mit Schottstutzen

IT: Raccordo ad innesto rapido, con passaparete



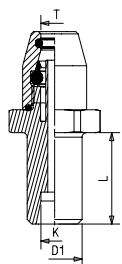
Article no.	T	D1	D2	L			
623 7208	6 x 1	M 18 x 1,5	M 12 x 1,5	22	22	100	57
623 7246	8 x 1	M 16 x 1,5	M 10 x 1	20	20	110	48

GB: BRK Push-in coupling, with 24° cone for bulkhead

FR: BRK Union mâle, passe-cloison avec cône 24°

DE: BRK Gerade Steckverbindung, mit Schottstutzen und 24°-Konus

IT: Raccordo ad innesto rapido, con passaparete e cono 24°



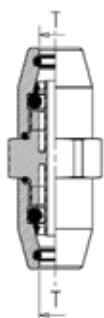
Article no.	T	D1	K	L			
623 7202	6 x 1	M 12 x 1,5	K 24°-6	20	18	175	37
623 7224	8 x 1	M 14 x 1,5	K 24°-8	20	18	130	47
623 7385	12 x 1,5	M 18 x 1,5	K 24°-12	34	22	40	106

GB: BRK Tube connector

FR: BRK Union double

DE: BRK Rohr Verbinder

IT: Giunzione



* For tube diameter 6, 8 and 12, please refer to ABC tube connectors, page 15

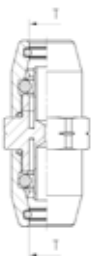
Article no.	T					
623 7195	4 x 1				200	25
623 7305	10 x 1				80	81
623 7315	10 x 1,25				80	80
623 7325	10 x 1,5				80	81
623 7445	15 x 1,5				40	131
623 7465	16 x 2				40	136
623 7475	18 x 2				40	151
623 7115	1/4"				180	40
623 7135	3/8"				100	68
623 7155	1/2"				60	100
623 7175	5/8"				40	140

GB: Tube Connector with flow reduction

FR: Réducteur de débit

DE: Rohrverbinder mit Reduzierung

IT: Riduttore di flusso



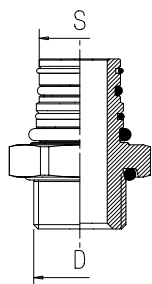
Article no.	T					
623 7226	8 x 1				200	25

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	G 1/4"			20	125	33
623 7026	P 5	R 3/8"			20	100	39
623 7027	P 5	R 1/2"			22	100	63
623 7010	P 5	M 10 x 1,0			17	175	25
623 7012	P 5	M 12 x 1,5			17	150	29
623 7014	P 5	M 14 x 1,5			20	150	30
623 7016	P 5	M 16 x 1,5			22	125	33
623 7017	P 5	M 22 x 1,5			28	75	48
623 7019	P 5	M 26 x 1,5			32	59	77

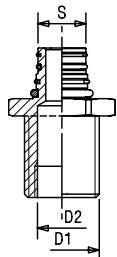
* Without o-ring sealing against port/Sans joint torique/
Ohne O-Ring Dichtung am Gewinde/Senza o-ring su filetto

GB: Plug-in P5, for bulkhead

DE: P5 Anschluß-Stutzen, mit Schottstutzen

FR: Embase P5, passe-cloison

IT: Innesto girevole P5, con passaparete



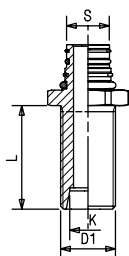
Article no.	S	D1	D2	L			
623 7043	P 5	M 22 x 1,5	3/8 NPTF	20	28	50	57
623 7036	P 5	M 22 x 1,5	M 16 x 1,5	24	28	50	75

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

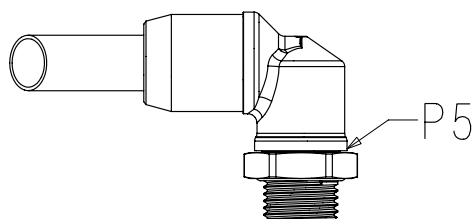
DE: P5 Anschluß-Stutzen, mit Schottstutzen und 24°-Konus

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	M 18 x 1,5	K24°-12	24	28	60	75



GB: Please refer to assembly instructions on page 72/73 for limitations of use.

FR: Veuillez faire attention aux instructions de montage sur les pages 72/73.

DE: Bitte beachten Sie die Montagehinweise auf Seite 72/73.

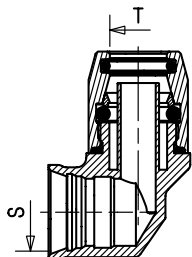
IT: Leggere attentamente i consigli per il montaggio a pagg. 72/73.

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



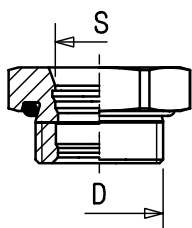
Article no.	T	S						
623 6816	6 x 1	P 5					125	41
623 6826	8 x 1	P 5					100	53
623 6991	10 x 1	P 5					80	62
623 6814	10 x 1,25	P 5					70	62
623 6824	10 x 1,5	P 5					80	63
623 6836	12 x 1,5	P 5					75	68
623 6992	15 x 1,5	P 5					40	94
623 6993	15 x 2	P 5					40	89
623 6840	16 x 2	P 5					40	92

GB: Connector, for plug-in P5

DE: Verbinder, für P5 Anschluß

FR: Adaptateur, pour embase P5

IT: Adattatore, per innesto girevole P5



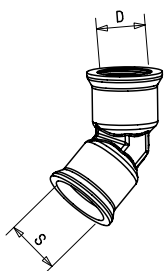
Article no.	S	D						
623 7057	P 5	M 22 x 1,5					28	130

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



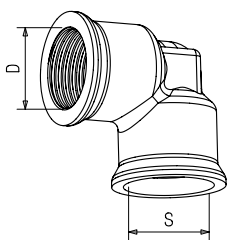
Article no.	S	D						
623 6832	P 5	M 16 x 1,5					80	43

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



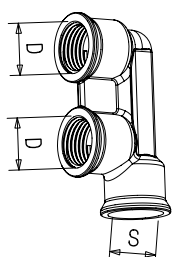
Article no.	S	D						
623 6803	P 5	M 12 x 1,5					80	58
623 6833	P 5	M 16 x 1,5					90	45

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



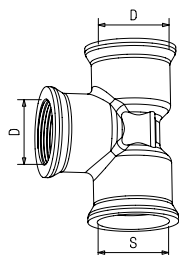
Article no.	S	D					
623 6845	P 5	M 16 x 1,5				40	68

GB: Union T, 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



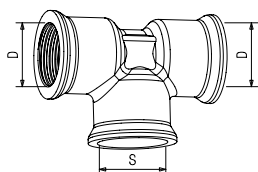
Article no.	S	D					
623 6804	P 5	M 12 x 1,5				50	86
623 6834	P 5	M 16 x 1,5				50	61

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	M 12 x 1,5				50	86
623 6835	P 5	M 16 x 1,5				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



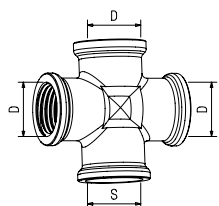
Article no.	S	D					
623 6846	P 5	M 16 x 1,5				50	66

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



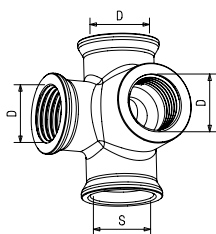
Article no.	S	D						
623 6838	P 5	M 16 x 1,5					40	78

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



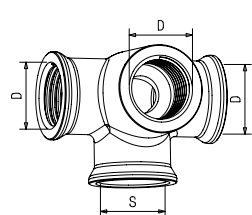
Article no.	S	D						
623 6839	P 5	M 16 x 1,5					35	80

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



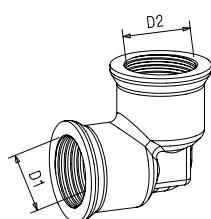
Article no.	S	D						
623 6837	P 5	M 16 x 1,5					35	80

GB: 90° Elbow, 2 x thread

DE: 90°-Bogen, 2 x Gewinde

FR: Coude 90°, taraudé

IT: Gomito a 90°, con 2 filettature



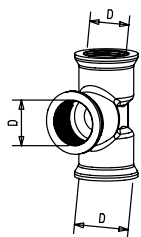
Article no.	D1	D2						
623 7823	M 12 x 1,5	M 12 x 1,5					100	47
623 7862	M 16 x 1,5	M 16 x 1,5					80	52
623 7865	M 16 x 1,5	M 18 x 1,5					70	58
623 7867	M 22 x 1,5	M 22 x 1,5					40	80

GB: Union T, 3 x thread

DE: T-Stück, 3 x Gewinde

FR: Té taraudé, 3 filetages

IT: Raccordo a T, con 3 filettature



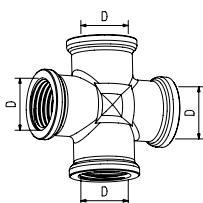
Article no.	D							
623 7825	M 12 x 1,5						80	64
623 7864	M 16 x 1,5						50	68
623 7868	M 22 x 1,5						30	95

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



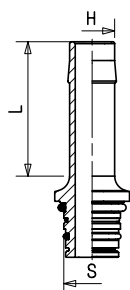
Article no.	D							
623 7828	M 16 x 1,5						40	81

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	P 5s		40	100	32		
623 7047	13	P 5s		40	100	44		

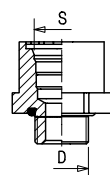
Remarks: Kindly use the counterparts 623 7044 or 623 7045.
 Remarques: Ne s'utilise qu'avec les adaptateurs 623 7044, 623 7045.
 Hinweis: Bitte nur die Gegenstücke 623 7044, 623 7045 benutzen.
 Nota: Da utilizzare con i particolari 623 7044, 623 7045.

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						
623 7044	P 5	M16 x 1,5				26	80	55
623 7045	P 5	M 22 x 1,5				28	75	62

RAUFOSS ABC™ MANIFOLD & MULTICONNECTORS

“Customer tailor made solutions”

Raufoss ABC™ system has opened a new way of thinking and building air couplings systems. Innovative initial products, advanced molding and assembly technology has opened several new and cost saving solutions. Standard ABC™ components in combination with customer cooperation have resulted in optimal total design.

Features & Benefits:

- Fully ABC™ compatibility
- Poka-yoke based connection
- Customer specific marking of ports and Manifold fixation
- Different housing materials approved
- Flexible design
- Total cost saving
- Integrated sealing on demand
- Automation gives cost competitive solutions
- Suited for fast assembly in assembly line

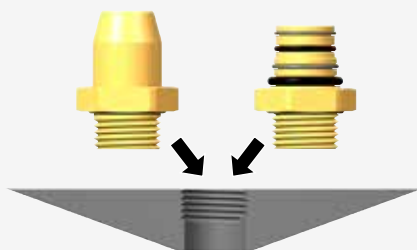


Parallel thread

Assembly information

Rapides Métriques

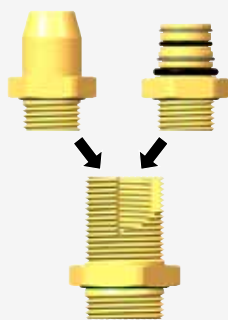
Instructions de montage



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 are 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	
	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 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
	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	

* The recommended torques are based on threads without lubrication. The recommended torques apply to ports of aluminum, 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.

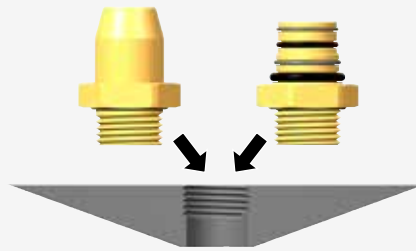
** Veuillez également ne pas dépasser le couple de serrage maximum pour les valves, bouteilles d'air etc.

Parallel Gewinde

Montagehinweise

Sistema Metrico

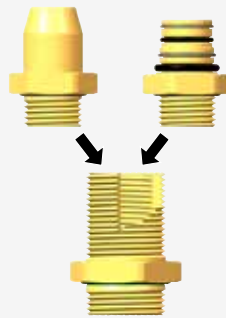
Istruzioni di installazione



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

* 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.

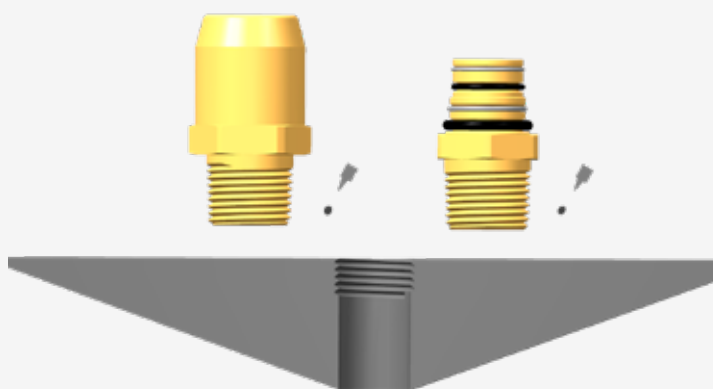
** Considerare anche la coppia di serraggio massima prevista per il componente, serbatoio aria, valvola, etc.

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

* The recommended torques are based on threads without lubrication. The recommended torques apply to ports of aluminum, 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.

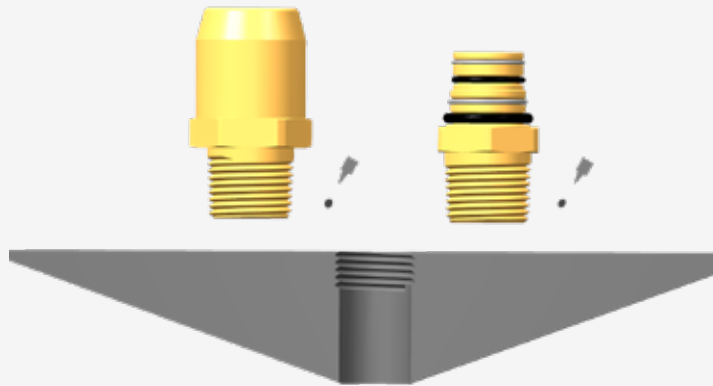
** Veuillez également ne pas dépasser le couple de serrage maximum pour les valves, bouteilles d'air etc.

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.

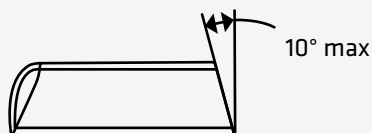
* Le coppie consigliate si riferiscono a filettature senza lubrificazione. Le coppie consigliate si riferiscono a sedi in alluminio, ottone o acciaio. Raccomandiamo l'uso di una chiave dinamometrica.

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

Tube assembly

Assembly information

The tube has to be cut with a tube cutter by 90°. A maximum deviation of 10° is allowed. The tube end must be free of marks, stickers etc.



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:

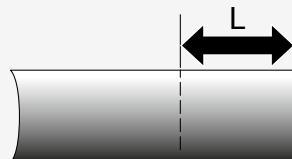
1. Grip: Passing the grip ring.
2. Seal: Passing the O-ring main seal. When the tube has passed the grip ring, no slip out of tube is possible. Before reaching the mechanical stop at the full push-in length, a small mechanical clip will be released, giving a distinct assembly feeling and securing correct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

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

3. Pull back the tube by hand to secure the assembly
Customer decision depending of the criticality level of the application.

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) a measurable controlled leakage will occur, and an audible whistle can be heard. 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'extrémité du tube doit être exempte de toute trace de détérioration, d'adhésifs, etc.



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.

- 1ère phase: Tirez manuellement sur le tube pour s'assurer du bon emmanchement. La décision du client dépendra du niveau de criticité de l'application.

Pour un contrôle visuel de la longueur d'emmanchement, mentionnée sur le tableau 3, une marque peut être apposée sur le tube. Si le tube n'est pas emmanché correctement, cela provoquera une fuite qui sera détectable par un sifflement sonore. 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 $12 \times 1,5$ pour une connexion entre essieu et châssis.

TABLE 2

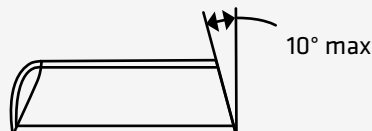
Ø External tube Ø Ext. du tube	Push- in length Longueur d'emmanchement	Max. push-in force Force Maximale
4 mm	17,2 mm	70 N
6 mm	19,5 mm	80 N
8 mm	20,5 mm	90 N
9 mm	22,1 mm	95 N
10 mm	24,0 mm	100 N
11 mm	23,0 mm	105 N
12 mm	25,0 mm	110 N
15 mm	27,0 mm	125 N
16 mm	27,0 mm	130 N
18 mm	27,0 mm	130 N
25 mm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

TABLEAU 2

Montage des Rohres

Montagehinweise

Die Rohre werden rechtwinklig mit einem Rohrschneider abgeschnitten. Eine max. Abweichung von 10° ist zulässig. Das Rohrende muss frei sein von Beschädigungen, Aufklebern usw.



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:

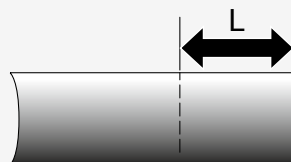
Stufe 1: Passieren des Klemmrings.

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

Stufe 3: Die maximale Einsteckkraft entnehmen sie bitte der Tabelle 3, der übliche Serienwert beträgt 2/3 dieser Kräfte.

Für eine visuelle Kontrolle kann die Einstecklänge gemäß Tabelle 3 auf den Rohren gekennzeichnet werden. Wenn das Rohr nicht korrekt gesteckt ist, tritt eine messbare, kontrollierte Leckage auf, ein Pfeifton zur Lokalisierung. In Abhängigkeit von Rohrabmessung kann es unter Druck nachgesteckt werden.

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



Inserimento del tubo

Istruzioni di installazione

Il tubo deve essere tagliato con una taglierina effettuando un taglio netto. E' tollerato uno scostamento max di 10°. L'estremità del tubo deve essere libera da marcate, adesivi, ecc.



Il tubo può essere innestato a mano e senza l'ausilio di attrezzature.

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

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

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

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

3. Per verificare l'avvenuto aggancio, tirare SEMPRE il tubo prima di rilasciarlo. Operazione a discrezione del Cliente secondo il livello di sicurezza richiesto.

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 ha una piccola perdita controllata udibile per un sibilo. Talvolta è possibile completare l'operazione di montaggio del tubo anche con l'impianto in pressione.

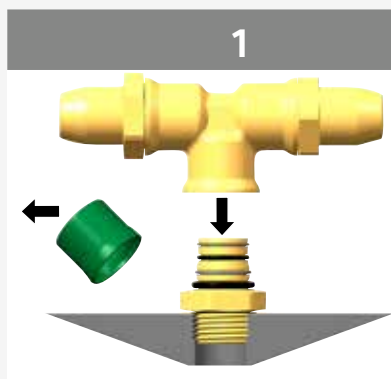
Per collegamenti tra telaio e ponte è consigliabile l'impiego di tubazioni ≤ 12x1,5.

	Ø Rohr-Außen Ø Esterno 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.

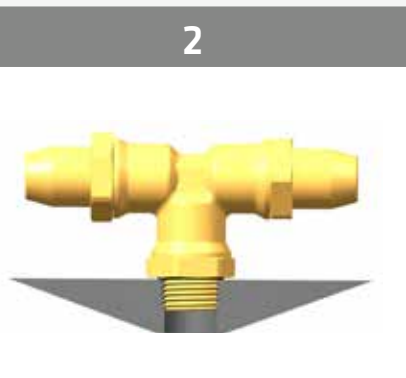
The thread of the plug-in shall be tightened with the necessary torque. The protective cap should be left in place, and only removed when installing the mating part.

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.



Le groupe Kongsberg Automotive décline donc toute responsabilité dans le cas où il serait fait usage d'un composant P5 (corps ou embase) avec des pièces en provenance d'autres marques.

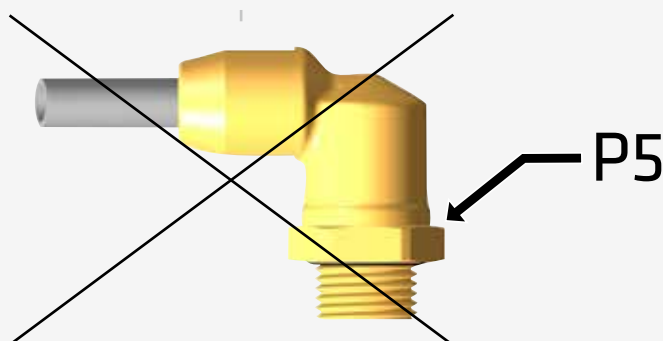
Par ailleurs l'attention de l'utilisateur est attirée sur le fait que si le système d'embases a pour but :

- permettre le montage aisé des raccords et le démontage (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

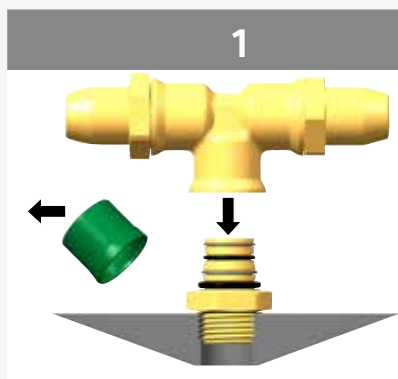
ATTENTION

- 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.

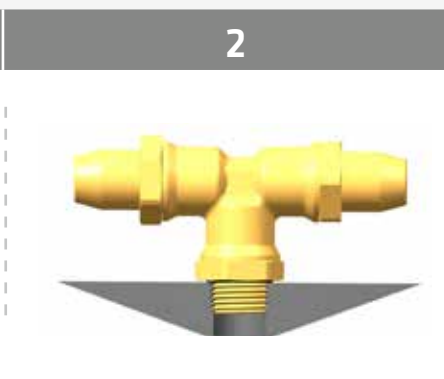
Das Einschrauben des Stutzens erfolgt mit dem erforderlichen Drehmoment. Die Schutzkappe wird unmittelbar vor dem Aufsetzen des Gegenstücks entfernt.

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.



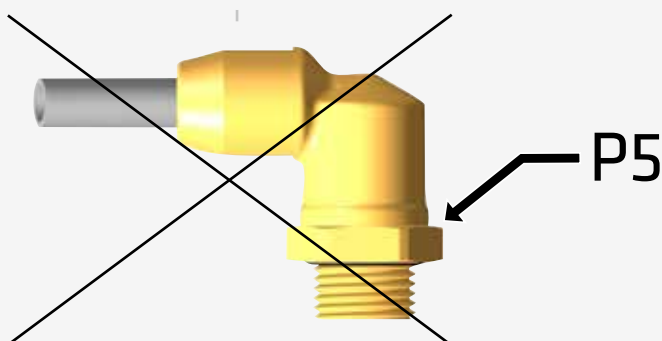
Il raccordo femmina ed il raccordo maschio formano un'unica unità girevole onde facilitarne il posizionamento. I due particolari vengono uniti manualmente.

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



ACHTUNG

Die P5 Verbindung darf nicht verwendet werden als

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

Tra telaio e ponte

Istruzioni di installazione

ATTENZIONE

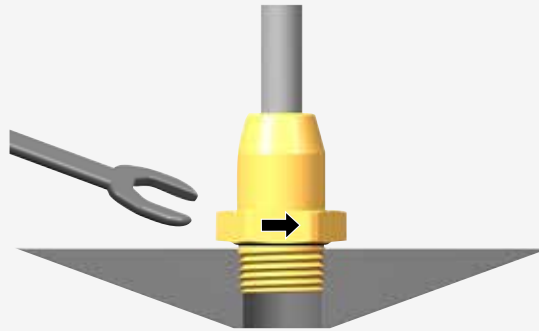
Il raccordo P5 non è idoneo per le seguenti applicazioni

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

Repair instructions

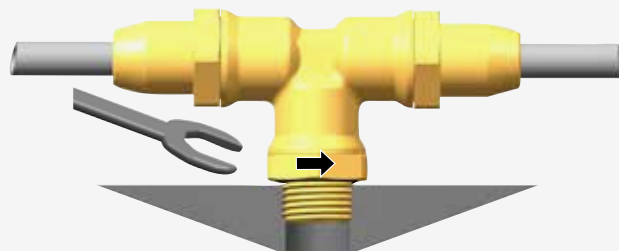
Assembly information

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



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

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



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

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

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

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

Instructions de réparation

Instructions de montage

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

- Le raccord rapide est 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.

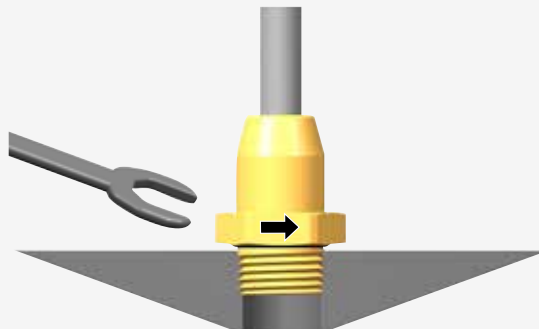
En cas de réutilisation forcée, ex. réparation d'urgence, veuillez respecter scrupuleusement la procédure suivante :

- 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

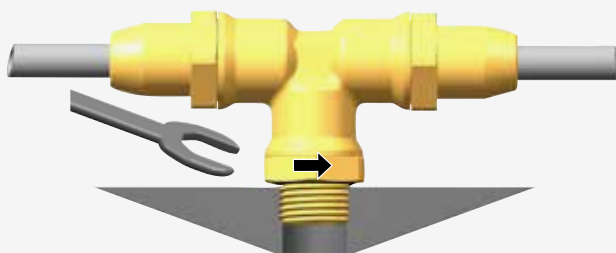
Montagehinweise

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 Rohrzanze 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.

[illegible]

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Enhancing the driving experience

