



RAUFOSS COUPLINGS® PRODUCT CATALOG



KONGSBERG
AUTOMOTIVE

Raufoss®
COUPLINGS



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RAUFOSS ABC ASSEMBLY INFORMATION

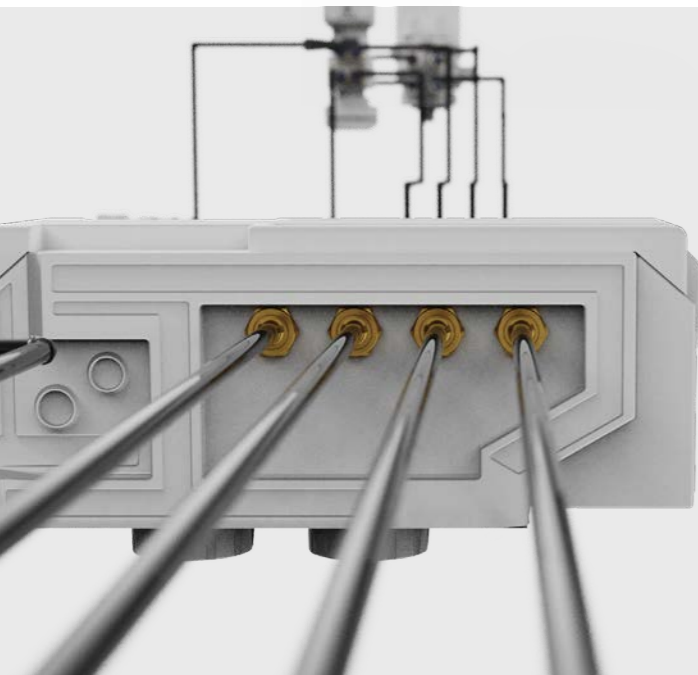
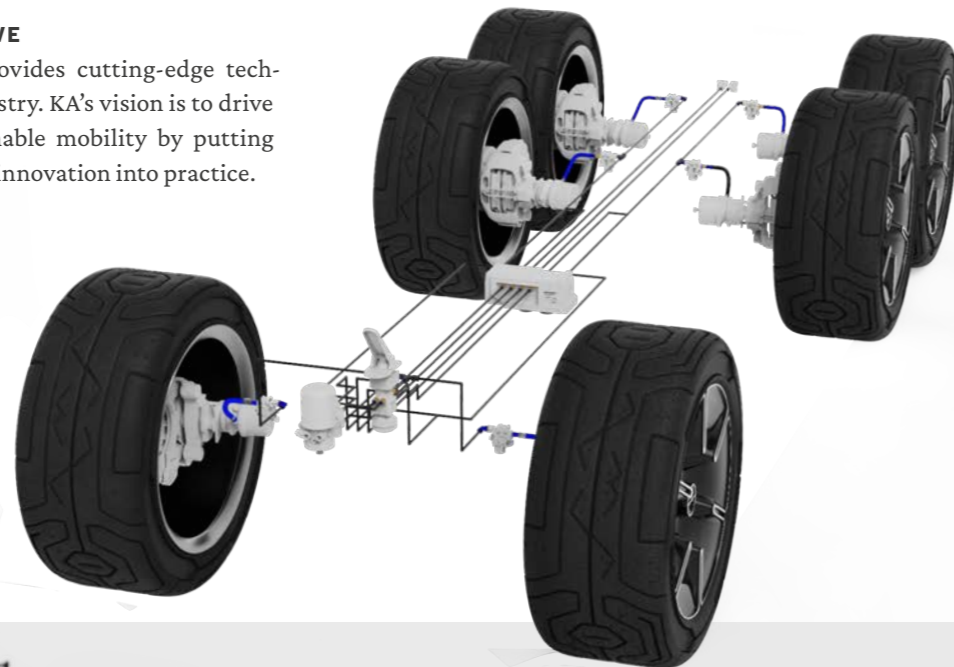
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RAUFOSS ABC™ SYSTEM

ABOUT KONGSBERG AUTOMOTIVE

Kongsberg Automotive (KA) provides cutting-edge technology to the global vehicle industry. KA's vision is to drive the global transition to sustainable mobility by putting engineering, sustainability, and innovation into practice.

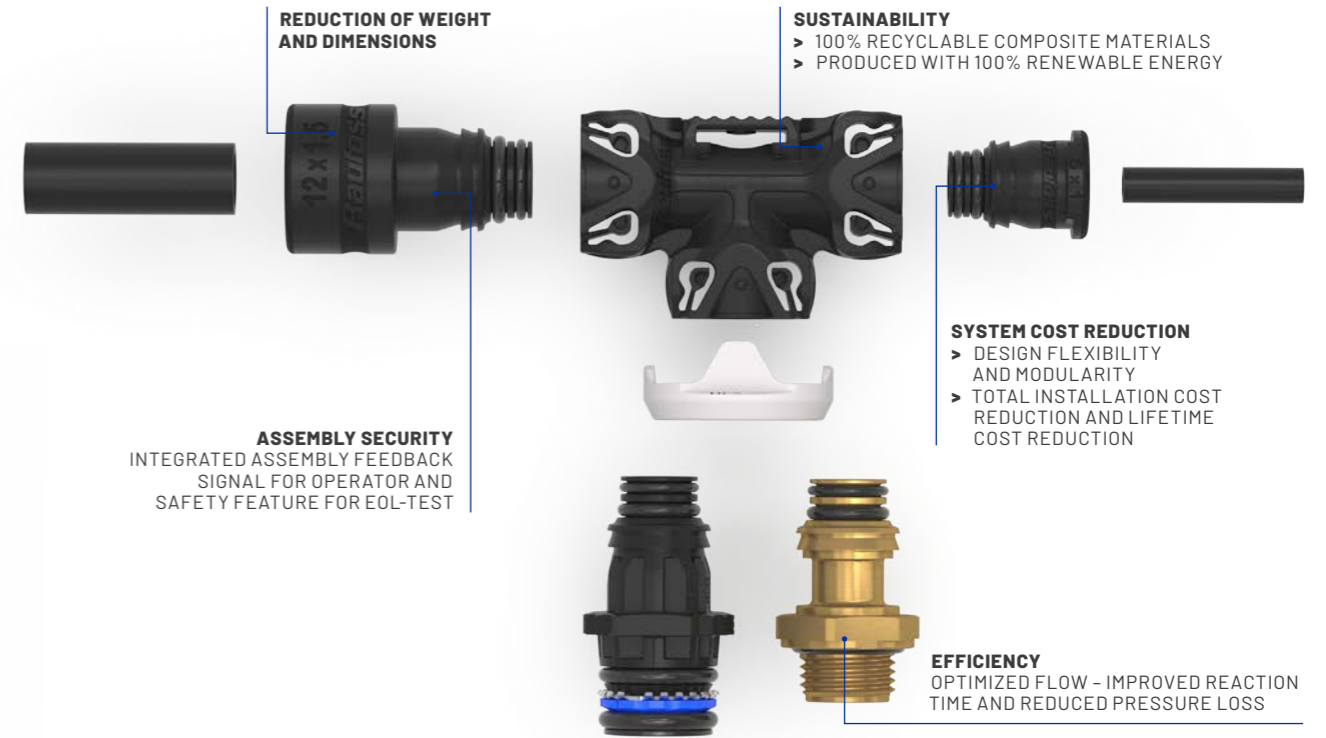


RAUFOSS ABC COUPLINGS™

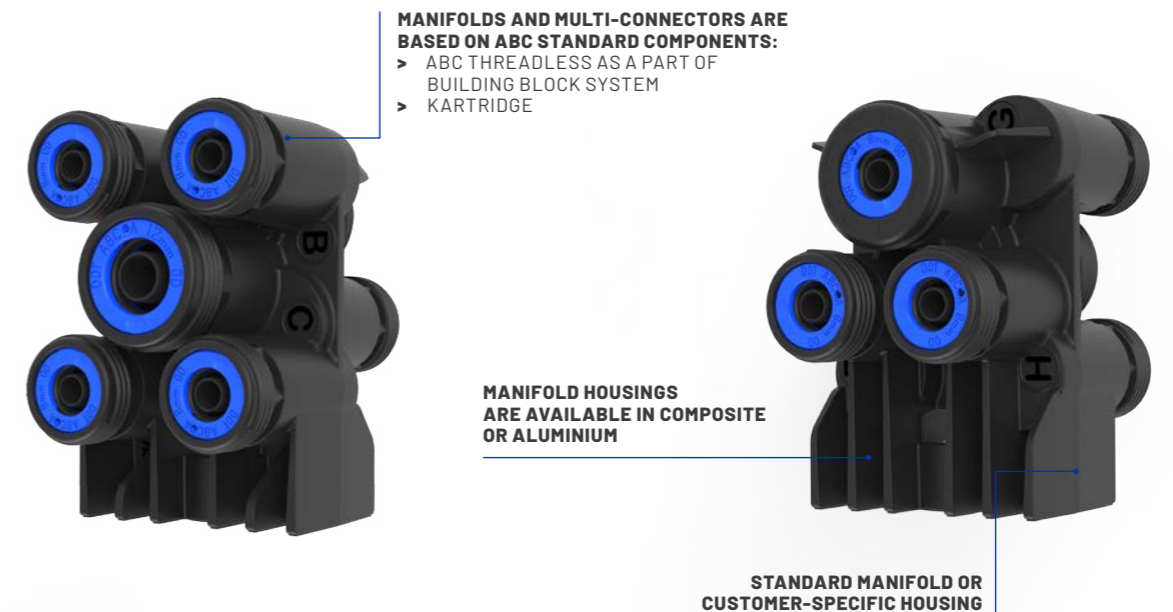
Raufoss ABC Couplings from Kongsberg Automotive are designed to perform reliably throughout the entire lifetime of the vehicle. Built for commercial vehicles, the modular Raufoss ABC System ensures high airflow efficiency and minimal pressure loss. With a strong focus on durability, safety, and flexibility, these couplings help lower total lifetime costs and keep vehicles operating at peak performance for longer.

IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.

ABC PUSH-IN COUPLINGS ABC BUILDING BLOCK SYSTEM



MANIFOLDS AND MULTICONNECTORS



IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.

GENERAL SYSTEM INFORMATION

Kongsberg Automotive, in cooperation with leading commercial vehicle manufacturers, has developed and is producing an air coupling system made from composite materials and brass. The Raufoss Couplings® ABC system is designed for use with polyamide tubing in compressed air circuits on commercial vehicles and meets all global requirements.

- The thoughtfully engineered and refined ABC coupling system consists of the following components:
 - » **ABC Push-In couplings**
 - » ABC Newline™
 - » ABC Tube Connector™
 - » **ABC Building Block System**
 - » ABC Swivel™
 - » ABC Threadless™
 - » ABC Integral™
 - » ABC Union™
 - » **Manifold and Multiconnector**
 - » ABC Manifolds™
 - » ABC Multi-connectors™
 - » **Complementary**
 - » Bulkhead couplings
 - » Test Point
 - » Drain Plug
 - » Hose nipple
 - » **Accessories**

- Raufoss Couplings® ABC are suitable for use with polyamide (PA11, PA12) and HYTREL tubing in accordance with the following standards:

- » ISO 7628
- » DIN 74324 (DIN 73378)
- » SAE J844 (inch sizes only)

For other product requirements, use of tubing materials such as PA6.10, PA10.10, PA10.12, or multilayer tubing in accordance with ISO 7628, please contact us for detailed approvals.

- Operating conditions:

- » The operating temperature range for ABC couplings is from -40°C to +100°C, with peak temperatures up to +130°C (without pressure, for periods of up to approximately 2 hours).

- » The maximum operating pressure for ABC couplings is 12.5 bar. Please ensure that the maximum allowable operating pressure of the tubing and other system components is also taken into consideration.

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

- Kongsberg Automotive's quality system is approved in accordance with the following international standards:

- » IATF 16949
- » ISO 14001
- » ISO 9001:2015

For any specific requirements, product applications, or technical support, please contact Kongsberg Automotive, or your authorized distributor for individual consultation.

TABLE 1

PRODUCT	MATERIAL DESIGNATION ¹
BRASS	EN 12 164 CW614N (CuZn39Pb3)
COMPOSITE	PA12 GF50
O-RINGS	EPDM

1) Unless otherwise specified

IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.

INFORMATIONS GÉNÉRALES SUR LE SYSTÈME

Kongsberg Automotive, en collaboration avec les principaux fabricants de véhicules utilitaires, a développé et produit un programme de raccords pneumatiques fabriqué en matériaux composites et en laiton. Le système ABC de Raufoss Couplings® est conçu pour être utilisé avec des tubes en polyamide dans les circuits d'air comprimé des véhicules utilitaires et répond à toutes les exigences internationales.

- Le système de raccords ABC, conçu avec soin et raffinement, se compose des éléments suivants:

- » **ABC Push-In Couplings**
 - » ABC Newline™
 - » ABC Tube Connector™
- » **ABC Building Block System**
 - » ABC Swivel™
 - » ABC Threadless™
 - » ABC Integral™
 - » ABC Union™
- » **Manifold And Multiconnector**
 - » ABC Manifolds™
 - » ABC Multi-connectors™
- » **Complementary**
 - » Raccords passe-cloison
 - » Prise de pression
 - » Bouchon de purge
 - » Raccord pour flexible de frein
- » **Accessoires**

- Les raccords ABC de Raufoss Couplings® sont compatibles avec les tubes en polyamide (PA11, PA12) et HYTREL, conformément aux normes suivantes :

- » ISO 7628
- » DIN 74324 (DIN 73378)
- » SAE J844 (tailles en pouces uniquement)

Pour d'autres spécifications de produits, l'utilisation de matériaux pour tubes tels que PA6.10, PA10.10, PA10.12 ou tubes multicouches conformes à la norme ISO 7628, veuillez nous contacter pour obtenir des autorisations détaillées.

- Conditions d'utilisation:

- » La plage de température d'utilisation : -40°C à +100°C, avec des températures de pointe jusqu'à +130°C (sans pression, pendant des environ 2 heures).

- » La pression de service maximale : 12,5 bars. Veuillez tenir compte de la pression maximale admissible des tubes et des autres composants du système.

- L'utilisation des raccords ABC avec des fluides autres que l'air n'est pas autorisée sans approbation écrite préalable.

- Le système qualité de Kongsberg Automotive est approuvé conformément aux normes internationales suivantes :

- » IATF 16949
- » ISO 14001
- » ISO 9001:2015

Pour toute demande spécifique, application produit ou support technique, veuillez contacter Kongsberg Automotive ou votre distributeur agréé pour une consultation personnalisée.

TABLEAU 1

PRODUIT	SPÉCIFICATION DU MATÉRIAU ¹
LAITON	EN 12 164 CW614N (CuZn39Pb3)
COMPOSITE	PA12 GF50
JOINTS TORIQUES	EPDM

1) Sauf mention contraire

IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.

ALLGEMEINE SYSTEMINFORMATIONEN

Als kompetenter Systemlieferant der weltweiten Nutzfahrzeugindustrie hat Kongsberg Automotive in Kooperation mit führenden Nutzfahrzeugherstellern ein Steckverbindungssystem für Kunststoffrohre in der Druckluftanlage von Nutzfahrzeugen entwickelt, das alle globalen Anforderungen erfüllt.

► Das sorgfältig entwickelte und durchdachte ABC Verschraubungssystem besteht aus folgenden Komponenten:

- **ABC Push-In Couplings**
 - ABC Newline™ - Steckverbinder
 - ABC Tube Connector™ - Rohrverbinder
- **ABC Building Block System**
 - ABC Swivel™ - Anschluss-Stutzen
 - ABC Threadless™ - Steckverbinder, gewindelos
 - ABC Integral™ - 90° Steckverbinder
 - ABC Union™ - Baukastenteile
- **Manifold and Multiconnector**
 - ABC Manifolds™ - Verteilerblöcke
 - ABC Multi-connectors™ - Mehrfachverbinder
- **Complementary**
 - Schottverschraubungen
 - Prüfanschluss
 - Entwässerungsventil
 - Schlauchstutzen
- **Zubehörteile**

► Raufoss Couplings® ABC Verschraubungen können für Polyamid-Rohre (PA11, PA12) sowie Hytrel-Rohre der folgenden Normen verwendet werden:

- ISO 7628
- DIN 74324 (DIN 73378)
- SAE J844 (nur Zollgrößen)

Für andere Rohrmaterialien wie PA6.10, PA10.10, PA10.12 oder Mehrschichtrohr nach ISO 7628 kontaktieren Sie uns bitte für detaillierte Freigaben.

► Einsatzbedingungen:

- Der zulässige Betriebstemperaturbereich für ABC Verschraubungen beträgt -40°C bis +100°C, mit einer Spitzentemperatur bis zu +130°C (drucklos, für eine Dauer von ca. 2 Stunden).

- Der zulässige Betriebsdruck für ABC Verschraubungen ist 12,5 bar. Bitte beachten sie den max. zulässigen Betriebsdruck der Rohre und anderen Systemkomponenten.

► Andere Medien als Druckluft dürfen nur mit vorheriger schriftlicher Freigabe verwendet werden.

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

- IATF 16949
- ISO 14001
- ISO 9001:2015

Für weitere spezielle Anforderungen oder Anwendungen der Produkte sowie für technische Unterstützung stehen Ihnen die Anwendungsberater von Kongsberg Automotive oder unsere Händler gerne zur Verfügung.

TABELLE 1

PRODUKT	MATERIALBEZEICHNUNG ¹⁾
MESSING	EN 12 164 CW614N (CuZn39Pb3)
VERBUNDWERKSTOFF	PA12 GF50
O-RINGE	EPDM

1) Sofern nicht anders angeben

INFORMAÇÕES GERAIS DO SISTEMA

A Kongsberg Automotive, em cooperação com os principais fabricantes de veículos comerciais, desenvolveu um sistema de conexões de ar feito de composto de resinas plásticas e latão. O sistema ABC da Raufoss Couplings® foi projetado para uso com tubos de poliamida em circuitos de ar comprimido de veículos comerciais e atende a todos os requisitos globais.

► O sistema de conexões de ar ABC, cuidadosamente projetado, consiste nos seguintes componentes:

- **ABC Push-In Couplings**
 - ABC Newline™
 - ABC Tube Connector™
- **ABC Building Block System**
 - ABC Swivel™
 - ABC Threadless™
 - ABC Integral™
 - ABC Union™
- **Manifold and Multiconnector**
 - ABC Manifolds™
 - ABC Multi-connectors™
- **Complementary**
 - Bulkhead couplings
 - Tomada de teste
 - Tampão de drenagem
 - Conexões para flexível de freio
- **Acessórios**

► As conexões de ar ABC Raufoss Couplings® são adequadas para uso com tubos de poliamida (PA11, PA12) e HYTREL de acordo com os seguintes padrões:

- ISO 7628
- DIN 74324 (DIN 73378)
- SAE J844 (somente em polegadas)

Para outros requisitos de produtos, tubos de outros materiais, como PA6.10, PA10.10, PA10.12 ou tubos multicamadas em conformidade com a norma ISO 7628, entre em contato conosco para obter aprovações detalhadas.

► Condições de uso:

- A faixa de temperatura de uso para as conexões de ar ABC é de -40 °C a +100 °C, com picos de temperatura de até +130 °C (sem pressão, por períodos de até aproximadamente 2 horas).

- A pressão máxima de uso para as conexões de ar ABC é de 12,5 bar. Certifique-se de que a pressão máxima de uso permitida para os tubos e outros componentes do sistema também seja levada em consideração.

► O uso de conexões de ar ABC com fluidos diferentes de ar comprimido não é permitido sem aprovação prévia por escrito.

► O sistema de qualidade da Kongsberg Automotive é aprovado de acordo com as seguintes normas internacionais:

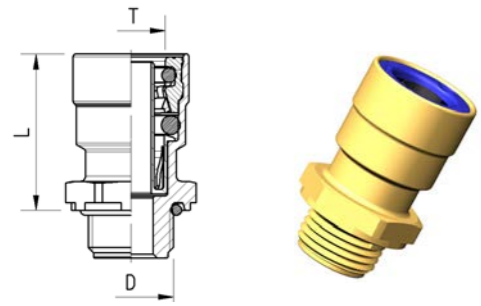
- IATF 16949
- ISO 14001
- ISO 9001:2015

Para quaisquer requisitos específicos, aplicações em produtos ou suporte técnico entre em contato com a Kongsberg Automotive ou seu distribuidor autorizado para uma consulta individual.

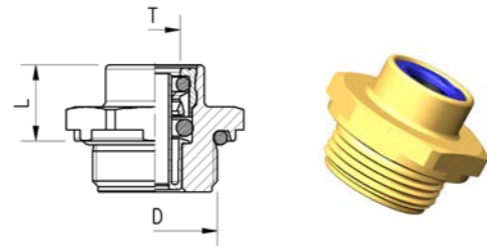
TABELA 1

PRODUTO	ESPECIFICAÇÃO DO MATERIAL ¹⁾
LATÃO	EN 12 164 CW614N (CuZn39Pb3)
COMPÓSITO	PA12 GF50
ANÉIS O	EPDM

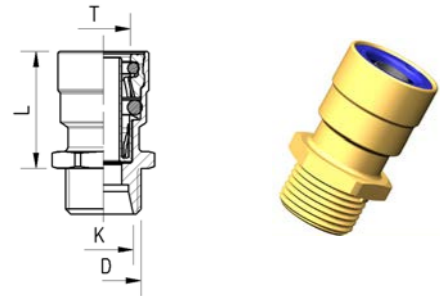
1) Salvo especificação em contrário



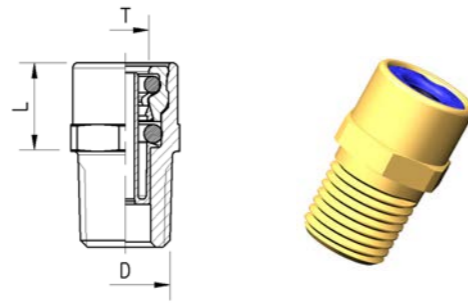
TYPE 1



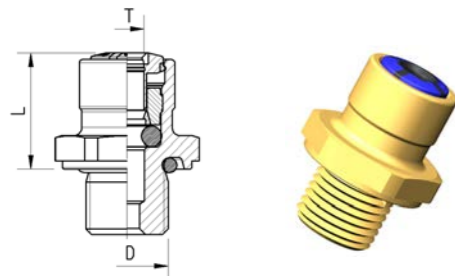
TYPE 2



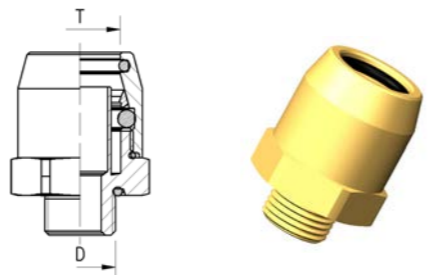
TYPE 3



TYPE 4



TYPE 5



TYPE 6

ABC NEWLINE™ PUSH-IN COUPLING

ABC NEWLINE™ RACCORD PUSH-IN
 ABC NEWLINE™ STECKVERBINDER
 ABC NEWLINE™ COEXÕES DE AR PUSH-IN

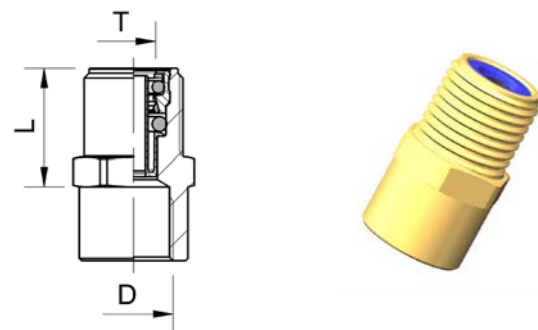
ARTICLE NO.	T	D	L	TYPE	SUPPORT SLEEVE	HEX	WEIGHT [G]
91104007	4x1	M7x1	21	5	./.	15	13
91104010	4x1	M10x1	14	5	./.	16	13
6237190	4x1	M10x1	14	6	./.	16	19
6237192	4x1	M12x1,5	14	6	./.	18	22
90106010	6x1	M10x1	24	1	black	16	20
90106012	6x1	M12x1,5	23	1	black	18	25
90106014	6x1	M14x1,5	16	2	black	20	26
90106016	6x1	M16x1,5	12	2	black	22	29
90106018	6x1	M18x1,5	12	2	black	24	35
90106022	6x1	M22x1,5	12	2	black	28	55
90106004	6x1	M12x1,5 C	22	3	black	16	35
90106029	6x1	1/8"NPTF coated	21	3	black	16	21
90106030	6x1	1/4"NPTF coated	13	4	black	16	21

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ARTICLE NO.	T	D	L	TYPE	SUPPORT SLEEVE	HEX	WEIGHT [G]
90106060	6x1	G1/4"	16	1	black	19	22
90106070	6x1	R1/4"	22	3	black	16	24
90108010	8x1	M10x1	26	1	black	18	24
90108012	8x1	M12x1,5	25	1	black	18	28
90108014	8x1	M14x1,5	24	1	black	20	33
90108016	8x1	M16x1,5	17	2	black	22	30
90108022	8x1	M22x1,5	13	2	black	28	52
90108029	8x1	1/8"NPTF coated	25	3	black	18	25
90108030	8x1	1/4"NPTF coated	23	3	black	20	34
90108031	8x1	3/8"NPTF coated	15	4	black	20	32
90108059	8x1	G1/8"	20	1	black	17	22
90108060	8x1	G1/4"	25	1	black	20	32
90108070	8x1	R1/4"	24	3	black	18	28
90110010	10x1	M10x1	29	1	light grey	20	32
90110012	10x1	M12x1,5	29	1	light grey	20	34
90110014	10x1	M14x1,5	29	1	light grey	20	38
90110016	10x1	M16x1,5	28	1	light grey	22	41
90110022	10x1	M22x1,5	20	2	light grey	28	56
90110112	10x1,25	M12x1,5	29	1	black	20	34
90110114	10x1,25	M14x1,5	28	1	black	20	36
90110116	10x1,25	M16x1,5	28	1	black	22	41
90110122	10x1,25	M22x1,5	20	2	black	28	56
90110130	10x1,25	1/4"NPTF coated	27	3	black	20	43
90110131	10x1,25	3/8"NPTF coated	25	3	black	20	45
90110160	10x1,25	G1/4"	29	1	black	20	38
90110210	10x1,5	M10x1	29	1	dark grey	20	32
90110212	10x1,5	M12x1,5	29	1	dark grey	20	34
90110214	10x1,5	M14x1,5	28	1	dark grey	20	41
90110216	10x1,5	M16x1,5	28	1	dark grey	22	41
90110222	10x1,5	M22x1,5	20	2	dark grey	28	56
90110230	10x1,5	1/4"NPTF coated	27	3	dark grey	20	43
90112010	12x1,5	M10x1	30	1	black	22	36
90112012	12x1,5	M12x1,5	30	1	black	22	39
90112014	12x1,5	M14x1,5	30	1	black	22	42
90112016	12x1,5	M16x1,5	30	1	black	22	43
90112022	12x1,5	M22x1,5	19	2	black	28	50
90112030	12x1,5	1/4"NPTF coated	29	3	black	22	44
90112031	12x1,5	3/8"NPTF coated	29	3	black	22	49
90112061	12x1,5	G3/8"	30	1	black	22	44
90114022	14x2	M22x1,5	23	1	black	28	47
90115014	15x1,5	M14x1,5	33	1	black	28	64
90115016	15x1,5	M16x1,5	33	1	black	28	64
90115022	15x1,5	M22x1,5	23	2	black	28	54
90115026	15x1,5	M26x1,5	23	2	black	28	54
90115072	15x1,5	R1/2"	23	2	black	28	54
90116012	16x2	M12x1,5	33	1	black	28	61
90116014	16x2	M14x1,5	33	1	black	28	63
90116016	16x2	M16x1,5	33	1	black	28	62
90116022	16x2	M22x1,5	30	1	black	28	66

IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.

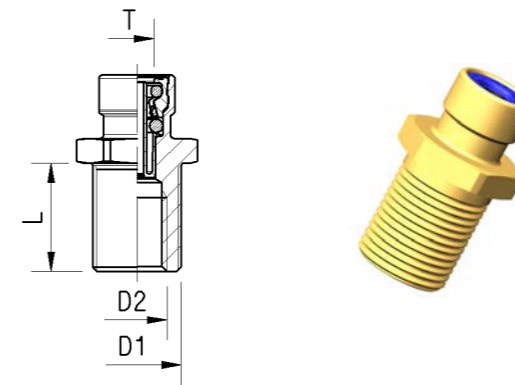
ARTICLE NO.	T	D	L	TYPE	SUPPORT SLEEVE	HEX	WEIGHT [G]
90116026	16x2	M26x1,5	23	2	black	32	66
6237476	18x2	M16x1,5	32	6	brass	28	98
6237477	18x2	M22x1,5	32	6	brass	28	99
6237478	18x2	M26x1,5	32	6	brass	32	131
90163510	1/4"	M10x1	24	1	light grey	16	21
90163512	1/4"	M12x1,5	13	1	light grey	20	35
90163516	1/4"	M16x1,5	13	2	light grey	22	40
90163529	1/4"	1/8"NPTF coated	22	3	light grey	16	21
90163530	1/4"	1/4"NPTF coated	13	4	light grey	16	23
90163531	1/4"	3/8"NPTF coated	8	4	light grey	20	29
90195310	3/8"	M10x1	29	1	light grey	20	31
90195312	3/8"	M12x1,5	29	1	light grey	20	34
90195316	3/8"	M16x1,5	26	1	light grey	22	40
90195322	3/8"	M22x1,5	17	2	light grey	28	54
90195330	3/8"	1/4"NPTF coated	26	3	light grey	20	40
90195331	3/8"	3/8"NPTF coated	16	4	light grey	20	34
90195332	3/8"	1/2"NPTF coated	10	4	light grey	22	41
90112716	1/2"	M16x1,5	31	1	light grey	24	50
90112722	1/2"	M22x1,5	20	2	light grey	28	50
90112731	1/2"	3/8"NPTF coated	36	3	light grey	24	54
90112732	1/2"	1/2"NPTF coated	18	3	light grey	24	52
90115916	5/8"	M16x1,5	33	1	light grey	28	63
90115922	5/8"	M22x1,5	30	1	light grey	28	66
90115932	5/8"	1/2"NPTF coated	30	3	light grey	28	84
90119122	3/4"	M22x1,5	34	1	light grey	32	90



ABC NEWLINE™ PUSH-IN WITH BULKHEAD

ABC NEWLINE™ RACCORD PUSH-IN AVEC PASSE-CLOISON
 ABC NEWLINE™ STECKVERBINDER MIT SCHOTTSTUTZEN
 ABC NEWLINE™ COEXÕES DE AR PUSH-IN COM ANTEPARO

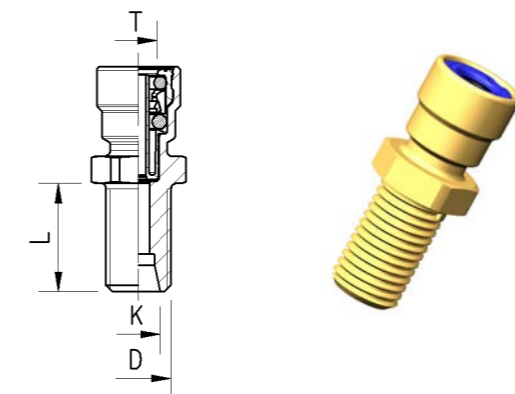
ARTICLE NO.	T	D1	D2	L	SUPPORT SLEEVE	HEX	WEIGHT
90908120	8x1	M20x1,5	M16x1,5	18	black	22	65



ABC NEWLINE™ PUSH-IN WITH BULKHEAD

ABC NEWLINE™ RACCORD PUSH-IN AVEC PASSE-CLOISON DOUBLE FILETAGE
 ABC NEWLINE™ STECKVERBINDER MIT SCHOTTSTUTZEN
 ABC NEWLINE™ COEXÕES DE AR PUSH-IN COM ANTEPARO

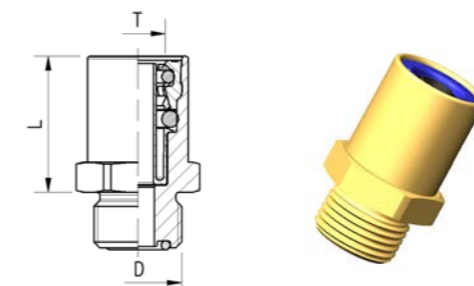
ARTICLE NO.	T	D1	D2	L	SUPPORT SLEEVE	HEX	WEIGHT
90906118	6x1	M18x1,5	M12x1,5	22	black	22	52
90908116	8x1	M16x1,5	M10x1	20	black	20	40
90912722	1/2"	M22x1,5	3/8" NPTF	22	light grey	28	82



ABC NEWLINE™ PUSH-IN WITH BULKHEAD AND 24° CONE CONNECTION

ABC NEWLINE™ RACCORD PUSH-IN AVEC PASSE-CLOISON ET RACCORD CONIQUE 24°
 ABC NEWLINE™ STECKVERBINDER MIT SCHOTTSTUTZEN UND 24°-KONUS
 ABC NEWLINE™ COEXÕES DE AR PUSH-IN COM ANTEPARO E CONEXÃO CÔNICA 24°

ARTICLE NO.	T	D	K	L	L1	SUPPORT SLEEVE	HEX	WEIGHT
90906212	6x1	M12x1,5	24°- 6	42	20	black	16	31
90908214	8x1	M14x1,5	24°- 8	45	22	black	18	42
90912218	12x1,5	M18x1,5	24°- 12	45	22	black	18	42



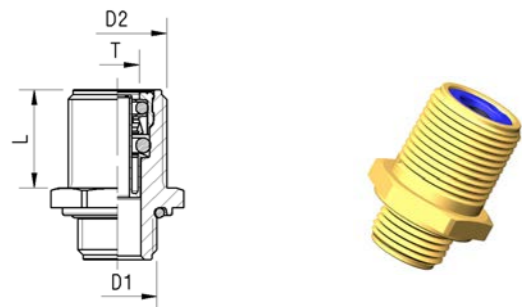
ABC NEWLINE™ PUSH-IN WITH FACE SEAL SAE J1453

ABC NEWLINE™ RACCORD PUSH-IN AVEC JOINT À FACE PLANE SAE J1453
 ABC NEWLINE™ STECKVERBINDER MIT KOPFDICHTUNG (NACH SAE J1453)
 ABC NEWLINE™ COEXÕES DE AR PUSH-IN COM SELAGEM SAE J1453 (VEDAÇÃO DE FACE)

ARTICLE NO.	T	D1	L	TYPE	SUPPORT SLEEVE	HEX	WEIGHT
96800024	10x1,25	11/16"-16 UN	24	1	black	22	56

IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.

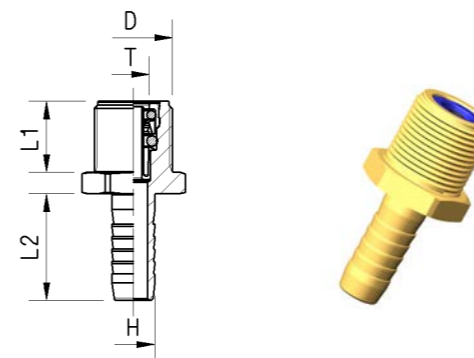
IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.



ABC NEWLINE™ PUSH-IN WITH BULKHEAD

ABC NEWLINE™ RACCORD PUSH-IN AVEC PASSE-CLOISON
 ABC NEWLINE™ STECKVERBINDER MIT SCHOTTSTUTZEN
 ABC NEWLINE™ COEXÕES DE AR PUSH-IN COM ANTEPARO

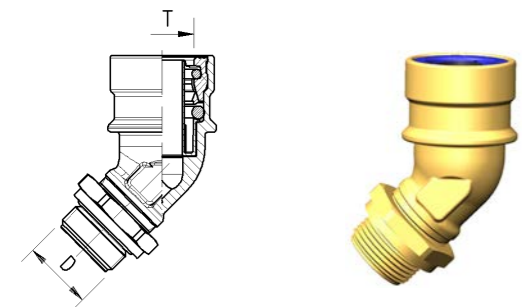
ARTICLE NO.	T	D1	D2	L	SUPPORT SLEEVE	HEX	WEIGHT
90908016	8x1	16x1,5	M20x1,5	26	black	24	60
90908023	8x1	M22x1,5	M22x1,5 partly	30	black	28	75
90912016	12x1,5	16x1,5	M24x1,5	30	black	28	75
90912022	12x1,5	22x1,5	M24x1,5	26	black	28	71



ABC NEWLINE™ PUSH-IN WITH BULKHEAD AND HOSE NIPPLE

ABC NEWLINE™ RACCORD PUSH-IN AVEC PASSE-CLOISON ET QUEUE CANNELÉE
 ABC™ NEWLINE STECKVERBINDER MIT SCHLAUCHSTUTZEN
 ABC NEWLINE™ COEXÕES DE AR PUSH-IN COM ANTEPARO E BICO DE FLEXÍVEL DE FREIO

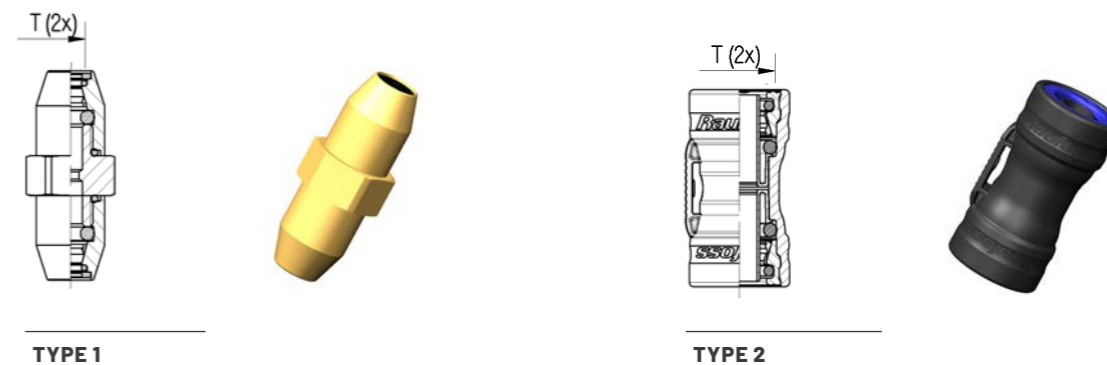
ARTICLE NO.	T	H	STANDARD	D	L1	L2	SUPPORT SLEEVE	HEX	PACK	WEIGHT
91008011	8x1	Ø 11	DIN 74310	M22x1,5	20	30	black	26	50	80



ABC NEWLINE™ PUSH-IN 45° POSITIONING

COUDE 45° ABC NEWLINE™ RACCORD PUSH-IN AVEC CONTRE ÉCROU
 ABC NEWLINE™ 45° STECKVERBINDER MIT KONTERMUTTER
 ABC NEWLINE™ COEXÕES DE AR PUSH-IN 45°

ARTICLE NO.	T	D	SUPPORT SLEEVE	HEX	WEIGHT
97119122	3/4"	M22x1,5	light grey	28	163



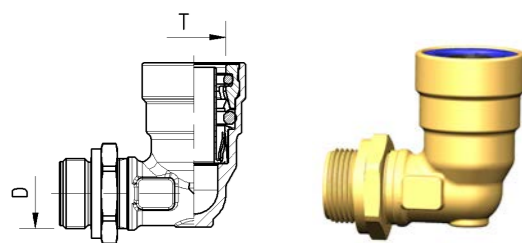
TYPE 1

TYPE 2

ABC TUBE CONNECTOR™

UNION DOUBLE ABC TUBE CONNECTOR™
 ABC™ ROHRVERBINDER
 ABC TUBE CONNECTOR™

ARTICLE NO.	T	TYPE	SUPPORT SLEEVE	WEIGHT
6237195	4x1	2	brass	25
90506006	6x1	1	black	10
90508008	8x1	1	black	13
90510010	10x1	1	light grey	20
90510110	10x1,25	1	black	20
90510210	10x1,5	1	dark grey	20
90512012	12x1,5	1	black	23
90515015	15x1,5	1	black	34
90516016	16x2	1	black	35
6237475	18x2	2	brass	151
90563502	1/4"	1	light grey	10
90595302	3/8"	1	light grey	19
90512702	1/2"	1	light grey	26
90515902	5/8"	1	light grey	37



ABC NEWLINE™ PUSH-IN 90° POSITIONING

COUDE 90° ABC NEWLINE™ RACCORD PUSH-IN AVEC CONTRE ÉCROU
 ABC NEWLINE™ 90° STECKVERBINDER MIT KONTERMUTTER
 ABC NEWLINE™ COEXÕES DE AR PUSH-IN 90°

ARTICLE NO.	T	D	SUPPORT SLEEVE	HEX	WEIGHT
97219122	3/4"	M22x1,5	light grey	28	168

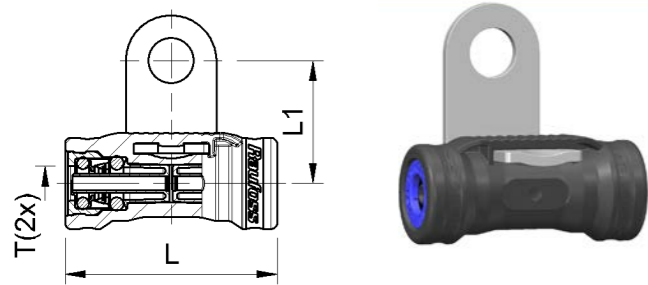
IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.

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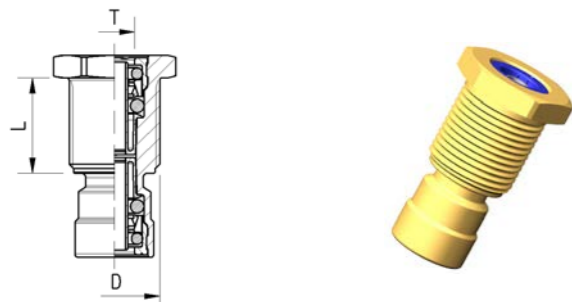
ABC TUBE CONNECTOR™ WITH FLOW REDUCTION
 UNION DOUBLE ABC TUBE CONNECTOR™ AVEC RÉDUCTEUR DE DÉBIT
 ABC™ ROHRVERBINDER MIT DURCHFLUSS-REDUZIERUNG
 ABC TUBE CONNECTOR™ COM REDUTOR DE VOLUME

ARTICLE NO.	T	R	L	WEIGHT
96800005	8x1	1	45	13



ABC TUBE CONNECTOR™ WITH BRACKET
 UNION DOUBLE ABC TUBE CONNECTOR™ AVEC FIXATION
 ABC™ ROHRVERBINDER MIT LASCHE
 ABC TUBE CONNECTOR™ COM SUPORTE

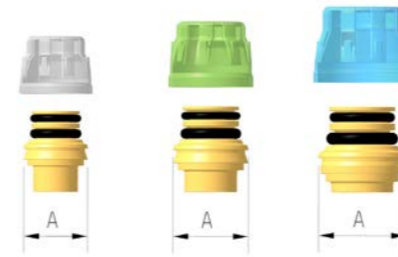
ARTICLE NO.	T	L	L1	SUPPORT SLEEVE	WEIGHT
90506022	6x1	42	25	black	22
90508022	8x1	45	26	black	25
90512022	12x1,5	54	28	black	35
90516022	16x2	54	28	black	47



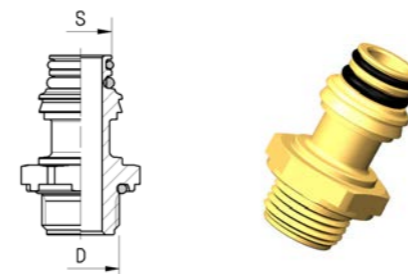
ABC TUBE CONNECTOR™ WITH BULKHEAD
 UNION DOUBLE ABC TUBE CONNECTOR™ AVEC PASSE-CLOISON
 ABC™ ROHRVERBINDER MIT SCHOTTSTUTZEN
 ABC TUBE CONNECTOR™ COM ANTEPARO

ARTICLE NO.	T	D	SUPPORT SLEEVE	WEIGHT
93606006	6x1	M18x1,5	black	54
93608008	8x1	M20x1,5	black	62
93612012	12x1,5	M24x1,5	black	78
93615015	15x1,5	M30x2	black	145

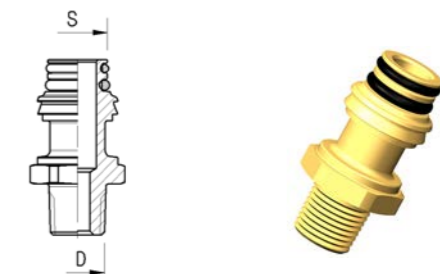
IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.



SWIVEL/BUILDING BLOCK SIZE	TUBE	Ø A	CAP COLOUR
SMALL	6x1 / 8x1	15	white
REGULAR	6x1 - 12x1,5	17	green
HEAVY DUTY	12x1,5 - 16x2	20	blue



TYPE 1



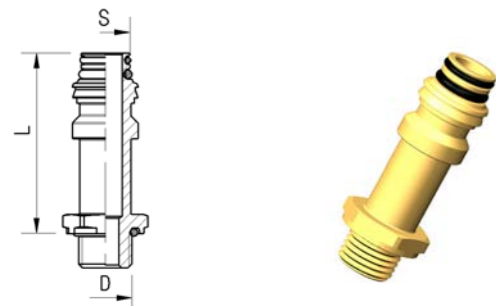
TYPE 2

ABC SWIVEL™
 ABC SWIVEL™ EMBASE FILETÉ
 ABC™ ANSCHLUSS-STUTZEN
 ABC SWIVEL™

ARTICLE NO.	S	D	TYPE	CAP	ROTOLOCK	HEX	WEIGHT
93140010	small	M10x1	1	white	964 42 018	18	25
93140012	small	M12x1,5	1	white	964 42 018	18	25
93140014	small	M14x1,5	1	white	./.	20	32
93140016	small	M16x1,5	1	white	964 42 022	22	37
93140029	small	1/8"NPTF coated	2	white	964 42 016	16	22
93140030	small	1/4"NPTF coated	2	white	964 42 016	16	27
93140031	small	3/8"NPTF coated	2	white	964 42 018	18	38
93142059	small	G1/8"	1	white	./.	17	27
93140069	small	R1/8"	2	white	964 42 016	16	20
93150010	regular	M10x1	1	green	964 52 018	18	28
93150012	regular	M12x1,5	1	green	964 52 018	18	29
93150014	regular	M14x1,5	1	green	964 50 020	20	34
93150016	regular	M16x1,5	1	green	964 50 022	22	39
93150018	regular	M18x1,5	1	green	./.	24	41
93150022	regular	M22x1,5	1	green	964 52 028	28	51
93150029	regular	1/8"NPTF coated	2	green	964 52 018	18	28
93150030	regular	1/4"NPTF coated	2	green	964 52 018	18	31
93150031	regular	3/8"NPTF coated	2	green	964 52 018	18	40
93150032	regular	1/2"NPTF coated	2	green	964 50 022	22	50
93150059	regular	G1/8"	1	green	964 52 018	18	28
93150060	regular	G1/4"	1	green	964 50 020	20	34

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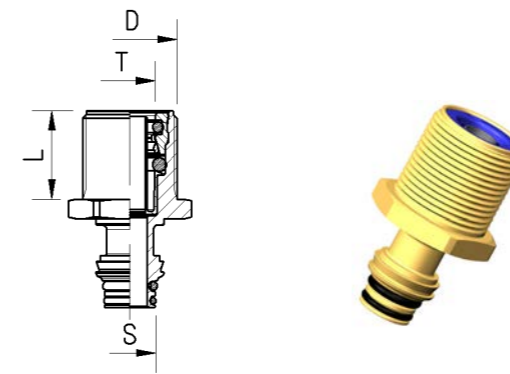
ARTICLE NO.	S	D	TYPE	CAP	ROTOLOCK	HEX	WEIGHT
93150061	regular	G3/8"	1	green	964 50 022	22	41
93150070	regular	R1/4"	2	blue	964 52 018	18	31
93150071	regular	R3/8"	2	blue	964 50 020	20	37
93150072	regular	R1/2"	2	blue	964 50 022	22	59
93160016	heavy duty	M16x1,5	1	blue	964 60 022	22	45
93160022	heavy duty	M22x1,5	1	blue	964 60 028	28	60
93160026	heavy duty	M26x1,5	1	blue	./.	32	81
93160031	heavy duty	3/8"NPTF coated	2	blue	964 60 022	22	50
93160032	heavy duty	1/2"NPTF coated	2	blue	964 60 022	22	59
93160071	heavy duty	R3/8"	2	blue	964 60 022	22	48
93160072	heavy duty	R1/2"	2	blue	964 60 022	22	67



ABC SWIVEL™ EXTENDED

ABC SWIVEL™ EMBASE FILETÉ ALLONGÉ
ABC™ ANSCHLUSS-STUTZEN, VERLÄNGERT
ABC SWIVEL™ ESTENDIDO

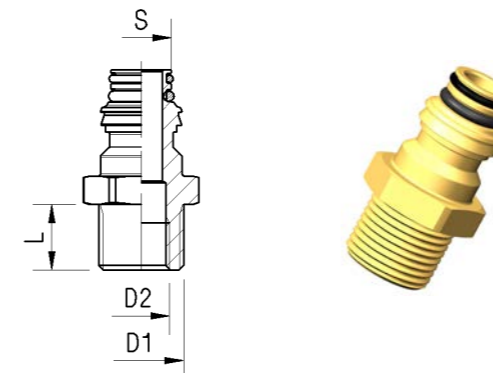
ARTICLE NO.	S	D	L	CAP	HEX	WEIGHT
93141016	small	M16x1,5	42	white	22	66
93151012	regular	M12x1,5	37	green	18	38
93151014	regular	M14x1,5	48	green	20	56
93159014	regular	M14x1,5	60	green	20	63
93151022	regular	M22x1,5	42	green	28	85



ABC SWIVEL™ BULKHEAD WITH PUSH-IN COUPLING

ABC SWIVEL™ AVEC PASSE-CLOISON ET RACCORD PUSH-IN
ABC™ ANSCHLUSS-SCHOTTSTUTZEN MIT STECKVERBINDER
ABC SWIVEL™ COM ANTEPARO E CONEXÃO PUSH-IN

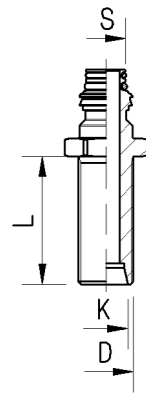
ARTICLE NO.	S	T	D	L	CAP	ROTOLOCK	HEX	WEIGHT
93440635	small	1/4"	M18x1,5	19	white	96440022	22	50
93450060	regular	6x1	M18x1,5	18	green	96450022	22	54
93450080	regular	8x1	M20x1,5	18	green	./.	24	57
93450101	regular	10x1,25	M22x1,5	23	green	./.	26	70
93450120	regular	12x1,5	M24x1,5	23	green	96452028	28	72
93460150	heavy duty	15x1,5	M30x2	24	blue	./.	34	132



ABC SWIVEL™ BULKHEAD WITH INTERNAL THREAD

ABC SWIVEL™ AVEC PASSE-CLOISON DOUBLE FILETAGE
ABC™ ANSCHLUSS-SCHOTTSTUTZEN MIT INNENGEWINDE
ABC SWIVEL™ COM ANTEPARO E ROSCA INTERNA

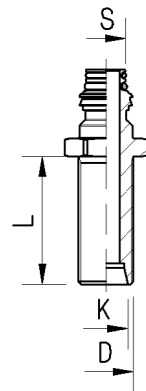
ARTICLE NO.	S	D1	D2	L	CAP	ROTOLOCK	HEX	WEIGHT
93351218	regular	M18x1,5	M12x1,5	14	green	96450022	22	58
93351220	regular	M20x1,5	M12x1,5	14	green	96450022	22	63
93352217	regular	M22x1,5	M16x1,5	14	green	96452028	28	63
93351622	regular	M22x1,5	M16x1,5	23	green	96452028	28	84
93362228	heavy duty	M28x1,5	M22x1,5	24	blue	./.	34	137



ABC SWIVEL™ BULKHEAD WITH 24° CONE CONNECTION

ABC SWIVEL™ AVEC PASSE-CLOISON ET RACCORD CONIQUE 24°
 ABC™ ANSCHLUSS-SCHOTTSTUTZEN MIT 24°-KONUS
 ABC SWIVEL™ COM ANTEPARO E E CONEXÃO CÔNICA 24°

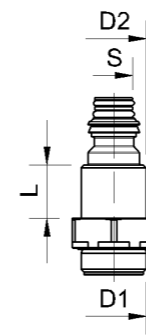
ARTICLE NO.	S	D	L	K	CAP	ROTOLOCK	HEX	WEIGHT
93352416	regular	M16x1,5	35	24°-10	green	964 50 022	22	79
93353418	regular	M18x1,5	22	24°-12	green	964 50 022	22	55
93352418	regular	M18x1,5	42	24°-12	green	./.	24	98
93362418	heavy duty	M18x1,5	42	24°-12	blue	./.	24	111



ABC SWIVEL™ BULKHEAD WITH 60° CONE CONNECTION

ABC SWIVEL™ AVEC PASSE-CLOISON ET RACCORD CONIQUE 60°
 ABC™ ANSCHLUSS-SCHOTTSTUTZEN MIT 60°-KONUS
 ABC SWIVEL™ COM ANTEPARO E E CONEXÃO CÔNICA 60°

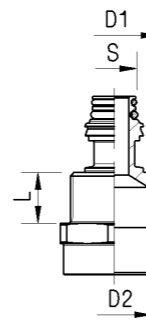
ARTICLE NO.	S	D	L	K	CAP	ROTOLOCK	HEX	WEIGHT
93356016	regular	M16x1,5	30	60°-10	green	964 50 022	22	64



ABC SWIVEL™ BULKHEAD

ABC SWIVEL™ EMBASE FILETÉ AVEC PASSE-CLOISON
 ABC™ ANSCHLUSS-SCHOTTSTUTZEN
 ABC SWIVEL™ COM ANTEPARO

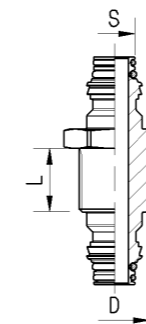
ARTICLE NO.	S	D1	D2	L	CAP	HEX	WEIGHT
93352216	regular	M16x1,5	M22x1,5	18	green	26	115
93352222	regular	M22x1,5	M22x1,5	18	green	28	102
93362322	heavy duty	M22x1,5	M22x1,5 partly	26	blue	28	132



ABC SWIVEL™ BULKHEAD WITH INTERNAL THREAD

ABC SWIVEL™ AVEC PASSE-CLOISON FILETAGE INTERNE
 ABC™ ANSCHLUSS-SCHOTTSTUTZEN MIT INNENGEWINDE
 ABC SWIVEL™ COM ANTEPARO E ROSCA INTERNA

ARTICLE NO.	S	D1	D2	L	CAP	HEX	WEIGHT
93352226	regular	M26x1,5	M22x1,5	15	green	32	98



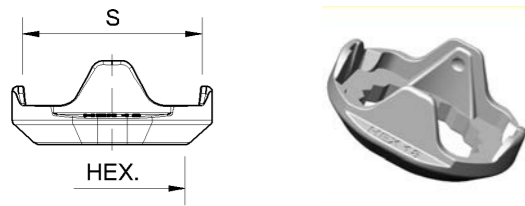
ABC SWIVEL™ DOUBLE, BULKHEAD

ABC SWIVEL™ DOUBLE AVEC PASSE-CLOISON
 ABC™ DOPPELANSCHLUSS-SCHOTTSTUTZEN
 ABC SWIVEL™ DUPLO COM ANTEPARO

ARTICLE NO.	S	D	L	CAP	ROTOLOCK	HEX	WEIGHT
93352205	regular	M22x1,5	20	green	964 52 028	28	120
93362206	heavy duty	M22x1,5	20	blue	964 62 028	28	140
93362216	heavy duty	M22x1,5	42	blue	964 62 028	28	187

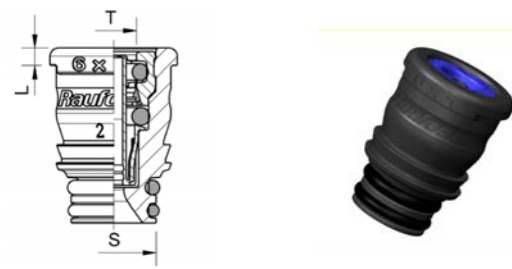
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ABC ROTOLOCK™
ABC ROTOLOCK™
ABC ROTOLOCK™
ABC ROTOLOCK™

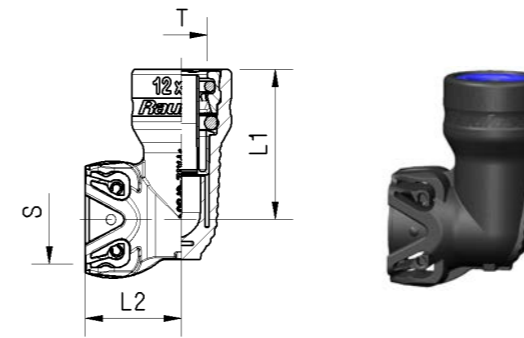
ARTICLE NO.	S	HEX	COLOUR	WEIGHT
96442016	small	16	dark grey	2
96442018	small	18	light grey	2
96442022	small	22	light grey	2
96452018	regular	18	light grey	3
96450020	regular	20	dark grey	3
96450022	regular	22	light grey	3
96452028	regular	28	dark grey	3
96460022	heavy duty	22	light grey	4
96462028	heavy duty	28	dark grey	4



ABC THREADLESS™ PUSH-IN COUPLING
ABC THREADLESS™ RACCORD PUSH-IN
ABC THREADLESS™ GERADER STECKVERBINDER, GEWINDELOS
ABC THREADLESS™ CONEXÃO DE AR PUSH-IN

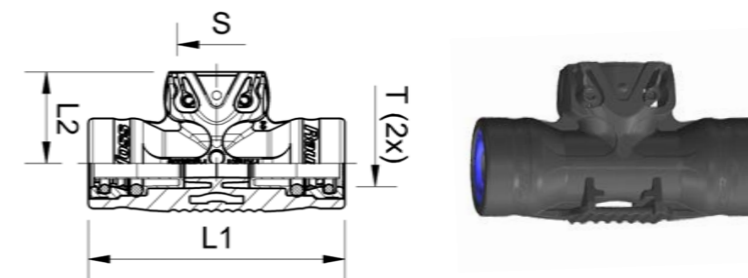
ARTICLE NO.	T	S	L	SUPPORT SLEEVE	CAP	WEIGHT
90204004	4x1	small (brass)	19	./.	white	42
90204005	4x1	regular (brass)	19	./.	green	43
90206004	6x1	small	4	black	white	8
90206005	6x1	regular	4	black	green	10
90208004	8x1	small	10	black	white	10
90208005	8x1	regular	8	black	green	11
90210005	10x1	regular	11	light grey	green	12
90210105	10x1,25	regular	11	black	green	12
90210205	10x1,5	regular	11	dark grey	green	12
90212005	12x1,5	regular	18	black	green	17
90212006	12x1,5	heavy duty	11	black	blue	13
90214006	14x2	heavy duty	21	black	blue	18
90215006	15x1,5	heavy duty	21	black	blue	22
90216006	16x2	heavy duty	21	black	blue	22
90263504	1/4"	small	5	light grey	white	4
90263505	1/4"	regular	4	light grey	green	6
90295305	3/8"	regular	11	light grey	green	9
90212705	1/2"	regular	20	light grey	green	14
90215906	5/8"	heavy duty	21	light grey	blue	20

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ABC INTEGRAL™ PUSH-IN COUPLING 90°
COUDE 90° ABC INTEGRAL™ RACCORD PUSH-IN
ABC INTEGRAL™ 90° STECKVERBINDER
ABC INTEGRAL™ CONEXÃO DE AR PUSH-IN 90°

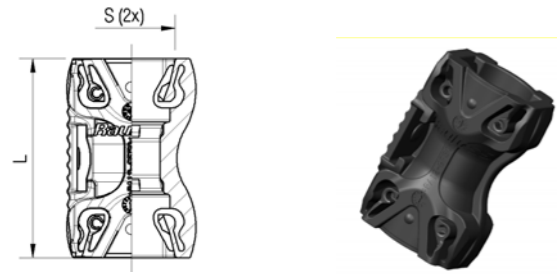
ARTICLE NO.	T	S	L1	L2	SUPPORT SLEEVE	WEIGHT
90306004	6x1	small	32	18	black	12
90306005	6x1	regular	31	21	black	14
90308004	8x1	small	34	18	black	12
90308005	8x1	regular	33	21	black	17
90310005	10x1	regular	35	24	light grey	18
90310105	10x1,25	regular	35	24	black	18
90310205	10x1,5	regular	35	24	dark grey	19
90312205	12x1,5	regular	37	24	black	19
90315006	15x1,5	heavy duty	46	31	black	36
90316006	16x2	heavy duty	46	31	black	35
90363504	1/4"	small	29	29	light grey	10
90395305	3/8"	regular	35	24	light grey	17
90312705	1/2"	regular	38	24	light grey	21
90315906	5/8"	heavy duty	46	34	light grey	36



ABC INTEGRAL-T™ PUSH-IN COUPLING
ABC INTEGRAL-T™ RACCORD PUSH-IN
ABC INTEGRAL-T™ STECKVERBINDER
ABC INTEGRAL-T™ CONEXÃO DE AR PUSH-IN

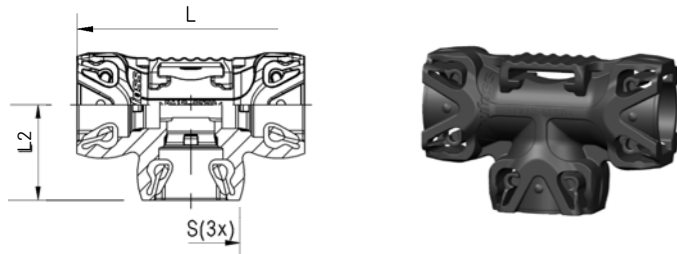
ARTICLE NO.	T	S	L1	L2	SUPPORT SLEEVE	WEIGHT
96800006	1/4"	small	57	31	light grey	17
96800001	12x1,5	regular	72	39	black	35

IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.



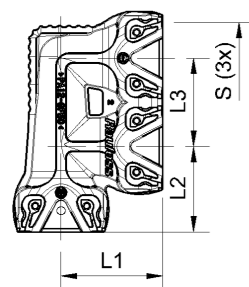
ABC UNION™ FEMALE
 ABC UNION™ FEMELLE
 GERADER ABC VERBINDER
 ABC UNION™ FÉMEA

ARTICLE NO.	S	L	WEIGHT
96140004	small	39	8
96150205	regular	45	13



ABC UNION™ T&L
 ABC UNION™ T&L
 ABC T&L-STÜCK
 ABC UNION™ T&L

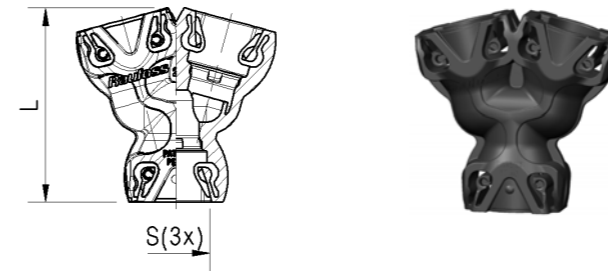
ARTICLE NO.	S	L1	L2	WEIGHT
92040010	small	53	22	14
92050010	regular	62	26	22
92060010	heavy duty	73	31	34



ABC UNION™ F
 ABC UNION™ F
 ABC F-STÜCK
 ABC UNION™ F

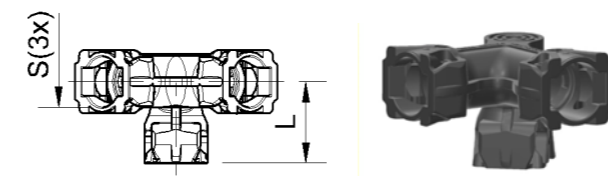
ARTICLE NO.	S	L1	L2	L3	WEIGHT
92040015	small	26,6	22,4	23	16
92050015	regular	31	26,1	27	25
92060015	heavy duty	36,3	30,6	32	40

IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.



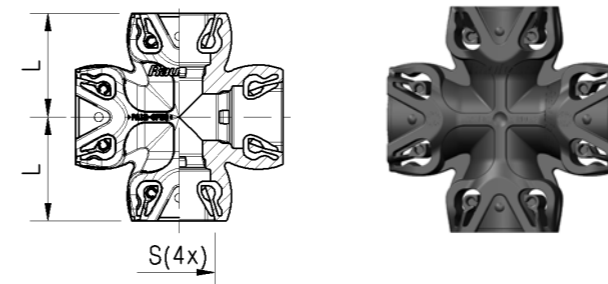
ABC UNION™ Y
 ABC UNION™ Y
 ABC Y-STÜCK
 ABC UNION™ Y

ARTICLE NO.	S	L	WEIGHT
92040030	small	46,9	13
92050030	regular	54,8	21



ABC UNION™ 3-WAY BLOCK
 ABC UNION™ - 3 VOIES
 ABC 3-WEGE BLOCK
 ABC UNION™ 3 VIAS

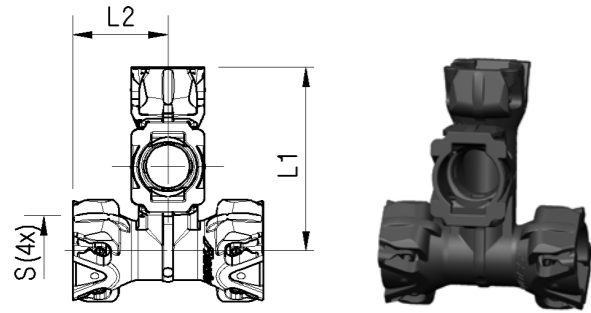
ARTICLE NO.	S	L	WEIGHT
92040060	small	24	15
92052060	regular	28	25
92060060	heavy duty	33	39



ABC UNION™ 4-WAY CROSS
 ABC UNION™ - 4 VOIES EN CROIX
 ABC KREUZSTÜCK
 ABC UNION™ 4 VIAS EM CRUZ

ARTICLE NO.	S	L	WEIGHT
92050070	regular	29	25
92060070	heavy duty	34	40

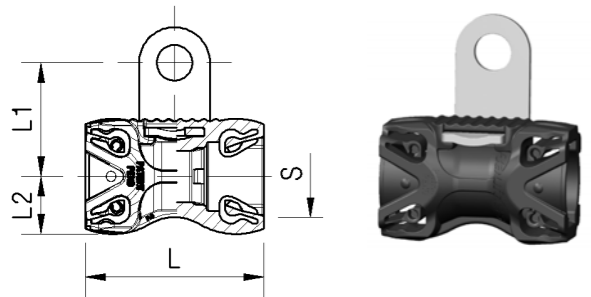
IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.



ABC UNION™ 4-WAY BLOCK

ABC UNION™ - 4 VOIES
ABC 4-WEGE BLOCK
ABC UNION™ 4 VIAS

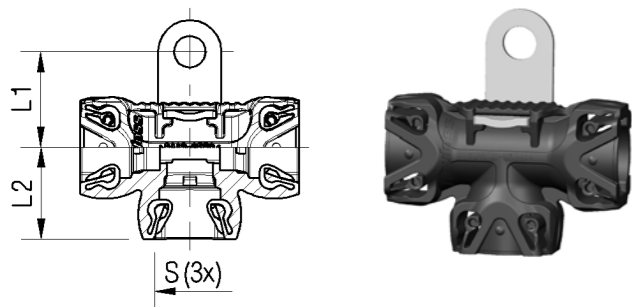
ARTICLE NO.	S	L1	L2	WEIGHT
92050061	regular	50	28	28
92060061	heavy duty	59	33	44



ABC UNION™ FEMALE WITH BRACKET

ABC UNION™ FEMELLE AVEC FIXATION
GERADER ABC VERBINDER MIT LASCHE
ABC UNION™ FÊMEA COM SUPORTE

ARTICLE NO.	S	L	L1	L2	WEIGHT
96140024	small	39	27	13	21
96150225	regular	45	29	15	25

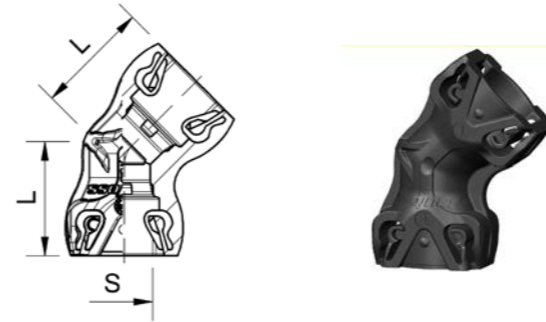


ABC UNION™ T&L WITH BRACKET

ABC UNION™ T&L AVEC FIXATION
ABC T&L STÜCK MIT LASCHE
ABC UNION™ T&L COM SUPORTE

ARTICLE NO.	S	L1	L2	WEIGHT
92050025	regular	27	26	34
92060025	heavy duty	28	31	46

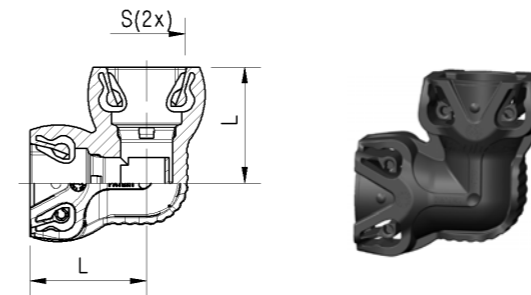
IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.



ABC ELBOW™ 45°

COUDE 45° ABC ELBOW™
ABC 45° WINKEL
ABC ELBOW™ 45°

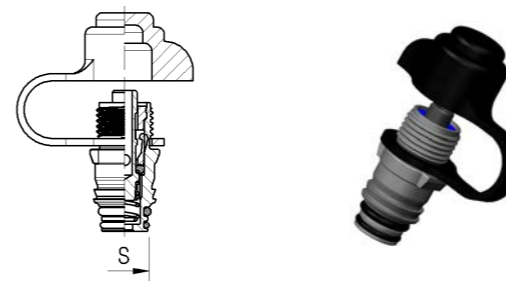
ARTICLE NO.	S	L	WEIGHT
92040045	small	22	8
92050045	regular	25	13
92060045	heavy duty	30	21



ABC ELBOW™ 90°

COUDE 90° ABC ELBOW™
ABC 90° WINKEL
ABC ELBOW™ 90°

ARTICLE NO.	S	L	WEIGHT
92050090	regular	29	15
92060090	heavy duty	34	25

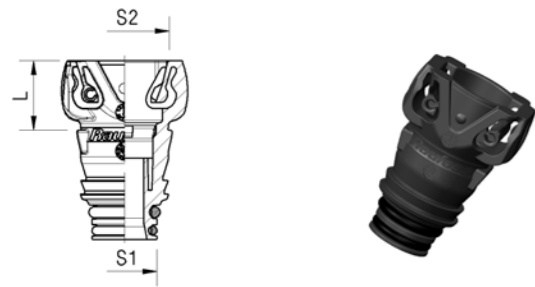


ABC TEST POINT™ ISO 3583

ABC TEST POINT™ À CLIPSER ISO 3583
ABC PRÜFANSCHLUSS ISO 3583
ABC TEST POINT™ ISO 3583

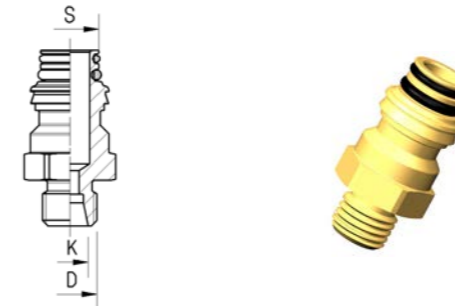
ARTICLE NO.	S	CAP	WEIGHT
96050000	regular	green	14

IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.



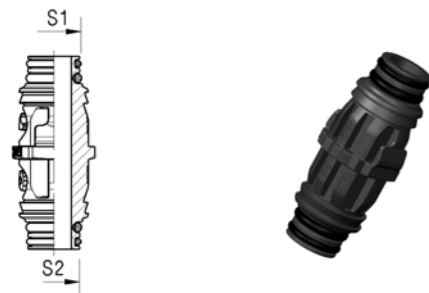
ABC REDUCER™
 ADAPTATEUR ABC REDUCER™
 ABC REDUZIERSTÜCK
 ABC REDUCER™

ARTICLE NO.	S1	S2	L	WEIGHT
96150106	heavy duty	regular	15,1	12



ABC SWIVEL™ WITH 24° CONE CONNECTION
 ABC SWIVEL™ AVEC RACCORD CONIQUE 24°
 ABC ANSCHLUSS-STUTZEN MIT 24°-KONUS
 ABC SWIVEL™ COM CONEXÃO CÔNICA 24°

ARTICLE NO.	S	D	K	ROTOLOCK	HEX	WEIGHT
93152412	regular	M12x1,5	24°	964 52 018	18	40



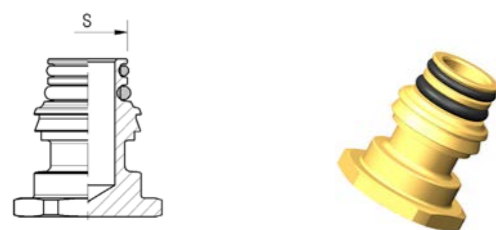
ABC UNION™ MALE
 ABC UNION™ MÂLE
 ABC VERBINDER FÜR BAUKASTEN
 ABC UNION™ MACHO

ARTICLE NO.	S1	S2	ROTOLOCK	WEIGHT
96540004	small	small	96442018	8
96540005	small	regular	96442018	10
96550005	regular	regular	96452018	11
96550006	heavy duty	regular	96452018	13
96560006	heavy duty	heavy duty	96460022	16



ABC SWIVEL™ WITH INTERNAL THREAD
 ABC SWIVEL™ AVEC FILETAGE FEMELLE
 ABC ANSCHLUSS-STUTZEN MIT INNENGEWINDE
 ABC SWIVEL™ COM ROSCA INTERNA

ARTICLE NO.	S	D		CAP	ROTOLOCK	HEX	WEIGHT
93150110	regular	M10x1	ISO 4039-1 port	green	964 52 018	18	32
93150112	regular	M12x1,5	ISO 4039-1 port	green	964 52 018	18	30
93150114	regular	M14x1,5	ISO 4039-2 port	green	964 52 018	18	32
93150116	regular	M16x1,5	ISO 4039-1 port	green	964 50 022	22	52
93152116	regular	M16x1,5	ISO 4039-2 port	green	964 50 022	22	52
93150122	regular	M22x1,5	ISO 4039-1 port	green	964 52 028	28	60
93150149	regular	1/8"NPTF		green	964 52 018	18	33
93150150	regular	1/4"NPTF		green	964 52 018	18	34
93150152	regular	1/2"NPTF		green	964 52 018	18	97
93150160	regular	G1/4"		green	964 52 018	18	23
93150169	regular	Rc1/8"		green	964 52 018	18	27
93150170	regular	Rc1/4"		green	964 52 018	18	23



ABC SWIVEL™ PLUG
 BOUCHON À CLIPSER ABC SWIVEL™
 ABC VERSCHLUSS-STOPFEN
 ABC SWIVEL™ PLUGUE

ARTICLE NO.	S	CAP	WEIGHT
96240000	small	white	20
96250000	regular	green	30
96260000	heavy duty	blue	42

IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.

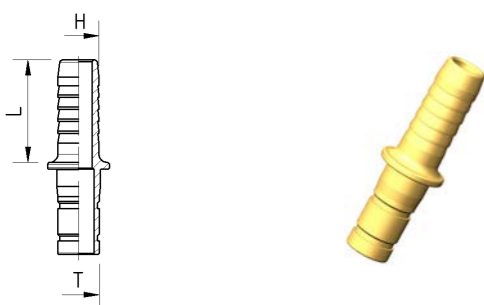
IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.



PUSH-IN PLUG

BOUCHON POUR RACCORD PUSH-IN
STOPFEN FÜR ABC STECKVERBINDER
PLUGUE PUSH-IN

ARTICLE NO.	T	COLOUR	WEIGHT
96210004	4x1	black	1
96210006	6x1	black	1
96210008	8x1	black	1
96210010	10x1 - 10x1,25 - 10x1,5	black	1
96210012	12x1,5	black	2
96210014	14x2	black	2
96210015	15x1,5	black	3
96210016	16x2 - 5/8"	black	4
96210635	1/4"	light grey	1
96210953	3/8"	light grey	2
96210127	1/2"	light grey	2



ADAPTER HOSE TO PUSH-IN COUPLING

ADAPTATEUR TUYAU À RACCORD PUSH-IN
SCHLAUCH-ADAPTER FÜR ABC STECKVERBINDER
ADAPTADOR DE FLEXÍVEL DE FREIO PARA CONEXÃO PUSH-IN

ARTICLE NO.	T	H	L	WEIGHT
94311012	12x1,5	11	30	30

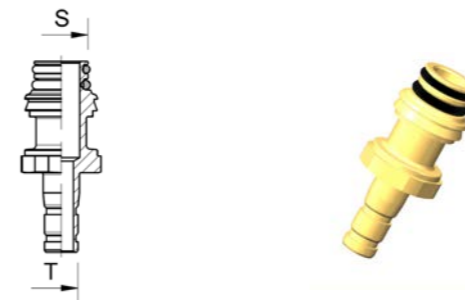
EN: Only to be used in combination with ABC NEWLINE™ or ABC TUBE CONNECTOR™ - The flexible hose must be fixed at maximum 500mm from the coupling.

FR: A utiliser uniquement en combinaison avec ABC NEWLINE™ ou ABC TUBE CONNECTOR™. Le tuyau flexible doit être fixé à maximum 500mm du raccord.

DE: Nur zusammen mit passendem ABC NEWLINE™ Steckverbinder oder Rohrverbinder zu verwenden. Der Gummischlauch muss maximal 500 mm von der Verbindung entfernt befestigt werden.

PO: Utilizar somente em combinação com o ABC NEWLINE™ ou ABC TUBE CONNECTOR™ - O flexível de freio deve ser fixado a uma distância máxima de 500 mm da conexão.

IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.



ADAPTER ABC SWIVEL™ TO PUSH-IN COUPLING

ADAPTATEUR ABC SWIVEL™ À RACCORD PUSH-IN
ANSCHLUSS-STUTZEN-ADAPTER FÜR ABC STECKVERBINDER
ADAPTADOR ABC SWIVEL™ PARA CONEXÃO PUSH-IN

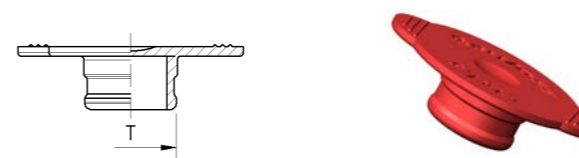
ARTICLE NO.	T	S	WEIGHT
94305008	8x1	regular	29
94305012	12x1,5	regular	34
94306015	15x1,5	heavy duty	49

EN: Only to be used in combination with KArtridge™. The polyamid tube shall be fixed max. 500 mm from the coupling

FR: A utiliser uniquement en combinaison avec KArtridge™. Le tube en polyamide doit être fixé à maximum 500 mm du raccord.

DE: Nur zusammen mit passender KArtridge™ zu verwenden. Das Polyamidrohr muss maximal 500 mm von der Verbindung entfernt befestigt werden.

PO: Utilizar somente em combinação com o KArtridge™. O tubo de poliamida deve ser fixado a uma distância máxima de 500 mm da conexão.

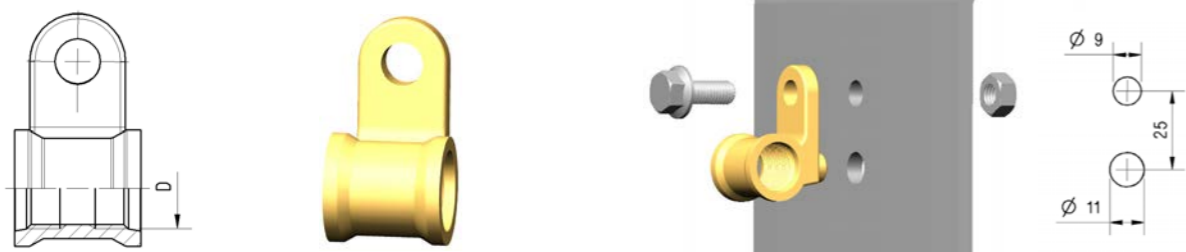


ABC PUSH-IN COUPLING TRANSPORTATION CAP

BOUCHON DE TRANSPORT POUR RACCORD ABC PUSH-IN
TRANSPORTSTOPFEN FÜR ABC STECKVERBINDER
TAMPA PARA TRANPORTE PARA CONEXÃO PUSH-IN ABC

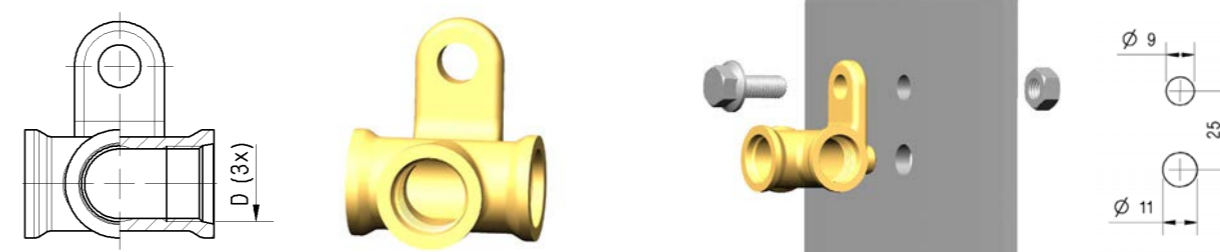
ARTICLE NO.	T	COLOUR	WEIGHT
96706000	6x1	red	1
96706010	6x1	yellow	1
96708000	8x1	red	1
96710000	10x1 - 10x1,25 - 10x1,5 - 3/8"	red	1
96712000	12x1,5	red	1
96715000	15x1,5	red	1
96716000	16x2 - 5/8"	red	2

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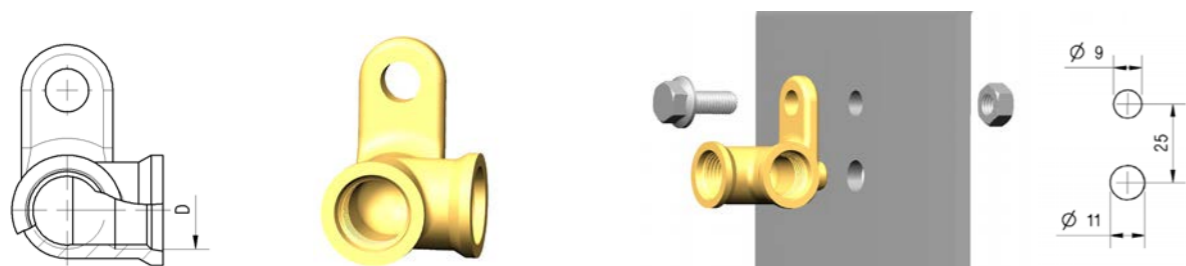
UNION STRAIGHT WITH FIXATION
UNION DOUBLE TARAUDÉE, AVEC FIXATION
GERADE BEFESTIGUNG, 2 X GEWINDE
UNIÃO RETA COM SUPORTE

ARTICLE NO.	D	WEIGHT
6237838	M 16 x 1,5	77



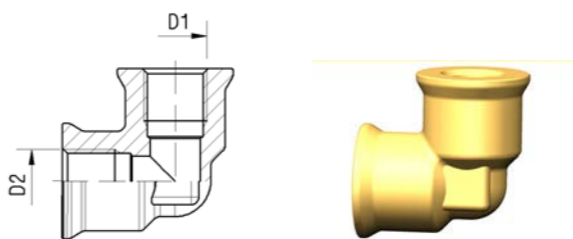
UNION T-90° WITH FIXATION
UNION T-90° TARAUDÉ AVEC FIXATION
90° T-BEFESTIGUNG, 3 X GEWINDE
UNIÃO T-90° COM SUPORTE

ARTICLE NO.	D	WEIGHT
6237840	M 16 x 1,5	112



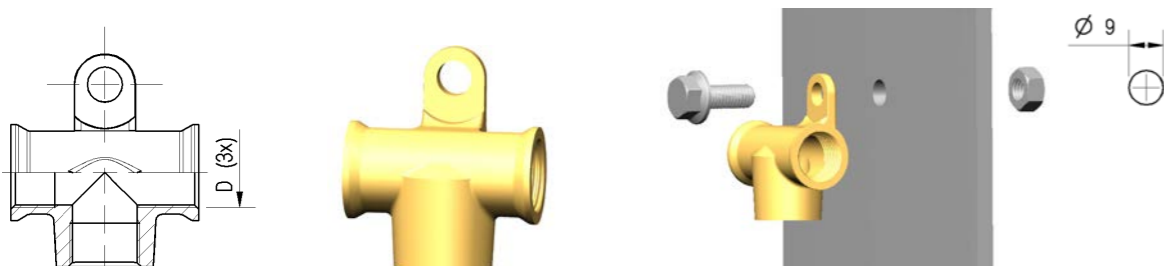
UNION 90° WITH FIXATION
UNION COUDE 90° TARAUDÉ AVEC FIXATION
WINKEL-BEFESTIGUNG, 2 X GEWINDE
UNIÃO 90° COM SUPORTE

ARTICLE NO.	D	WEIGHT
6237839	M 16 x 1,5	95



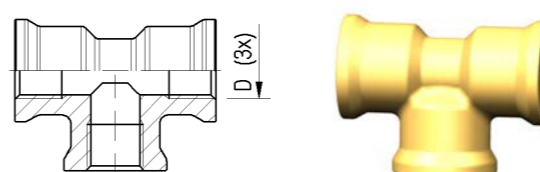
UNION 90°
UNION 90° TARAUDÉ
90° WINKELSTÜCK, 2 X GEWINDE*
UNIÃO 90°

ARTICLE NO.	D1	D2	PACK	WEIGHT
6237823	M12x1,5	M12x1,5	100	47
6237862	M16x1,5	M16x1,5	80	52
6237865	M16x1,5	M18x1,5	70	58
6237867	M22x1,5	M22x1,5	40	80



UNION T WITH FIXATION
UNION T TARAUDÉ AVEC FIXATION
T-BEFESTIGUNG, 3 X GEWINDE
UNIÃO T COM SUPORTE

ARTICLE NO.	D	WEIGHT
6237863	M 16 x 1,5	95

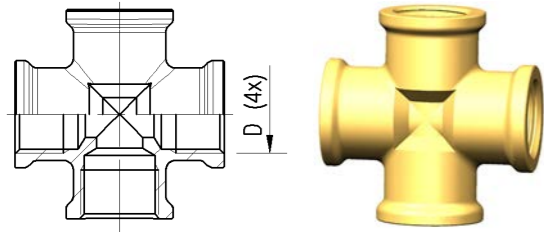


UNION T
UNION T TARAUDÉ
T-STÜCK, 3 X GEWINDE
UNIÃO T

ARTICLE NO.	D	PACK	WEIGHT
6237825	M12x1,5	80	64
6237864	M16x1,5	50	68
6237868	M22x1,5	30	95

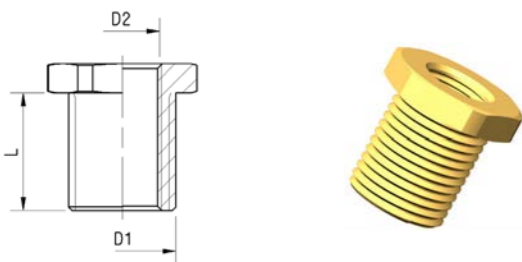
IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.

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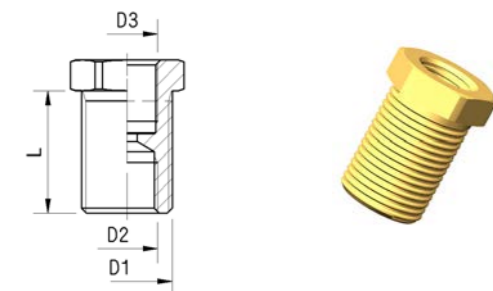
UNION 4-WAY CROSS
UNION 4-VOIES TARAUDÉ EN CROIX
KREUZBLOCK, 4 X GEWINDE
UNIÃO 4 VIAS

ARTICLE NO.	D	PACK	WEIGHT
6237828	M 16 x 1,5	40	81



BULKHEAD
PASSE-CLOISON
SCHOTTSTUTZEN
ANTEPARO

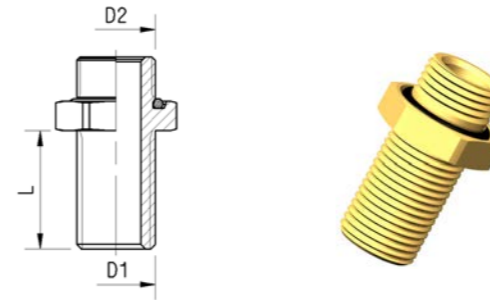
ARTICLE NO.	D1	D2	L	HEX	WEIGHT
6237722	M16x1,5	M10x1	20	22	35
6237723	M16x1,5	M10x1	35	22	48
6237712	M18x1,5	M12x1,5	19	24	44
6237726	M22x1,5	M16x1,5 (ISO4039-1)	24	28	57
6237718	M22x1,5	M16x1,5 (ISO4039-2)	19	28	57
6237713	M26x1,5	M16x1,5	19	32	97



ADAPTER FOR PRESSURE GAUGE
ADAPTATEUR POUR MANOMÈTRE
ADAPTER FÜR MANOMETER
ADAPTADOR PARA MANÔMETRO

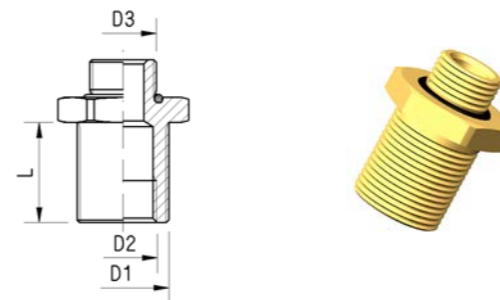
ARTICLE NO.	D1	D2	D3	L	HEX	WEIGHT
6237625	M18x1,5	M 12x1,5	G1/4" -ISO837-1	22	20	38

IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.



BULKHEAD
PASSE-CLOISON
SCHOTTSTUTZEN
ANTEPARO

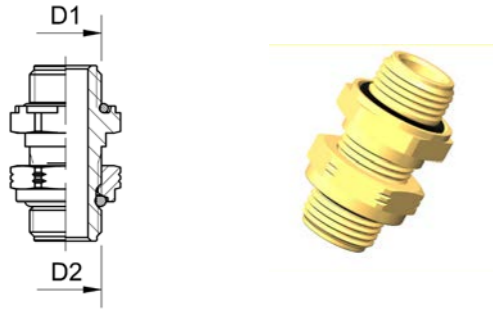
ARTICLE NO.	D1	D2	L	HEX	WEIGHT
6237622	M 12 x 1,5	M 12 x 1,5	24	18	29
6237624	M 12 x 1,5	M 14 x 1,5	24	20	34
6237693	M 16 x 1,5	M 16 x 1,5	24	22	41
6237697	M 16 x 1,5	M 16 x 1,5	35	22	50
6237675	M 16 x 1,5	R 1/4"	24	22	45
6237735	M 22 x 1,5	M 16 x 1,5	24	28	73



BULKHEAD
PASSE-CLOISON
SCHOTTSTUTZEN
ANTEPARO

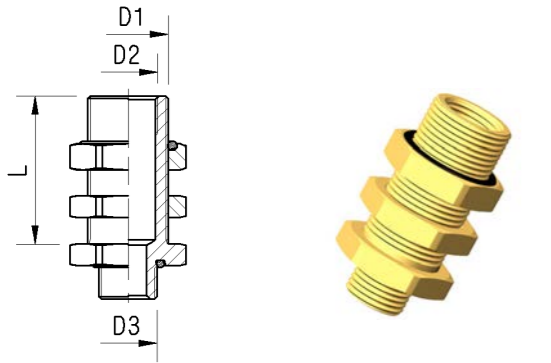
ARTICLE NO.	D1	D2	D3	L	HEX	WEIGHT
6237728	M 22 x 1,5	M 16 x 1,5	3/8 - 18 NPTF	24	28	83
6237691	M 22 x 1,5	M 16 x 1,5	1/2 NPTF, coated	24	28	88
6237731	M 22 x 1,5	M 16 x 1,5	M 16 x 1,5	24	28	70
6237733	M 22 x 1,5	M 16 x 1,5	M 16 x 1,5	40	28	94
6237730	M 22 x 1,5	M 16 x 1,5	M 22 x 1,5	24	28	70
6237721	M 22 x 1,5	M 16 x 1,5	M 22 x 1,5	40	28	94
6237674	M 22 x 1,5	M 16 x 1,5	R 1/2	24	27	90
6237734	M 26x1,5	M 16x1,5	M 16x1,5	34	32	151

IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.



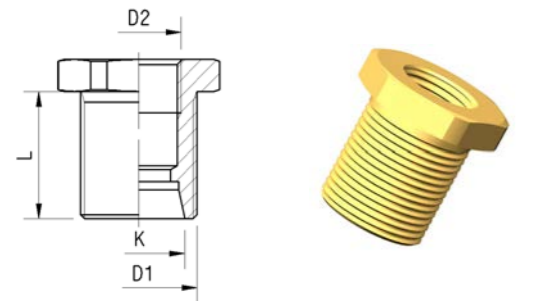
BULKHEAD PRE-ASSEMBLED WITH LOCKING NUT
 PASSE-CLOISON AVEC CONTRE ÉCROU ET JOINTS
 SCHOTTSTUTZEN, MIT VORMONTIERTER KONTERMUTTER INKL. O-RING
 ANTEPARO PRÉ-MONTADO COM PORCA DE TRAVAMENTO

ARTICLE NO.	D1	D2	HEX 1	HEX 2	WEIGHT
6237857	M 16 x 1,5	M 16 x 1,5	22	22	58
6237835	M 22 x 1,5	M 16 x 1,5	22	28	120
6237887	M22x1,5	M22x1,5	28	28	83
6237780	M22x1,5	1/2" NPTF	28	28	97



BULKHEAD PRE-ASSEMBLED WITH LOCKING NUT
 PASSE-CLOISON AVEC CONTRE ÉCROU ET JOINTS
 SCHOTTSTUTZEN, MIT VORMONTIERTER KONTERMUTTER INKL. O-RING
 ANTEPARO PRÉ-MONTADO COM PORCA DE TRAVAMENTO

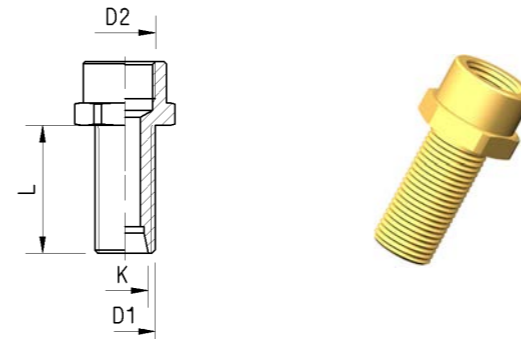
ARTICLE NO.	D1	D2	D3	L	HEX	WEIGHT
6237999	M 22 x 1,5	M 16 x 1,5	M 16 x 1,5	40	28	127



BULKHEAD WITH 24° CONE CONNECTION
 PASSE-CLOISON AVEC RACCORD CONIQUE 24°
 SCHOTTSTUTZEN, MIT 24°-KONUS
 ANTEPARO COM CONEXÃO CÔNICA 24°

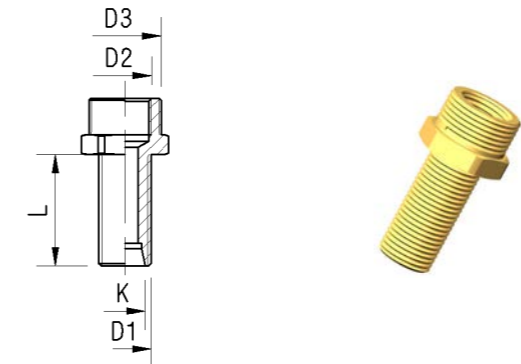
ARTICLE NO.	D1	K	D2	L	HEX	WEIGHT
6237894	M 22 x 1,5	K 24° - 15	M 16 x 1,5	24	28	60

IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.



BULKHEAD WITH 24° CONE CONNECTION
 PASSE-CLOISON AVEC RACCORD CONIQUE 24°
 SCHOTTSTUTZEN, MIT 24°-KONUS
 ANTEPARO COM CONEXÃO CÔNICA 24°

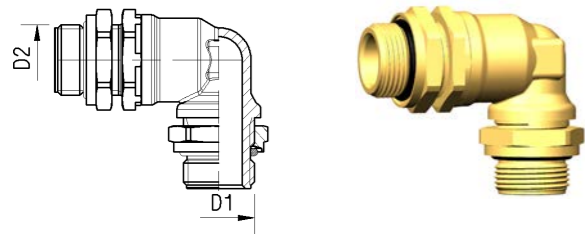
ARTICLE NO.	D1	K	D2	L	HEX	WEIGHT
6237673	M12x1,5	K24°-6	M12x1,5	34	20	48
6237695	M16x1,5	K24°-10	M16x1,5	34	24	76
6237732	M18x1,5	K24°-12	M16x1,5	34	24	60
6237799	M22x1,5	K24°-15	M22x1,5	34	28	105



BULKHEAD WITH 24° CONE CONNECTION
 PASSE-CLOISON AVEC RACCORD CONIQUE 24°
 SCHOTTSTUTZEN, MIT 24°-KONUS
 ANTEPARO COM CONEXÃO CÔNICA 24°

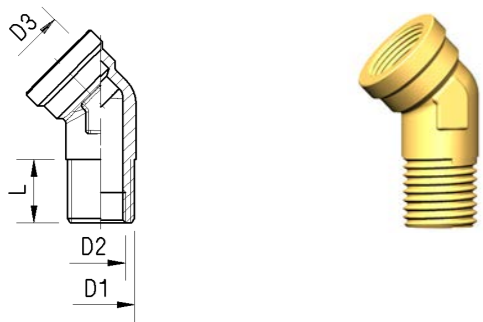
ARTICLE NO.	D1	K	D2	D3	L	HEX	WEIGHT
6237696	M16x1,5	K24°-10	M16x1,5	M22x1,5	34	24	70

IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.



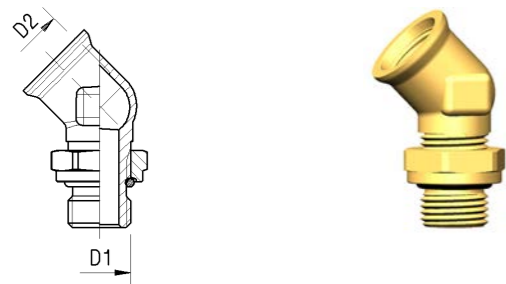
BULKHEAD 90° POSITIONING PRE-ASSEMBLED WITH LOCKING NUT
 PASSE-CLOISON 90° AVEC CONTRE-ÉCROU
 90° WINKELSTUTZEN, MIT VORMONTIERTER KONTERMUTTER INKL. O-RING
 ANTEPARO 90° PRÉ-MONTADO COM PORCA DE TRAVAMENTO

ARTICLE NO.	D1	D2	HEX	WEIGHT
6238883	M 22 x 1,5	M22x1,5	28	210



BULKHEAD 45°
 PASSE-CLOISON 45°
 45° WINKELSTUTZEN
 ANTEPARO 45°

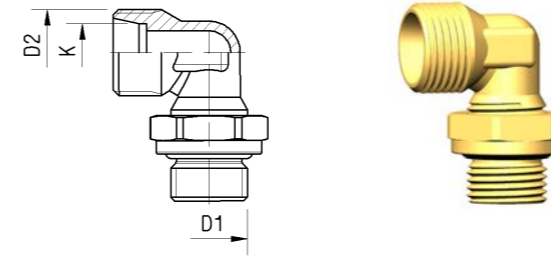
ARTICLE NO.	D1	D2	D3	L	WEIGHT
6237881	M 22 x 1,5	M 16 x 1,5	M 22 x 1,5	Min 21	125



BULKHEAD 45° POSITIONING
 PASSE-CLOISON 45° AVEC CONTRE-ÉCROU
 45° WINKELSTUTZEN, MIT VORMONTIERTER KONTERMUTTER INKL. O-RING
 ANTEPARO 45° PRÉ-MONTADO COM PORCA DE TRAVAMENTO

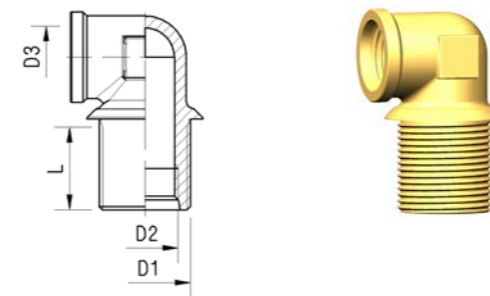
ARTICLE NO.	D1	D2	HEX 1	HEX 2	WEIGHT
6237856	M16x1,5	M16x1,5	22	21	59
6237854	M22x1,5	M22x1,5	28	24	134

IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.



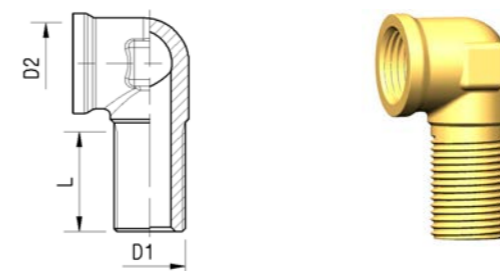
BULKHEAD 90° POSITIONING WITH 24° CONE CONNECTION
 PASSE-CLOISON 90° AVEC CONTRE-ÉCROU ET RACCORD CONIQUE 24°
 90° WINKELSTUTZEN, MIT 24° KONUS UND VORMONTIERTER KONTERMUTTER INKL. O-RING
 ANTEPARO 90° COM CONEXÃO CÔNICA 24° E PORCA DE TRAVAMENTO

ARTICLE NO.	D1	D2	K	HEX 1	HEX 2	WEIGHT
6237963	M16 x 1,5	M18x1,5	K24°-12	22	14	58
6237960	M22x 1,5	M18x1,5	K24°-12	28	20	83



BULKHEAD 90°
 PASSE-CLOISON 90°
 90° WINKELSTUTZEN
 ANTEPARO 90°

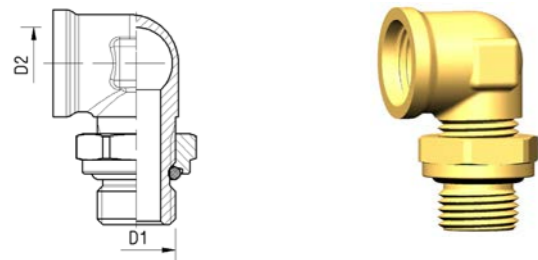
ARTICLE NO.	D1	D2	D3	L	WEIGHT
6237809	M22x1,5	M16x1,5	M16x1,5	20	75
6237819	M22x1,5	M16x1,5	M16x1,5	28	112
6237880	M22x1,5	M16x1,5	M22x1,5	22	190



BULKHEAD 90°
 PASSE-CLOISON 90°
 90° WINKELSTUTZEN
 ANTEPARO 90°

ARTICLE NO.	D1	D2	L	WEIGHT
6237807	M12x1,5	M12x1,5	17	45
6237808	M16x1,5	M16x1,5	22	62
6238894	3/8" NPTF coated	M22x1,5	17	112

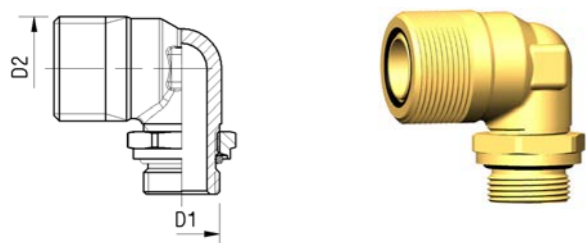
IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.



BULKHEAD 90° POSITIONING

PASSE-CLOISON 90° AVEC CONTRE-ÉCROU
90° WINKELSTUTZEN, MIT VORMONTIERTER KONTERMUTTER INKL. O-RING
ANTEPARO 90° COM PORCA DE TRAVAMENTO

ARTICLE NO.	D1	D2	SPECIAL ATTRIBUTE	HEX 1	HEX 2	WEIGHT
6237928	M10x1	M12x1,5		16	15	38
6237929	M12x1,5	M12x1,5		18	15	43
6238929	M12x1,5	M12x1,5	High temp: +150°C	18	15	43
6238914	M14x1,5	M12x1,5		20	14	63
6237859	M16x1,5	M16x1,5		22	21	65
6237890	M22x1,5	M16x1,5		28	22	92
6237891	M22x1,5	M22x1,5		28	22	129
6239970	M26x1,5	M22x1,5	Steel	32	27	258

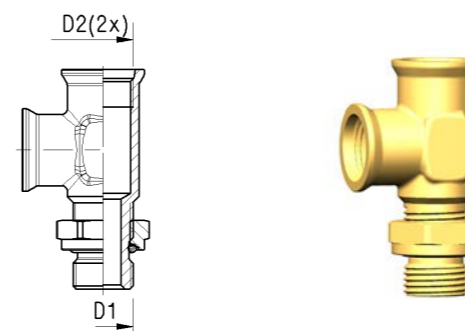


BULKHEAD 90° POSITIONING WITH FACE SEAL SAE J1453

PASSE-CLOISON 90° AVEC CONTRE-ÉCROU AVEC JOINT À FACE PLANE SAE J1453
90° WINKELSTUTZEN MIT KOPFDICHTUNG (NACH SAE J1453) UND KONTERMUTTER INKL. O-RING
ANTEPARO 90° COM SELAGEM SAE J1453 (VEDAÇÃO DE FACE)

ARTICLE NO.	D1	D2 (SAE J1453)	HEX	WEIGHT
6237961	M22x1,5	1-3/16-12UN	28	229

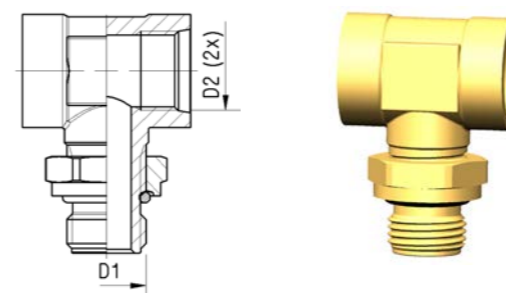
IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.



BULKHEAD UNION-L POSITIONING

PASSE-CLOISON UNION-T AVEC CONTRE-ÉCROU
L-STUTZEN MIT KONTERMUTTER INKL. O-RING
ANTEPARO UNIÃO L

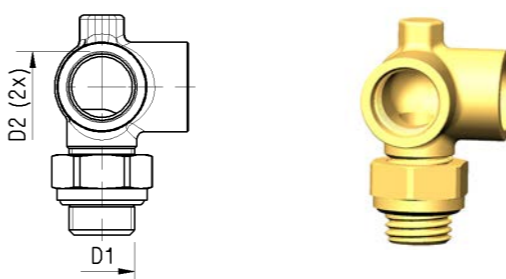
ARTICLE NO.	D1	D2	D3	HEX	WEIGHT
6237858	M16x1,5		M16x1,5	22	81
6237982	M22x1,5		M16x1,5	28	102



BULKHEAD UNION-T POSITIONING

PASSE-CLOISON UNION-T AVEC CONTRE-ÉCROU
T-STUTZEN MIT KONTERMUTTER INKL. O-RING
ANTEPARO UNIÃO T

ARTICLE NO.	D1	D2	L	HEX	WEIGHT
6237895	M16x1,5	M16x1,5	37	22	102

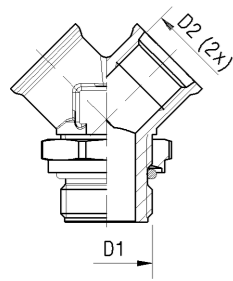


BULKHEAD UNION-3-WAY POSITIONING

PASSE-CLOISON UNION-3-VOIES AVEC CONTRE-ÉCROU
3-WEGE-STUTZEN MIT KONTERMUTTER INKL. O-RING
ANTEPARO UNIÃO 3 VIAS

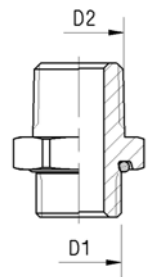
ARTICLE NO.	D1	D2	L	HEX	WEIGHT
6237860	M16x1,5	M16x1,5	21	22	109

IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.



BULKHEAD UNION-Y POSITIONING
 PASSE-CLOISON UNION-Y AVEC CONTRE-ÉCROU
 Y-STUTZEN MIT KONTERMUTTER INKL. O-RING
 ANTEPARO UNIÃO Y

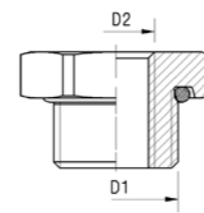
ARTICLE NO.	D1	D2	HEX	WEIGHT
6237981	M22x1,5	M16x1,5	28	100



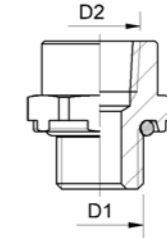
ADAPTER
 ADAPTATEUR
 ADAPTER
 ADAPTADOR

ARTICLE NO.	D1	D2	HEX	WEIGHT
6237704	M14x1,5	1/4"NPTF	20	32
6237714	M16x1,5	3/8"NPTF	22	41
6237900	M16x1,5	M22x1,5	24	50
6238638	3/8" NPTF coated	1/2" NPTF coated	22	59

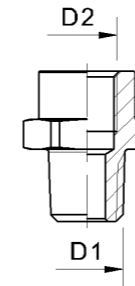
IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.



TYPE 1



TYPE 2



TYPE 3

ADAPTER
 ADAPTATEUR
 ADAPTER
 ADAPTADOR

ARTICLE NO.	D1	D2	TYPE	SPECIAL ATTRIBUTE	HEX	WEIGHT
6237759	M12x1,5	1/8"NPTF	2		18	23
6237614	M16x1,5	M12x1,5 (ISO 4039-1)	1		22	20
6237832	M16x1,5	M12x1,5 (ISO 4039-2)	1		22	20
6237692	M16x1,5	M16x1,5	2		22	57
6237671	M16x1,5	M22x1,5	2		28	62
6237655	M16x1,5	1/8"NPTF	1		22	25
6237656	M16x1,5	1/4"NPTF	2		22	33
6237657	M16x1,5	3/8"NPTF	2		22	40
6237904	M16x1,5	3/8"-32UNEF	2		22	25
6237615	M22x1,5	M12x1,5	1		28	44
6237616	M22x1,5	M16x1,5 (ISO4039-1)	1		28	33
6237833	M22x1,5	M16x1,5 (ISO4039-2)	1		28	33
6237711	M22x1,5	M22x1,5	2		28	93
6237762	M22x1,5	1/2"NPTF	2		28	70
6237618	M26x1,5	M16x1,5	1		32	73
6237707	M26x1,5	1/4"NPTF	1	high temp: +200°C	32	88
6237626	1/4"NPTF	M12x1,5	3		18	31
6237628	1/4"NPTF	M16x1,5	3		22	48
6237633	3/8"NPTF coated	M16x1,5	3		22	46
6238634	1/2"NPTF coated	M16x1,5	3		28	75
6237710	3/4"NPTF	M22x1,5	3		28	76
6237677	R1/4"	M10x1	3		17	23
6237676	R3/8"	M12x1,5	3		19	32
6237678	R1/2"	M16x1,5	3		27	75

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LOCKING NUT, WITH O-RING
 CONTRE-ÉCROU, AVEC JOINT TORIQUE
 KONTERMUTTER, MIT O-RING
 PORCA DE TRAVAMENTO COM O-RING

ARTICLE NO.	D	HEX	WEIGHT
6237745	M12x1,5	18	9
6237742	M14x1,5	20	11
6237746	M16x1,5	22	12
6237778	M18x1,5	24	14
6237747	M22x1,5	28	17



LOCKING NUT
 CONTRE-ÉCROU
 KONTERMUTTER
 PORCA DE TRAVAMENTO

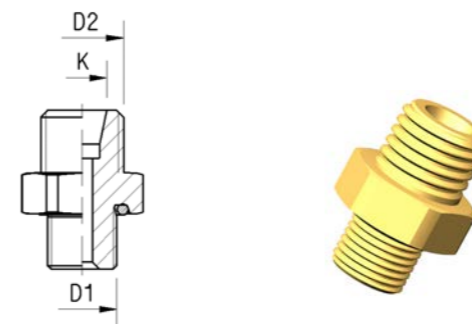
ARTICLE NO.	D	HEX	WEIGHT
6237679	M12x1,5	17	8
6237748	M16x1,5	22	12
6237775	M18x1,5	24	14
6237751	M20x1,5	24	11
6237749	M22x1,5	28	16
6237753	M24x1,5	28	13
6237779	M26x1,5	32	19
6237798	M28x1,5	36	36
6237800	M30x2	38	43



PRESSURE RING, WITH O-RING
 BAGUE DE PRESSION, AVEC JOINT TORIQUE
 DRUCKRING, MIT O-RING
 ANEL DE PRESSÃO COM O-RING

ARTICLE NO.	D	WEIGHT
6239139	M10x1	1
6239140	M12x1,5	1
6239141	M14x1,5	2
6239142	M16x1,5	2
6239143	M22x1,5	3
6239149	M26x1,5	4

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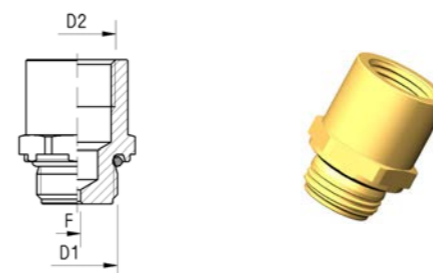
TRANSFER ADAPTER, WITH O-RING AND 24° CONE CONNECTION
 ADAPTATEUR, AVEC JOINT TORIQUE ET RACCORD CONIQUE 24°
 ADAPTER, MIT O-RING UND 24°-KONUS
 ADAPTADOR COM O-RING E CONEXÃO CÔNICA 24°

ARTICLE NO.	D1	D2	K	SPECIAL ATTRIBUTE	HEX	WEIGHT
6237781	M10x1	M12x1,5	K24°-6		16	20
6237782	M16x1,5	M12x1,5	K24°-6		22	32
6237783	M12x1,5	M16x1,5	K24°-10		18	25
6237784	M16x1,5	M16x1,5	K24°-10		22	39
6237785	M16x1,5	M18x1,5	K24°-12		22	36
6237786	M22x1,5	M16x1,5	K24°-10		28	51
6237792	M22x1,5	M22x1,5	K24°-15	high temp: +200°C	28	69



SOCKET JOINT
 MANCHON
 GEWINDEMUFFE
 JUNTA UNIVERSAL

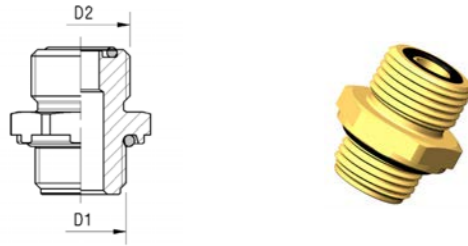
ARTICLE NO.	D	HEX	WEIGHT
6237741	M12x1,5	18	24
6237743	M16x1,5	22	35
6237744	M22x1,5	28	48



ADAPTER WITH AIR FLOW REDUCER
 ADAPTATEUR AVEC RÉDUCTEUR DE DÉBIT
 ADAPTER, MIT DURCHFLOSSREDUZIERUNG
 ADAPTADOR COM REDUTOR DE FLUXO DE AR

ARTICLE NO.	D1	D2	F	L	HEX	WEIGHT
6237647	G3/8	M16x1,5	1,5	31	22	52

IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.



ADAPTER WITH FACE SEAL SAE J1453

ADAPTATEUR AVEC JOINT À FACE PLANE SAE J1453
 ADAPTER MIT KOPFDICHTUNG (NACH SAE J145)
 ADAPTADOR COM SELAGEM SAE J1453 (VEDAÇÃO DE FACE)

ARTICLE NO.	D1	D2 (SAE J1453)	SPECIAL ATTRIBUTE	HEX	WEIGHT
6237705	M16x1,5	1 1/16"-16UN		22	40
6237602	M22x1,5	1 1/16"-16UN		28	51
6237601	M22x1,5	1-3/16"-12UN	high temp: +200°C	32	112

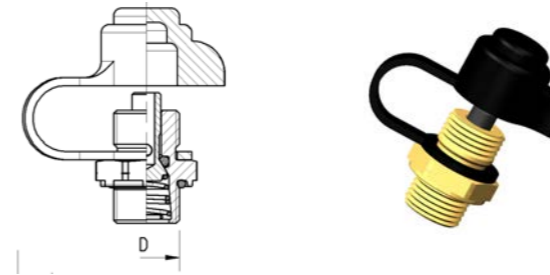


PLUG

BOUCHON
 (GEWINDE) STOPFEN
 TAMPÃO

ARTICLE NO.	D	HEX	WEIGHT
6237604	M10x1	16	12
6237605	M12x1,5	18	14
6237606	M14x1,5	20	18
6237607	M16x1,5	22	24
6237608	M22x1,5	28	34
96200029	1/8"NPTF, coated	14	13
96200030	1/4"NPTF, coated	18	25
96200031	3/8"NPTF, coated	22	38
96200032	1/2"NPTF, coated	22	49

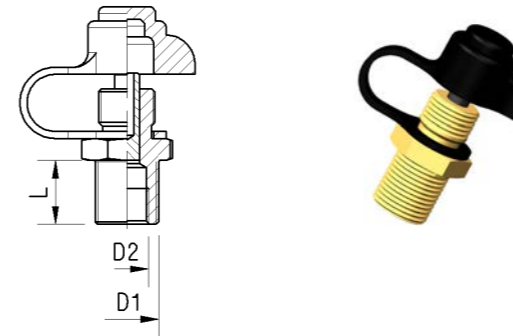
IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.



TEST POINT, ISO 3583

PRISE DE PRESSION, ISO 3583
 PRÜFANSCHLUSS, ISO 3583
 TOMADA DE TESTE, ISO 3583

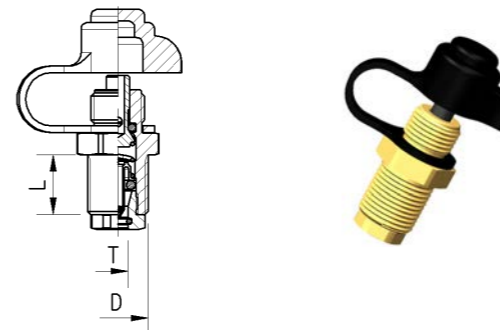
ARTICLE NO.	D	HEX	WEIGHT
6237776	M16x1,5	22	40
6237777	M22x1,5	28	65



TEST POINT, ISO 3583 WITH BULKHEAD

PRISE DE PRESSION, ISO 3583 AVEC PASSE-CLOISON
 PRÜFANSCHLUSS, ISO 3583 MIT SCHOTTSTUTZEN
 TOMADA DE TESTE, ISO 3583 COM ANTEPARO

ARTICLE NO.	D1	D2	L	HEX	WEIGHT
6239144	M 18 x 1,5	M 12 x 1,5	18	22	57

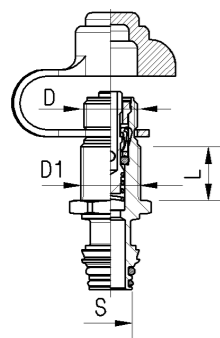


TEST POINT, ISO 3583 WITH BULKHEAD AND INTEGRATED PUSH-IN

PRISE DE PRESSION, ISO 3583 AVEC PASSE-CLOISON ET RACCORD PUSH-IN
 PRÜFANSCHLUSS, ISO 3583 MIT SCHOTTSTUTZEN UND STECKVERBINDUNG
 TOMADA DE TESTE, ISO 3583 COM ANTEPARO E PUSH-IN INTEGRADO

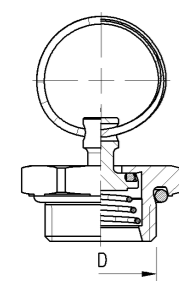
ARTICLE NO.	D1	T	L	HEX	WEIGHT
6237207	M18x1,5	6x1	18	22	68
6237227	M18x1,5	8x1	18	22	61

IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.



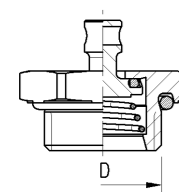
TEST POINT, ISO 3583 WITH BULKHEAD AND ABC SWIVEL™
 PRISE DE PRESSION, ISO 3583 AVEC PASSE-CLOISON ET ABC SWIVEL™
 PRÜFANSCHLUSS, ISO 3583 MIT SCHOTTSTUTZEN UND ABC™ ANSCHLUSS-STUTZEN
 TOMADA DE TESTE, ISO 3583 COM ANTEPARO E ABC SWIVEL™

ARTICLE NO.	D1	S	L	ROTOLOCK	HEX	WEIGHT
96051800	M 18 x 1,5	regular	18	964 50 022	22	69



DRAIN PLUG WITH RING
 BOUCHON DE PURGE DE RÉSERVOIR AVEC ANNEAU
 ENTWÄSSERUNGSVENTIL MIT RING
 TAMPÃO DE DRENAGEM COM ANEL

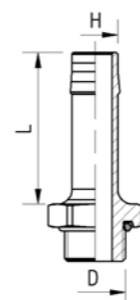
ARTICLE NO.	D	HEX	WEIGHT
6238756	M 22 x 1,5	28	36



DRAIN PLUG
 BOUCHON DE PURGE DE RÉSERVOIR
 ENTWÄSSERUNGSVENTIL
 TAMPÃO DE DRENAGEM

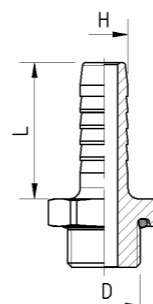
ARTICLE NO.	D	HEX	WEIGHT
6238757	M 22 x 1,5	28	35

IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.



HOSE NIPPLE, DIN 74304
 RACCORD QUEUE LISSE, DIN 74304
 SCHLAUCHSTUTZEN, DIN 74304
 BICO PARA FLEXÍVEL DE FREIO, DIN 74304

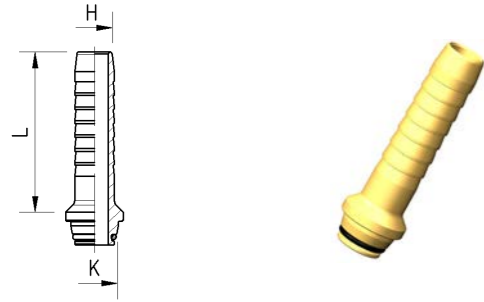
ARTICLE NO.	H	D	L	HEX	WEIGHT
6237994	11	M16x1,5	40	22	44
6237997	11	M22x1,5	40	28	69
6237995	13	M16x1,5	40	22	60
6237996	13	M22x1,5	40	28	70



HOSE NIPPLE, RAUFOSS COUPLINGS® STANDARD
 RACCORD QUEUE CANNELÉE, STANDARD RAUFOSS COUPLINGS®
 SCHLAUCHSTUTZEN, NACH RAUFOSS COUPLINGS® NORM
 BICO PARA FLEXÍVEL DE FREIO, PADRÃO RAUFOSS COUPLINGS®

ARTICLE NO.	H	D	L	HEX	WEIGHT
6237926	9,5	M16x1,5	30	22	43
6237927	9,5	M22x1,5	30	28	72
6237905	10	M16x1,5	30	22	46
6237912	10	M22x1,5	30	28	72
6237906	11	M12x1,5	30	22	47
6237907	11	M16x1,5	30	22	41
6237915	11	M22x1,5	30	28	68
6237908	13	M16x1,5	30	22	41
6237914	13	M22x1,5	30	28	67
6237911	14,5	M16x1,5	30	22	49
6237913	14,5	M22x1,5	30	28	79

IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.



HOSE NIPPLE, WITH 24° CONE

RACCORD QUEUE CANNELÉE, AVEC CÔNE 24°
SCHLAUCHSTUTZEN, MIT 24°-KONUS UND O-RING
BICO PARA FLEXÍVEL DE FREIO COM CONE 24°

ARTICLE NO.	H	K1	NUT	L	WEIGHT
6238992	9	K 24° - 10	616 1146	40	18
6238993	11	K 24° - 12	616 1147	40	21
6238983	3/8"	K 24° - 12	616 1147	40	22
6238994	1/2"	K 24° - 12	616 1149	40	27

EN: KINDLY PURCHASE THE NUT SEPARATELY.
TO BE USED TOGETHER WITH A 24° CONE COUPLING.

DE: ÜBERWURFMUTTER GESONDERT BESTELLEN.
ANSCHLUSS AN SCHOTTSTUTZEN ODER ADAPTER MIT KONUS (24°).

FR: ÉCROU VENDU SÉPARÉMENT.
À UTILISER AVEC UN RACCORD AVEC CONE 24°.

PO: A PORCA É VENDIDA SEPARADMENTE.
DEVE SER USADA EM CONJUNTO COM UMA CONEXÃO DE AR
24° CÔNICA.

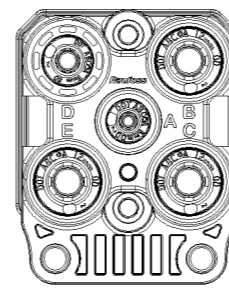


NUT FOR HOSE NIPPLE

ÉCROU POUR RACCORD QUEUE CANNELÉE
ÜBERWURFMUTTER, FÜR SCHLAUCHSTUTZEN
PORCA PARA BICO DE FLEXÍVEL DE FREIO

ARTICLE NO.	D1	HOSE NIPPLE	HEX	WEIGHT
6161146	M16x1,5	623 8992	19	19
6161147	M18x1,5	623 8993	22	26
6161149	M18x1,5	623 8994	22	25

IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.



ABC MULTI-CONNECTOR™, KARTRIDGE PLATE - 5 PORTS

ABC MULTI-CONNECTOR™, PLAQUE POUR KARTRIDGE - 5 PORTS
ABC MEHRFACH-VERBINDER, KARTRIDGE-SEITE,
ABC MULTI-CONNECTOR™, PLACA KARTRIDGE 5 PORTAS

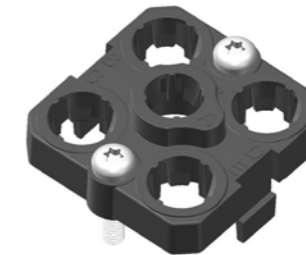
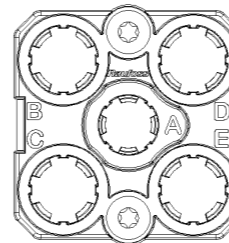
ARTICLE NO.	A	B	C	D	E	WEIGHT
99000085	6x1	10x1,25	10x1,25	8x1	10x1,25	121
99000102	6x1	12x1,5	-	8x1	12x1,5	110
99000151	6x1	12x1,5	12x1,5	8x1	12x1,5	121
99000084	6x1	8x1	10x1,25	8x1	10x1,25	119
99000101	6x1	swivel reg	swivel reg	swivel reg	-	112
99000100	6x1	swivel reg	swivel reg	swivel reg	swivel reg	123
99000187	8x1	10x1,25	10x1,25	10x1,25	10x1,25	101
99000209	8x1	10x1,25	10x1,25	12x1,5	10x1,25	114

EN: KINDLY PURCHASE ABC THREADLESS PLATE SEPARATELY.

DE: ABC MEHRFACH-VERBINDER THREADLESS SEITE GESONDERT
BESTELLEN.

FR: LA PLAQUE ABC THREADLESS EST VENDU SÉPARÉMENT.

PO: A PLACA ABC THREADLESS É VENDIDA SEPARADAMENTE.

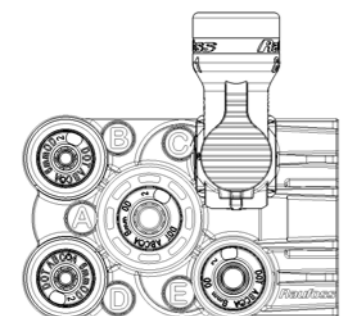
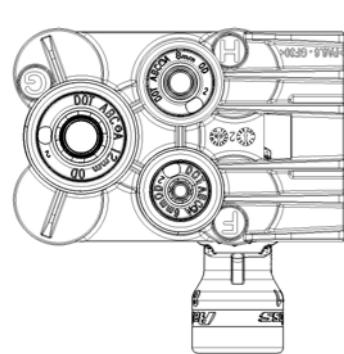


ABC MULTI-CONNECTOR™, THREADLESS PLATE - 5 PORTS

ABC MULTI-CONNECTOR™, PLAQUE POUR ABC THREADLESS - 5 PORTS
ABC MEHRFACH-VERBINDER, THREADLESS-SEITE, 5 ANSCHLÜSSE
ABC MULTI-CONNECTOR™, PLACA ABC THREADLESS COM 5 PORTAS

ARTICLE NO.	A	B	C	D	E	WEIGHT
99000086	small	regular	regular	regular	regular	40

IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.



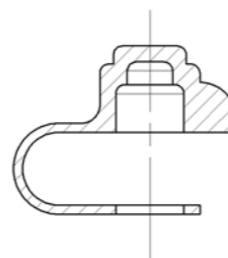
ABC MANIFOLD™, AIR SUPPLY 8 PORTS

ABC MANIFOLD™, DISTRIBUTION EN AIR - 8 PORTS

ABC VERTEILERBLOCK, 8 ANSCHLÜSSE

ABC MANIFOLD™, DISTRIBUIÇÃO DE AR COM 8 PORTAS

ARTICLE NO.	A	B	C	D	E	F	G	H	WEIGHT
99000112	8x1	6x1	6x1	6x1	6x1	6x1	8x1	6x1	114
99000261	8x1	6x1	8x1(90°)	6x1	8x1	6x1	12x1,5	8x1	125
99000208	8x1	8x1	8x1	8x1	plug	8x1	8x1	8x1	116
99000207	8x1	8x1	8x1	8x1	8x1	8x1	8x1	8x1	116
99000099	12x1,5	8x1	8x1	8x1	8x1	8x1	8x1	8x1	116
99000163	3/8"	1/4"	1/4"	1/4"	1/4"	1/4"	3/8"	1/4"	116



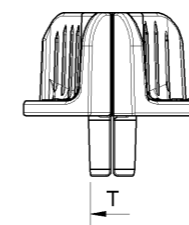
SAFETY CAP, FOR TEST POINT

CAPUCHON, POUR PRISE DE PRESSION

SCHUTZKAPPE, FÜR PRÜFVENTIL

TAMPA DE SEGURANÇA PARA TOMADA DE TESTE

ARTICLE NO.	PACK	WEIGHT
3579076	50	4



ABC RELEASE TOOL™ STANDARD

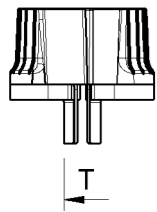
ABC RELEASE TOOL™ STANDARD

ABC RELEASE TOOL™, STANDARD-VERSION

ABC RELEASE TOOL™ PADRÃO

ARTICLE NO.	T	T	T	T (SAE)	PACK	WEIGHT
96606010	6 x 1			1/4"	150	5
96608010	8 x 1				125	5
96610010	10 x 1	10 x 1,25	10 x 1,5	3/8"	100	5
96612710	12 x 1,5			1/2"	100	5
96614010	14 x 2				100	7
96615010	15 x 1,5				75	7
96616010	16 x 2			5/8"	75	7
96619110				3/4"	50	7

SEE PAGE 70 AND 71 FOR MORE DETAILS AND TRANSLATIONS



ABC RELEASE TOOL™ PROFESSIONAL

ABC RELEASE TOOL™ PROFESSIONNEL
 ABC RELEASE TOOL™, PROFI-VERSION
 ABC RELEASE TOOL™ PROFESSIONAL

ARTICLE NO.	T	T	T	T (SAE)	WEIGHT
96606031	6 x 1			1/4"	21,0
96608031	8 x 1				21,0
96610031	10 x 1	10 x 1,25	10 x 1,5	3/8"	20,0
96612031	12 x 1,5			1/2"	20,0
96614031	14 x 2				35,0
96615031	15 x 1,5				35,0
96616031	16 x 2			5/8"	34,0
96619131				3/4"	33,0

SEE PAGE 70 AND 71 FOR MORE DETAILS AND TRANSLATIONS



ABC RELEASE TOOL™ PROFESSIONAL KIT

KIT PROFESSIONNEL D'OUTILS ABC RELEASE TOOL™
 ABC RELEASE TOOL™-KIT, PROFI-VERSION
 ABC RELEASE TOOL™ KIT PROFESSIONAL

ARTICLE NO.	6X1 - 1/4"	8X1	10X1... 3/8"	12X1,5 - 1/2"	14X2	15X1,5	16X2 - 5/8"
2600131	1	1	1	1	1	1	1
2600231	1	1	1	1		1	1

SEE PAGE 70 AND 71 FOR MORE DETAILS AND TRANSLATIONS

IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.



CIRCLIP PLIER

PINCE À CIRCLIPS
 SEEGERING-ZANGE
 ALICATE PARA ANÉIS TRAVA

ARTICLE NO.	TYPE
892001	straight version
892000	90° version



TYPE A



TYPE B

TUBE CUTTER

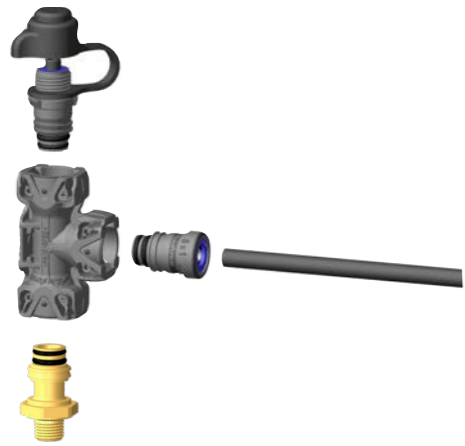
PINCE COUPANTE POUR TUBES
 SCHLAUCHSCHNEIDER
 CORTADOR DE TUBOS

ARTICLE NO.	TYPE
209010	A
209013	B

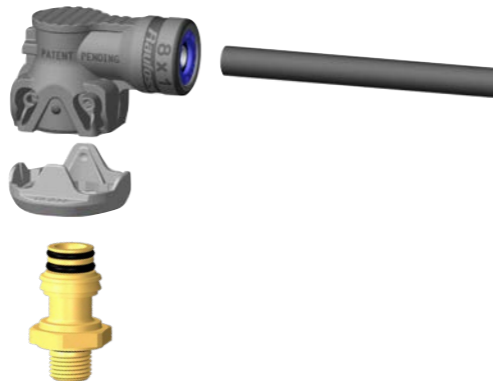
IF THE PRODUCT YOU ARE LOOKING FOR IS NOT IN THIS CATALOGUE, PLEASE CONTACT US FOR INFORMATION ON ALTERNATIVE SOLUTIONS.

RAUFOSS ABC™ SYSTEM
ASSEMBLY PROPOSALS

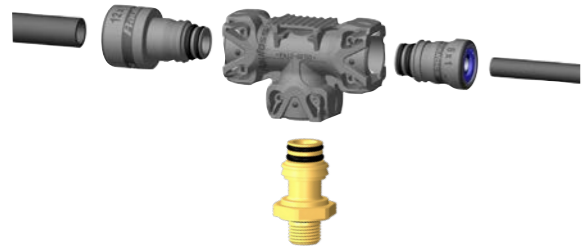
L-COUPLING WITH TEST POINT



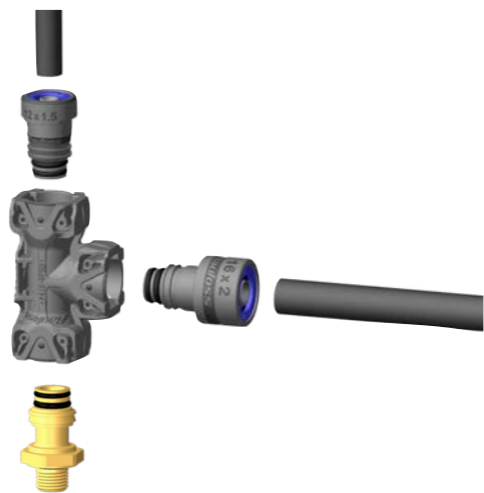
INTEGRAL-COUPLING WITH ROTOLock



T-COUPLING



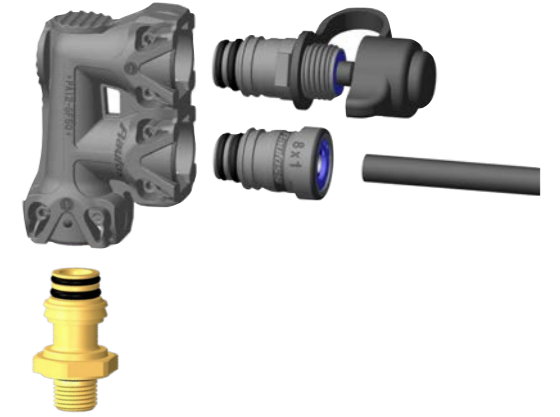
L-COUPLING



BULKHEAD WITH INTEGRAL COUPLING



F-COUPLING



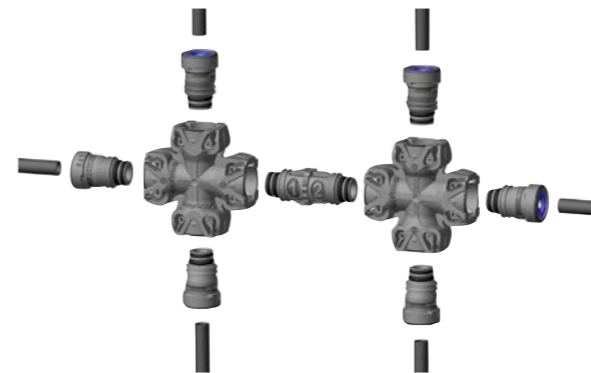
REDUCER



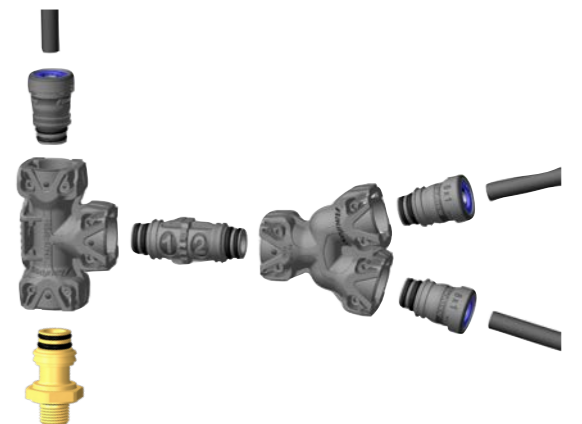
4-WAY CROSS WITH REDUCER



4 - WAY UNION COUPLINGS

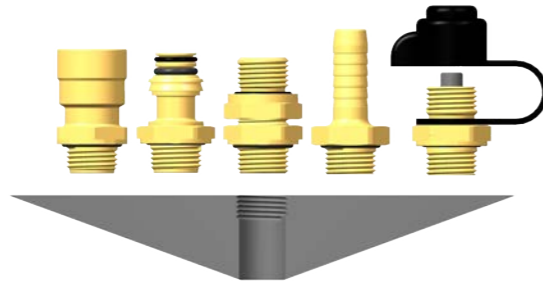


COMBINED COUPLINGS



PARALLEL THREAD ASSEMBLY INSTRUCTIONS

FILETAGE PARALLÈLE INSTRUCTIONS DE MONTAGE



The “M” threaded Raufoss Couplings® can be directly tightened into threaded ports compliant with ISO 4039-1, ISO 4039-2, ISO 6149, ISO 9974-1, DIN 3852, or Voss (232) standards without any additional preparation.

The “G” threaded Raufoss Couplings® can be directly tightened into ports compliant with ISO 1179-1 and DIN 3852-2 standards without any additional preparation.

The recommended torque values are specified in Table 2a.

Les filetages métriques des raccords Raufoss Couplings® sont directement vissés dans des orifices filetés conformes aux normes ISO 4039-1, ISO 4039-2, ISO 6149, ISO 9974-1, DIN 3852 ou Voss (232), sans aucune préparation supplémentaire.

Les filetages gaz ou « G » des raccords Raufoss Couplings® sont directement vissés dans des orifices conformes aux normes ISO 1179-1 et DIN 3852-2, sans aucune préparation supplémentaire.

Les couples de serrage recommandés sont indiqués dans le Tableau 2a.

TABLE 2A // TABLEAU 2A // TABELLE 2A // TABELA 2A

THREAD FILETAGE GEWINDE ROSCA	RECOMMENDED TORQUE ^{1,2} COUPLE DE SERRAGE RECOMMANDÉ ^{1,2} EMPFOHLENES ANZUGSDREHMOMENT ^{1,2} TORQUE RECOMENDADO ^{1,2}	MAX. TORQUE ² COUPLE DE SERRAGE MAX ² MAX. ANZUGSDREHMOMENT ² TORQUE MÁXIMO ²
M10x1	15 Nm (11,1 lbf ft)	18 Nm (13,3 lbf ft)
M12x1,5	20 Nm (14,8 lbf ft)	24 Nm (17,7 lbf ft)
M14x1,5	24 Nm (17,7 lbf ft)	28 Nm (20,7 lbf ft)
M16x1,5	30 Nm (22,1 lbf ft)	35 Nm (25,8 lbf ft)
M18x1,5	30 Nm (22,1 lbf ft)	35 Nm (25,8 lbf ft)
M20x1,5	34 Nm (25,1 lbf ft)	40 Nm (29,5 lbf ft)
M22x1,5	34 Nm (25,1 lbf ft)	40 Nm (29,5 lbf ft)
M24x1,5	34 Nm (25,1 lbf ft)	40 Nm (29,5 lbf ft)
M26x1,5	43 Nm (31,7 lbf ft)	50 Nm (36,9 lbf ft)
M28x1,5	43 Nm (31,7 lbf ft)	50 Nm (36,9 lbf ft)
M30x2	47 Nm (35 lbf ft)	55 Nm (41 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)

PARALLELGEWINDE MONTAGEHINWEISE

ROSCA PARALELA INSTRUÇÕES DE MONTAGEM

Raufoss Couplings® Verschraubungen mit „M“-Gewinde können direkt ohne weitere Vorbehandlung in Gewindeanschlüsse gemäß ISO 4039-1, ISO 4039-2, ISO 6149, ISO 9974-1, DIN 3852 oder Voss 232 eingeschraubt werden.

Raufoss Couplings® Verschraubungen mit „G“-Gewinde können direkt ohne weitere Vorbehandlung in Gewindeanschlüsse gemäß ISO 1179-1 oder DIN 3852-2 eingeschraubt werden.

Die empfohlenen Anzugsdrehmomente sind der Tabelle 2a zu entnehmen.

Raufoss Couplings® Verschraubungen mit „M“-Gewinde können direkt ohne weitere Vorbehandlung in Gewindeanschlüsse gemäß ISO 4039-1, ISO 4039-2, ISO 6149, ISO 9974-1, DIN 3852 oder Voss 232 eingeschraubt werden.

Raufoss Couplings® Verschraubungen mit „G“-Gewinde können direkt ohne weitere Vorbehandlung in Gewindeanschlüsse gemäß ISO 1179-1 oder DIN 3852-2 eingeschraubt werden.

Die empfohlenen Anzugsdrehmomente sind der Tabelle 2a zu entnehmen.



When using the couplings ABC NewLine™, ABC Swivel™, and ABC Complementary™ components together with ABC Bulkheads, the reduced torque values specified in Table 2b are recommended.

Lors de l'utilisation des raccords ABC NewLine™, ABC Swivel™ et des composants ABC Complementary™ avec les raccords passe-cloison ABC, il est recommandé d'appliquer les couples de serrage réduits spécifiés dans le Tableau 2b.

Bei Verwendung von geraden ABC Steckverbindern, ABC Anschluss-Stutzen und ABC Ergänzungsteilen mit ABC Schottstutzen gelten die nachfolgenden reduzierten Drehmomente gemäß Tabelle 2b.

Ao utilizar as coeções de ar ABC NewLine™, ABC Swivel™ e ABC Complementary™ em conjunto com ABC bulkheads, são recomendados os valores de torque reduzidos especificados na Tabela 2b.

TABLE 2B // TABLEAU 2B // TABELLE 2B // TABELA 2B

THREAD FILETAGE GEWINDE ROSCA	RECOMMENDED TORQUE ^{1,2} COUPLE DE SERRAGE RECOMMANDÉ ^{1,2} EMPFOHLENES ANZUGSDREHMOMENT ^{1,2} TORQUE RECOMENDADO ^{1,2}	MAX. TORQUE ² COUPLE DE SERRAGE MAX ² MAX. ANZUGSDREHMOMENT ² TORQUE MÁXIMO ²
M10x1	10 Nm (7,4 lbf ft)	12 Nm (8,9 lbf ft)
M12x1,5	14 Nm (10,3 lbf ft)	16 Nm (11,8 lbf ft)
M16x1,5	20 Nm (14,8 lbf ft)	24 Nm (17,7 lbf ft)
M22x1,5	34 Nm (25,1 lbf ft)	40 Nm (29,5 lbf ft)

- 1) The recommended torque values are based on unlubricated threads and apply to ports made of aluminum, brass, or steel. A torque wrench must be used.
- 2) If lower maximum torque values are specified for valves, air reservoirs, or other components, those values must be followed.

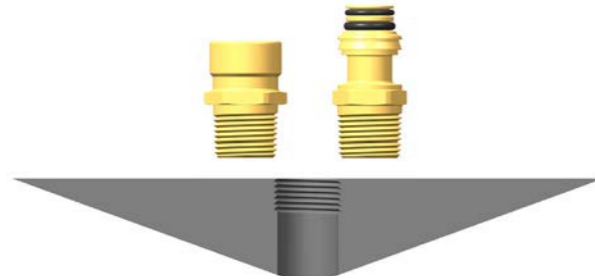
- 1) Die empfohlenen Anzugsdrehmomente gelten für nicht vorbehandelte Gewinde in Aluminium, Messing oder Stahl. Ein Drehmomentschlüssel ist zu verwenden.
- 2) Falls für Ventile, Luftbehälter oder andere Komponenten niedrigere maximale Drehmomentwerte angegeben sind, müssen diese Werte eingehalten werden.

- 1) Les couples de serrage recommandés sont basés sur des filetages non lubrifiés et s'appliquent aux orifices en aluminium, en laiton ou en acier. Une clé dynamométrique doit être utilisée.
- 2) Si des couples de serrage maximum inférieurs sont spécifiés pour les valves, réservoirs d'air ou autres composants, ces valeurs doivent être respectées.

- 1) Os valores de torque recomendados são baseados em roscas não lubrificadas e se aplicam a conexões de alumínio, latão ou aço. É necessário utilizar uma chave de torque.
- 2) Se forem especificados valores máximos de torque mais baixos para válvulas, reservatórios de ar ou outros componentes, esses valores devem ser seguidos.

CONICAL THREAD ASSEMBLY INSTRUCTIONS

FILETAGE CONIQUE INSTRUCTIONS DE MONTAGE



For the installation of Raufoss Couplings® with "NPTF" or "R" threads without coating, external sealant (tape or liquid) is required. Please note that unscrewing may damage the seal.

The recommended torque values are specified in Table 2c.

Pour l'installation des raccords Raufoss Couplings® avec filetages coniques type « NPTF » ou « R », un produit d'étanchéité (ruban ou liquide) est requis si le filetage conique n'est pas pré-enduit. Veuillez noter que le dévissage peut endommager l'étanchéité.

Les couples de serrage recommandés sont indiqués dans le Tableau 2c

KONISCHES GEWINDE MONTAGEHINWEISE

ROSCA CÔNICA INSTRUÇÕES DE MONTAGEM

Raufoss Couplings® Verschraubungen mit „NPTF“-oder „R“-Gewinden ohne Beschichtung erfordern ein zusätzliches Dichtmittel (Band oder Flüssigkeit). Bitte beachten Sie, dass das Heraus-schrauben die Dichtung beschädigen kann.

Die empfohlenen Anzugsdrehmomente sind der Tabelle 2c zu entnehmen.

Para a instalação de conexões de ar Raufoss Couplings® com roscas "NPTF" ou "R" sem anel o-ring de vedação é necessário um selante externo (fita ou líquido). Observe que o desrosqueamento pode danificar a vedação.

Os valores de torque recomendados estão especificados na Tabela 2c.

TABLE 2C // TABLEAU 2C // TABELLE 2C // TABELA 2C

THREAD FILETAGE GEWINDE ROSCA	RECOMMENDED TORQUE ^{1,2} COUPLE DE SERRAGE RECOMMANDÉ ^{1,2} EMPFOHLENES ANZUGSDREHMOMENT ^{1,2} TORQUE RECOMENDAD ^{01,2}	MAX. TORQUE ² COUPLE DE SERRAGE MAX ² MAX. ANZUGSDREHMOMENT ² TORQUE MÁXIMO ²
1/8"-27 NPTF	15 Nm (11,1 lbf ft)	18 Nm (13,3 lbf ft)
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 (28,0 lbf ft)
1/2"-14 NPTF	36 Nm (26,6 lbf ft)	42 Nm (31,0 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 torque values are based on unlubricated threads and apply to ports made of aluminum, brass, or steel. A torque wrench must be used.
- 2) If lower maximum torque values are specified for valves, air reservoirs, or other components, those values must be followed.

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

2) Si des couples de serrage maximum inférieurs sont spécifiés pour les valves, réservoirs d'air ou autres composants, ces valeurs doivent être respectées.

- 1) Die empfohlenen Anzugsdrehmomente gelten für nicht vorbehandelte Gewinde in Aluminium, Messing oder Stahl. Ein Drehmomentschlüssel ist zu verwenden.
- 2) Falls für Ventile, Luftbehälter oder andere Komponenten niedrigere maximale Drehmomentwerte angegeben sind, müssen diese Werte eingehalten werden.

1) Os valores de torque recomendados são baseados em roscas não lubrificadas e se aplicam a conexões de alumínio, latão ou aço. É necessário utilizar uma chave de torque.

2) Se forem especificados valores máximos de torque mais baixos para válvulas, reservatórios de ar ou outros componentes, esses valores devem ser seguidos.

ROTOLOCK ASSEMBLY ASSEMBLY INSTRUCTIONS

MONTAGE DES BAGUES DE BLOCAGE ROTOLOCK INSTRUCTIONS DE MONTAGE

MONTAGE DES ROTOLOCK MONTAGEHINWEISE

MONTAGEM DE ROTOLOCK ISTRUZIONI DI MONTAGGIO



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1. Press-in Rotolock on the ABC Building Block.
Clipser le Rotolock sur le ABC Building Block.
Zusammenstecken von Rotolock und ABC Baukastenteil.
Pressione o Rotolock no bloco de construção ABC.

2. Press-in the pre-assembled ABC Building Block onto the ABC Swivel™ (1st step = locked in safety position)
Clipser le ABC Building Block préassemblé sur le ABC Swivel™ (1^{re} étape = verrouillage en position de sécurité).
Die Baugruppe auf den ABC Anschluss-Stutzen stecken (1. Stufe = Sicherungsposition).
Pressione o bloco de construção ABC pré-montado no ABC Swivel™ (1^o passo = travado na posição de segurança).

3. Rotate and choose the best orientation for the tube routing.
Faire pivoter et choisir la meilleure orientation pour le cheminement du tube.
Gewünschte Ausrichtung für die Rohrführung mittels Verdrehen der ABC-Baugruppe einstellen.
Gire e escolha a melhor orientação para o roteamento do tubo.

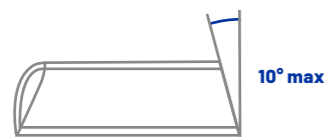
4. Press-in the pre-assembled ABC Building Block all the way onto the ABC Swivel™ (2nd step = sealed position)
Clipser complètement le ABC Building Block préassemblé sur le ABC Swivel™ (2^e étape = position d'étanchéité).
Die ABC-Baugruppe bis zum Anschlag auf den ABC Anschluss-Stutzen stecken (2. Stufe = Dichtposition).
Pressione o bloco de construção ABC pré-montado até o fim no ABC Swivel™ (2^a etapa = posição selada).

TUBE ASSEMBLY ASSEMBLY INSTRUCTIONS

MONTAGE DES TUBES INSTRUCTIONS DE MONTAGE

The tube must be cut using a tube cutter at a 90° angle, allowing a maximum deviation of 10°. The tube end should be free of marks, burrs, and stickers.

Couper le tube à l'aide d'un coupe-tube à un angle de 90°, avec une déviation maximale de 10°. L'extrémité du tube doit être exempte de marques, bavures et autocollants.



Assembly of the tube push-in is done by hand, without the need for special tools. The tube is inserted in a single, easy push-in operation.

Tube push-In sequence details:

1. The tube passes through the environmental seal O-ring.
 2. The tube passes through the grip ring.
 3. The tube passes the main seal O-ring and reaches the mechanical stop at the bottom of the coupling.
- Pull back the tube by hand to secure the assembly. Customer decision depending on the criticality level of the application.
 - All Push-In couplings provide a one-time distinctive feedback signal to confirm correct tube assembly.
 - The maximum required tube push-in forces are shown in Table 3. Approximately two-thirds of these values represent the standard forces encountered in serial production.

L'assemblage du tube par système Push-In se fait manuellement, sans besoin d'outil spécial. L'insertion du tube s'effectue en une seule opération simple de poussée.

Détails de la séquence de l'insertion du tube:

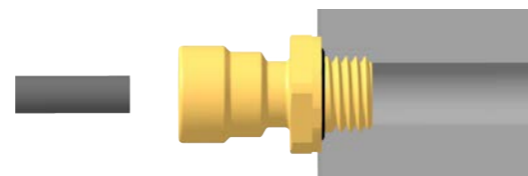
1. Le tube passe le joint torique environnementale.
 2. Le tube passe l'anneau de retenue.
 3. Le tube passe le joint torique principal et atteint la butée mécanique au fond du raccord.
- Tirez légèrement le tube à la main pour sécuriser l'assemblage. Cette étape dépend du niveau de criticité de l'application.
 - Tous les raccords Push-In délivrent un signal sonore et sensitif confirmant le bon assemblage du tube.
 - Les forces maximales requises pour l'insertion du tube sont indiquées dans le Tableau 3. En pratique l'effort nécessaire équivaut aux 2/3 des valeurs indiquées.

ROHRMONTAGE MONTAGEHINWEISE

MONTAGEM DO TUBO INSTRUÇÕES DE MONTAGEM

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

O tubo deve ser cortado com um cortador de tubos em um ângulo de 90°, permitindo um desvio máximo de 10°. A extremidade do tubo deve estar livre de marcas, rebarbas e adesivos.



Die Montage des Rohrs erfolgt manuell ohne Werkzeug. Das Einstecken des Rohrs erfolgt in einem einfachen Einsteckvorgang.

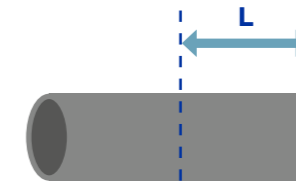
Die einzelnen Schritte des Einsteckvorgangs sind:

1. Durchlaufen des Umweltschutz-O-Rings
 2. Durchlaufen des Klemmrings
 3. Durchlaufen des Dicht-O-Rings und Erreichen des mechanischen Anschlags am Grund der Verschraubung
- Prüfen der Verbindung durch manuelles Ziehen des gesteckten Rohrs; Kundenentscheidung in Abhängigkeit der Sicherheitsstufe der Anwendung.
 - Alle Verschraubungen für direkte Rohrmontage geben ein einmaliges „Feedback“-Signal, um die korrekte Rohrmontage anzuzeigen.
 - Die maximal erforderlichen Einsteckkräfte sind in Tabelle 3 aufgeführt. Die in der Serienproduktion üblichen Kräfte betragen etwa 2/3 dieser Werte.

A montagem do tubo push-in é feita manualmente, sem a necessidade de ferramentas especiais. O tubo é inserido em uma única e fácil operação de encaixe.

Detalhes da sequência de encaixe do tubo:

1. O tubo passa pelo anel de vedação ambiental, O-ring.
 2. O tubo passa pelo anel de fixação.
 3. O tubo passa pelo anel de vedação principal, O-ring, e atinge o batente mecânico na parte inferior do acoplamento.
- Puxe o tubo manualmente para fixar o conjunto. A decisão do cliente depende do nível de criticidade da aplicação.
 - Todos as conexões de ar push-in fornecem um sinal de feedback único e distinto para confirmar a montagem correta do tubo.
 - As forças máximas necessárias para encaixe do tubo são mostradas na Tabela 3. Aproximadamente dois terços desses valores representam as forças padrão encontradas na produção em série.



A marking for visual verification of the push-in depth is optional. The required push-in length is specified in Table 3. If the tube is not fully inserted and only passes the grip ring, a controlled and measurable leakage will occur, while the brake system remains operational. An audible whistle may be heard to help identify the issue. Depending on the tube dimension, it is possible to re-insert the tube under pressure to achieve a complete and secure assembly.

Un marquage pour la vérification visuelle de la profondeur d'insertion est optionnel. La longueur d'insertion requise est indiquée dans le Tableau 3. Si le tube n'est pas complètement inséré et ne passe que l'anneau de retenue, une fuite contrôlée et mesurable se produira, tout en permettant au système de freinage de fonctionner. Un sifflement audible peut être entendu pour localiser la fuite. Selon la dimension du tube, il est possible de réinsérer le tube sous pression afin d'assurer un assemblage complet et sécurisé.

Die erforderliche Einstecklänge ist in Tabelle 3 angegeben. Für eine Sichtprüfung kann diese optional auf den Rohren gekennzeichnet werden. Falls das Rohr nicht vollständig eingeführt wurde und nur bis über den Klemmring reicht, tritt unter Druck eine begrenzte und messbare Leckage auf, während der das Bremssystem betriebsbereit bleibt. Ein dabei hörbarer Pfeifton kann zur Lokalisierung der Stelle beitragen. Je nach Abmessung kann das Rohr unter Druck nachgesteckt werden, um eine vollständige und sichere Montage zu erreichen.

Uma marcação para verificação visual da profundidade de encaixe é opcional. O comprimento de encaixe necessário é especificado na Tabela 3. Se o tubo não estiver totalmente inserido e passar apenas pelo anel de fixação, ocorrerá um vazamento controlado e mensurável, enquanto o sistema de freio permanecerá operacional. Um apito sonoro pode ser ouvido para ajudar a identificar o problema. Dependendo do tamanho do tubo, é possível reinseri-lo sob pressão para obter uma montagem completa e segura.

TABLE 3 // TABLEAU 3 // TABELLE 3 // TABELA 3

TUBE TUBE ROHR TUBO	PUSH-IN LENGTH LONGUEUR D'EMMANCHEMENT EINSTECKLÄNGE PROFUNDIDADE DA INSERÇÃO	MAX. PUSH-IN FORCE ⁴ FORCE D'EMMANCHEMENT ⁴ MAX. EINSTECKKRAFT ⁴ FORÇA MÁXIMA DE INSERÇÃO ⁴
4x1	17,2 mm (0,72 in)	70 N (15,7 lbf)
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)
18x2	27,0 mm (1,06 in)	130 N (29,2 lbf)
1/8"	19,5 mm	80 N (18,0 lbf)
3/8"	23,5 mm	100 N (21,5 lbf)
1/2"	25,5 mm	110 N (24,7 lbf)
5/8"	27,5 mm	130 N (29,2 lbf)
3/4"	27,5 mm	130 N (29,2 lbf)

4) Tube diameter, tolerances, ovality, and cutting quality can influence the required push-in force.

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

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

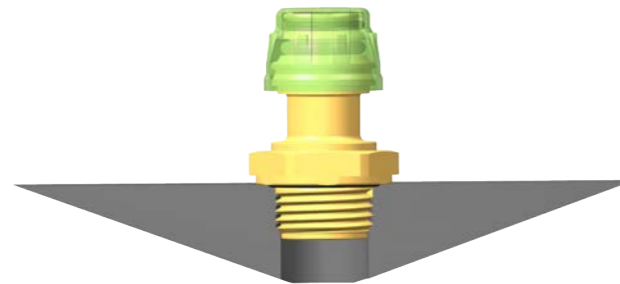
4) O diâmetro do tubo, as tolerâncias, a ovalização e a qualidade do corte podem influenciar a força de compressão necessária.

ASSEMBLY OF THE ABC SYSTEM ASSEMBLY INSTRUCTIONS

MONTAGE DES ABC BAUKASTENSYSTEMS MONTAGEHINWEISE

ASSEMBLAGE DES COMPOSANTS ABC SYSTEM INSTRUCTIONS DE MONTAGE

MONTAGEM DO SISTEMA ABC INSTRUÇÕES DE MONTAGEM



Mixing the Raufoss Couplings® ABC Building Block™ system with similar systems from other manufacturers is not permitted.

Swivels must be tightened using the recommended torque (see thread assembly instructions). The protective cap should be removed only after installation and right before assembling the ABC Building Block™.

Il n'est pas permis de mélanger le système ABC de Raufoss Couplings® avec des systèmes ou pièces similaires d'autres fabricants.

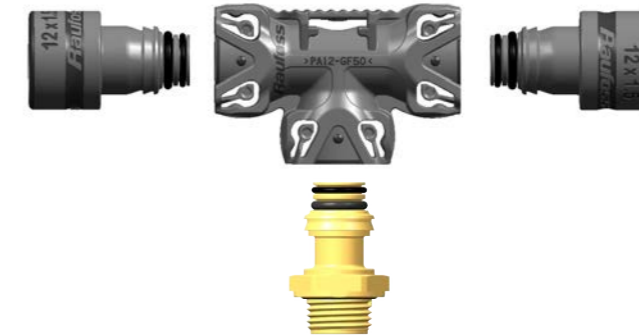
Les raccords pivotants doivent être serrés en respectant le couple recommandé (voir les instructions de montage des filetages). Le capuchon de protection ne doit être retiré qu'après l'installation, juste avant l'assemblage du module.

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

Das Einschrauben der Anschluss-Stutzen muss mit dem erforderlichen Drehmoment erfolgen (siehe Montagehinweise für Gewinde). Die Schutzkappe darf erst nach Befestigung des Stutzens und unmittelbar vor der Montage der ABC-Baukastenteile entfernt werden.

Não é permitida a mistura do sistema Raufoss Couplings® ABC Building Block com sistemas similares de outros fabricantes.

Swivels devem ser apertados com o torque recomendado (consulte as instruções de montagem da rosca). A tampa protetora deve ser removida somente após a instalação e imediatamente antes da montagem do Building Block.



The ABC Building Block™ system features a two-step connection. The components are manually pressed together, and the ABC Swivel™ and ABC Building Block™ can be rotated for proper positioning.

Upon reaching the first-step connection (safety position), a controlled audible leakage will occur. Depending on the size and accessibility, the connection can be fully pressed under pressure to complete and seal the assembly.

Le système de raccords ABC Building Block™ comprend une connexion en deux étapes. Les composants sont assemblés manuellement par pression, et le raccord ABC Swivel™ ainsi que le ABC Building Block™ peuvent être orienté pour un positionnement optimal.

Lorsque la première étape de montage est atteinte (position de sécurité), une fuite audible contrôlée se produit. Selon la dimension et l'accessibilité, il est possible de presser les composants ensemble jusqu'à la position d'étanchéité de l'assemblage.

Das ABC Baukastensystem verfügt über eine zweistufige Verbindung, wobei die Teile von Hand zusammengefügt werden. ABC Anschluss-Stutzen und ABC Baukastenteil können zur richtigen Positionierung gedreht werden.

Wenn lediglich die erste Verriegelungsstufe erreicht wird (Sicherungsposition), tritt eine begrenzte, hörbare Leckage auf. Je nach Größe und Zugänglichkeit kann die Verbindung unter Druck vollständig verpresst werden, um die Montage dicht abzuschließen.

O sistema ABC Building Block™ possui uma conexão em duas etapas. Os componentes são pressionados manualmente, e a ABC Swivel™ e o ABC Building Block™ podem ser girados para o posicionamento correto.

Ao atingir a conexão da primeira etapa (posição de segurança), ocorrerá um vazamento audível controlado. Dependendo do tamanho e da acessibilidade, a conexão pode ser totalmente pressionada sob pressão para completar e selar a montagem.

IMPORTANT RECOMMENDATIONS

DO NOT USE THE ABC BUILDING BLOCK™:

- > IN COMBINATION WITH "RUBBER" HOSES
- > FOR CONNECTION BETWEEN TRUCK AND TRAILER

FOR ALL ABC BUILDING BLOCK™ SYSTEM CONNECTIONS BETWEEN THE AXLE AND CHASSIS, THE BUILDING BLOCK™ MUST BE SECURED TO THE SWIVEL USING A ROTALOCK. PROPER TUBE ROUTING IS ALSO REQUIRED TO ENSURE RELIABLE PERFORMANCE.

RECOMMANDATIONS IMPORTANTES

NE PAS UTILISER LE SYSTÈME ABC BUILDING BLOCK™ :

- > EN COMBINAISON AVEC DES TUYAUX EN CAOUTCHOUC
- > POUR LA CONNEXION ENTRE LE TRACTEUR ET LA REMORQUE

POUR TOUTES LES CONNEXIONS DU SYSTÈME ABC ENTRE L'ESSIEU ET LE CHÂSSIS, LE ABC BUILDING BLOCK™ DOIT ÊTRE FIXÉ AU RACCORD PIVOTANT À L'AIDE D'UN ROTALOCK. UN CHEMINEMENT CORRECT DES TUBES EST ÉGALEMENT REQUIS POUR GARANTIR DES PERFORMANCES FIABLES.

WICHTIGE HINWEISE:

DAS ABC-BAUKASTENSYSTEM DARF NICHT VERWENDET WERDEN

- > IN VERBINDUNG MIT GUMMISCHLÄUCHEN
- > ZWISCHEN LKW UND ANHÄNGER

BEI ALLEN VERBINDUNGEN DES ABC BAUKASTENSYSTEMS ZWISCHEN FAHRZEUGACHSE UND -RAHMEN MUSS DAS ABC BAUKASTENTEIL MIT EINEM ROTALOCK AM ANSCHLUSS-STUTZEN GESICHERT WERDEN. DABEI IST DIE FUNKTION ÜBER EINE ORDNUNGSGEMÄSSE ROHRLEITUNGSFÜHRUNG SICHERZUSTELLEN.

RECOMENDAÇÕES IMPORTANTES

NÃO UTILIZE O ABC BUILDING BLOCK™

- > EM COMBINAÇÃO COM MANGUEIRAS DE "BORRACHA"
- > PARA CONEXÃO ENTRE CAMINHÃO E REBOQUE

PARA TODAS AS CONEXÕES DO SISTEMA ABC BUILDING BLOCK™ ENTRE O EIXO E O CHASSI, O ABC BUILDING BLOCK™ DEVE SER FIXADO AO SUPORTE GIRATÓRIO USANDO UM ROTALOCK. O ROTEAMENTO ADEQUADO DOS TUBOS TAMBÉM É NECESSÁRIO PARA GARANTIR UM DESEMPENHO CONFIÁVEL.

GENERAL INFORMATION REPAIR INSTRUCTIONS

INFORMATIONS GÉNÉRALES INSTRUCTIONS DE RÉPARATION

For your personal safety and the safe operation of the couplings as part of the brake system, please follow these instructions to prevent loss of brake function:

- ▶ Only original ABC Release Tool™ must be used to disconnect tubes from ABC Raufoss Couplings®.
 - ▶ The use of alternative methods, tools, or equipment not specified in this manual is considered misuse and will void the product warranty.
 - ▶ Kongsberg Automotive assumes no responsibility for any failures resulting from misuse or misapplication of the products
- The Raufoss Couplings® ABC system allows for easy replacement of components such as valves, air reservoirs, and air bellows without difficulty.

Before working on the couplings, please follow these steps to ensure safe and proper disassembly:

- ▶ Fully depressurize the pneumatic system to allow safe release of tubing and couplings.
- ▶ Remove any cable ties near the ABC coupling. Ensure the tube and the ABC couplings are accessible and that the tube is as straight as possible.
- ▶ Thoroughly clean both the push-in area around the tube and the locking area of the ABC Building Block™
- ▶ Make sure that no dirt or contaminant will enter the tube, the coupling or the valve port.

Pour votre sécurité personnelle et le bon fonctionnement des raccords en tant qu'éléments du système de freinage, veuillez suivre ces instructions afin d'éviter toute perte de fonction de frein :

- ▶ Seul l'outil d'extraction original ABC Release Tool™ doit être utilisé pour déconnecter les tubes des raccords ABC Raufoss Couplings®.
- ▶ L'utilisation de méthodes, d'outils ou d'équipements alternatifs non spécifiés dans ce manuel est considérée comme une mauvaise utilisation et annulera la garantie du produit.
- ▶ Kongsberg Automotive décline toute responsabilité en cas de défaillance résultant d'une mauvaise utilisation ou d'une application incorrecte des produits.

Le système de raccord ABC Raufoss Couplings® permet un remplacement facile des composants tels que les valves, les réservoirs d'air et les soufflets d'air, sans difficulté.

- ▶ Dépressurisez complètement le système pneumatique afin de permettre le retrait des tubes et des raccords en toute sécurité.
- ▶ Retirez tous les colliers de serrage situés à proximité du raccord ABC. Assurez-vous que le tube et les raccords ABC sont accessibles et que le tube soit aussi droit que possible.
- ▶ Nettoyez soigneusement la zone d'insertion autour du tube ainsi que la zone de verrouillage du ABC Building Block™.
- ▶ Assurez-vous qu'aucune saleté ou contaminant ne pénètre dans le tube, le raccord ou l'orifice de la valve.

ALLGEMEINE HINWEISE REPARATURHINWEISE

INFORMAÇÕES GERAIS INSTRUÇÕES DE REPARO

Bitte folgen Sie den Anweisungen zu Ihrer persönlichen Sicherheit und zur sicheren Verwendung des ABC- Verschraubungssystems als Teil des Bremssystems, um einen Ausfall der Bremsfunktion zu vermeiden:

- ▶ Es dürfen nur ABC Release Tool™ Originalwerkzeuge zur Demontage von Rohren aus den Raufoss Couplings® ABC-Verschraubungen verwendet werden.
- ▶ Die Verwendung anderer als der in diesem Handbuch angegebenen Methoden, Werkzeuge oder Geräte gilt als Missbrauch und führt zum Erlöschen der Produktgarantie.
- ▶ Kongsberg Automotive übernimmt keine Verantwortung für Ausfälle, die durch Missbrauch oder falsche Anwendung der Produkte entstehen.

Bei Verwendung des Raufoss Couplings® ABC-Verschraubungssystems ist der Austausch von Ventilen, Luftbehältern oder Luftfederbälgen problemlos möglich.

Bevor Sie mit den Arbeiten beginnen, befolgen Sie bitte die folgenden Schritte, um eine sichere und ordnungsgemäße Demontage zu gewährleisten:

- ▶ Entlüften Sie Druckluftanlage vollständig, um ein sicheres Lösen der Rohre bzw. der Verschraubungen zu ermöglichen.
- ▶ Entfernen Sie alle Kabelbinder im Bereich der ABC Verschraubung. Stellen Sie sicher, dass das Rohr und das ABC-Baukastenteil zugänglich sind und dass das Rohr möglichst gerade ist.
- ▶ Reinigen Sie gründlich sowohl den Einsteckbereich der Verschraubung als auch das Rohrende sowie das ABC Building Block™-Baukastenteil im Bereich der Verriegelung.
- ▶ Stellen Sie sicher, dass kein Schmutz oder andere Verunreinigungen ins Rohr, die Verschraubung oder die Gewindebohrung des Ventils gelangen.

Para sua segurança pessoal e a operação segura das coxões de ar como parte do sistema de freio, por favor siga estas instruções para evitar a perda da função de freio:

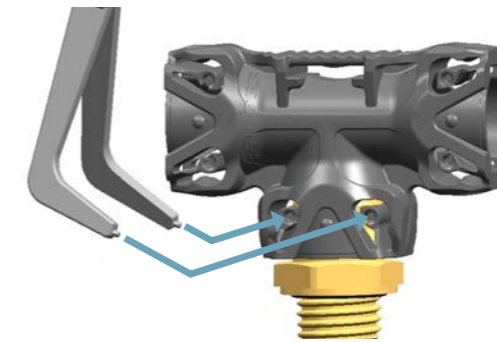
- ▶ Somente ferramentas originais ABC Release Tool™ devem ser utilizadas para desconectar os tubos das conexões de ar ABC Raufoss Couplings®.
 - ▶ O uso de métodos, ferramentas ou equipamentos alternativos não especificados neste manual é considerado uso indevido e anulará a garantia do produto.
 - ▶ A Kongsberg Automotive não se responsabiliza por quaisquer falhas resultantes do uso indevido ou aplicação incorreta dos produtos.
- O sistema ABC Raufoss Couplings® permite a substituição fácil de componentes como válvulas, reservatórios de ar e coifas de ar, sem dificuldade.

Antes de trabalhar nas conexões de ar, siga estas etapas para garantir uma desmontagem segura e adequada:

- ▶ Despressurize completamente o sistema pneumático para permitir a liberação segura da tubulação e das conexões de ar.
- ▶ Remova quaisquer braçadeiras próximas as conexões de ar ABC. Certifique-se de que o tubo e as conexões de ar ABC estejam acessíveis e que o tubo esteja o mais reto possível.
- ▶ Limpe completamente a área de encaixe ao redor do tubo e a área de travamento do ABC Building Block™.
- ▶ Certifique-se de que nenhuma sujeira ou contaminante entre no tubo, nas conexões de ar ou no portico da válvula.

RELEASE OF BUILDING BLOCK™ REPAIR INSTRUCTIONS

DÉMONTAGE DES ABC BUILDING BLOCK™ INSTRUCTIONS DE RÉPARATION



The ABC Building Block™ system can be disconnected using a standard circlip plier. All parts are reusable. Before reassembly, inspect the snap arms and sealing areas to ensure they are free from damage.

After reassembly, the operator must verify that the connection remains securely fixed in the main position and perform a leakage test.

If any damage or leakage is detected, the couplings must be replaced.

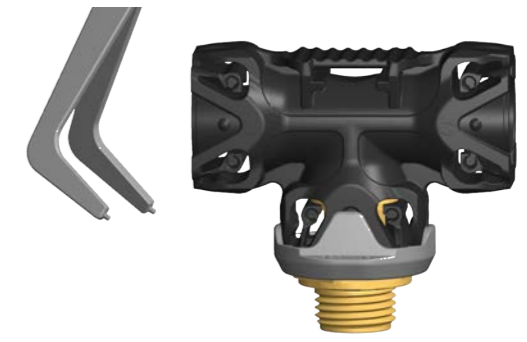
Le système ABC Building Block™ peut être déconnecté à l'aide d'une pince à circlips standard. Toutes les pièces sont réutilisables. Avant le remontage, inspectez les bras de verrouillage et les zones d'étanchéité pour vous assurer qu'ils ne présentent aucun dommage.

Après le remontage, l'opérateur doit vérifier que la connexion reste solidement fixée en position principale et effectuer un test d'étanchéité.

En cas de dommage ou de fuite détectée, les raccords doivent être remplacés.

DEMONTAGE ABC BUILDING BLOCK™-BAUKASTENTEILE REPARATURHINWEISE

REMOÇÃO DO ABC BUILDING BLOCK™ INSTRUÇÕES DE REPARO



Die ABC Building Block™-Baukastenteile können mit einer handelsüblichen Seegerringzange demontiert werden. Die Teile sind wiederverwendbar.

Vor Wiedermontage sind die Verriegelungsarme und die Dichtflächen auf Beschädigungen zu prüfen.

Nach Wiedermontage müssen der korrekte Sitz der Bauteile und die Dichtigkeit geprüft werden. Im Fall von Beschädigungen oder Undichtigkeiten müssen die Teile ausgetauscht werden.

O sistema ABC Building Block™ pode ser desconectado usando um alicate de retenção padrão. Todas as peças são reutilizáveis. Antes da remontagem, inspecione as hastas de encaixe e as áreas de vedação para garantir que não estejam danificados.

Após a remontagem, o operador deve verificar se a conexão permanece firmemente fixada na posição principal e realizar um teste de vazamento.

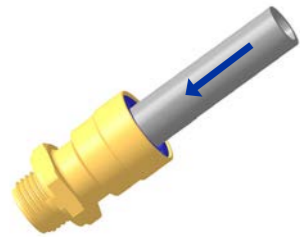
Se algum dano ou vazamento for detectado, as conexões de ar devem ser substituídas.

HANDLING OF THE ABC RELEASE TOOL™ REPAIR INSTRUCTIONS

MANIPULATION DE L'OUTIL ABC RELEASE TOOL™ INSTRUCTIONS DE RÉPARATION

Only use original ABC release tools™ provided by Kongsberg Automotive. Never insert any other parts or equipment into the coupling.

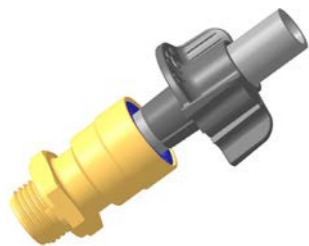
N'utilisez que les outils ABC release tools™ d'origine fournis par Kongsberg Automotive. Ne jamais insérer d'autres pièces ou équipements dans le raccord.



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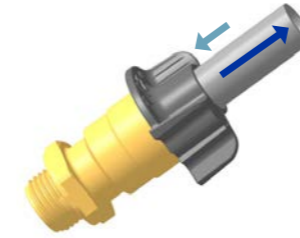
1. Check that ABC Release Tool™ is not damaged or blunt. If so, please replace it. Vérifiez que l'outil ABC Release Tool™ n'est pas endommagé ou émoussé. Dans ce cas, veuillez le remplacer. Überprüfen Sie, ob das ABC Release Tool™ beschädigt oder stumpf ist. Falls ja, ersetzen Sie es bitte. Verifique se a ferramenta ABC Release Tool™ não está danificada ou cega. Em caso afirmativo, substitua-a.
2. Push the tube to the bottom of the coupling to move the grip ring out of locking position. Poussez le tube jusqu'au fond du raccord pour libérer l'anneau de retenue. Schieben Sie das Rohr bis zum Anschlag in die Verschraubung, um den Klemmring aus der Verriegelungsposition zu bewegen. Empurre o tubo até a parte inferior da conexão de ar para mover o anel de fixação para fora da posição de travamento.
3. Place ABC Release Tool™ onto tube. Placez l'outil ABC Release Tool™ sur le tube. Platzieren Sie das ABC Release Tool™ auf dem Rohr. Coloque a ferramenta ABC Release Tool™ no tubo.
4. Ensure a tight contact between ABC Release Tool™ and tube. Assurez-vous que l'outil ABC Release Tool™ et le tube soit ajusté l'un contre l'autre. Stellen Sie einen festsitzenden Kontakt zwischen ABC Release Tool™ und Rohr sicher. Certifique-se de que haja contato firme entre a ferramenta ABC Release Tool™ e o tubo.
5. Push the ABC Release Tool™ into the coupling. Avoid using excessive force or rotation, while sliding ABC Release Tool™ down the tube. Make sure the flange of ABC Release Tool™ stops against the top of the coupling. Silicone spray can be used to ease the insertion of ABC Release Tool™. Poussez l'outil ABC Release Tool™ dans le raccord. Évitez d'utiliser une force excessive ou de faire tourner l'outil tout en le glissant le long du tube. Assurez-vous que la bride de l'outil ABC Release Tool™ s'arrête contre le haut du raccord. Un spray au silicone peut être utilisé pour faciliter l'insertion de l'outil ABC Release Tool™. Schieben Sie das ABC Release Tool™ in die Verschraubung. Vermeiden Sie übermäßige Kräfteinwirkungen oder Drehbewegungen beim Einschieben des ABC Release Tool™ entlang des Rohrs. Stellen Sie sicher, dass der Flansch des ABC Release Tool™ am Ende des Vorgangs auf der Verschraubung aufliegt. Zum leichteren Einführen des ABC Release Tool™ kann Silikon Spray verwendet werden. Empurre a ferramenta ABC Release Tool™ na conexão de ar. Evite usar força excessiva ou rotação ao deslizar a ferramenta ABC Release Tool™ pelo tubo. Certifique-se de que a flange da ABC Release Tool™ encoste na parte superior da conexão de ar. Spray de silicone pode ser usado para facilitar a inserção da ferramenta ABC Release Tool™.

HANDHABUNG DES ABC RELEASE TOOL™ REPARATURHINWEISE

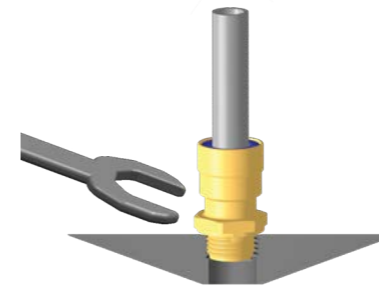
MANUSEIO DA FERRAMENTA ABC RELEASE TOOL™ INSTRUÇÕES DE REPARO

Es dürfen nur ABC Release Tool™ Originalwerkzeuge von Kongsberg Automotive verwendet werden. Fügen Sie niemals irgendwelche andere Teile oder Geräte in die Verschraubung ein.

Utilize somente ferramentas de remoção originais fornecidas pela Kongsberg Automotive. Nunca insira nenhuma outra peça ou equipamento nas conexões de ar.



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6. While holding the ABC Release Tool™ towards the coupling, pull the tube out. Rotating (a few degrees) the tube may ease the release. Tout en maintenant l'outil ABC Release Tool™ contre le raccord, tirez sur le tube pour le dégager. Une légère rotation (quelques degrés) du tube peut faciliter la libération. Drücken Sie das ABC Release Tool™ gegen die Verschraubung und ziehen Sie das Rohr heraus. Dabei das Rohr eventuell um wenige Grad drehen. Enquanto segura a ferramenta ABC Release Tool™ em direção a conexão de ar, puxe o tubo para fora. Girar o tubo (alguns graus) pode facilitar a liberação.
7. Remove ABC Release Tool™ from the coupling. Retirez l'outil ABC Release Tool™ du raccord. Entfernen Sie das ABC Release Tool™ aus der Verschraubung. Remova a ferramenta ABC Release Tool™ da conexão de ar.
8. Ensure that tube end is clean and undamaged. If not cut the tube end properly. Assurez-vous que l'extrémité du tube soit propre et non endommagée. Sinon, coupez correctement l'extrémité du tube. Stellen Sie sicher, dass das Rohrende sauber und unbeschädigt ist. Gegebenenfalls schneiden Sie das Rohrende gemäß Montagehinweis ab. Certifique-se de que a extremidade do tubo esteja limpa e sem danos. Caso contrário, corte a extremidade do tubo corretamente.
9. Perform a visual inspection inside the coupling to ensure there is no contamination in the pneumatic system or on the O-ring seals. Kongsberg Automotive is not responsible for any consequences or damages caused by such contamination. Effectuez une inspection visuelle à l'intérieur du raccord pour vérifier qu'il n'y a pas de contamination dans le système pneumatique ou sur les joints toriques. Kongsberg Automotive décline toute responsabilité en cas de conséquences ou dommages causés par une telle contamination. Prüfen Sie den Einsteckbereich und das Innere der Verschraubung um sicherzustellen, dass sich keine Verunreinigungen im pneumatischen System oder an den O-Ring-Dichtungen befinden. Kongsberg Automotive haftet nicht für Folgen oder Schäden, die durch solche Verunreinigungen entstehen. Realize uma inspeção visual dentro da conexão de ar para garantir que não haja contaminação no sistema pneumático ou nos anéis de vedação. A Kongsberg Automotive não se responsabiliza por quaisquer consequências ou danos causados por tal contaminação.
10. Push-In the clean tube. Insérez le tube propre. Schieben Sie das saubere Rohr in die Verschraubung hinein. Insira o tubo limpo.
11. Perform a leakage test. In case of leakages, the couplings must be replaced. Effectuez un test d'étanchéité. En cas de fuite, les raccords doivent être remplacés. Führen Sie eine Dichtheitsprüfung durch. Im Leckagefall muss die Verschraubung ausgetauscht werden. Realize um teste de vazamento. Em caso de vazamento, as conexões de ar devem ser substituídas.

If the ABC Release Tool™ is not available, the connection can be released along with the tube by unscrewing with a standard wrench. Note that the Push-In coupling will rotate on the tube during this process.

Si l'outil ABC Release Tool™ n'est pas disponible, l'assemblage peut être déconnecté avec en dévissant le raccord à l'aide d'une clé standard. Notez que le raccord Push-In tournera autour du tube pendant cette opération.

Falls das ABC Release Tool™ nicht verfügbar sein sollte, kann die Verschraubung zusammen mit dem Rohr mit einem Schraubenschlüssel gelöst werden. Beachten Sie, dass sich die Verschraubung dabei auf dem Rohr dreht.

Se a ferramenta ABC Release Tool™ não estiver disponível, a conexão pode ser liberada junto com o tubo, desaparafusando-a com uma chave inglesa comum. Observe que a conexão de ar push-in girará no tubo durante esse processo.

RAUFOSS COUPLINGS® HISTORY

1896
PRODUCTION
OF AMMUNITION
ESTABLISHED
AT RAUFOSS, NORWAY

1900



1950



1978
PRODUCTION OF
CONVENTIONAL
COUPLINGS INITIATED



2000



2002
R&D PROGRAM FOR
COMPOSITE COUPLINGS
ESTABLISHED

2007
FIRST BATCH DELIVERY
OF RAUFOSS ABC™
COUPLINGS SYSTEM



1920



1920
INITIAL CAR
PRODUCTION



1957
COMMERCIAL VEHICLE
BUSINESS ESTABLISHED

1980



1985
FIRST SERIAL
DELIVERY OF
BRASS PUSH-IN
COUPLINGS



2004
RAUFOSS COUPLINGS®
ACQUIRED BY KONGSBERG
AUTOMOTIVE

**PRODUCT
DEVELOPMENT**

2008
THREADLESS



2006
NEWLINE™



2008
KARTRIDGE

2010



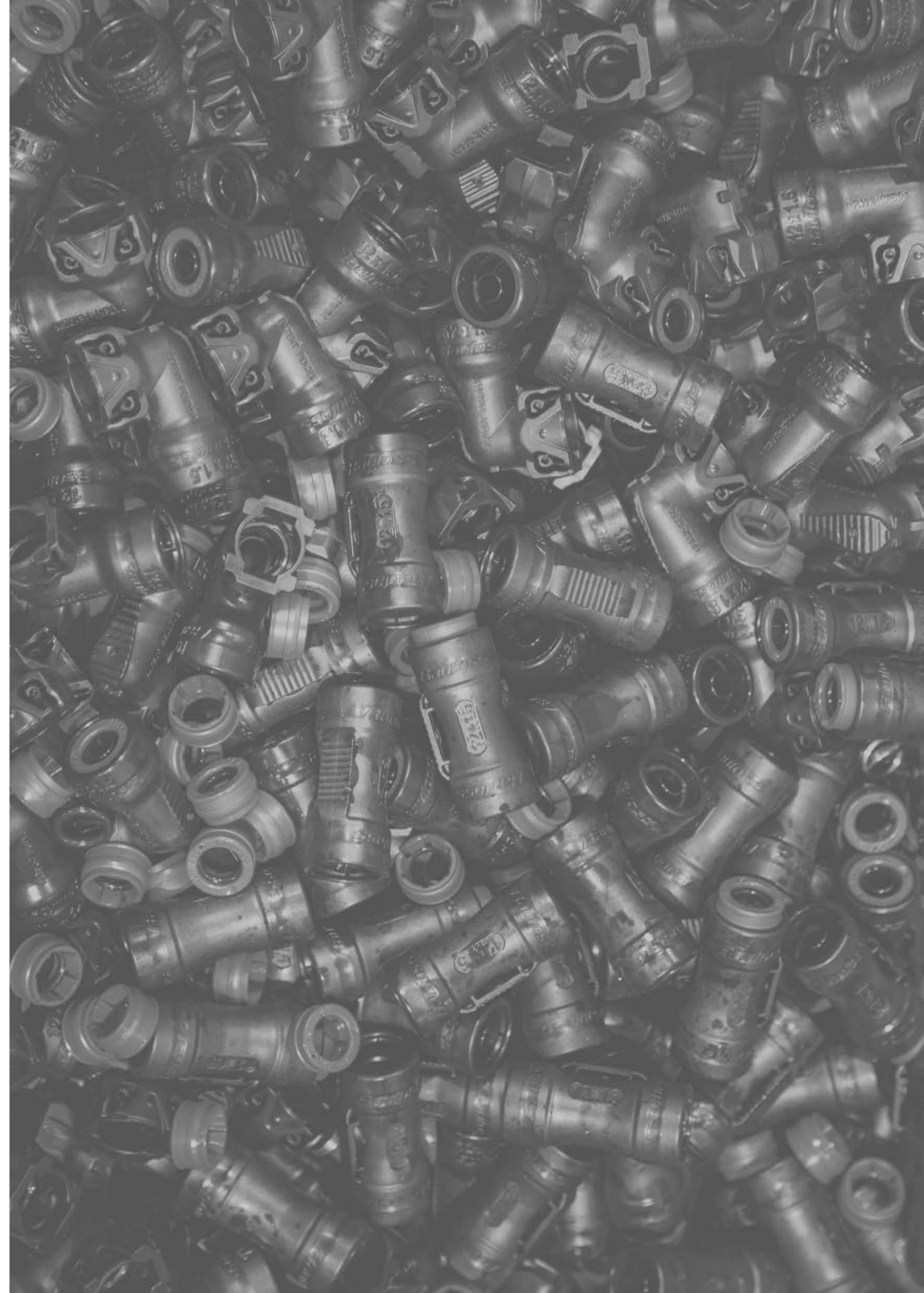
2015
WEIGHT
REDUCTION

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PRODUCT CATALOG 2025



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