



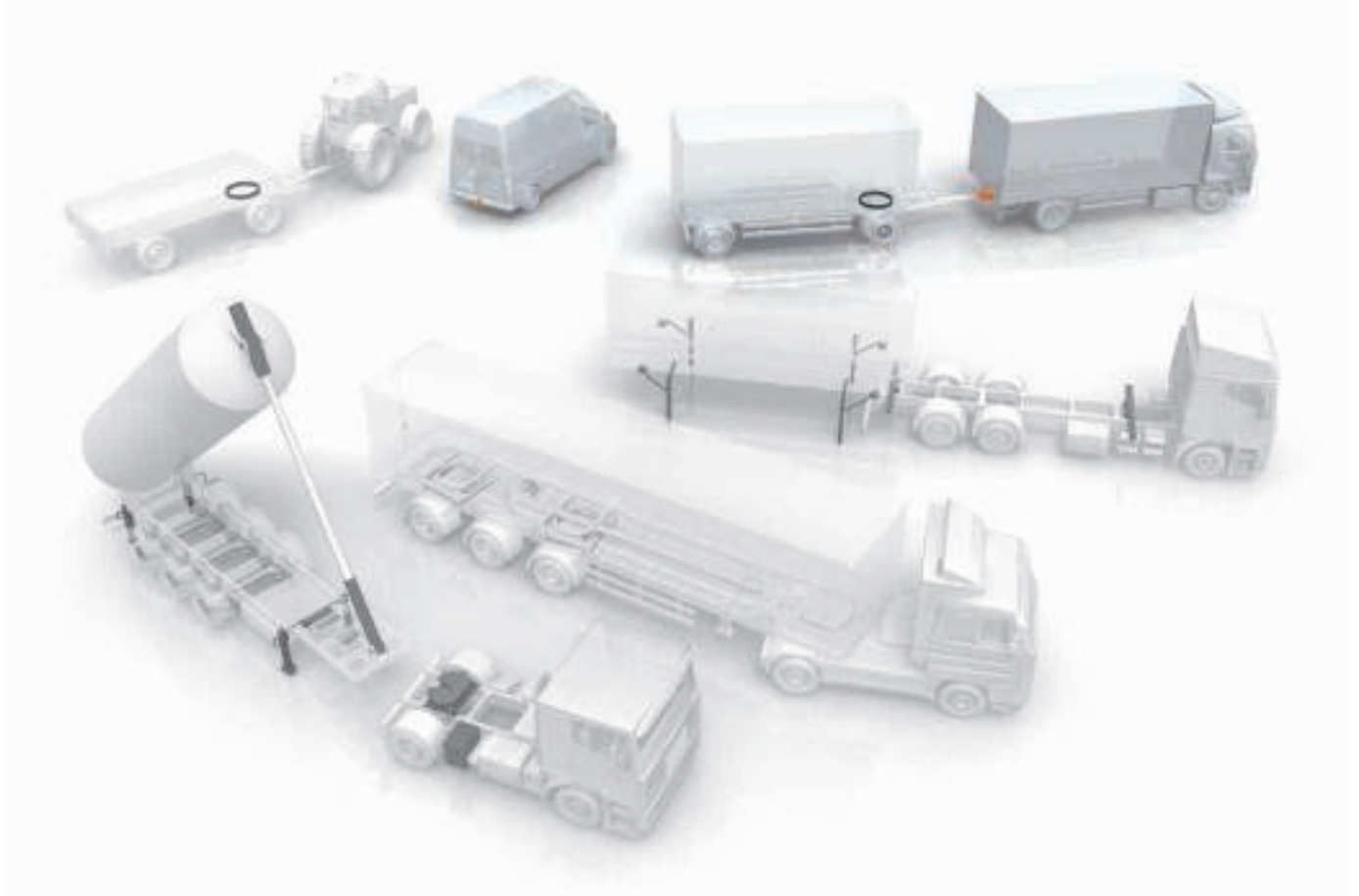
ROCKINGER

# Produkte für Nutzfahrzeuge

- ⓔ Products for commercial vehicles
- ⓕ Produits pour véhicules commerciaux
- Ⓜ Prodotti per veicoli commerciali
- ⓔ Gama de productos para vehículos industriales



- DE** Produkte für Nutzfahrzeuge
- EN** Products for commercial vehicles
- FR** Produits pour véhicules commerciaux
- IT** Prodotti per veicoli commerciali
- ES** Gama de productos para vehículos industriales



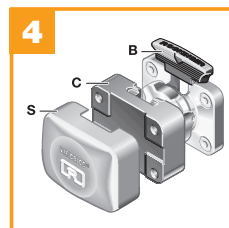
**1**  
 Anhängerkupplungen  
 Towing hitches  
 Crochets d'attelage  
 Ganci di Traino  
 Enganches para  
 remolque



**2**  
 Hakenkupplung  
 Pintle Hook  
 Crochet d'attelage  
 Gancio a uncino  
 Gancho con almohadillas



**3**  
 Traversen  
 Traverse  
 Traverses  
 Traverss  
 Traversaño



**4**  
 VARIOBLOC  
 VARIOBLOC  
 VARIOBLOC  
 VARIOBLOC  
 VARIOBLOC



**5**  
 Zugösen  
 Towing eyes  
 Anneaux de  
 remorquage  
 Occhioni di traino  
 Puntas de lanza

## DE JOST-World: Ein starkes Team

Vor 60 Jahren als Familienunternehmen mit der Produktion von Kugellenkränzen gestartet, hat sich JOST ebenso rasant entwickelt, wie sich der Nutzfahrzeugbau veränderte. Heute ist die JOST-World mit den vier starken Marken JOST, ROCKINGER, TRIDEC und Edbro als global agierender Anbieter von Komponenten und Systemen und aus dem Truck- und Trailermarkt nicht wegzudenken.

ROCKINGER gehört seit 2001 zur JOST-World. Seit Gründung im Jahre 1875 durch den Schmiedemeister Johann Rockinger hat ROCKINGER die technische Entwicklung bei Anhängerkuppelungen maßgeblich geprägt und ist mit höchster Produktqualität zur sprichwörtlichen Marke für diesen Bereich geworden.

## EN JOST-World: A strong Team

An enterprise that started 60 years ago as a family company producing ball bearing turntables, JOST has grown just as quickly as commercial vehicle manufacturing itself has changed. Today's truck and trailer market is unthinkable without JOST World, a globally active supplier of components and systems, with its four strong brands JOST, ROCKINGER, TRIDEC and Edbro.

ROCKINGER has been part of JOST World since 2001. ROCKINGER was founded in 1875 by the Master Blacksmith Johann Rockinger and has since made a significant impact on the technological development of towing hitches; their top level of quality has made them the brand name of choice in this field.

## FR JOST-World: Une équipe forte

De l'entreprise familiale d'il y a plus de cinquante ans, produisant des ronds d'avant train à billes, JOST s'est développé à une vitesse aussi stupéfiante que celle à laquelle la construction des véhicules utilitaires changeait. Aujourd'hui, JOST World avec les quatre marques puissantes JOST, ROCKINGER, TRIDEC et Edbro est devenu un fournisseur mondial de composants et de systèmes indissociable du marché des camions et remorques.

ROCKINGER appartient à JOST-World depuis 2001. Depuis sa fondation en 1875 par le maître forgeron Johann Rockinger, ROCKINGER a marqué de manière significative le développement technique des attelages de remorque étant devenu grâce à la qualité élevée de ses produits une marque de renom dans le secteur.

## IT JOST-World: Una squadra forte

Nata 60 anni fa come azienda familiare per la produzione di ralle a sfera, anche JOST ha avuto uno sviluppo vertiginoso sull'onda dell'evoluzione del settore dei veicoli commerciali. Il mercato attuale di automezzi e rimorchi non è concepibile senza JOST World, fornitore di componenti e sistemi attivo a livello globale, e i suoi quattro grandi marchi JOST, ROCKINGER, TRIDEC ed Edbro.

ROCKINGER fa parte di JOST World dal 2001. Fondata nel 1875 dal mastro fabbro Johann Rockinger, ROCKINGER è stata determinante per lo sviluppo tecnico dei ganci da traino e, grazie alla qualità eccellente dei prodotti, è diventata un celebre marchio del settore.

## ES JOST-World: Un equipo fuerte

La historia de JOST recomenzó hace más de 60 años. JOST empezó siendo una empresa familiar que fabricaba coronas giratorias. Ésta empresa se ha desarrollado igual de rápido que la producción de vehículos utilitarios. Hoy en día JOST-World, con sus cuatro marcas fuertes JOST, ROCKINGER, TRIDEC y Edbro, es un proveedor activo a nivel global de componentes y sistemas cuya importancia es indiscutible en el mercado de camiones y tráileres.
















Desde el año 2001 ROCKINGER forma parte de JOST-World. Desde su fundación en el año 1875 por el herrero Johann Rockinger, ROCKINGER ha influido decisivamente en el desarrollo técnico de enganches para remolque y por la alta calidad de sus productos se ha convertido en la principal marca en este ámbito.

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

**JOST**  **ROCKINGER**  **Edbro**










Anhängerkupplungen • Towing hitches • Crochets d'attelages • Ganci di Traino • Enganches para remolque

DE Serie EN Series FR Série IT Serie ES Serie	für Zugösen for towing eyes pour anneaux per occhioni di traino para puntas de lanza				Genehmigung Homologation Omologation Omologazione Homologación	Beschreibung Anhängerkupplung Description towing hitch Description crochet d'attelage Descrizione ganci di traino Descripción enganche para remolque	Seite Page Page Pagina Página
<b>RO*225 / 227</b> 	ø 40 mm	x	x		ECE R 55-01	UNIMOG UNIMOG UNIMOG UNIMOG UNIMOG	10
<b>RO*226</b> 	ø 40 / 76 mm	x	x		ECE R 55-01	Off-Road, Vertikalgelenk Off-Road, vertical articulating Off-Road, articulation verticale Off-Road, campana snodata Off-Road, articulación vertical	12
<b>RO*231</b> 	ø 40 / 76 mm	x	x		ECE R 55-01	Hakenkupplung mit Flansch Hook trailer hitch with flange Accouplement à crochet avec bride Gancio a uncino con flangia Enganche de gancho con brida	14
<b>RO*232</b> 	ø 40 / 76 mm CH	x	x		ECE R 55-01	Hakenkupplung, gefedert Hook trailer hitch with buffers Accouplement à crochet à ressorts Gancio a uncino molleggiato Enganche de gancho con almohadillas	16
<b>RO*240</b> 	ø 40 mm	x	x		94/20/CE	Drehbar, Transporter Rotable, light trucks Tournant, véhicules utilitaires Girevole, motrici leggere Giratorio, furgonetas	18
<b>RO*243</b> 	ø 40 mm	x	x		ECE R 55-01	Kompakt, Transporter Compact, light trucks Compact, véhicules utilitaires Compatto, motrici leggere Compacto, furgonetas	20
<b>RO*244-2</b> 	ø 35 / 40 mm	x	x		ECE R 55-01	Kompakt, Flurförderzeuge Compact, industrial trucks Compact, chariots de manutention Compatto, dibiti a movimentazione Compacto, vehículos industriales	22
<b>RO*245</b> 	ø 35 / 40 mm	x	x			Kompakt, innerbetrieblicher Transport Compact, internal transport Compact, transport inter-usine Compatto, movimentazione interne Compacto, transporte interno	24
<b>RO*253</b> 	ø 40 mm CH	x	x			Drehbar, Transporter Rotable, light trucks Tournant, véhicules utilitaires Girevole, motrici leggere Giratorio, furgonetas	27
<b>RO*256</b> 	ø 40 mm	x	x		ECE R 55-01	Transporter, gefedert Light trucks with buffers Véhicules utilitaires à ressorts Motrici leggere molleggiato Furgonetas con almohadillas	29
<b>RO*290</b> 	ø 40 mm	x				Schienengebundene Arbeitsmaschinen Rail vehicles Machines-outils sur rails Macchine di lavoro su rotaia Máquinas de trabajo sobre carriles	31
<b>RO*40 E</b> 	ø 40 mm	x	x		ECE R 55-01	Vollautomatische Anhängerkupplung Fully automatic towing hitch Crochet d'attelage entièrement autom. Gancio di traino automatico Enganche para remolque total. autom.	33

Anhängerkupplungen • Towing hitches • Crochets d'attelage • Ganci di Traino • Enganches para remolque










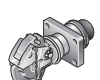
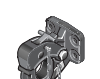


DE Serie EN Series FR Série IT Serie ES Serie	für Zugösen for towing eyes pour anneaux per occhioni di traino para puntas de lanza				Genehmigung Homologation Omologation Omologazione Homologación	Beschreibung Anhängerkupplung Description towing hitch Description crochet d'attelage Descrizione ganci di traino Descripción enganche para remolque	Seite Page Page Pagina Página
<b>RO*40 CH</b> 	ø 40 mm CH ø 40 mm ø 50 mm	x	x	x	ECE R 55-01	Vollautomatische Anhängerkupplung Fully automatic towing hitch Crochet d'attelage entièrement autom. Gancio di traino automatico Enganche para remolque total. autom.	35
<b>RO*400-1</b> 	ø 40 mm	x	x	x	ECE R 55-01	Standard Standard Standard Standard Estándar	37
<b>RO*42</b> 	ø 40 mm	x			ABG	Vertikalgelenk, Off-Road Vertical articulating, Off-Road Articulation verticale, Off-Road Campana snodata, Off-Road Articulación vertical, Off-Road	39
<b>RO*430</b> 	ø 40 mm	x	x	x	ECE R 55-01	Comfort, spielfrei Comfort, slack-free Confort, sans jeu Comfort, senza gioco Confort, exento de juego	41
<b>RO*433</b> 	ø 40 mm CH	x	x	x		Comfort, spielfrei Comfort, slack-free Confort, sans jeu Comfort, senza gioco Confort, exento de juego	43

50 mm Anhängerkupplungen • 50 mm Towing hitches • 50 mm Crochets d'attelage • 50 mm Ganci di Traino • 50 mm Enganches para remolque

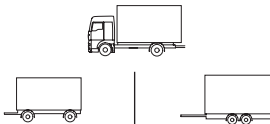
<b>RO*50</b> 	ø 50 mm	x	x	x	ECE R 55-01	Vollautomatische Anhängerkupplung Fully automatic towing hitch Crochet d'attelage entièrement autom. Gancio di traino automatico Enganche para remolque total. autom.	45
<b>RO*50 E</b> 	ø 50 mm	x	x	x	ECE R 55-01	Vollautomatische Anhängerkupplung Fully automatic towing hitch Crochet d'attelage entièrement autom. Gancio di traino automatico Enganche para remolque total. autom.	47
<b>RO*50 flex</b> 	ø 50 mm	x			ECE R 55-01	Schwerlast, Off-Road Heavy duty, Off-Road Lourdes charges, Off-Road Traini eccezionali, Off-Road Carga pesada, Off-Road	49
<b>RO*500</b> 	ø 50 mm	x	x	x	ECE R 55-01	Standard G5,G4,G3 Standard G5,G4,G3 Standard G5,G4,G3 Standard G5,G4,G3 Estándar G5,G4,G3	51
<b>RO*530</b> 	ø 50 mm	x	x	x	ECE R 55-01	Comfort, spielfrei Comfort, slack-free Confort, sans jeu Comfort, senza gioco Confort, exento de juego	53
<b>RO*560</b> 	ø 50 mm	x	x	x	ECE R 55-01	mit Flansch with flange avec bride con flangia con brida	55
<b>RO*56 E / 561</b> 	ø 50 mm	x			ECE R 55-01	Schwerlast, Vertikalgelenk Heavy duty, vertical articulating Lourdes charges, articulation verticale Traini eccezionali, campana snodata Carga pesada, articulación vertical	57



**Anhängerkupplungen • Towing hitches • Crochets d'attelages • Ganci di Traino • Enganches para remolque**

DE Serie EN Series FR Série IT Serie ES Serie	für Zugösen for towing eyes pour anneaux per occhioni di traino para puntas de lanza				Genehmigung Homologation Omologation Omologazione Homologación	Beschreibung Anhängerkupplung Description towing hitch Description crochet d'attelage Descrizione ganci di traino Descripción enganche para remolque	Seite Page Page Pagina Página
<b>57 mm Anhängerkupplungen • 57 mm Towing hitches • 57 mm Crochets d'attelages • 57 mm Ganci di Traino • 57 mm Enganches para remolque</b>							
<b>RO*57</b> 	ø 57,5 mm	✗	✗		ECE R 55-01	Standard Standard Standard Standard Estándar	59
<b>RO*57 flex</b> 	ø 57,5 mm	✗			ECE R 55-01	Off-Road Off-Road Off-Road Off-Road Off-Road	61
<b>68 mm Anhängerkupplungen • 68 mm Towing hitches • 68 mm Crochets d'attelages • 68 mm Ganci di Traino • 68 mm Enganches para remolque</b>							
<b>RO*50 BNA</b> 	ø 68 mm	✗	✗		ECE R 55-01	für BNA-Ringzugösen BNA ring towing eyes pour anneau torique de traction BNA per occhioni BNA para punta de lanza de anillo-BNA	63
<b>80 mm Anhängerkupplungen für Autotransfer • 80 mm Towing hitches for the transportation of cars • 80 mm Crochets d'attelages pour transfert automatique • 80 mm Ganci di Traino per Autotransfer • 80 mm Enganches para remolque para autotransfer</b>							
<b>RO*KU 80</b> 	ø 80 mm	✗	✗		ECE R 55-01	Kugelkupplungssystem Ball Coupling System Système d'attelage à boule Sistema gancio a sfera Sistema de enganches esféricos	65
<b>RO*KK370</b> 	ø 50 mm	✗	✗		ECE R 55-01	Kugelkupplung Ball hitch Attelage à boule Ganci a sfera Enganches esféricos	67
<b>RO*200</b> 					ABG	Zugkugelkupplung Hitch heads Crochet à boule Gancio per accoppiamento Enganches esférico	67
<b>76 mm Hakenkupplung • 76 mm Pintle Hook • 76 mm Crochet d'attelage • 76 mm Gancio a uncino • 76 mm Gancho con almohadillas</b>							
<b>RO*283</b> 	ø 76 mm	✗	✗			Hakenkupplung Pintle Hook Crochet d'attelage Gancio a uncino Gancho con almohadillas	68
<b>RO*231</b> 	ø 40 / 76 mm	✗	✗		ECE R 55-01	Hakenkupplung mit Flansch Hook trailer hitch with flange Accouplement à crochet avec bride Gancio a uncino con flangia Enganche de gancho con brida	14
<b>RO*232</b> 	ø 40 / 76 mm CH	✗	✗		ECE R 55-01	Hakenkupplung, gefedert Hook trailer hitch with buffers Accouplement à crochet à ressorts Gancio a uncino molleggiato Enganche de gancho con almohadillas	16
<b>Abschleppkupplung • Shunting coupling • Chapes de remorquage • Ganci di manovra • Enganches para remolcar</b>							
<b>RO*205 / 207 / 230</b> 	ø 40 mm ø 50 mm ø 76 mm				EWG	Abschleppkupplung Shunting coupling Chapes de remorquage Ganci di manovra Enganches para remolcar	70

Zubehör Anhängerkupplungen • Accessories Towing hitches • Accessoires Crochets d'attelage • Accessori Ganci di Traino • Accesorios Enganches para remolque

DE Serie	für Zugösen			Genehmigung	Beschreibung Anhängerkupplung	Seite
EN Series	for towing eyes			Homologation	Description towing hitch	Page
FR Série	pour anneaux			Omologation	Description crochet d'attelage	Page
IT Serie	per occhioni di traino			Omologazione	Descrizione ganci di traino	Pagina
ES Serie	para puntas de lanza			Homologación	Descripción enganche para remolque	Página



Traversen • Traverse • Traverses • Traverss • Traversaño

<b>Traverse RO*CM 75-2</b> 		x	x	ECE R 55-01	Traversen Traverse Traverses Traversa Travesañó	73
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VARIOBLOC • VARIOBLOC • VARIOBLOC • VARIOBLOC • VARIOBLOC




<b>VARIOBLOC RO*100</b> 		x	x	ECE R 55-01	VARIOBLOC VARIOBLOC VARIOBLOC VARIOBLOC VARIOBLOC	75
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Adapterkupplungen • Adapter hitches • Crochets d'adaptation • Adattatori • Enganches adaptadores

<b>RO*480 / 483 / 580</b> 	ø 40 / 50 mm	x			Adapterkupplungen, selbsttätig Adapter hitches, automatic Crochets d'adaptation, automatiques Adattatori, automatici Enganches adaptadores, automáticos	78
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Zugösen • Towing eyes • Anneaux de remorquage • Occhioni di traino • Puntas de lanza

	ø 40 / 50 / 57,5 mm	x	x	ECE R 55-01 94/20/CE	Zugösen Towing eyes Anneaux de remorquage Occhioni di traino Puntas de lanza	80
					Prüflehren Wear gauges Calibres de contrôle Calibri Patrones de comprobación	83

	Ersatzteile Spare parts Pièces de rechange Ricambi Piezas de recambio	Fernanzeige, In-cab status indicator, Affichage à distance, Teleindicación, Segnalatore; RO*700*; RO*244;* RO*500 A 65* * Auslaufmodell • Discontinued model • Modèle de fin de série • Modello in via di esaurimento • Modelo de expiración			84
	Aufrüstsätze Upgrade kits Kits d'adaptation Kit complementari Juegos de equipamiento posterior	Fernanzeigen- und bedienungen, Warnanzeigen • Remote controls, remote displays, warning systems • Commandes, affichages à distance, avertisseurs • Segnalatori apertura/chiusura e telecomandi, spie di segnalazione • Teleindicaciones y telemandos, mensajes de advertencia			95
	Zubehör Accessories Accessoires Accessori Accesorios	Werkzeuge • Tools • Outils • Attrezzi • Herramientas  Schraubensätze • Screw sets • Kits de vis • Kit di viti • Juegos de tornillos			83 101

	Berechnung Calculation Calcul Calcolo Cálculo					102
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Verwendete Piktogramme • Used pictographs • Pictogrammes utilisés • Pittogrammi utilizzati • Pictogramas empleados

DE EN FR IT ES	Icon Series Série Serie Serie	Beschreibung Description Description Descrizione Descripción	DE EN FR IT ES	Icon Series Série Serie Serie	Beschreibung Description Description Descrizione Descripción
		Handhebelposition Hand lever position Position du levier à main Posizione della leva manuale Posición de la palanca de mano			VARIOBLOC VARIOBLOC VARIOBLOC VARIOBLOC VARIOBLOC
		Kupplungsgröße Hitch size Dimension du crochet Dimensioni del gancio Tamaño del enganche			Kupplungskugel Hitch ball Boule d'attelage Gancio a sfera Enganche de bola
		Lochbild Hole pattern Schéma de perçage Interassi dei fori di fissaggio Disposición de agujeros			Kupplungsbolzen Hitch pin Boulon d'accouplement Perno Perno de acoplamiento
		Starrdeichselanhänger Centre axle trailers Remorques à essieu central Rimorchi con asse centrale Remolques con eje central			Steckbolzen Insert hitch pin Axe embrochable Perno Perno enchufable
		zulässige Vorderachslast des Drehschemels Permissible front load of the turning steering frame Charge avant admise de la selle orientable Carico anteriore autorizzato della ralla Carga delantera permitida del pivote bastidor			Zugöse Towing eye Anneau de remorquage Occhione di traino Punta de lanza
		Summe der Achslasten Sum of axle loads Somme de charges sur l'essieu Somma dell a dei carichi assiali Suma de la cargas de los ejes			Zugöse $\varnothing$ Towing eye $\varnothing$ Anneau de remorquage $\varnothing$ Occhione di traino $\varnothing$ Punta de lanza $\varnothing$
		D-Wert VARIOBLOC D-value VARIOBLOC Valeur D VARIOBLOC Valore D VARIOBLOC Valor D VARIOBLOC			Anschraubplatte Plate of bolting Platine à boulonner Piastra di fissaggio Plancha roscable
		Dc-Wert VARIOBLOC Dc-value VARIOBLOC Valeur Dc VARIOBLOC Valore Dc VARIOBLOC Valor Dc VARIOBLOC			Gewicht Weight Poids Peso Peso
		Starrdeichselanhänger Centre axle trailer Remorque fixe Rimorchio a timone rigido Remorque de barra de tracción fija			Seitenanschlag RO*57 Protection stop RO*57 Taquet latéral RO*57 Guida di appoggio RO*57 Tope lateral RO*57
		Gelenkdeichselanhänger Drawbar trailer Remorque articulée Rimorchio con timone snodato Remorque de barra de tracción articulada			elektr. Fernanzeige Kabine In-cab status indicator Affichage à distance Segnalatore apertura/chiusuraa Teleindicación
		Zugfahrzeug Truck Poids du véhicule tracteur Motrice Vehículo tractor			elektronische Fernanzeige Kabine In-cab status indicator Affichage à distance Segnalatore apertura/chiusuraa Teleindicación
		Position langes Fangmaul Long jaw position Position pavillon long Posizione bocca di aggancio lunga Posición boca de enganche larga			Schwenkwinkel Warnanzeige Drawbar turn angle warning system Voyant pour l'angle de rotation Indicatore di emergenza angolo di rotazione Indicador de advertencia del ángulo de giro



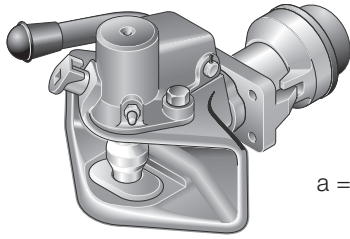
Verwendete Piktogramme • Used pictographs • Pictogrammes utilisés • Pittogrammi utilizzati • Pictogramas empleados



DE Icon EN Series FR Série IT Serie ES Serie	Beschreibung Description Description Descrizione Descripción
	pneumatische Fernbedienung, Komfort pneumatic remote control, comfort commande pneumatique à distance, confort comando pneumatico a distanza, confort mando a distancia neumático, confort
	mechanische Fernbedienung, Standard mechanical remote control, standard commande mécanique à distance, standard azionamento a distanza meccanico, standard teleaccionamiento mecánico, estándar
	mechanische Fernbedienung, Komfort mechanical remote control, comfort commande mécanique à distance, confort azionamento a distanza meccanico, confort teleaccionamiento mecánico, confort
	elektropneumatische Fernbedienung, Komfort electro-pneumatic remote control, comfort commande à distance électropneumatique, confort comando elettropneumatico a distanza, confort mando a distancia electroneumático, confort
	Klemmlänge: K + L Grip: K + L Longueur de serrage: K + L Lunghezza di serraggio: K + L Longitud de apriete: K + L
	Menge Quantity Quantité Quantità Cantidad
	Zugfahrzeug, Schiene Truck, rail Poids du véhicule tracteur, rail Motrice, guida Vehículo tractor, carril
	Befestigungslager Attachment bearing Palier de fixation Cuscinetto di fissaggio Cojinetes de sujeción
	Befestigungssatz Mounting kit Kit de fixation Kit di fissaggio Conjunto de fijación
	Anziehdrehmoment Torque Couple de serrage Coppia di serraggio Par de apriete
<b>T</b>	Traverse Cross member Traverse Traversa Travesaño
<b>K</b>	Traversendicke Thickness of cross member Épaisseur de la traverse Spessore traversa Grosor del travesaño

## RO\*225 / 227 – 40 mm

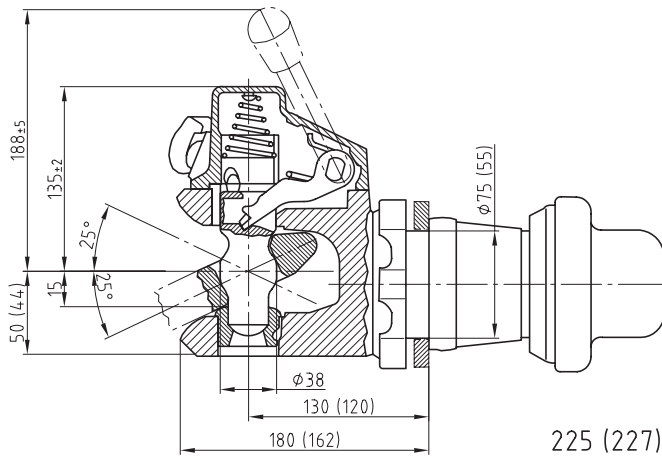
- DE** Sonderkupplungen
- EN** Special hitch
- FR** Crochets d'attelage spéciaux
- IT** Ganci speciali
- ES** Enganches especiales



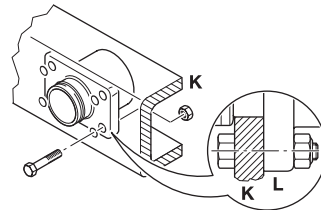
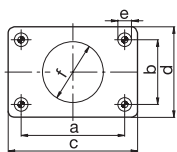
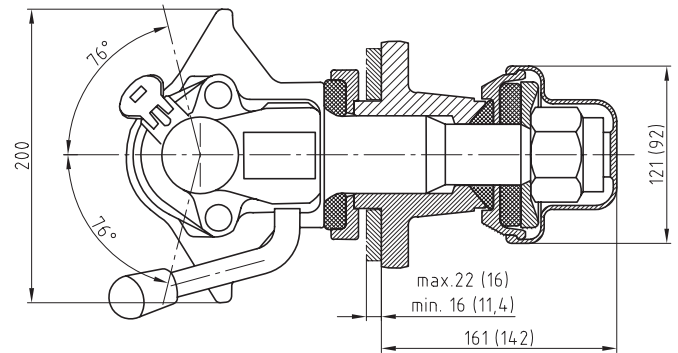
a = 40 mm, DIN 74054,  
ECE, Nato VG 74054

225G110A, 227G110Q  
für Zugöse CH  
for towing eye CH  
pour anneau de remorquage CH  
per occhione di traino CH  
para punta de lanza CH

- DE** Für Kraftfahrzeuge DIN 74051, Fußnote 3 / StVZO § 43 Abs. 4.  
Auch zum Anbau an Anhänger zugelassen  
Fangmaulgröße 100 mm x 200 mm
- EN** Admissible for mounting to the trailer  
Funnel size 100 mm x 200 mm
- FR** Agréé également pour installation sur une remorque  
Dimension du pavillon 100 mm x 200 mm
- IT** Omologato anche per l'applicazione su rimorchi  
Dimensioni testa campana 100 mm x 200 mm
- ES** También autorizado para el montaje en el remorque  
Tamaño de boca de enganche 100 mm x 200 mm



225 (227)



	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)
225	120,0	55,0	155,0	90,0	15,0	75,0
227	83,0	56,0	110,0	85,0	10,5	55,0

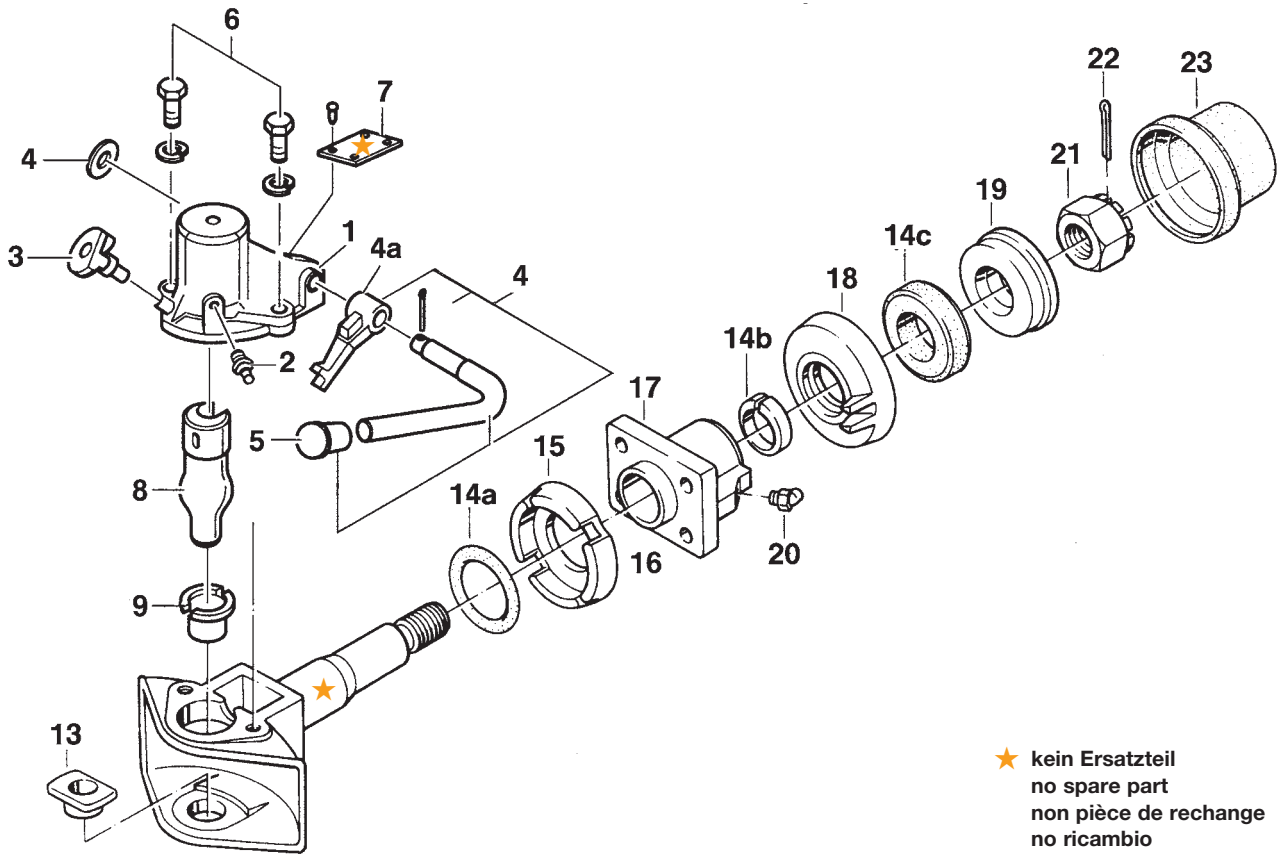
	K (mm)	K (mm)
225	max. 22	max. 22
227	11-16	11-16

### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

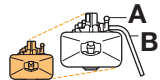

											<b>ECE</b>
	<b>C</b>	<b>A</b>	<b>B</b>	<b>D (kN)</b>	<b>Dc (kN)</b>	<b>S (kg)</b>	<b>V (kN)</b>	<b>C (t)</b>	<b>(kg)</b>		
RO 225G110	<b>A</b>	112	120 x 55	85	68,4	1500	24,0		17,4	010050	
RO 225G110A	<b>A</b>	112	120 x 55	85	68,4	1500		10	17,4		
RO 227G110J	<b>C</b>	111	83 x 56	66	66,0	1250	14,0		12,4	010049	
RO 227G110Q	<b>C</b>	111	83 x 56	66	66,0	1250		5	12,4		

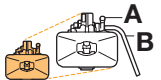

## RO\*225 / 227

### Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



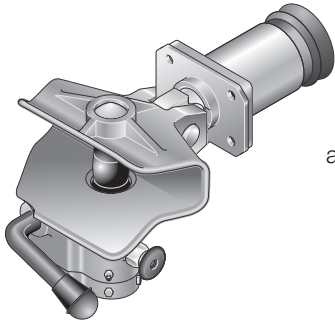
★ kein Ersatzteil  
no spare part  
non pièce de rechange  
no ricambio  
no es pieza de recambio

Pos		ROE	
01	227 (110 J)	ROE 66392	1
01	225 (110)	ROE 67101	1
01	225 (110 A), 227 (110 Q)	ROE 66466	1
02	227	ROE 65018	1
02	225	ROE 65018	1
03		ROE 66242	1
04		ROE 70723	1
04		ROE 50102	1
05		ROE 25105	1
06		ROE 70173	1
08	225 (110), 227 (110 J)	ROE 47013	1
08	225 (110 A), 227 (110 Q)	ROE 47031	1
09		ROE 53029	1
13		ROE 53030	1
14	227	ROE 70172	1
14	225	ROE 67056	1
15	227 (110)	ROE 54420	1
15	225 (110)	ROE 54472	1

Pos		ROE	
16		ROE 39124	1
17	225	ROE 43238	1
17	227	ROE 43237	1
18	225 (110)	ROE 44073	1
18	227 (110)	ROE 44075	1
19	225 (110)	ROE 54372	1
19	227 (110)	ROE 54471	1
20	225	ROE 65018	1
20	227	ROE 65019	1
21	225	ROE 56028	1
21	227	ROE 56118	1
22	225	ROE 35031	1
22	227	ROE 35008	1
23	225	ROE 25076	1
23	227	ROE 25093	1

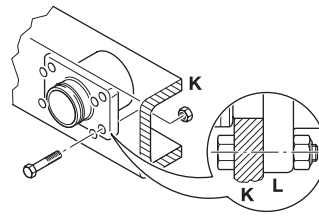
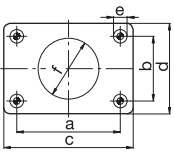
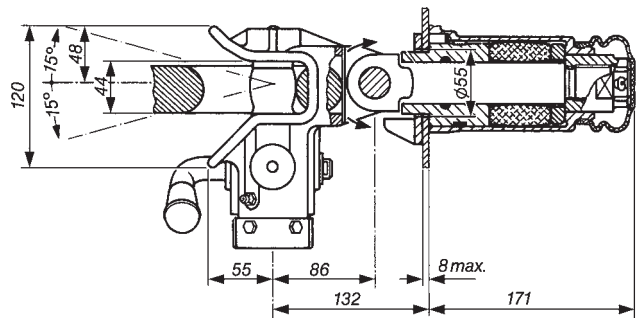
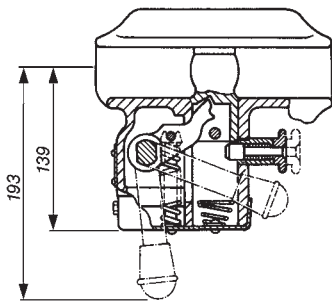
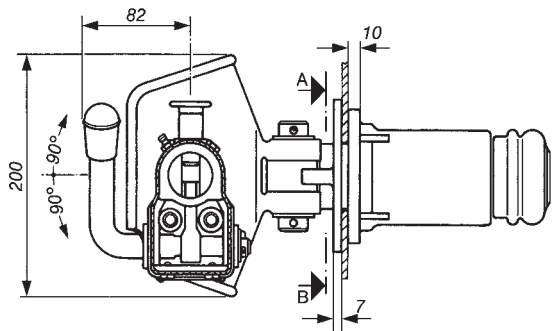
## RO\*226 – 40 mm / 76 mm

- DE** Schlechtwegekupplung
- EN** Off road hitch
- FR** Crochet d'attelage pour voies en mauvais état
- IT** Gancio per sollecitazioni gravose
- ES** Enganche para carreteras en mal estado



a = 40 mm DIN 74054  
 94/20/CE  
 für Zugöse CH  
 for towing eye CH  
 pour anneau de remorquage CH  
 per occhione di traino CH  
 para punta de lanza CH  
 a = 76 mm  
 VG 74059 NATO

- DE** für Fahrzeuge mit Spezialaufbau, z. B. Feuerwehrfahrzeuge, geländegängig, mit Vertikalgelenk
- EN** for vehicles with special body construction, e. g. fire-engines, for cross-country operation, vertical articulating hitch head
- FR** pour véhicules à carrosserie spéciale, par ex. véhicules de pompiers, tout terrain, à articulation verticale
- IT** per veicoli con allestimenti speciali, per esempio veicoli antincendio, veicoli per fuoristrada, con campana snodata
- ES** para vehículos con construcción especial, p. ej., vehículos de bomberos, todo terreno, con articulación vertical



	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	
	210	83,0	56,0	125,0	83,0	10,5	55,0

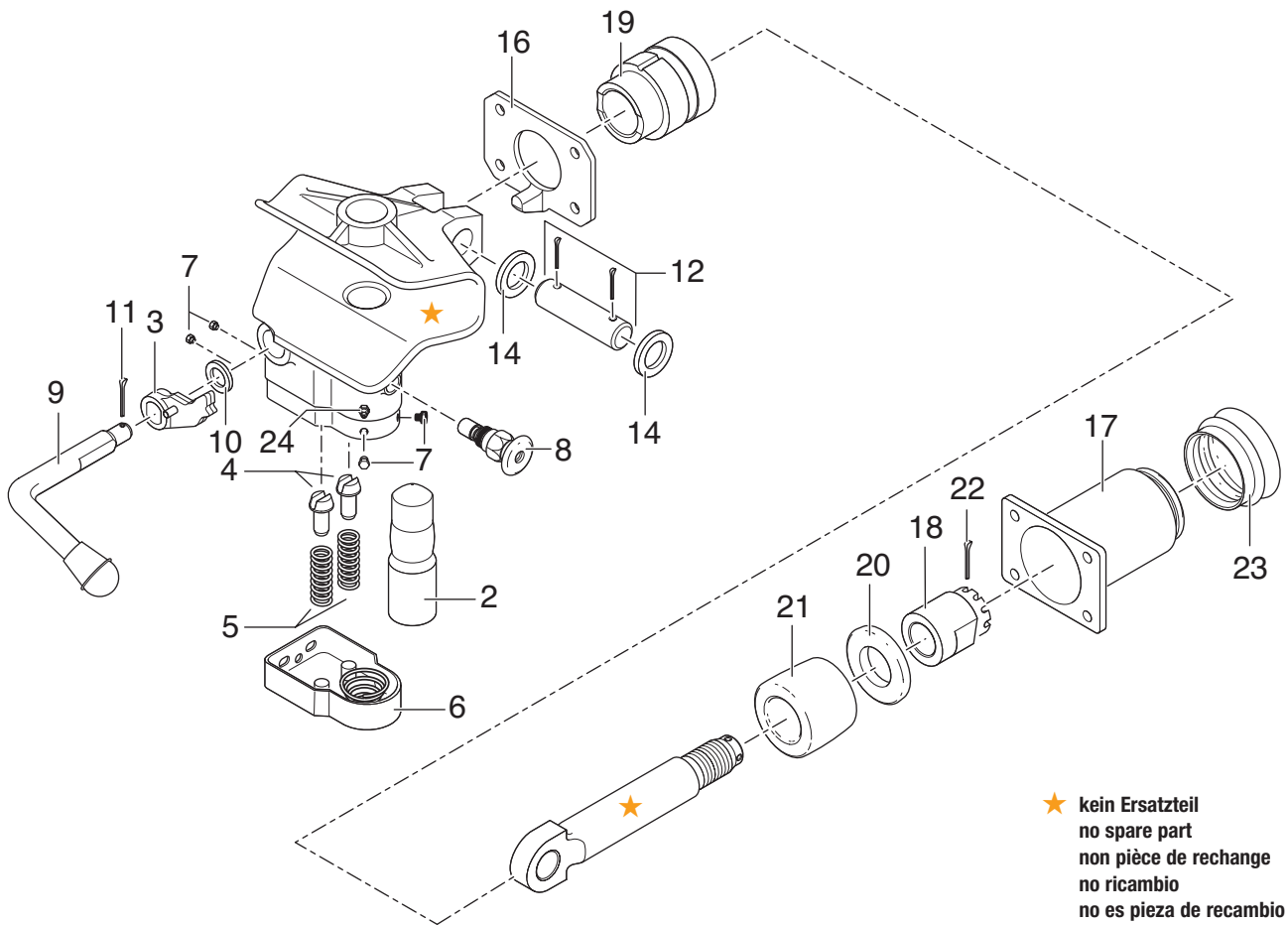
	K (mm)	K (mm)
	210	7
		7

### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

	C	A	B	(mm)	D (kN)	Dc (kN)	S (kg)	V (kN)	C (t)	(kg)	ECE	
RO 226G210A	B			210	66	18,5	50	5,0	-	13,0	010799	
RO 226G210A	B			210	66	-	80	-	2	13,0	010799	

# RO\*226

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio

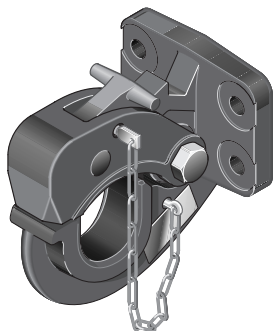


Pos		ROE	
02		ROE 47006	1
03		ROE 51017	1
04		ROE 13001	2
05		ROE 55029	2
06		ROE 65005	1
07		ROE 70331	1
08		ROE 70356	1
09		ROE 50083	1
10		ROE 33011	1
11		ROE 35013	1
12		ROE 65090	1
14		ROE 54001	2

Pos		ROE	
16		ROE 54002	1
17		ROE 44021	1
18		ROE 56009	1
19		ROE 53027	1
20		ROE 54072	1
21		ROE 25012	1
22		ROE 35002	1
23		ROE 25008	1
24		ROE 65018	1

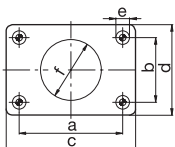
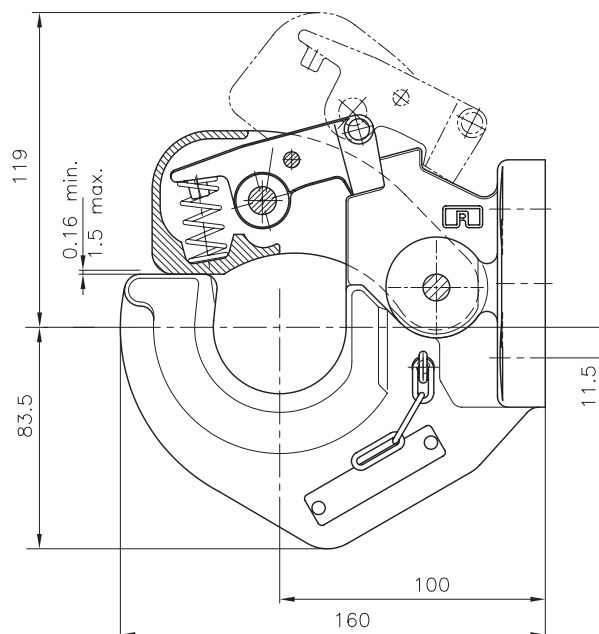
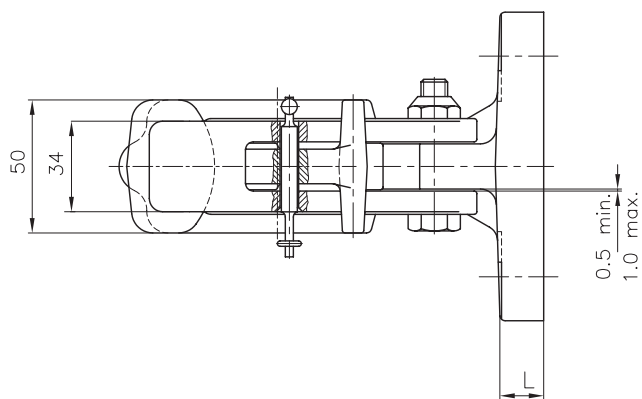
## RO\*231 – 76 mm / 40 mm

- DE** Hakenkupplung mit Sicherheitsstecker im Verschlussbügel
- EN** Hook trailer hitch with safety lock
- FR** Accouplement à crochet avec fiche de sécurité dans l'étrier de verrouillage
- IT** Gancio a uncino con spinotto di sicurezza nella staffa di chiusura
- ES** Enganche de gancho con dispositivo de seguridad en el estribo de cierre



RO 231xx00x  
a = 76 mm, VG 74059 NATO

RO 231xx53x  
a = 40 mm, DIN 74054, 94/20/CE,  
für Zugöse CH  
for towing eye CH  
pour anneau de remorquage CH  
per occhione di traino CH  
para punta de lanza CH



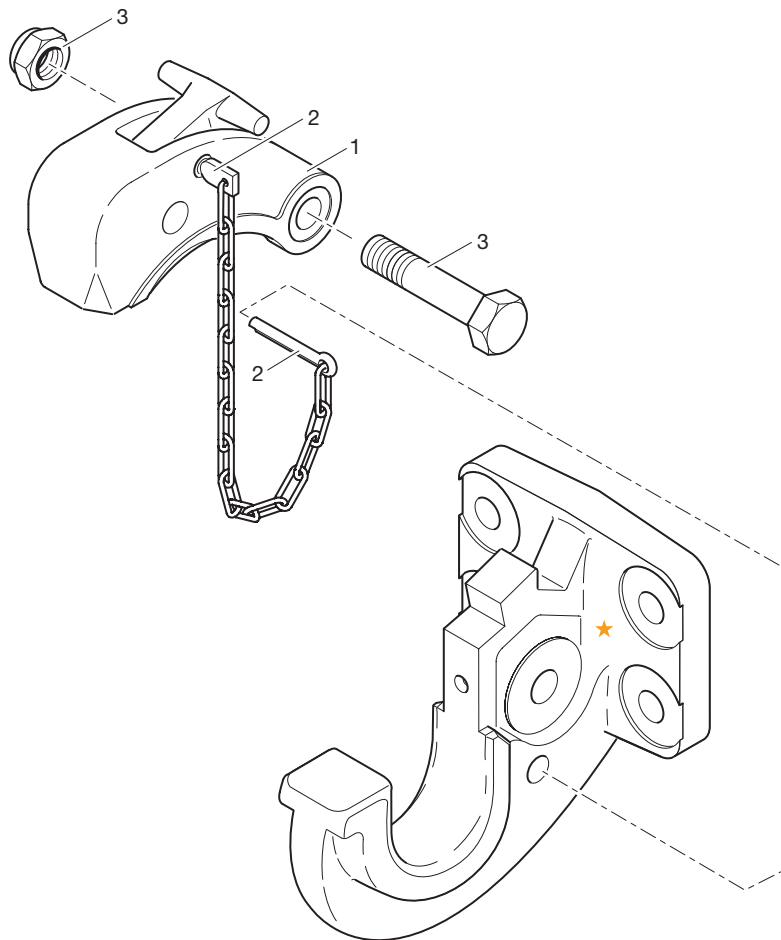
	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	L (mm)
05	86,0	45,0	116,0	85,0	13,0	16
11	83,0	56,0	116,0	85,0	10,5	16

### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

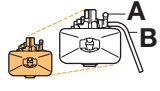

C D A B									ECE
			D (kN)	Dc (kN)	S (kg)	V (kN)			
RO 231A05000	05	86 x 45	25	22	250	14,4		5,0	-
RO 231A05090	05	86 x 45	25	22	250	14,4		5,0	-
RO 231A05530	05	86 x 45	20	18	150	9,6		3,6	-
RO 231A05531	05	86 x 45	20	18	150	-	3,5	3,6	011958
RO 231A11000	11	83 x 56	25	22	250	14,4		5,0	-
RO 231A11530	11	83 x 56	20	18	150	9,6		3,6	-
RO 231A11531	11	83 x 56	20	18	150	-	3,5	3,6	011958

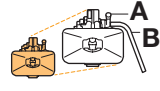

## RO\*231

### Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio

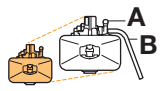



★ kein Ersatzteil  
no spare part  
non pièce de rechange  
no ricambio  
no es pieza de recambio

Pos		ROE	
01		ROE 70862	1
02		ROE 65112	1

Pos		ROE	
03		ROE 70863	1

### Befestigungssätze • Mounting kits • Kits de fixation • Kit di fissaggio • Conjuntos de fijación

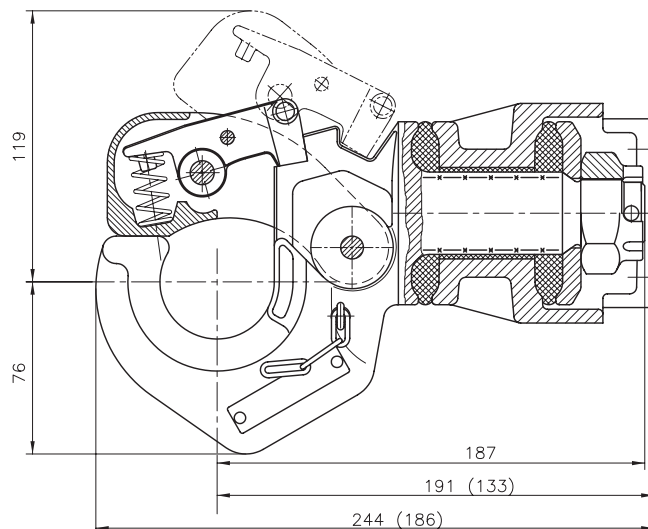
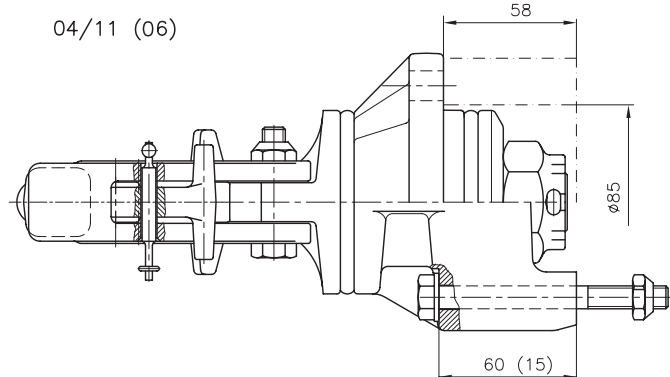
Pos		ROE	
•	RO 231A050xx	ROE 70941	1
•	RO 231A0553	ROE 70949	1
•	RO 231A11000	ROE 70942	1
•	RO 231A1153	ROE 70923	1

## RO\*232 – 76 mm / 40 mm

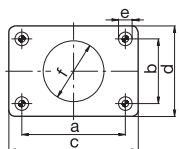
- DE** Drehbare Hakenkupplung
- EN** Rotatable hook trailer hitch
- FR** Accouplement à crochet tournant
- IT** Gancio a uncino per motrici leggere
- ES** Enganche de gancho para furgonetas



a = 76 mm, VG 74059 NATO  
 a = 40 mm, DIN 74054, 94/20/CE  
 für Zugöse CH  
 for towing eye CH  
 pour anneau de remorquage CH  
 per occhione di traino CH  
 para punta de lanza CH



04/11 (06)



	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)
04	85,0	45,0	112,0	96,0	13,0
11	83,0	56,0	112,0	96,0	10,5
06	101,6	101,6	130,0	130,0	13,0

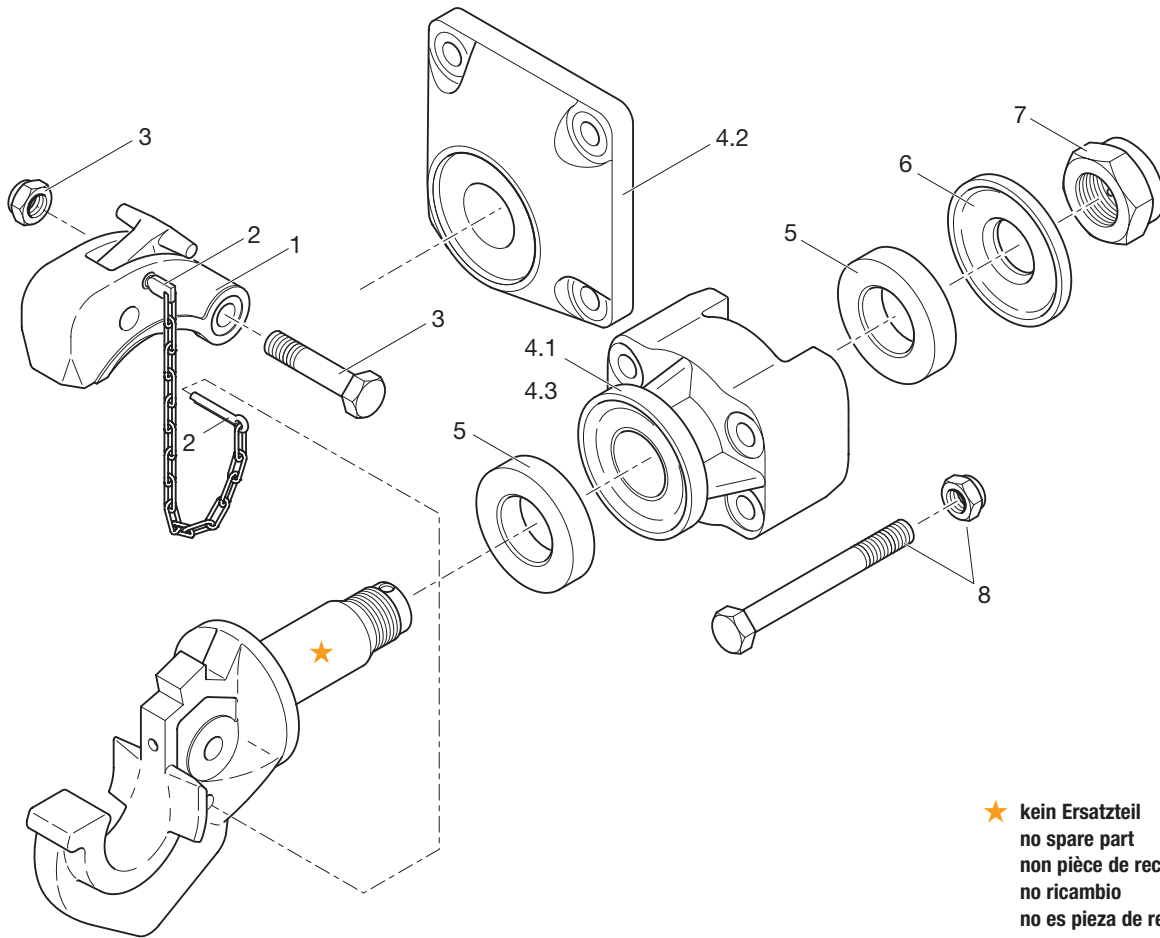
### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

		(mm)	D (kN)	Dc (kN)	S (kg)	V (kN)	C (t)	(kg)	e1
RO 232A04531	04	85,0 x 45,0	40	22	300	14,2		7,0	
RO 232A04501	04	85,0 x 45,0	31	31	300		3,2	7,0	00-1350
RO 232A06001	06	101,6 x 101,6	40	22	300	14,2		6,7	
RO 232A06001	06	101,6 x 101,6	40	25	300	9,6		6,7	
RO 232A06531	06	101,6 x 101,6	40	22	300	14,2		6,7	
RO 232A11001	11	83,0 x 56,0	35	22	300	14,2		7,2	
RO 232A11531	11	83,0 x 56,0	35	20	250	12,0		7,2	
RO 232A11501	11	83,0 x 56,0	31	31	300		3,2	7,2	00-1353

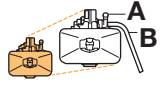



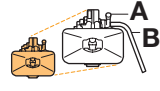

# RO\*232

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



★ kein Ersatzteil  
no spare part  
non pièce de rechange  
no ricambio  
no es pieza de recambio

Pos		ROE	
01		ROE 70862	1
02		ROE 65112	1
03		ROE 70863	1
04.1	RO 232A04	ROE 70869	1
04.2	RO 232A06	ROE 70870	1
04.3	RO 232A11	ROE 70871	1
05		ROE 70864	1
06		ROE 59262	1

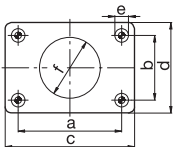
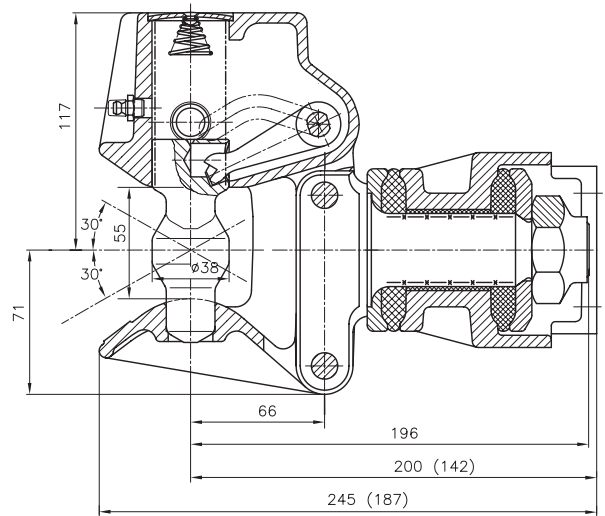
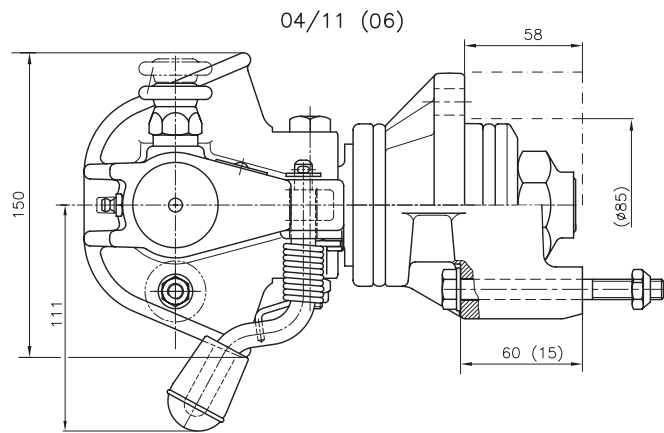
Pos		ROE	
07		ROE 56124	1
08	RO 232A0400x	ROE 70879	1
08	RO 232A0453x	ROE 70873	1
08	RO 232A0600x	ROE 70880	1
08	RO 232A0653x	ROE 70874	1
08	RO 232A1100x	ROE 70878	1
08	RO 232A1153x	ROE 70875	1

## RO\*240 – 40 mm

- DE** Drehbare Kupplung für Transporter
- EN** Rotable hitch for light trucks
- FR** Crochet d'attelage tournant pour véhicules utilitaires
- IT** Gancio girevole per motrici leggere
- ES** Enganche giratorio para furgonetas



a = 40 mm  
DIN 74054  
94/20/CE



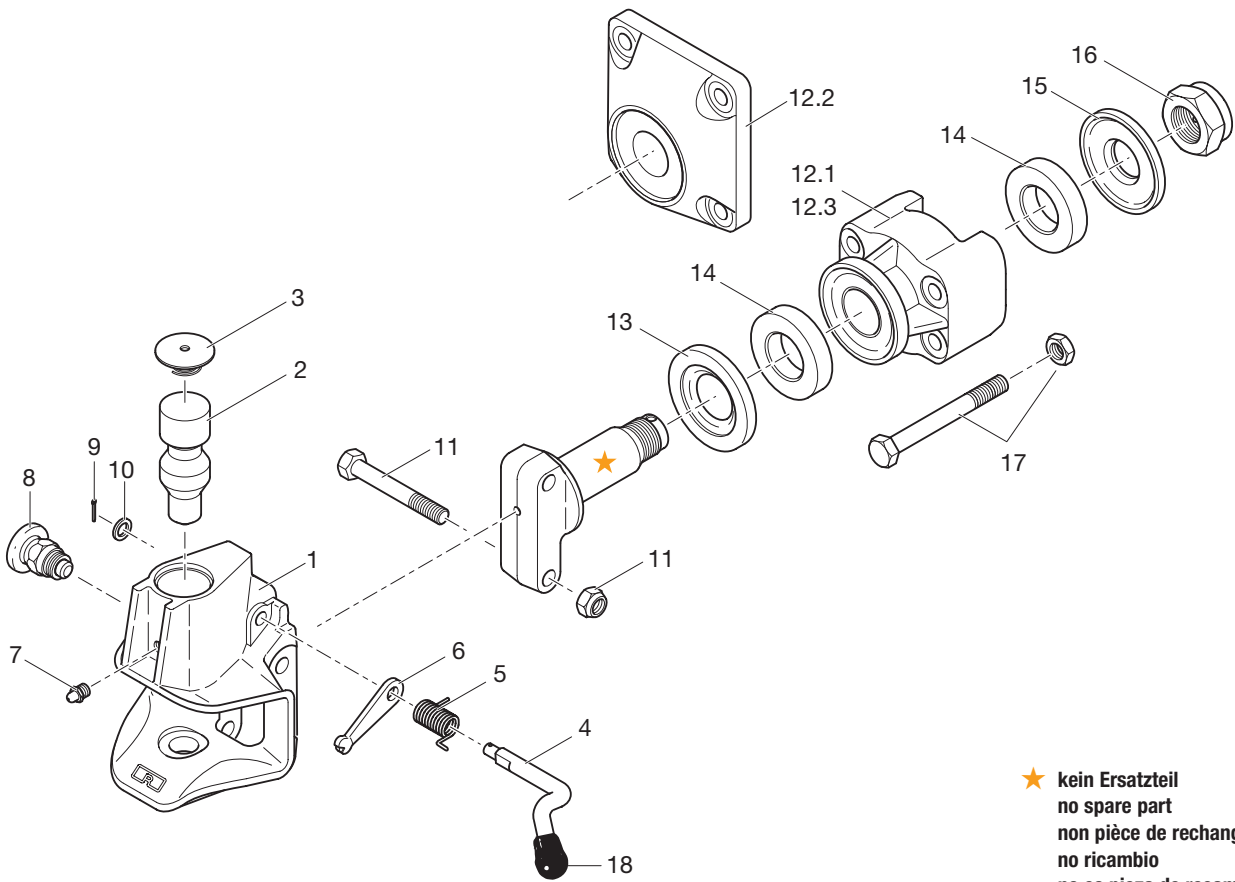
	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)
04	85,0	45,0	112,0	96,0	13,0
06	101,6	101,6	130,0	130,0	13,0
11	83,0	56,0	112,0	96,0	10,5

### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

			(mm)	D (kN)	Dc (kN)	S (kg)	V (kN)	(kg)	e1
RO 240B04000	B	04	85,0 x 45,0	40	40	300	14,2	9,5	
RO 240B04530	B	04	85,0 x 45,0	40	22	300	14,2	9,5	
RO 240B06530	B	06	101,6 x 101,6	40	22	300	14,2	9,6	
RO 240B11000	B	11	83,0 x 56,0	35	35	250	12,0	9,4	00-0415
RO 240B11530	B	11	83,0 x 56,0	35	20	250	12,0	9,4	

# RO\*240

## Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



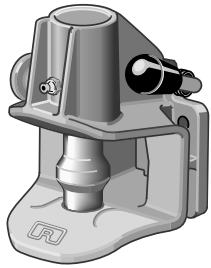
★ kein Ersatzteil  
no spare part  
non pièce de rechange  
no ricambio  
no es pieza de recambio

Pos		ROE	
01		ROE 71064	1
02		ROE 47026	1
03		ROE 67411	1
04		ROE 70867	1
06	Kit (04, 05, 06, 09, 10, 18)	ROE 70927	1
07		ROE 65018	1
08		ROE 70618	1
11		ROE 70868	1
12.1	85,0 x 45,0 mm	ROE 70869	1
12.2	101,6 x 101,6 mm	ROE 70870	1
12.3	83,0 x 56,0 mm	ROE 70871	1

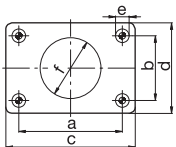
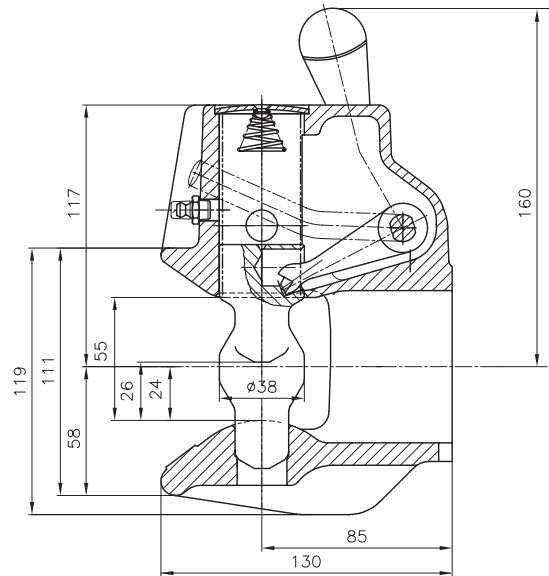
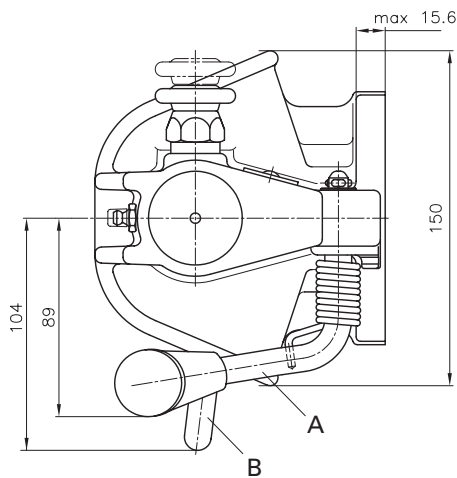
Pos		ROE	
13		ROE 45131	1
14		ROE 70872	1
15		ROE 59262	1
16		ROE 56124	1
17	RO 240B04000	ROE 70879	1
17	RO 240B04530	ROE 70873	1
17	RO 240B06000	ROE 70880	1
17	RO 240B06530	ROE 70874	1
17	RO 240B11000	ROE 70878	1
17	RO 240B11530	ROE 70875	1
18		ROE 25106	1

## RO\*243 – 40 mm

- DE** Kompaktkupplung für Transporter, Lieferwagen, Geländewagen Fangmaulgröße 100 mm x 150 mm
- EN** Compact hitch for light trucks, delivery vans, cross country vehicles Funnel size 100 mm x 150 mm
- FR** Crochet d'attelage compact pour véhicules utilitaires, voitures de livraison, voitures tout terrain Dimension du pavillon 100 mm x 150 mm
- IT** Gancio compatto per motrici leggere, furgoni, fuoristrada Dimensioni testa campana 100 mm x 150 mm
- ES** Enganche compacto para furgonetas, camionetas, vehículos todo terreno Tamaño de boca de enganche 100 mm x 150 mm



a = 40 mm  
DIN 74054 ECE (Class S)



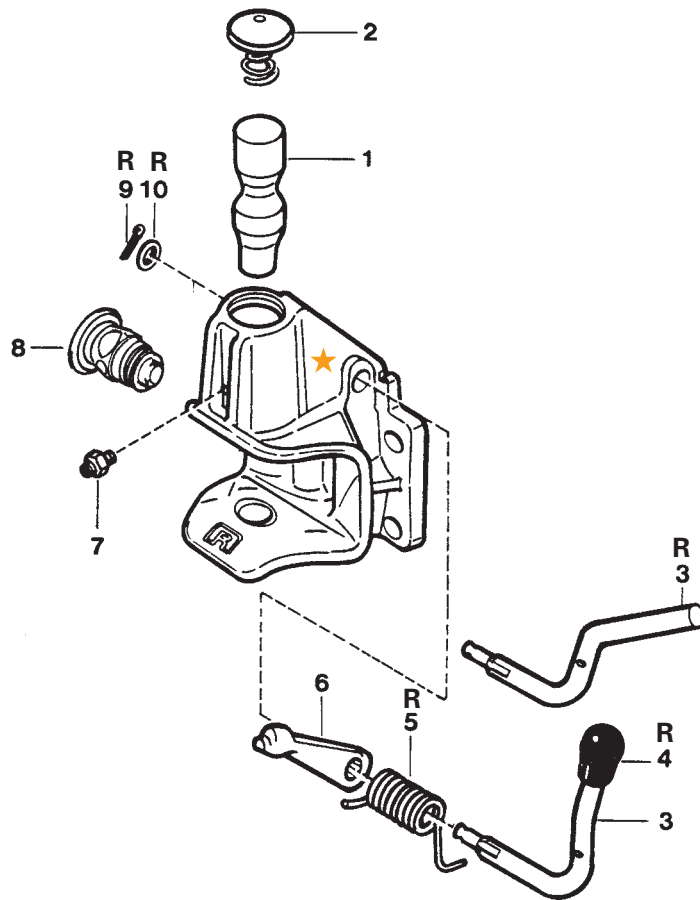
	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)
11	83,0	56,0	110,0	85,0	10,5
12	85,0	45,0	110,0	85,0	10,5
35	120,0	55,0	155,0	90,0	15,0

### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

									<b>ECE</b>
			(mm)	D (kN)	Dc (kN)	S (kg)	V (kN)	(kg)	
RO 243A11000	A	115	83 x 56	30	18	250	12,0	4,1	010031
RO 243A11000	A	115	83 x 56	30	30	250	8,4	4,1	010031
RO 243B11000	B	115	83 x 56	30	18	250	12,0	4,1	010031
RO 243B11000	B	115	83 x 56	30	30	250	8,4	4,1	010031
RO 243A12000	A	115	85 x 45	18	18	200	9,6	4,1	010031
RO 243B12000	B	115	85 x 45	18	18	200	9,6	4,1	010031
RO 243A35000	A	135	120 x 55	30	30	350	12,0	4,4	010051

# RO\*243

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



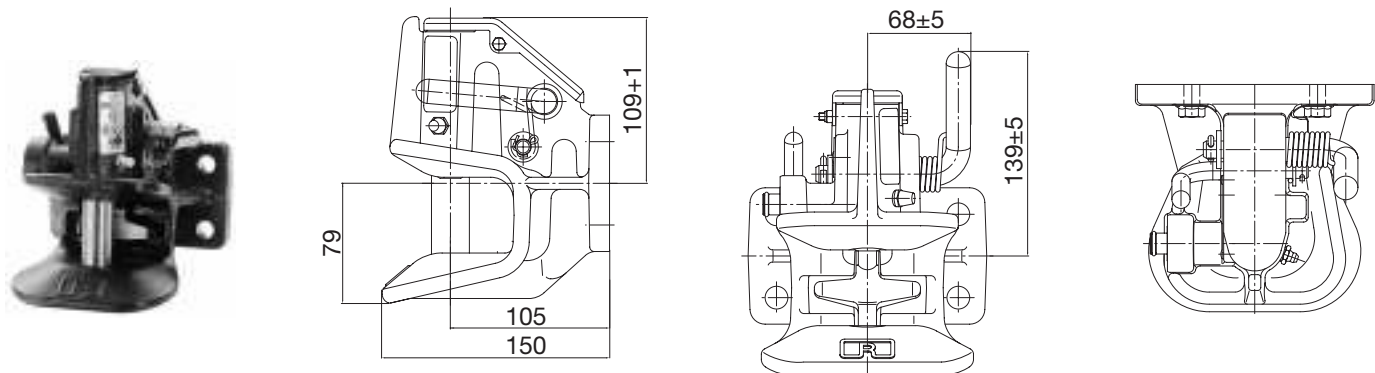
★ kein Ersatzteil  
no spare part  
non pièce de rechange  
no ricambio  
no es pieza de recambio

Pos		ROE	
01		ROE 47026	1
02		ROE 67411	1
03	RO xxxBxxxx	ROE 70354	1
03	RO xxxAxxxx	ROE 70355	1
03	RO xxxNxxxx	ROE 70353	1
04		ROE 25106	1

Pos		ROE	
06	Kit (03, 04, 05, 09, 10)	ROE 70927	1
07		ROE 65018	1
08		ROE 70618	1

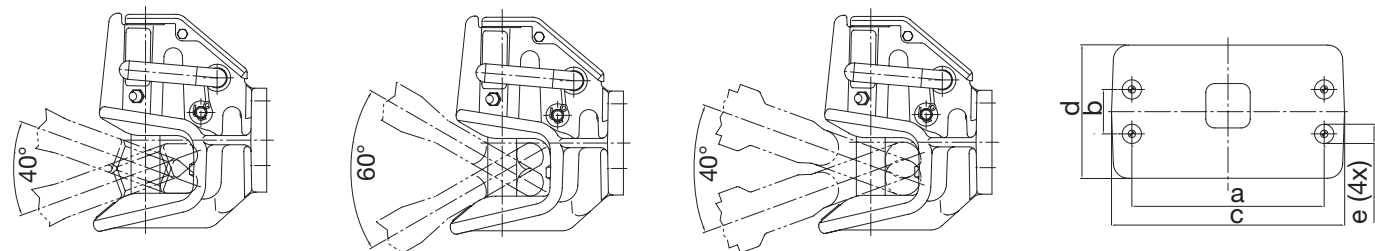
## RO\*244-2

- DE** Kompaktkupplung für Flurförderzeuge und deren Anhänger
- EN** Compact hitch for industrial trucks and trailers
- FR** Crochet d'attelage compact pour chariots de manutention et leurs remorques
- IT** Gancio compatto per adibiti a movimentazione interna con relativi rimorchi
- ES** Enganche compacto para vehículos industriales y sus remolques



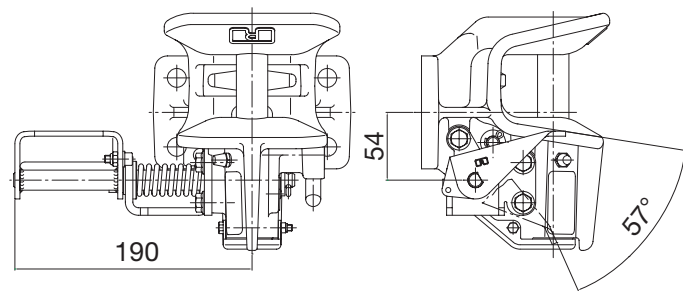
Für Zugöse, for drawbar eye, pour anneaux, per occhioni, para puntas:

- 1) DIN 74054                      2) DIN 8454                      3) CUNA 438/40



### RO 244Lxxx2:

Mit Fußbetätigung, pedal release, à pédale, con pedale, mando per pedal



	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)
07	130,0	30,0	155,0	90,0	13,0
115	83,0	56,0	155,0	90,0	10,5
135	120,0	55,0	155,0	90,0	15,0

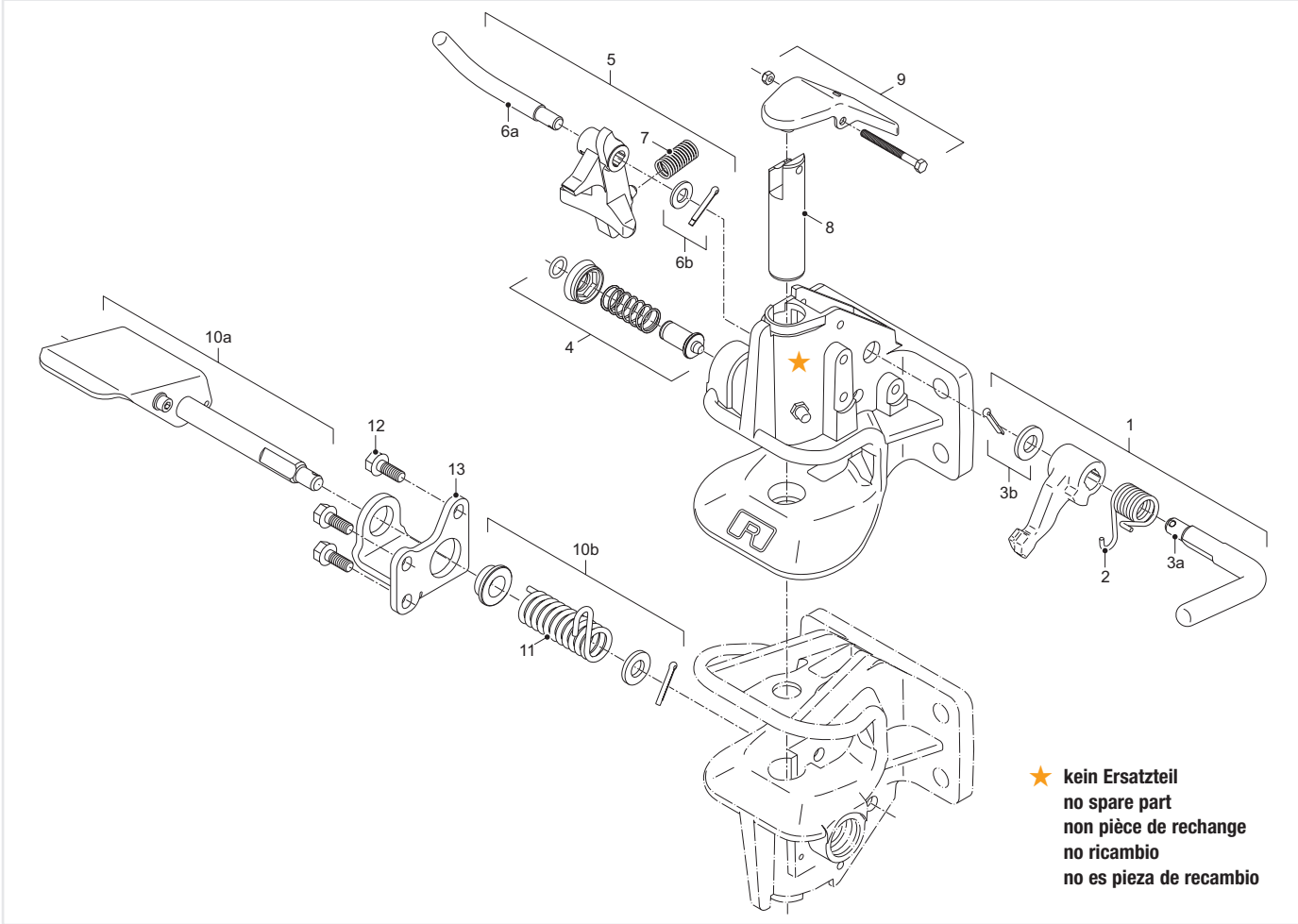
## Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

			(mm)						<b>ECE</b>
				<b>D (kN)</b>	<b>Dc (kN)</b>	<b>S (kg)</b>	<b>V (kN)</b>	<b>(kg)</b>	
RO 244A07002	<b>A</b>	07	130x30	42	30	250	8,4	6	011803
RO 244A11002	<b>A</b>	115	83x56	42	30	250	8,4	6	011804
RO 244A35002	<b>A</b>	135	120x55	42	30	250	8,4	6	011802
RO 244L07002	<b>L</b>	07	130x30	42	18	250	12	7	011803
RO 244L35002	<b>L</b>	135	120x55	42	18	250	12	7	011802

- 1) Zugösen • Towing eyes • Anneaux de remorquage • Occhioni di traino • Puntas de lanza (DIN 74054)  
 2) Zugösen • Towing eyes • Anneaux de remorquage • Occhioni di traino • Puntas de lanza (DIN 8454)  
 3) Zugösen • Towing eyes • Anneaux de remorquage • Occhioni di traino • Puntas de lanza (CUNA 438/40)

# RO\*244-2

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



Pos		ROE	
1		ROE 71785	1
2		ROE 55205	1
3		ROE 50209	1
4		ROE 71752	1
5		ROE 71786	1
6		ROE 71788	1
7		ROE 55252	1
8		ROE 47137	1

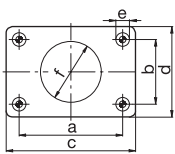
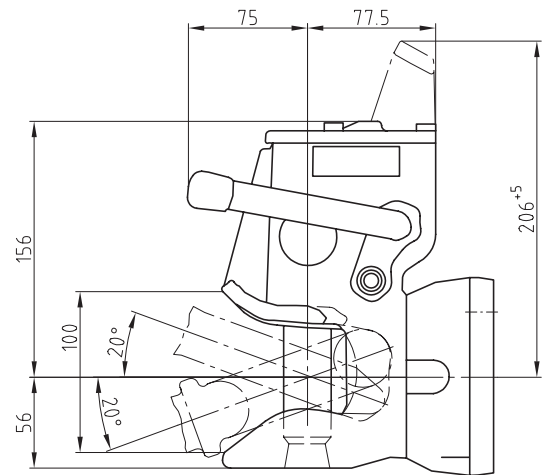
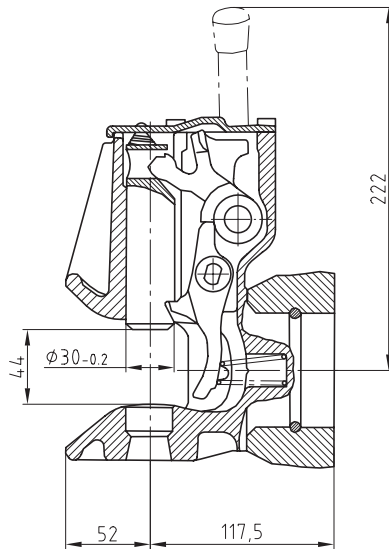
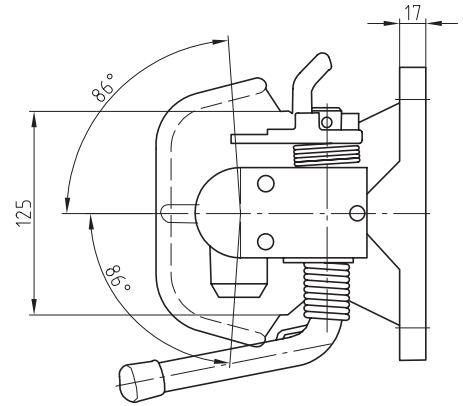
Pos		ROE	
9		ROE 71787	1
10		ROE 71789	1
11		ROE 55289	1
12		ROE 71790	1
13		ROE 65777	1

## RO\*245

- DE** Kompaktkupplung für innerbetrieblichen Transport
- EN** Compact hitch for internal transport
- FR** Crochet d'attelage compact pour le transport inter-usine ou sur parc
- IT** Gancio compatto per movimentazione interne
- ES** Enganche compacto para el transporte interno de la empresa



a = 40 mm DIN 74054  
 a = 35 mm DIN 8454  
 für Ringzugösen • for ring towing eye •  
 pour anneau de remorquage • per occhione di  
 traino • para punta de lanza anular:  
 a = 40 mm ø 21 mm  
 a = 56 mm ø 36 mm



	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)
145	140,0	80,0	182,0	122,0	17,0

### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

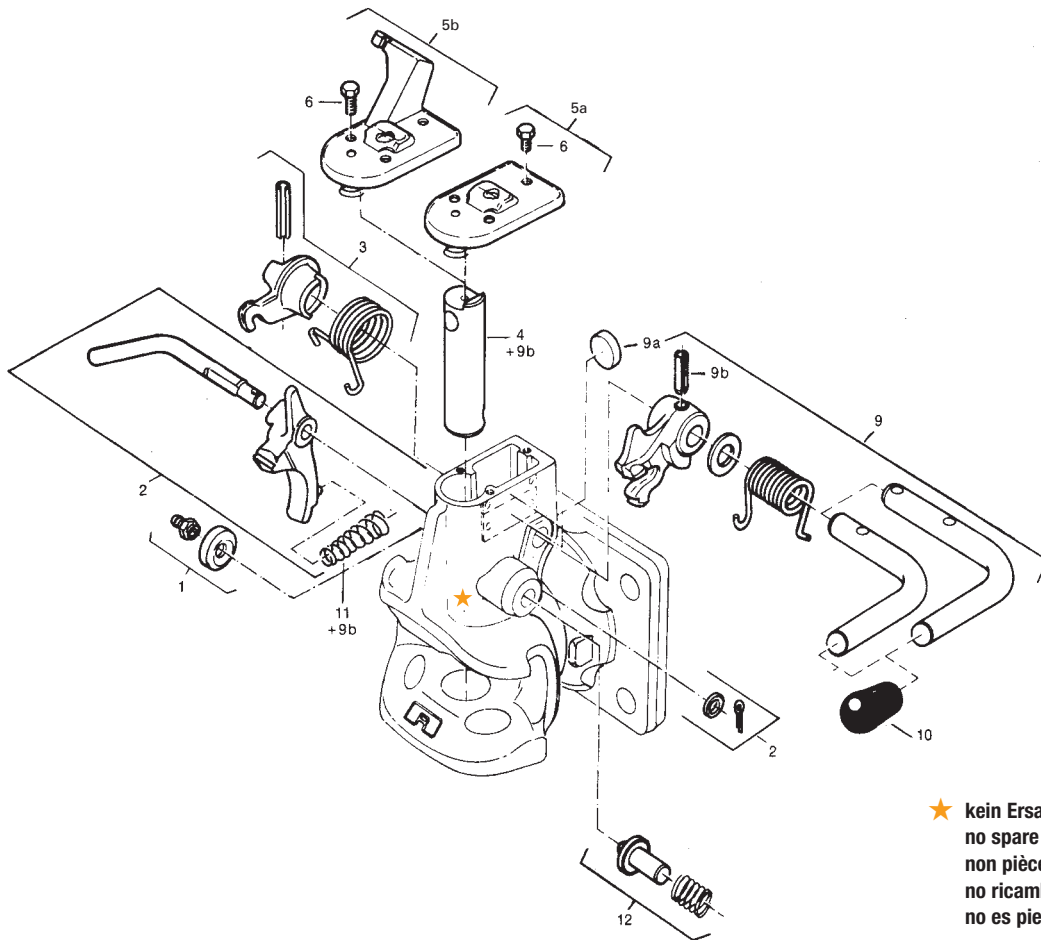
	<b>A</b>	<b>B</b>	<b>(mm)</b>	<b>D (kN)</b>	<b>(t)</b>	<b>S (kg)</b>	<b>C (t)</b>	<b>(kg)</b>
RO 245A45020	<b>A</b>	145	140 x 80	73,6	7 x 3,5 / 4 x 10,5	350	3,0	12,6
RO 245A45500 <sup>1</sup>	<b>A</b>	145	140 x 80	73,6	7 x 3,5 / 4 x 10,5	350	3,0	12,6

<sup>1</sup> für FB vorbereitet, prepared for FB, préparé pour FB, pronto per FB, preparado para FB (incl. ROE 70814)

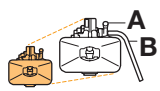



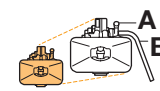

# RO\*245

## Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio




★ kein Ersatzteil  
no spare part  
non pièce de rechange  
no ricambio  
no es pieza de recambio

Pos		ROE	
01		ROE 67593	1
02	RO 245, A45, C, D	ROE 70332	1
04		ROE 47073	1
05a		ROE 65561	1
06		ROE 70248	1
09		ROE 70244	1

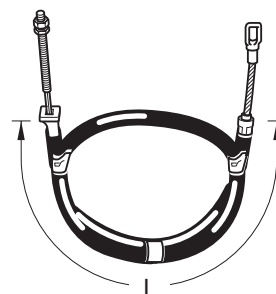
Pos		ROE	
10		ROE 25173	1
11		ROE 70247	1
12		ROE 70242	1

## Sonderzubehör für Fernbetätigung • Special accessories for remote operation • Accessoires spéciaux pour commande à distance • Accessori speciali per telecomandi • Accesorios especiales para telemando



Pos	ROE	
02	ROE 70245	1
02	ROE 70246 RO 245 B	1
03	ROE 65562	1
05b	ROE 70814	1
09	ROE 70243	1
13	ROE 71164	1

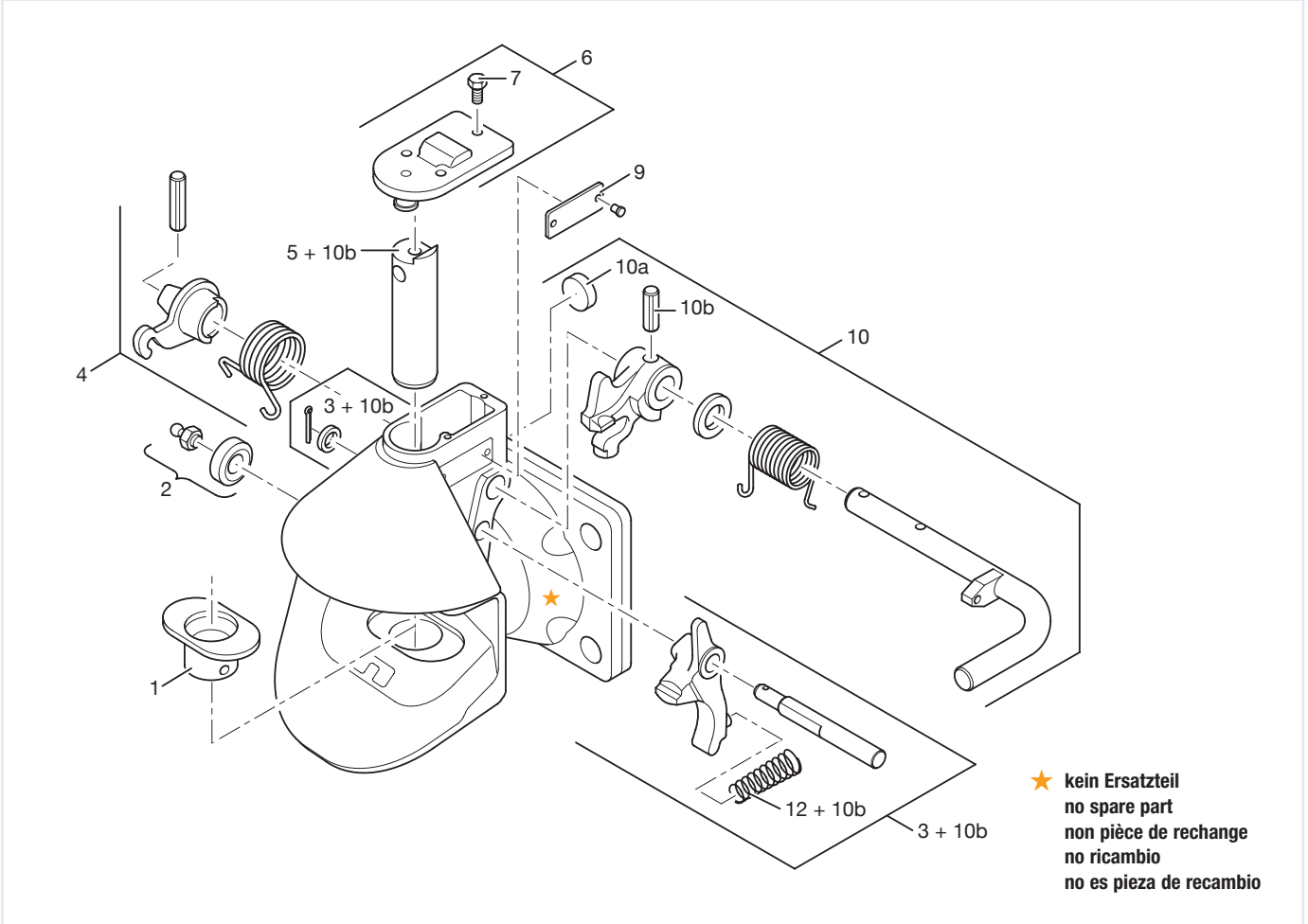
Bowdenzug • Bowden cable •  
Câble Bowden • Tirante Bowden •  
Cable Bowden

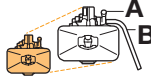



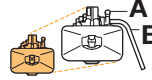

ROE	L
ROE 57337	850
ROE 57338	950
ROE 57339	1000
ROE 57340	1250
ROE 57341	1500
ROE 57342	1600
ROE 57343	2000
ROE 57344	2500
ROE 57345	3000
ROE 57346	4000
ROE 57347	5000
ROE 57348	7000

## RO\*245 A 45320

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio

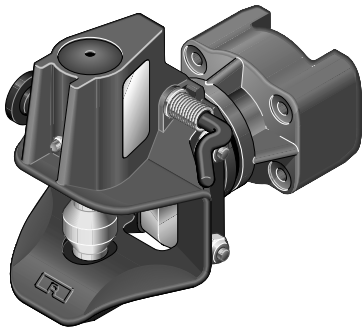


Pos		ROE	
01		ROE 53325	1
02		ROE 67593	1
03		ROE 71056	1
04		ROE 65562	1
05		ROE 47073	1
06		ROE 65561	1

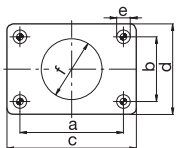
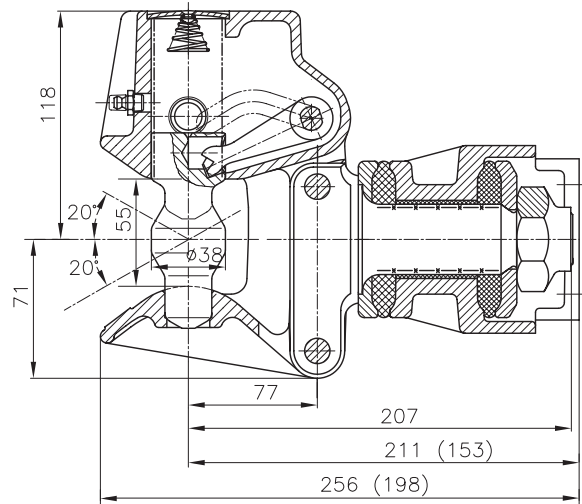
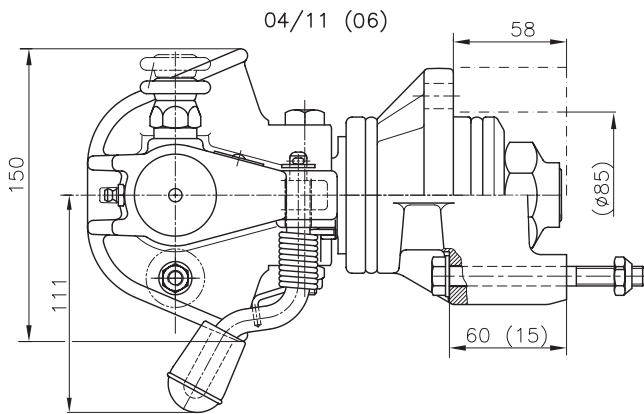
Pos		ROE	
07		ROE 70248	1
10		ROE 71057	1
12		ROE 70247	1

## RO\*253 – 40 mm

- DE** Drehbare Kupplung für Transporter
- EN** Rotable hitch for light trucks
- FR** Crochet d'attelage tournant pour véhicules utilitaires
- IT** Gancio girevole per motrici leggere
- ES** Enganche giratorio para furgonetas



a = 40 mm  
 DIN 74054, 94/20/CE  
 für Zugöse CH  
 for towing eye CH  
 pour anneau de remorquage CH  
 per occhione di traino CH  
 para punta de lanza CH



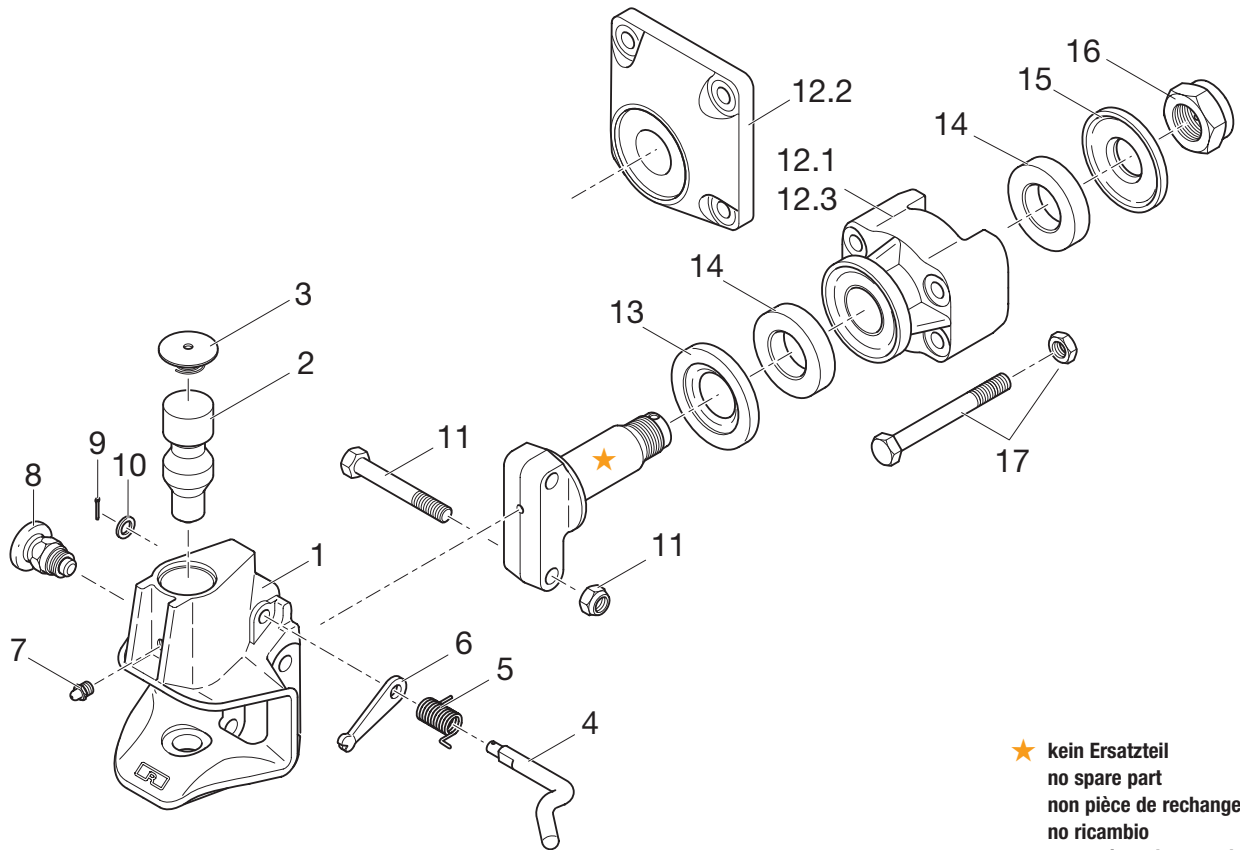
	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)
04	85,0	45,0	112,0	96,0	13,0
06	101,6	101,6	130,0	130,0	13,0
11	83,0	56,0	112,0	96,0	10,0

### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

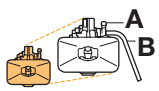

			(mm)	D (kN)	Dc (kN)	S (kg)	V (kN)	(kg)
RO 253B04000	<b>B</b>	04	85,0 x 45,0	40	40	300	14,2	9,8
RO 253B04530	<b>B</b>	04	85,0 x 45,0	40	22	300	14,2	9,8
RO 253B06530	<b>B</b>	06	101,6 x 101,6	40	22	300	14,2	10,0
RO 253B11000	<b>B</b>	11	83,0 x 56,0	35	35	250	12,0	9,4
RO 253B11530	<b>B</b>	11	83,0 x 56,0	35	20	250	12,0	9,4

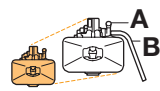

## RO\*253

### Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



★ kein Ersatzteil  
no spare part  
non pièce de rechange  
no ricambio  
no es pieza de recambio

Pos		ROE	
01		ROE 71065	1
02		ROE 47097	1
03		ROE 67411	1
04		ROE 70867	1
06	Kit (04, 05, 06, 09, 10)	ROE 70926	1
07		ROE 65018	1
08		ROE 70618	1
11		ROE 70868	1
12.1	85,0 x 45,0 mm	ROE 70869	1
12.2	101,6 x 101,6 mm	ROE 70870	1
12.3	83,0 x 56,0 mm	ROE 70871	1

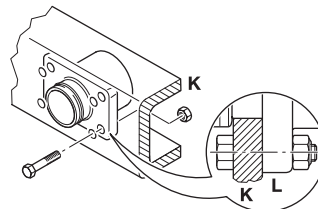
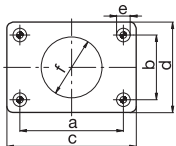
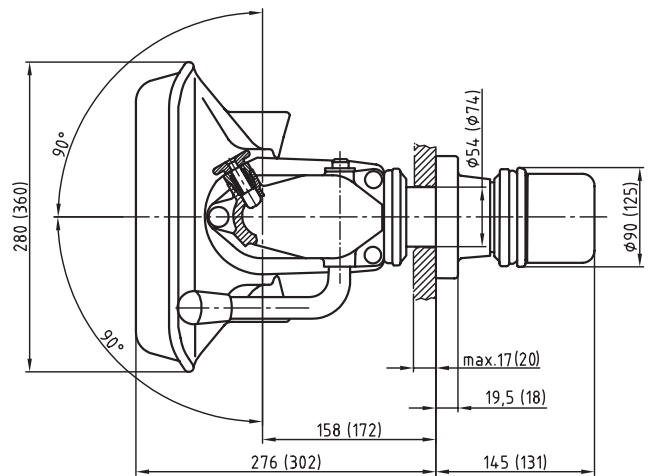
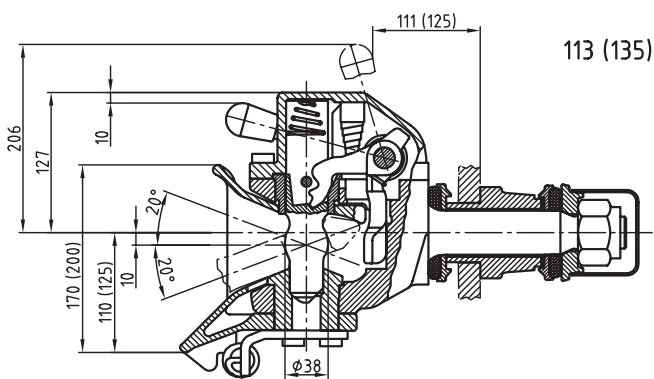
Pos		ROE	
13		ROE 45131	1
14	Kit	ROE 70872	1
15		ROE 59262	1
16		ROE 56124	1
17	RO 253B04000	ROE 70879	1
17	RO 253B04530	ROE 70873	1
17	RO 253B06000	ROE 70880	1
17	RO 253B06530	ROE 70874	1
17	RO 253B11000	ROE 70878	1
17	RO 253B11530	ROE 70875	1

## RO\*256 – 40 mm

- DE** Sonderkupplungen für Transporter
- EN** Special hitch for light trucks
- FR** Crochets d'attelage spéciaux pour véhicules utilitaires
- IT** Ganci speciali per motrici leggere
- ES** Enganches especiales para furgonetas



a = 40 mm  
DIN 74054, ECE R55-01 (Class S)



	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)
113	83,0	56,0	110,0	85,0	10,5	55,0
135	120,0	55,0	155,0	90,0	15,0	74,0

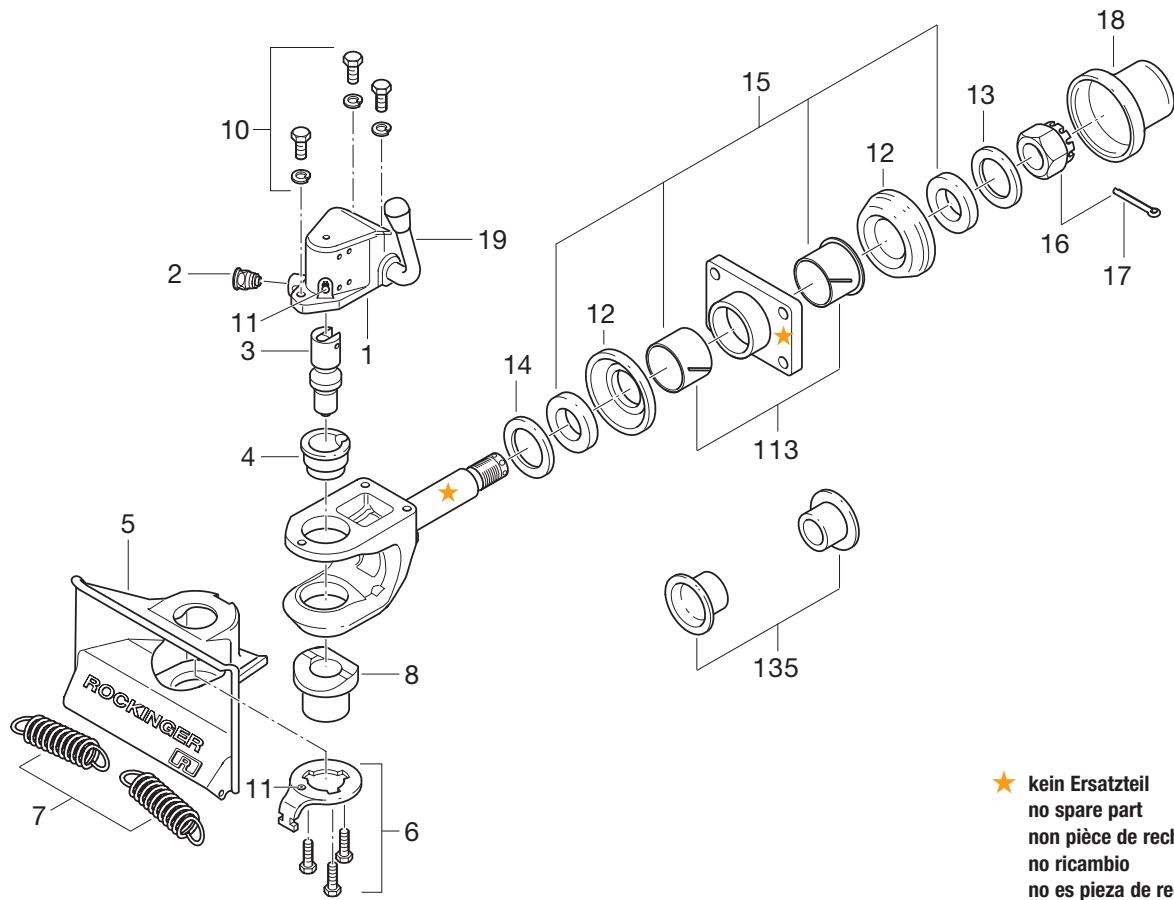
	K (mm)	K (mm)
113	17	17
135	20	20

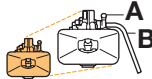

### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

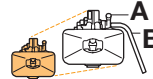

								<b>ECE</b>	
	<b>A</b>	<b>B</b>	<b>D (kN)</b>	<b>Dc (kN)</b>	<b>S (kg)</b>	<b>V (kN)</b>	<b>(kg)</b>		
RO 256 <b>A</b> 11020	<b>A</b>	113	83 x 56	66	42,5	500	12,0	24	010432
RO 256 <b>B</b> 11020	<b>B</b>	113	83 x 56	66	42,5	500	12,0	24	010432
RO 256 <b>A</b> 35020	<b>A</b>	135	120 x 55	70	70,0	700	19,0	24	010453
RO 256 <b>B</b> 35020	<b>B</b>	135	120 x 55	70	70,0	700	19,0	24	010453

# RO\*256

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



Pos		ROE	
01	RO xxxAxxxx, 113	ROE 66824	1
01	RO xxxAxxxx, 135	ROE 70581	1
01	RO xxxBxxxx, 113	ROE 66825	1
01	RO xxxBxxxx, 135	ROE 70580	1
02	113	ROE 70352	1
02	135	ROE 70599	1
03		ROE 47007	1
04		ROE 53041	1
05	113	ROE 46074	1
05	135	ROE 46105	1
06	113	ROE 70228	1
06	135	ROE 70726	1
07	113	ROE 55008	2
07	135	ROE 55005	2
08		ROE 53055	1
10	135	ROE 70727	1

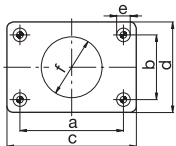
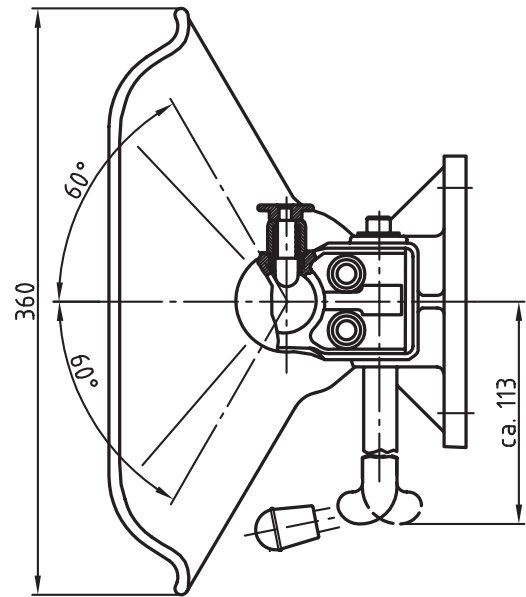
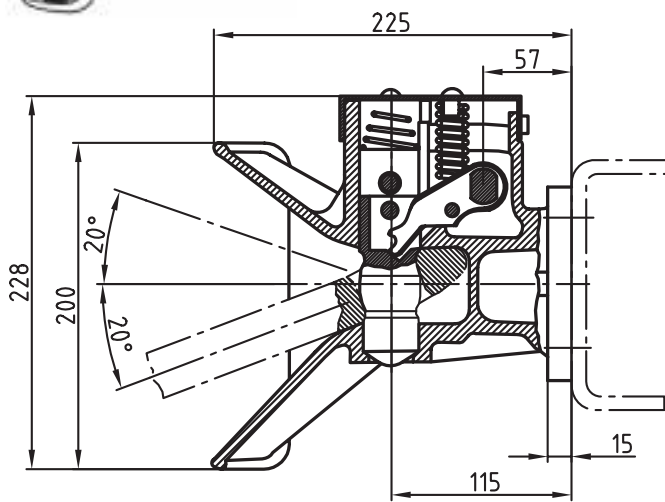
Pos		ROE	
11		ROE 65018	1
11	113	ROE 65040	1
11	135	ROE 39179	1
12	113	ROE 44087	1
12	135	ROE 44080	1
13	113	ROE 54938	1
13	135	ROE 54707	1
14	135	ROE 54460	1
15	113	ROE 67855	1
15	135	ROE 70343	1
16		ROE 56051	1
17		ROE 35031	1
18	113	ROE 25217	1
18	135	ROE 25076	1
19	RO xxxAxxxx	ROE 50070	1
19	RO xxxBxxxx	ROE 50064	1

## RO\*290 – 40 mm

- DE** Kupplung für schienengebundene Arbeitsmaschinen
- EN** Hitch for rail vehicles
- FR** Crochet pour machines-outils sur rails
- IT** Gancio per macchine di lavoro su rotaia
- ES** Enganche para máquinas de trabajo sobre carriles



a = 40 mm  
DIN 74054



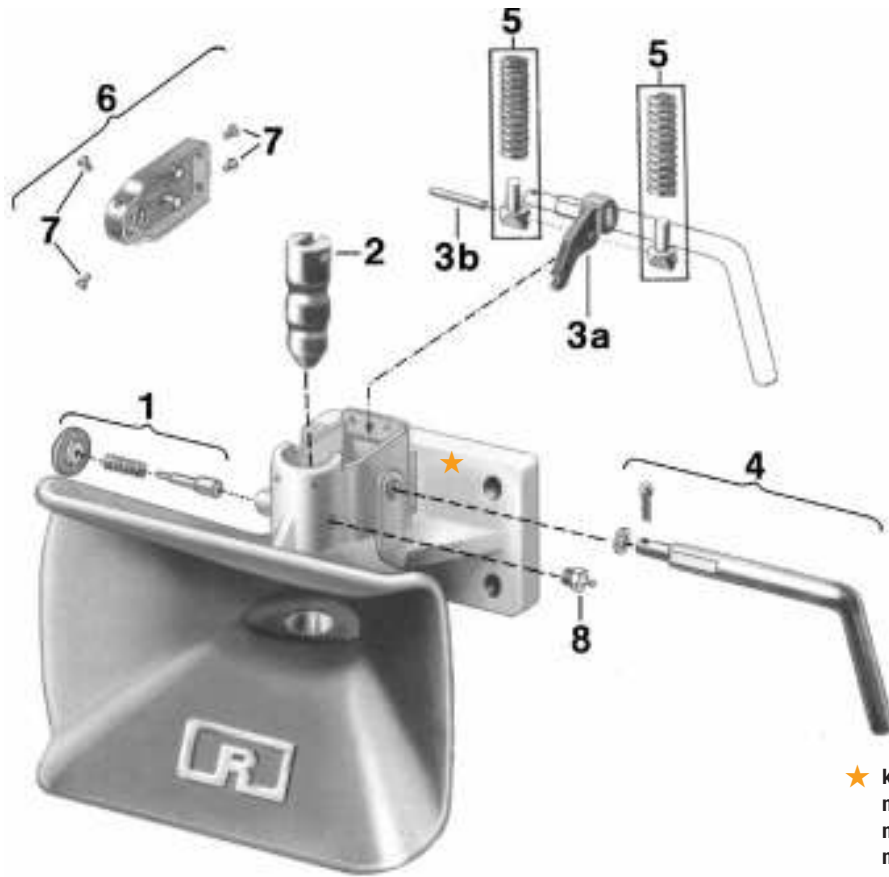
	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)
145	140,0	80,0	180,0	120,0	17,0

### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

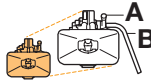

			(mm)	(t)	(kg)
RO 290A45020	B	145	140 x 80	14	15,4
RO 290A45520	A	145	140 x 80	14	15,4

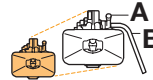

## RO\*290

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



★ kein Ersatzteil  
no spare part  
non pièce de rechange  
no ricambio  
no es pieza de recambio

Pos		ROE	
01		ROE 70356	1
02		ROE 47005	1
03		ROE 51005	1
04	RO 290xx020	ROE 70296	1
04	RO 290xx520	ROE 50278	1

Pos		ROE	
05		ROE 70297	1
06		ROE 70298	1
07		ROE 70324	1
08		ROE 65018	1

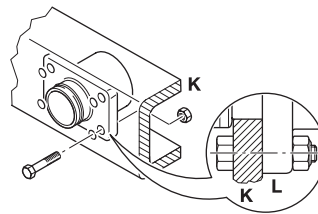
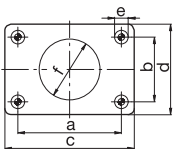
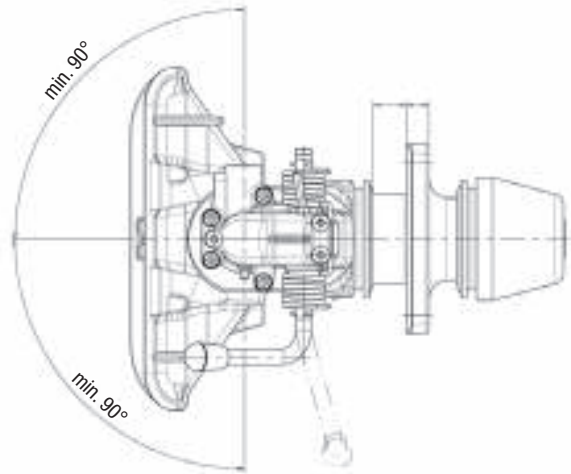
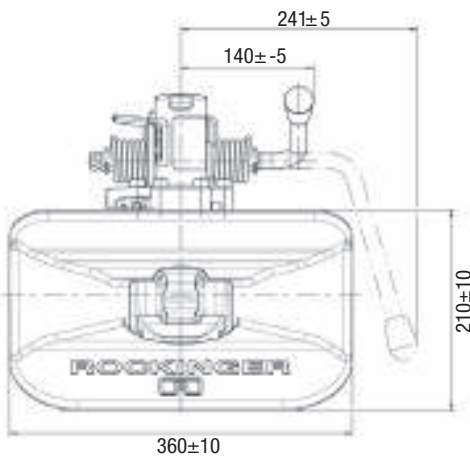
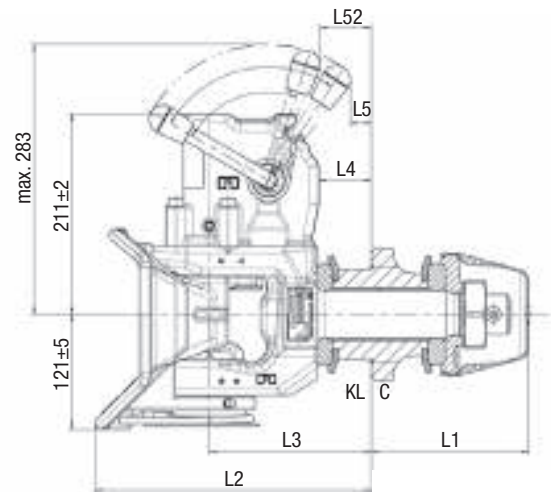


## RO\*40 E – 40 mm

- DE** Vollautomatische Anhängerkupplung
- EN** Fully automatic towing hitch
- FR** Crochet d'attelage entièrement automatique
- IT** Gancio di traino automatico
- ES** Enganche para remolque totalmente automático



a = 40 mm  
DIN 74054, ECE R55-01 (Class S)



	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)
135	120,0	55,0	155,0	90,0	15,0	74,0
145	140,0	80,0	180,0	120,0	17,0	84,0
150	160,0	100,0	200,0	140,0	21,0	94,0

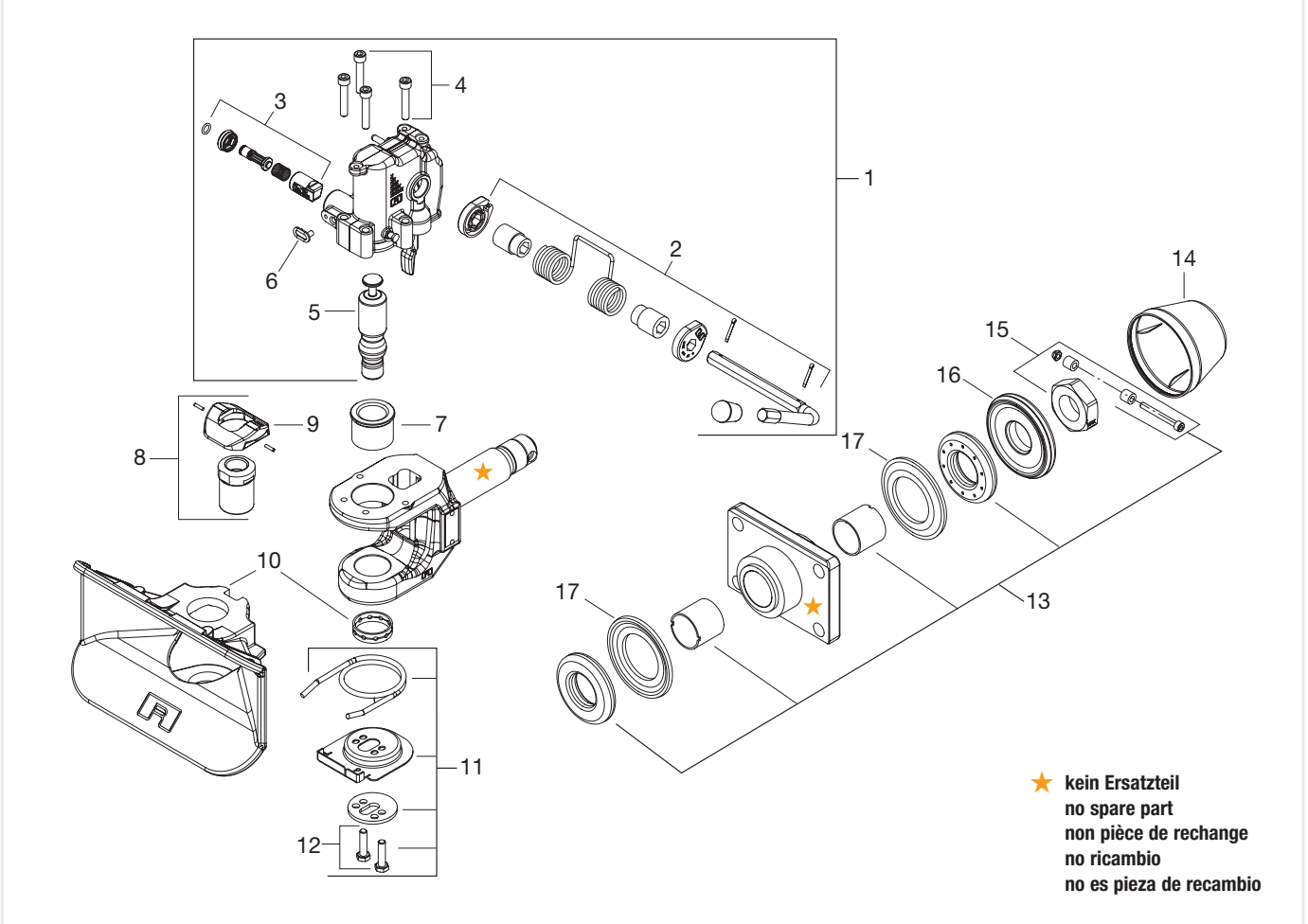
	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	L5 (mm)	L52 (mm)	K (mm)	C (mm)	Lm (mm)
135	147,0	286,0	166,0	51,0	18,0	51	11,0-32,0	22,0	180,0
145	166,0	290,0	170,0	55,0	22,0	54	11,0-35,0	23,5	230,0
150	166,0	290,0	170,0	55,0	22,0	54	11,0-35,0	23,5	230,0

### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

C D	A B		(mm)					(kg)	ECE		
				D (kN)	Dc (kN)	S (kg)	V (kN)				
RO 410A	36021	135	120 x 55	70	70,0	700	24,0	30,0	011602		
RO 410B	36021	135	120 x 55	70	70,0	500	26,4	30,0	011602		
RO 410A	46021	145	140 x 80	100	90,5	1000	50,0	33,0	011601		
RO 410B	46021	145	140 x 80	100	90,5	1000	50,0	33,0	011601		
RO 410A	51021	150	160 x 100	168	90,5	1000	50,0	35,0	011600		
RO 410B	51021	150	160 x 100	168	90,5	1000	50,0	35,0	011600		

# RO\*40 E

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



Pos		ROE	
1	A	ROE 71330A	1
	B	ROE 71330B	1
2	A	ROE 71644A	1
	B	ROE 71644B	1
3		ROE 71643	1
4		ROE 30396	1
5		ROE 47121	1
6		ROE 25558	1
7		ROE 53565	1
8		ROE 71692	1
9		ROE 59388	1
10		ROE 46128	1

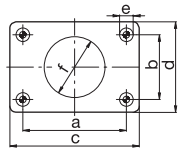
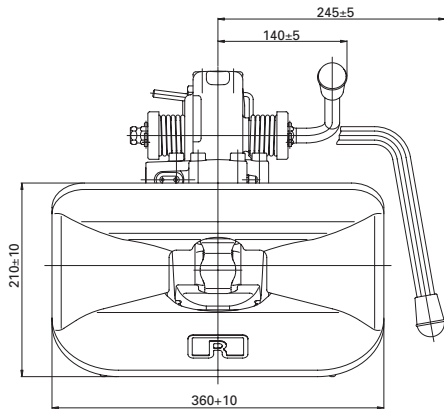
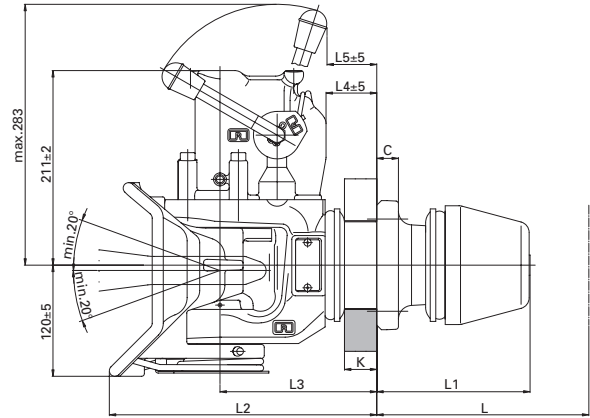
Pos		ROE	
11		ROE 71331	1
12		ROE 30486	1
13	G135	ROE 71639	1
	G145/150	ROE 71640	1
14	G135	ROE 25254	1
	G145/150	ROE 25347	1
15	G135	ROE 71641	1
	G145/150	ROE 71642	1
16	G145/150	ROE 12623	1
	G135	ROE 12636	1
17	G135	ROE 44130	2
	G145/150	ROE 44134	2

## RO\*40 CH

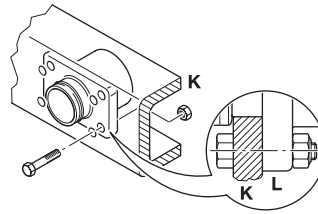
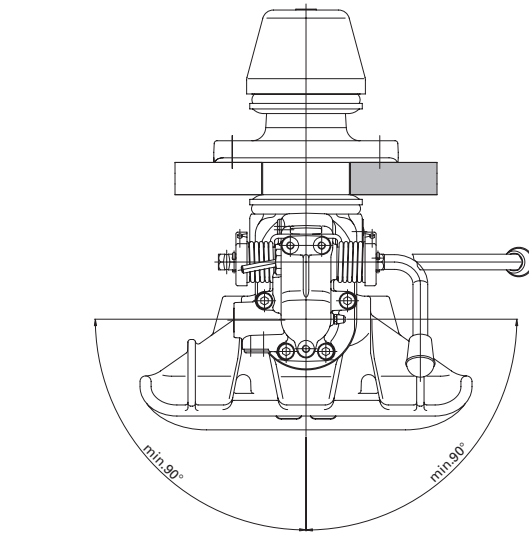
- DE** Vollautomatische Anhängerkupplung
- EN** Fully automatic towing hitch
- FR** Crochet d'attelage entièrement automatique
- IT** Gancio di traino automatico
- ES** Enganche para remolque totalmente automático



a = 40 mm  
DIN 74054, ECE R55-01 (Class S)



	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)
135	120,0	55,0	155,0	90,0	15,0	74,0
145	140,0	80,0	180,0	120,0	17,0	84,0
150	160,0	100,0	200,0	140,0	21,0	94,0



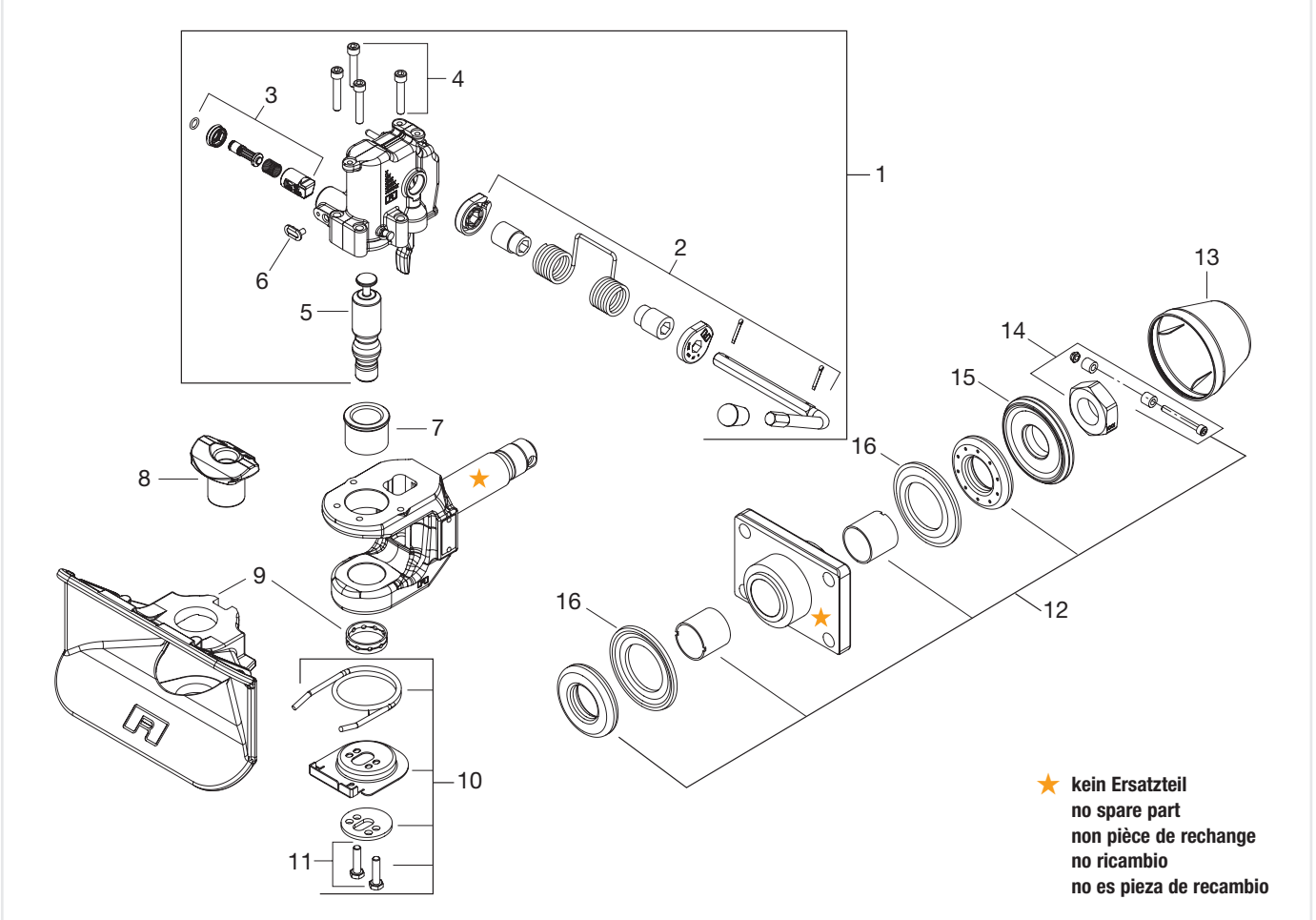
	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	L5 (mm)	K (mm)	C (mm)	Lm (mm)
135	147,0	286,0	166,0	51,0	49,0	11,0-32,0	22,0	180,0
145	166,0	290,0	170,0	55,0	49,0	11,0-35,0	23,5	230,0
150	166,0	290,0	170,0	55,0	49,0	11,0-35,0	23,5	230,0

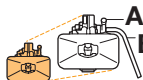

### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

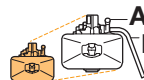

		(mm)		D (kN)	Dc (kN)	S (kg)	V (kN)	(kg)	ECE		
RO 413A36501	135	120 x 55	70	70,0	700	24,0	30,0	011605			
RO 413B36501	135	120 x 55	70	70,0	500	26,4	30,0	011605			
RO 413A46501	145	140 x 80	100	91,5	1000	36,0	33,0	011604			
RO 413B46501	145	140 x 80	100	91,5	1000	36,0	33,0	011604			
RO 413A51501	150	160 x 100	168	91,5	1000	36,0	35,0	011603			
RO 413B51501	150	160 x 100	168	91,5	1000	36,0	35,0	011603			

# RO\*40 CH

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



Pos		ROE	
01	A	ROE 71330A	1
	B	ROE 71330B	1
02	A	ROE 71644A	1
	B	ROE 71644B	1
03		ROE 71643	1
04		ROE 30396	1
05		ROE 47121	1
06		ROE 25558	1
07		ROE 53565	1
08		ROE 53566	1
09		ROE 46129	1
10		ROE 71331	1

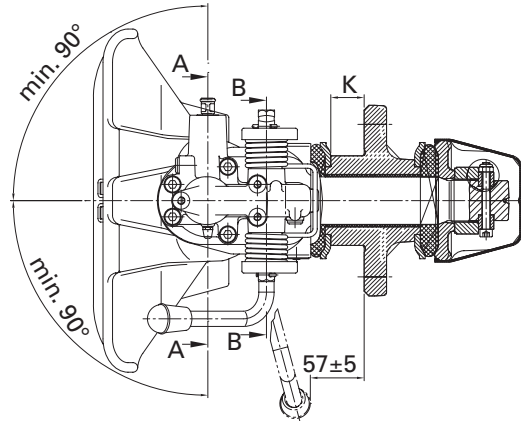
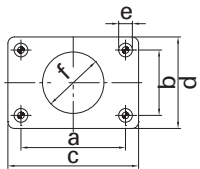
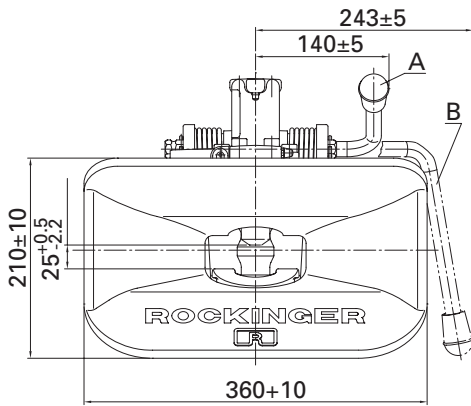
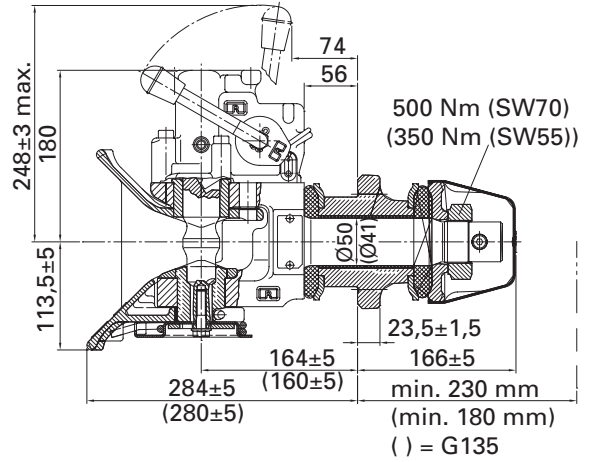
Pos		ROE	
11		ROE 30486	1
12		ROE 71639	1
		G145/G150	1
13		ROE 25254	1
		G145/G150	1
14		ROE 71641	1
		G135	1
		RO 413A/Bxx500	1
		RO 413A/Bxx501	1
15		ROE 12623	1
		G145/G150	1
		G135	1
16		ROE 44130	2
		G145/G150	2

# RO\*400-1

- DE** Standardkupplung
- EN** Standard hitch
- FR** Crochet standard
- IT** Gancio di traino standard
- ES** Enganche estándar



a = 40 mm  
DIN 74054, ECE R55-01 (Class S)



	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)
135	120,0	55,0	155,0	90,0	15,0	74,0
145	140,0	80,0	180,0	120,0	17,0	84,0
150	160,0	100,0	200,0	140,0	21,0	94,0

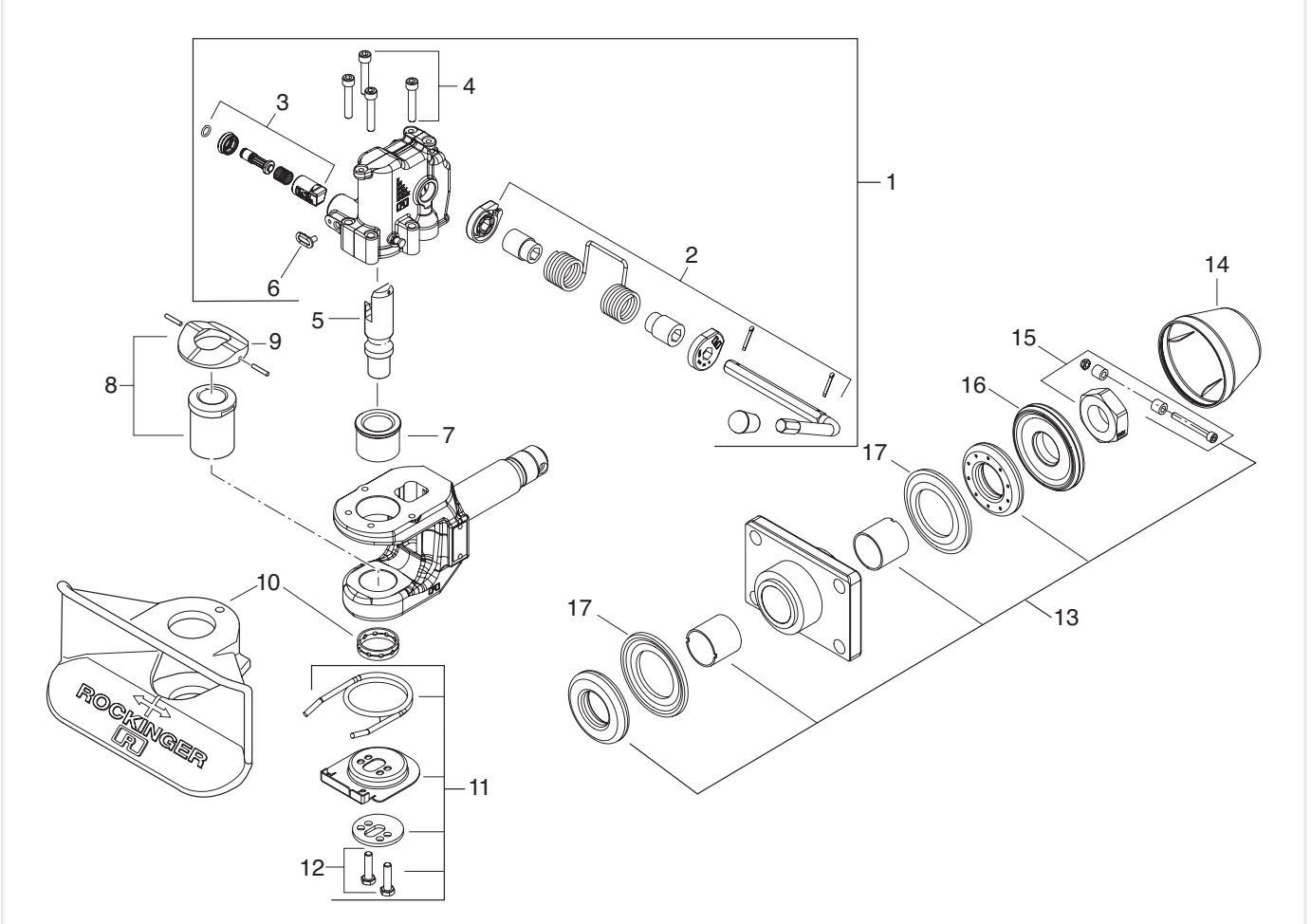
	K (mm)	K (mm)
135	11-32	max. 32
145	11-35	max. 35
150	11-35	max. 35

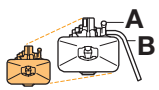

## Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

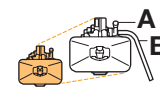

		(mm)	D (kN)	Dc (kN)	S (kg)	V (kN)	(kg)	ECE		ROE
RO 400A36001	135	120 x 55	70	70,0	700	24,0	30,0	010352		70970
RO 400B36001	135	120 x 55	70	70,0	500	26,4	30,0	010352		70970
RO 400A46001	145	140 x 80	100	91,5	1000	31,2	33,0	010351		70952
RO 400B46001	145	140 x 80	100	91,5	1000	31,2	33,0	010351		70952
RO 400A51001	150	160 x 100	130	90,0	1000	35,0	35,0	010350		70971
RO 400B51001	150	160 x 100	130	90,0	1000	35,0	35,0	010350		70971
RO 400A51201	150	160 x 100	130	90,0	1000	35,0	35,0	010350	x	70971

# RO\*400-1

## Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



Pos		ROE	
01	A	ROE 71448A	1
	B	ROE 71448B	1
02	A	ROE 71795A	1
	B	ROE 71795B	1
03		ROE 71491	1
04		ROE 30361	1
05		ROE 47099	1
06		ROE 25558	1
07		ROE 53520	1
08		ROE 71718	1
09		ROE 59415	1
10		ROE 46109	1

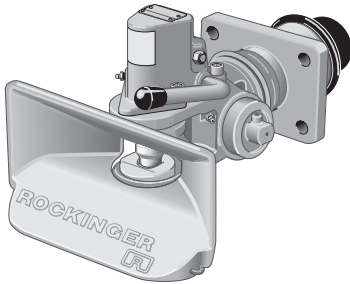
Pos		ROE	
11		ROE 71331	1
12		ROE 30486	1
13	G135	ROE 71639	1
	G145 / 150	ROE 71640	1
14	G135	ROE 25254	1
	G145 / 150	ROE 25347	1
15	G135	ROE 71641	1
	G145 / 150	ROE 71796	1
16	G145 / 150	ROE 59280	1
	G135	ROE 59279	1
17	G135	ROE 44160	1
	G145 / 150	ROE 44161	1

## Reparatursatz • Repair kit • Kit de réparation • Kit riparazione • Juego de reperacion

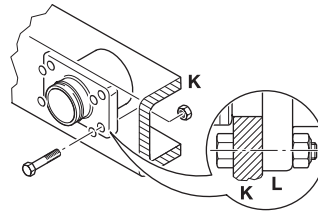
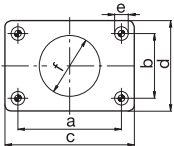
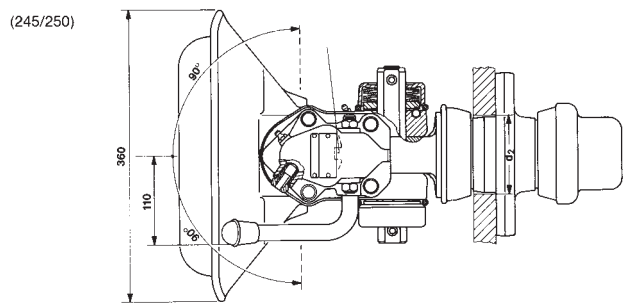
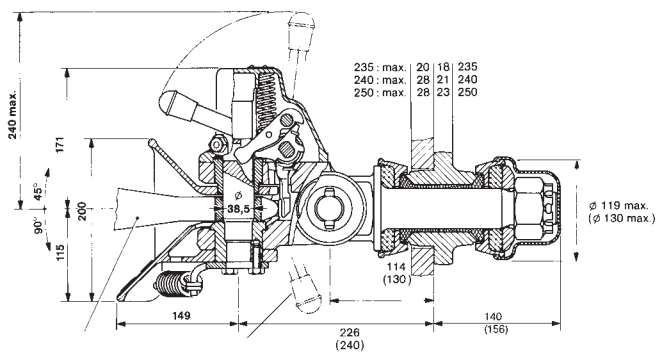
Pos.	ROE
03, 05, 07, 08, 11	ROE 71728

## RO\*42 – 40 mm

- DE** Schlechtwegekupplung mit Vertikalgelenk
- EN** Off road hitch with vertical articulating hitch head
- FR** Crochet d'attelage pour voies en mauvais état à articulation verticale
- IT** Gancio per sollecitazioni gravose con campana snodata
- ES** Enganche para carreteras en mal estado con articulación vertical



a = 40 mm  
DIN 74054, ECE R55-01 (Class S)



	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)
235	120,0	55,0	155,0	90,0	15,0	74,0
250	160,0	100,0	200,0	140,0	21,0	94,0

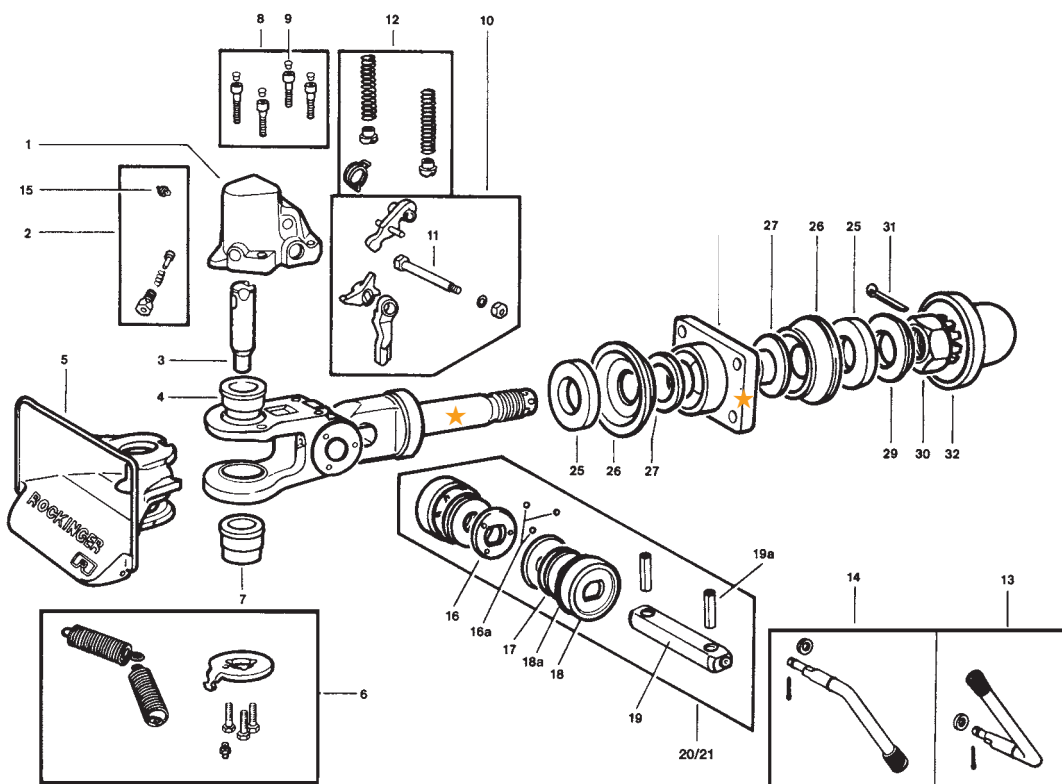
	K (mm)	K (mm)
235	20	max. 20
250	28	max. 28

### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

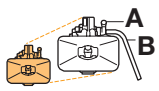

								<b>ABG</b>
			(mm)	D (kN)	S (kg)	C (t)	(kg)	M
RO 42G235	A	235	120 x 55	70	50	1,3	31,5	4431
RO 42G235A	B	235	120 x 55	70	50	1,3	31,5	4431
RO 42G250	A	250	160 x 100	120	50	1,3	37,5	4433
RO 42G250A	B	250	160 x 100	120	50	1,3	37,5	4433

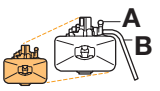

# RO★42

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio

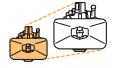


★ kein Ersatzteil  
no spare part  
non pièce de rechange  
no ricambio  
no es pieza de recambio

Pos		ROE	
01	RO xxxAxxxx	ROE 70046	1
01	RO xxxBxxxx	ROE 70047	1
02		ROE 67796	1
03		ROE 47059	1
04		ROE 53359	1
05		ROE 46080	1
06		ROE 67799	1
07		ROE 53378	1
08		ROE 57162	1
09		ROE 25151	4
10		ROE 70055	1
12		ROE 67798	1
13	RO xxxAxxxx	ROE 50203	1
14	RO xxxBxxxx	ROE 50184	1
15		ROE 65018	1
16		ROE 54932	2

Pos		ROE	
16a		ROE 39158	6
17		ROE 39022	8
18		ROE 13228	2
19	+19a	ROE 39160	1
20		ROE 70043	1
21		ROE 70625	1
26	235	ROE 44084	2
26	245, 250	ROE 44079	2
29	235	ROE 54707	1
29	245, 250	ROE 54680	1
30	235	ROE 56051	1
30	245, 250	ROE 56049	1
32	235	ROE 25214	1
32	245, 250	ROE 25072	1

Reparatursatz • Repair kit • Kit de réparation • Kit riparazione • Juego de reperacion

Pos.	ROE	
25, 27, 31	ROE 67472	235
25, 27, 31	ROE 67471	245, 250

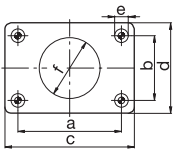
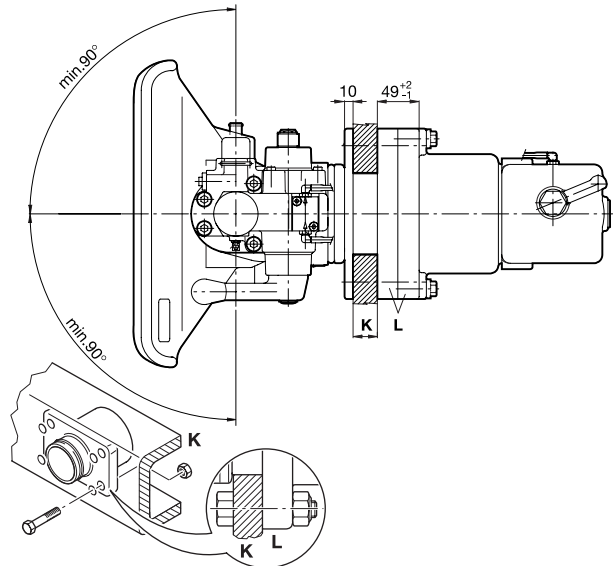
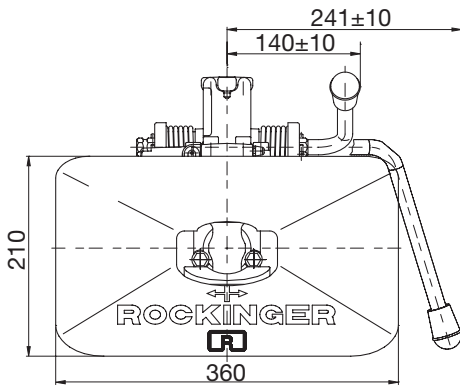
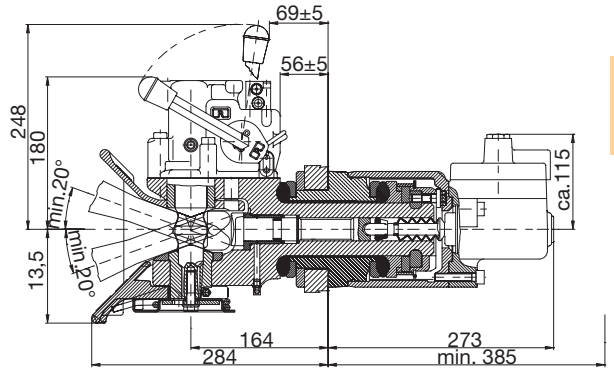


## RO\*430 – 40 mm

- DE** Comfortkupplung. Spielfrei, gefedert, gedämpft
- EN** Comfort hitch. Slack-free, with buffers, dampened
- FR** Crochet d'attelage confort. Sans jeu, à ressorts, amorti
- IT** Gancio comfort. Senza gioco, molleggiato, ammortizzato
- ES** Enganche confort. Exento de juego, con almohadillas, amortiguado



a = 40 mm  
DIN 74054, ECE R55-01 (Class S)



	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)
145	140,0	80,0	180,0	120,0	17,0	84,0
150	160,0	100,0	200,0	140,0	21,0	94,0

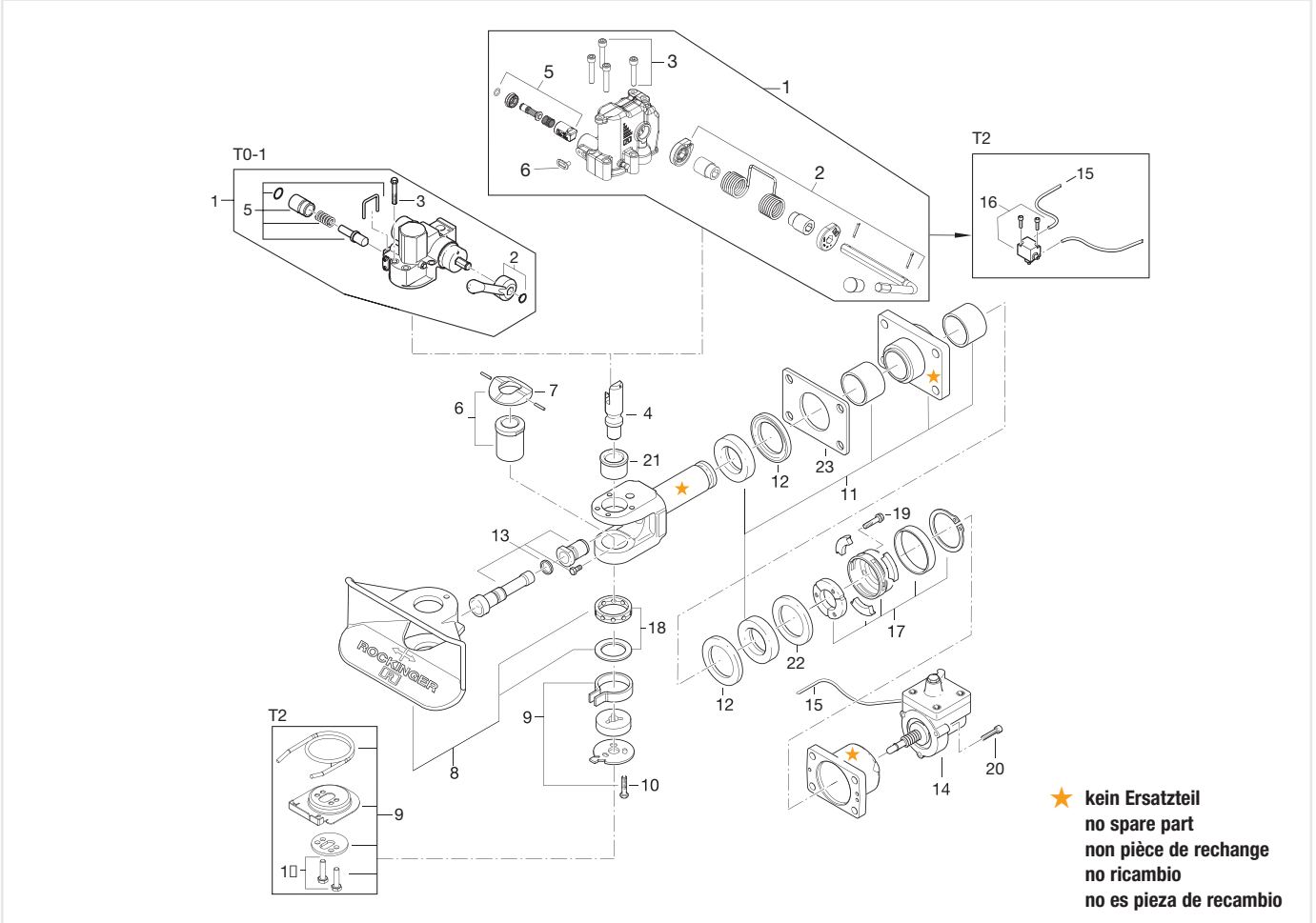
	K (mm)	K (mm)
145	11-28	max. 28
150	11-28	max. 28

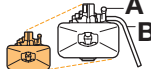

### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos



			D (kN)	Dc (kN)	S (kg)	V (kN)	(kg)	ECE	
RO 430A45002	145	140 x 80	100	91,5	1000	36	51,0	010406	
RO 430B45002	145	140 x 80	100	91,5	1000	36	51,0	010406	
RO 430A50002	150	160 x 100	130	91,5	1000	36	52,0	010405	
RO 430B50002	150	160 x 100	130	91,5	1000	36	52,0	010405	
RO 430A45542	145	140 x 80	100	91,5	1000	36	58,78	010406	X
RO 430A50542	150	160 x 100	130	91,5	1000	36	59,0	010405	X

# RO★430

## Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



Pos		ROE	
01	RO xxxAxxx0/1	ROE 70937	1
01	RO 430Axxx2	ROE 71449A	1
01	RO 430Bxxx2	ROE 71449B	1
02	RO xxxAxxx0/1	ROE 50244	1
02	RO xxxBxxx0/1	ROE 70735	1
02	RO 430Axxx2	ROE 71795A	1
02	RO 430Bxxx2	ROE 71795B	1
03		ROE 30361	1
04		ROE 47099	1
05	RO 430xxx0/1	ROE 70925	1
05	RO 430xxx2	ROE 71491	1
06		ROE 53519	1
06	RO 430xxx2	ROE 71718	1
07		ROE 59278	1
08		ROE 46109	1
09		ROE 55256	1
09	RO 430xxx2	ROE 71331	1
10	RO 430xxx0/1	ROE 30362	1

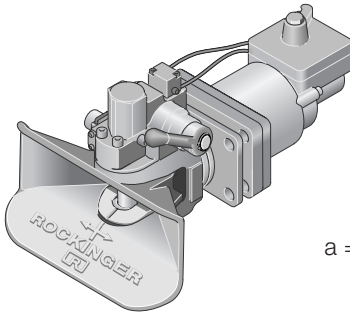
Pos		ROE	
10	RO 430xxx02	ROE 30486	1
11		ROE 25475	1
12		ROE 44159	1
13		ROE 70938	1
14	RO 430xxxx0	ROE 70939	1
14	RO 430xxxx1	ROE 71611	1
14	RO 430xxxx2	ROE 70635	1
15		ROE 70981	1
15	RO 430xxxx2	ROE 71380	1
16	RO 430xxxx0 (VOSS)	ROE 90291	1
16	RO 430xxxx1/2 (Schäfer)	ROE 71610	1
17		ROE 59277	1
18		ROE 25479	1
19		ROE 30365	1
20		ROE 30364	1
21		ROE 53520	1
22		ROE 45133	1
23		ROE 59169	1

## Reparatursatz • Repair kit • Kit de réparation • Kit riparazione • Juego de reperacion

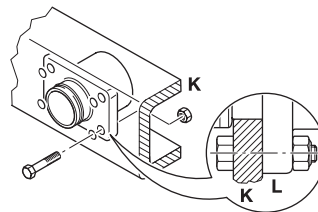
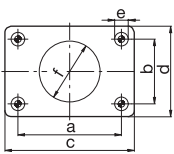
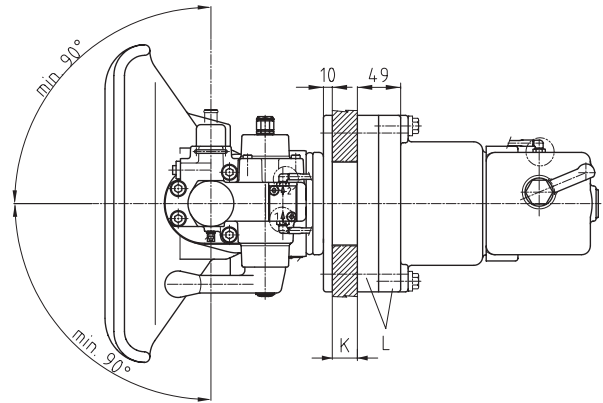
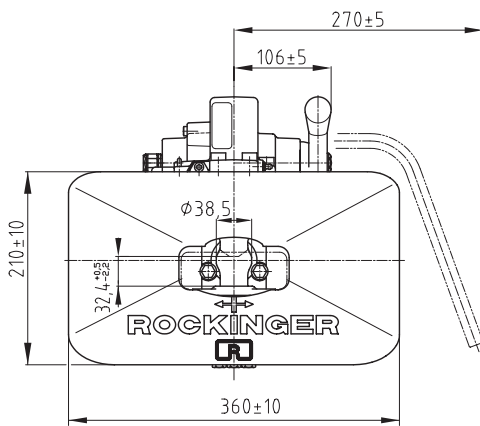
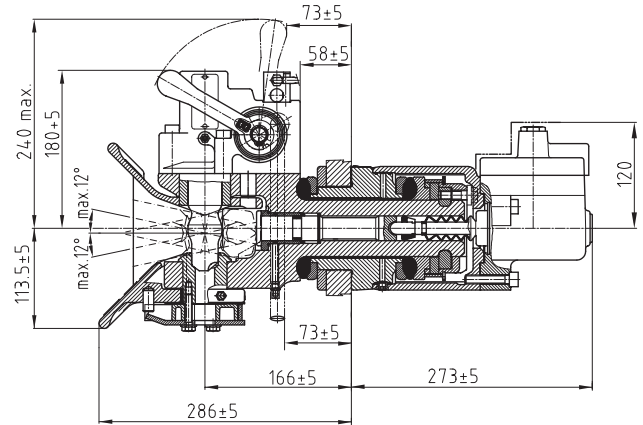
Pos.		ROE
04, 05, 06, 09, 18, 21	RO 430xxx0/1	ROE 71124
04, 05, 06, 09, 21	RO 430xxx2	ROE 71728

## RO\*433 – 40 mm

- DE** Comfortkupplung. Spielfrei, gefedert, gedämpft, CH
- EN** Comfort hitch. Slack-free, with buffers, dampened, CH
- FR** Crochet d'attelage confort. Sans jeu, à ressorts, amorti, CH
- IT** Gancio comfort. Senza gioco, molleggiato, ammortizzato, CH
- ES** Enganche confort. Exento de juego, con almohadillas, amortiguado, CH



a = 40 mm für Zugöse CH  
for towing eye CH  
pour anneau de remorquage CH  
per occhio di traino CH  
para punta de lanza CH



	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)
145	140,0	80,0	180,0	120,0	17,0	84,0
150	160,0	100,0	200,0	140,0	21,0	94,0

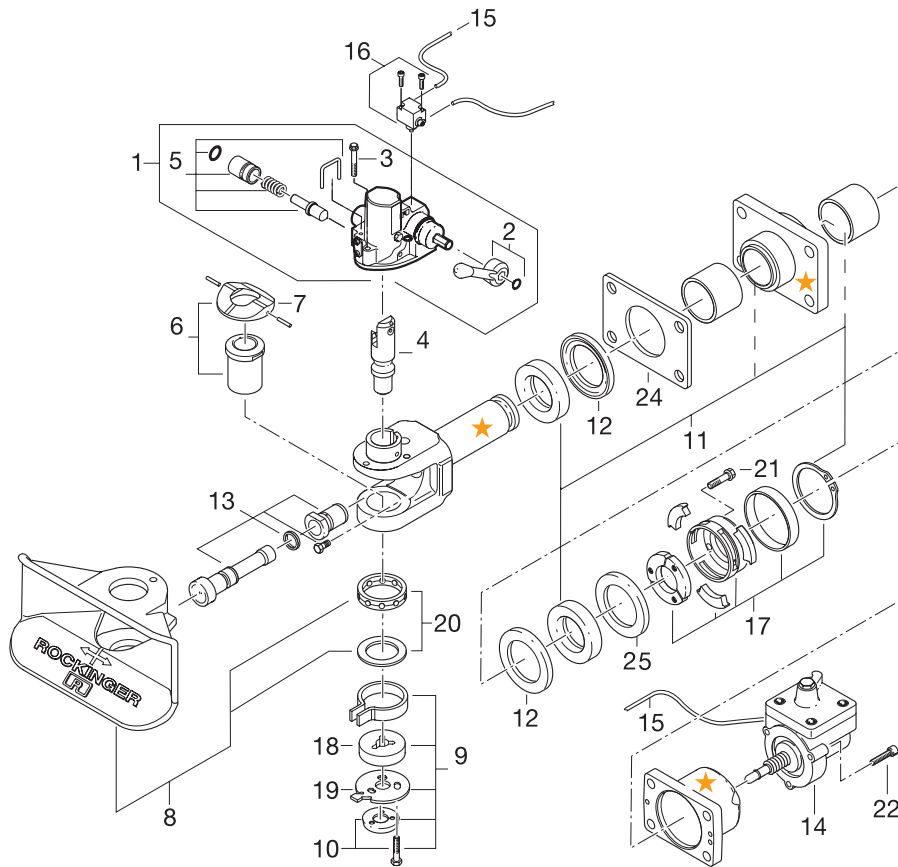
	K (mm)	K (mm)
145	11-28	max. 28
150	11-28	max. 28

### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

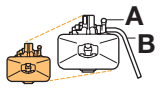

		(mm)	D (kN)	Dc (kN)	S (kg)	V (kN)	(kg)		
RO 433A45000	145	140 x 80	100	91,5	1000	36,0	51,0		
RO 433A50000	150	160 x 100	130	91,5	1000	36,0	52,0		

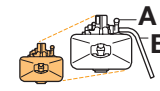

# RO★433

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



★ kein Ersatzteil  
no spare part  
non pièce de rechange  
no ricambio  
no es pieza de recambio

Pos		ROE	
01		ROE 70937	1
02	RO xxxAxxxx	ROE 50244	1
02	RO xxxBxxxx	ROE 70735	1
03		ROE 30361	1
04		ROE 47099	1
05		ROE 70925	1
06		ROE 53540	1
08		ROE 46121	1
09		ROE 55256	1
10		ROE 30362	1
11		ROE 25475	1
12		ROE 44159	1
13		ROE 71096	1
14		ROE 70939	1

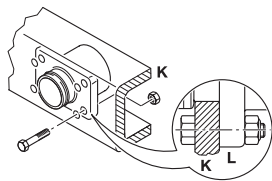
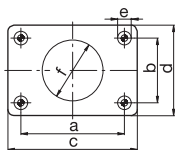
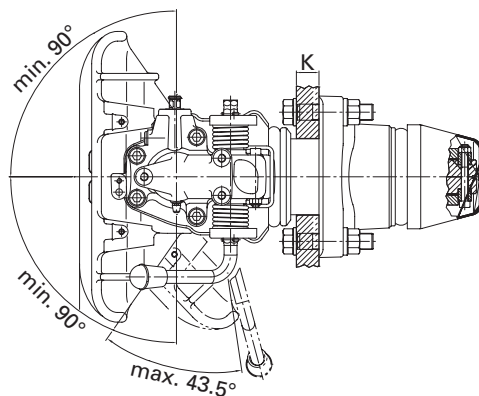
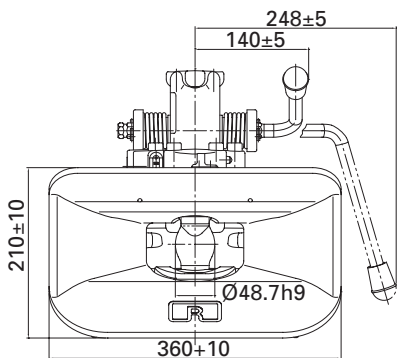
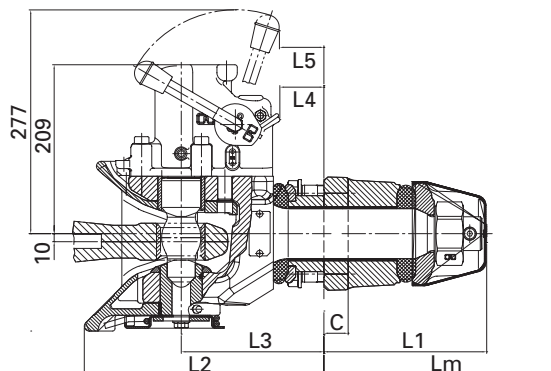
Pos		ROE	
15		ROE 70981	1
16		ROE 90291	1
17		ROE 59277	1
18		ROE 53467	1
19		ROE 65626	1
20		ROE 25479	1
21		ROE 30365	1
22		ROE 30364	1
23		ROE 53520	1
24		ROE 45133	1
25		ROE 59169	1

## RO\*50 – 50 mm

- DE** Vollautomatische Anhängerkupplung
- EN** Fully automatic towing hitch
- FR** Crochet d'attelage entièrement automatique
- IT** Gancio di traino automatico
- ES** Enganche para remolque totalmente automático



a = 50 mm  
DIN 74053, ECE R55-01 (Class D)



	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)
6	160,0	100,0	200,0	140,0	21,0	94,0

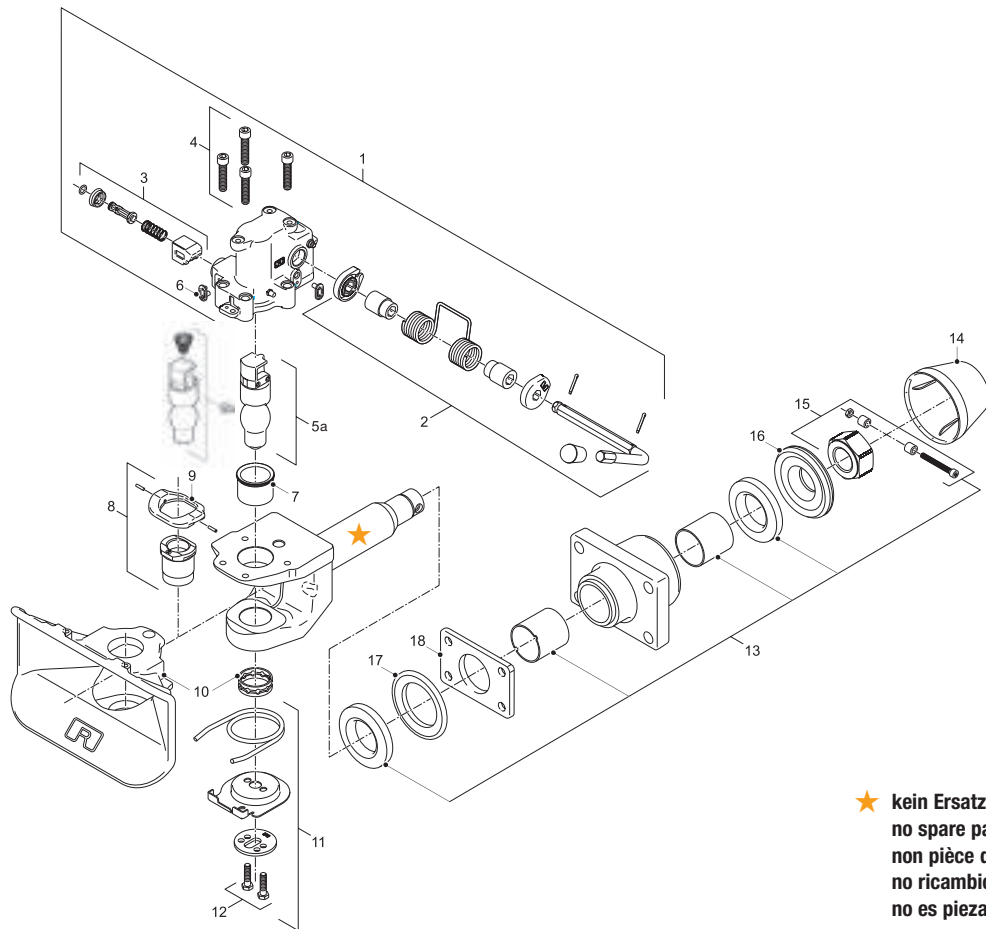
	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	L5 (mm)	K (mm)	C (mm)	Lm (mm)
6	202	297	177	54	55	35	30	290

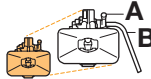

### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

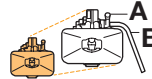

									ECE			
				D (kN)	Dc (kN)	S (kg)	V (kN)					
RO 500A66000	A	6	160x100	200	140	1000	90	50	011844			
RO 500A66000	A	6	160x100	200	140	2500	60	50	011844			
RO 500B66000	B	6	160x100	200	140	1000	90	50,5	011844			
RO 500B66000	B	6	160x100	200	140	2500	60	50,5	011844			
RO 500A66200	A	6	160x100	200	140	1000	90	50	011844	x		
RO 500A66200	A	6	160x100	200	140	2500	60	50	011844	x		
RO 500A66300	A	6	160x100	200	140	1000	90	50	011844	x		x
RO 500A66300	A	6	160x100	200	140	2500	60	50	011844	x		x
RO 500A66400	A	6	160x100	200	140	1000	90	50	011844		x	x
RO 500A66400	A	6	160x100	200	140	2500	60	50	011844		x	x
RO 500A66550	A	6	160x100	200	140	2500	60	50	011844	x		x
RO 500A66550	A	6	160x100	200	140	1000	90	50	011844	x		x
RO 500A66500	A	6	160x100	285	140	2500	60	50	011844			
RO 500A66500	A	6	160x100	285	140	1000	90	50	011844			
RO 500B66500	B	6	160x100	285	140	2500	60	50,5	011844			
RO 500B66500	B	6	160x100	285	140	1000	90	50,5	011844			

# RO\*50

## Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



Pos		ROE	
01	RO xxxAxxxxx	ROE 71442A	1
01	RO xxxBxxxxx	ROE 71442B	1
01	RO xxxBxx530	ROE 71794B	1
02	RO xxxAxxxxx	ROE 71644A	1
02	RO xxxBxxxxx	ROE 71644B	1
02	RO xxxBxx530	ROE 71800	1
03		ROE 27009	1
04		ROE 30417	1
05a		ROE 47130	1
05b	RO xxxxxx510	ROE 47151	1
06		ROE 25558	1
07		ROE 53604	1

Pos		ROE	
08		ROE 53637	1
09		ROE 59428	1
10		ROE 46145	1
11		ROE 71331	1
12		ROE 30486	1
13		ROE 71801	1
14		ROE 25347	1
15		ROE 71802	1
16		ROE 59393	1
17		ROE 44177	1

## Reparaturatz • Repair kit • Kit de réparation • Kit riparazione • Juego de reperacion

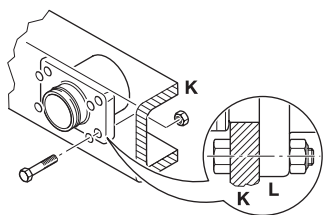
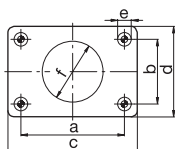
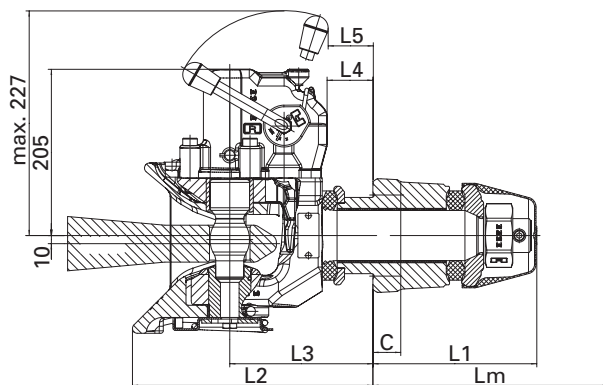
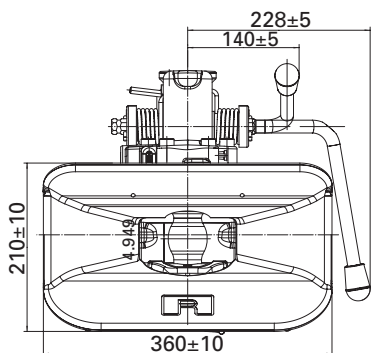
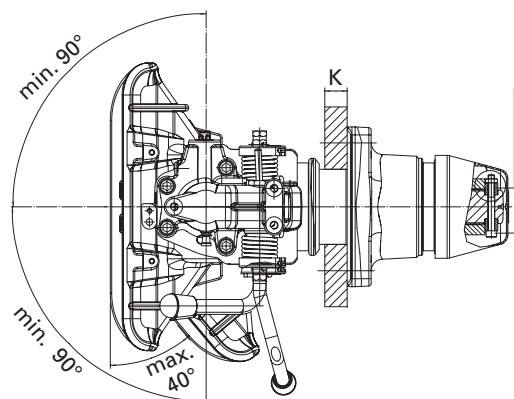
Pos.	ROE
3, 4, 5a, 7, 8, 11	ROE 71805

## RO\*50 E – 50 mm

- DE** Vollautomatische Anhängerkupplung
- EN** Fully automatic towing hitch
- FR** Crochet d'attelage entièrement automatique
- IT** Gancio di traino automatico
- ES** Enganche para remolque totalmente automático



a = 50 mm  
DIN 74053, ECE R55-01 (Class D)



	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)
6	160,0	100,0	200,0	140,0	21,0	94,0

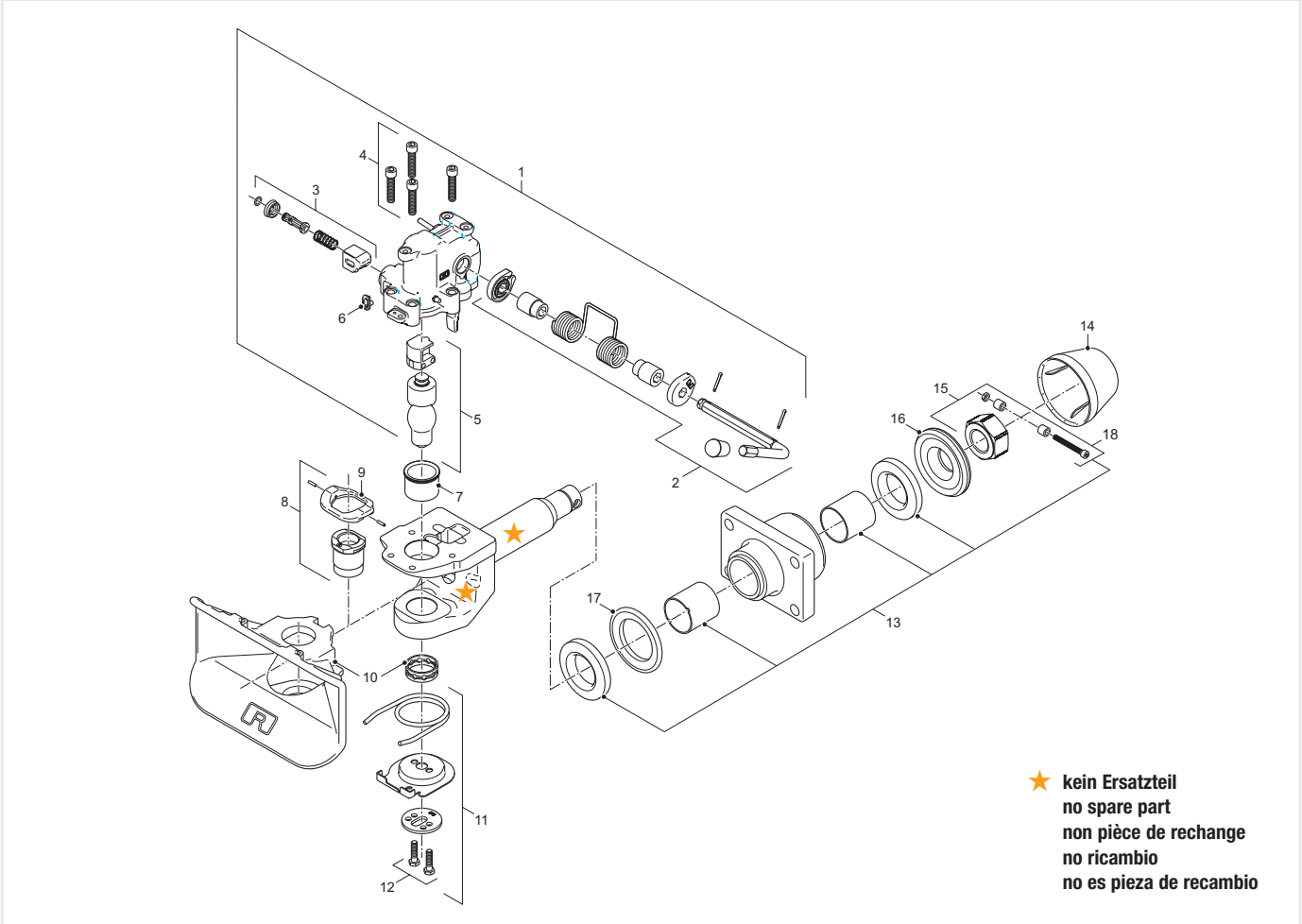
	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	L5 (mm)	K (mm)	C (mm)	Lm (mm)
6	201,5	296,5	176,5	56,5	50,5	35	30	290

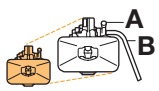

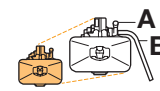

### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

	C D	A B	6	(mm)	T		S (kg)	V (kN)	(kg)	ECE	ECE R55-01	ECE R55-01	ECE R55-01	ECE R55-01
					R	C								
					D (kN)	Dc (kN)								
RO 510A61000	A	6	160x100	285	140	1000	90	45	011845					
RO 510A61000	A	6	160x100	285	140	2500	60	45	011845					
RO 510B61000	B	6	160x100	285	140	1000	90	46	011845					
RO 510B61000	B	6	160x100	285	140	2500	60	46	011845					
RO 510A61200	A	6	160x100	285	140	1000	90	46	011845					x
RO 510A61200	A	6	160x100	285	140	2500	60	46	011845					x
RO 510A61400	A	6	160x100	285	140	1000	90	58	011845	x	x			
RO 510A61400	A	6	160x100	285	140	2500	60	58	011845	x	x			
RO 510A61520	A	6	160x100	285	140	1000	90	58	011845	x			x	
RO 510A61520	A	6	160x100	285	140	2500	60	58	011845	x			x	

# RO\*50 E

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



Pos		ROE		Pos		ROE	
01	RO xxxAxxxxx	ROE 71504A	1	09		ROE 59428	1
01	RO xxxBxxxxx	ROE 71504B	1	10		ROE 46146	1
02	RO xxxAxxxxx	ROE 71644A	1	11		ROE 71331	1
02	RO xxxBxxxxx	ROE 71644B	1	12		ROE 30486	1
03		ROE 27009	1	13		ROE 71801	
04		ROE 30417	1	14		ROE 25347	1
05		ROE 47131	1	15		ROE 71802	1
06		ROE 25558	1	16		ROE 59393	1
07		ROE 53606	1	17		ROE 44177	1
08		ROE 53605	1	18		ROE 30492	1

Reparatursatz • Repair kit • Kit de réparation • Kit riparazione • Juego de reperacion

Pos.	ROE
3, 4, 5, 7, 8, 11	ROE 71809

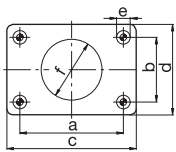
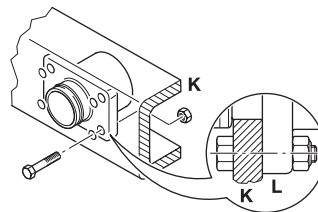
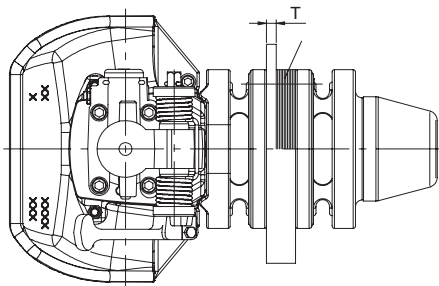
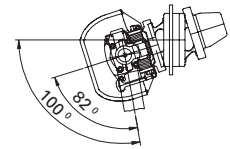
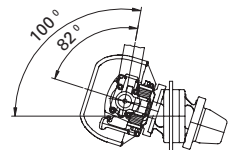
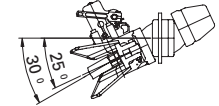
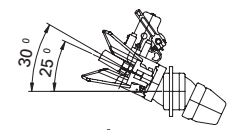
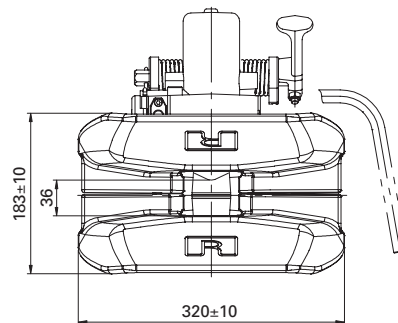
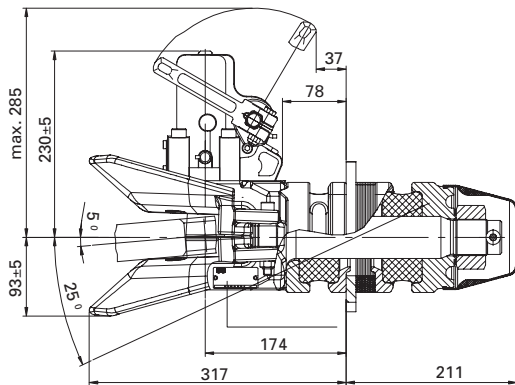


## RO\*50 flex – 50 mm

- DE** Anhängerkupplung für hohe Beanspruchungen und im Off-Road-Einsatz
- EN** Towing hitch for rugged conditions and off road applications
- FR** Crochet d'attelage pour sollicitations élevées et en utilisation off-road
- IT** Gancio di traino per elevate sollecitazioni e fuoristrada
- ES** Enganche para remolque para altas prestaciones fuera de la carretera



a = 50 mm  
DIN 74053, ECE R55-01 (Class D)



	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	
	6	160,0	100,0	200,0	140,0	21,0	94,0

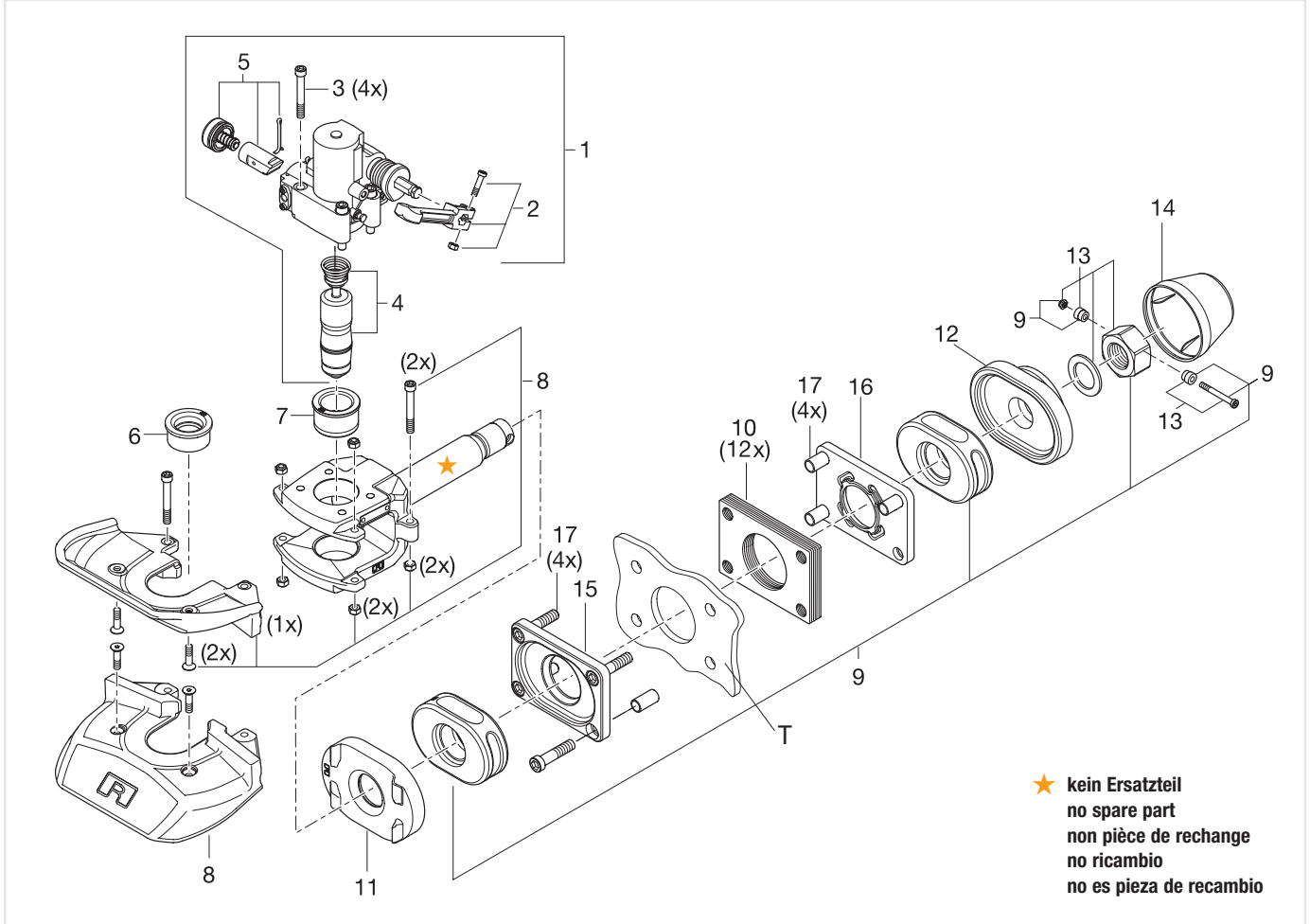
	K (mm)	K (mm)	
	6	-	max. 35

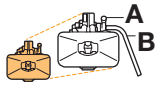

### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

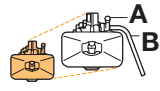

	C	A	D	B	(mm)	D (kN)	Dc (kN)	C (t)	(kg)	ECE		
RO 506A61001	6	160 x 100	260						57	011360		
RO 506B61001	6	160 x 100	260						57	011360		
RO 506C61401	6	160 x 100	260						66	011360	x	x
RO 506C61001	6	160 x 100	260						57	011360		
RO 506D61001	6	160 x 100	260						57	011360		

## RO\*50 flex

### Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



Pos		ROE	
01	RO xxxAxxx0 (2A, 3, 4, 5)	ROE 71200	1
01	RO xxxBxxx0 (2B, 3, 4, 5)	ROE 71202	1
02	RO xxxAxxxx	ROE 50257	1
02	RO xxxBxxxx	ROE 50267	1
03		ROE 30229	4
04	RO xxxxxx0	ROE 47123	1
05		ROE 71265	1
06		ROE 53551	1
07	RO xxxxxx0	ROE 53576	1
08		ROE 46126	2

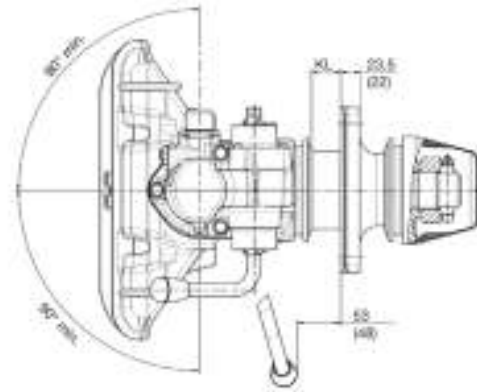
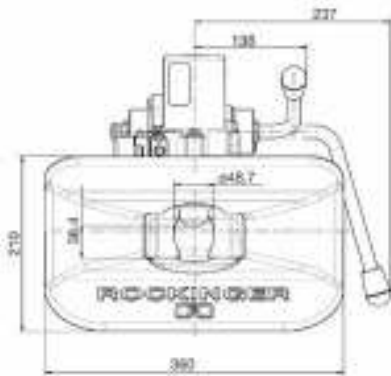
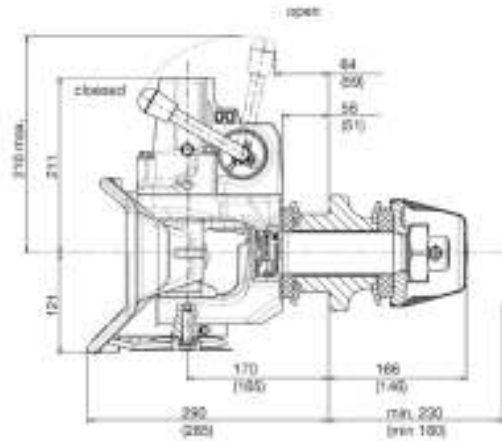
Pos		ROE	
09		ROE 71266	1
10		ROE 15690	1
11		ROE 12615	1
12		ROE 43480	1
13		ROE 56122	1
14		ROE 25347	1
15		ROE 43478	1
16		ROE 43479	1
17		ROE 30399	1

## RO\*500 – 50 mm

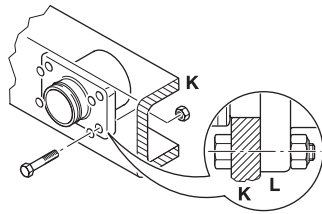
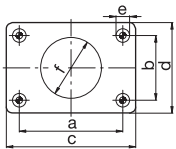
- DE** Standardkupplung
- EN** Standard hitch
- FR** Crochet standard
- IT** Gancio di traino standard
- ES** Enganche estándar



a = 50 mm  
DIN 74053, ECE R55-01 (Class D)



	L1 (mm)	L2 (mm)	L3 (mm)	Lm (mm)	C (mm)	S (mm)
3	168	285	165	min. 180	22,0	
4/5	168	290	170	min. 245	23,5	



	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)
3	120,0	55,0	155,0	90,0	15,0	74,0
4	140,0	80,0	180,0	120,0	17,0	84,0
5	160,0	100,0	200,0	140,0	21,0	94,0

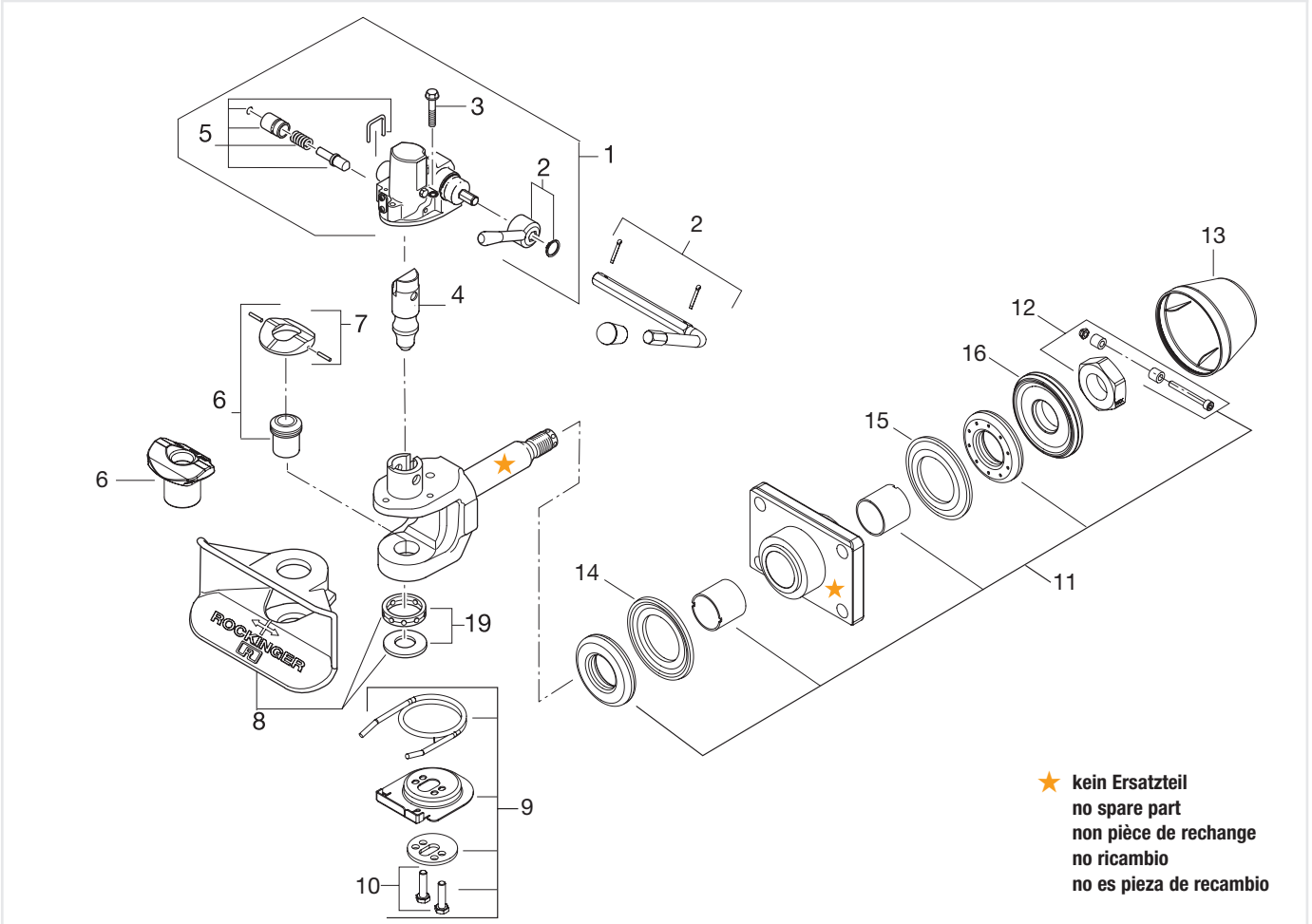
	K (mm)	K (mm)
3/61	11-32	max. 32
4/5	11-35	max. 35

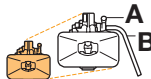

### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

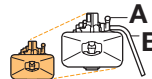

		(mm)	D (kN)	Dc (kN)	S (kg)	V (kN)	(kg)	ECE	
	RO 500A31004	3	120 x 55	70	70,0	700	24,0	32,0	010355
	RO 500B31004	3	120 x 55	70	70,0	700	24,0	32,0	010355
	RO 500A41004	4	140 x 80	100	91,5	1000	31,2	37,0	010354
	RO 500B41004	4	140 x 80	100	91,5	1000	31,2	37,0	010354
	RO 500A50004	5	160 x 100	130	90,0	1000	35,0	38,0	011784
	RO 500B50004	5	160 x 100	130	90,0	1000	35,0	38,0	011784

# RO\*500

## Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



Pos		ROE	
01	RO xxxAxx	ROE 71858A	1
01	RO xxxBxx	ROE 71858B	1
02	RO xxxAxxxx2	ROE 50244	1
02	RO xxxAxxxx4	ROE 71644A	1
02	RO xxxBxxxx2	ROE 70735	1
02	RO xxxAxxxx4	ROE 71644B	1
03		ROE 30269	1
04		ROE 47081	1
05		ROE 70925	1
06	*	ROE 53490	1
06	**	ROE 53536	1
06	RO xxxAxxxx4	ROE 53652	1
07	*	ROE 70850	1
07	**	ROE 70851	1
08	RO 500xxxx2	ROE 46111	1
08	RO 500xxxx4	ROE 46134	1
09	RO xxxxxx2	ROE 65693	1
09	RO xxxxxx4	ROE 71331	1

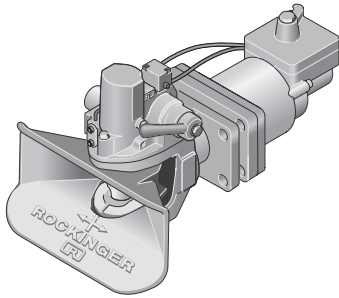
Pos		ROE	
10	RO xxxxxx2	ROE 30358	1
10	RO xxxxxx4	ROE 30486	1
11	3	ROE 25476	1
11	4, 5	ROE 25477	1
11	6	ROE 25345	1
12	3	ROE 56111	1
12	4, 5	ROE 56112	1
12	6	ROE 56102	1
13	3	ROE 25254	1
13	4, 5, 6	ROE 25347	1
14	3	ROE 44160	1
14	4, 5	ROE 44161	1
15		ROE 44161	1
16	3	ROE 59279	1
16	4, 5	ROE 59280	1
19		ROE 25479	1

\* Bronze, bronze, bronze, bronzo, bronze

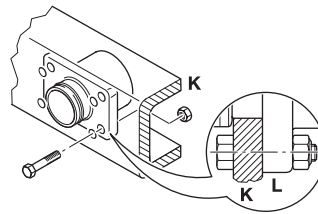
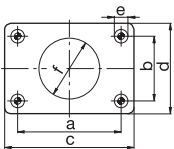
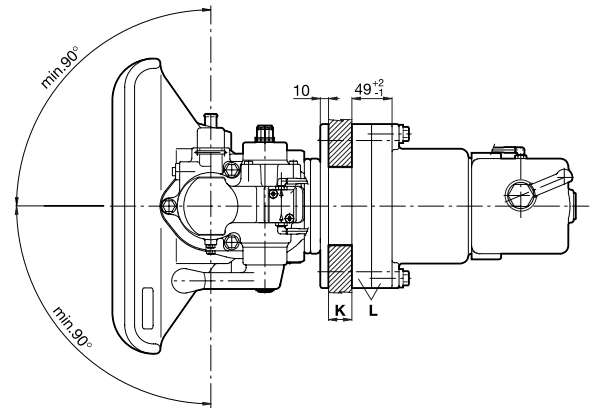
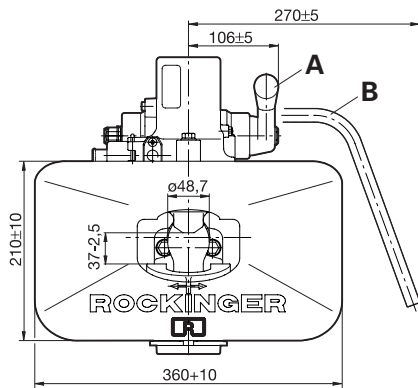
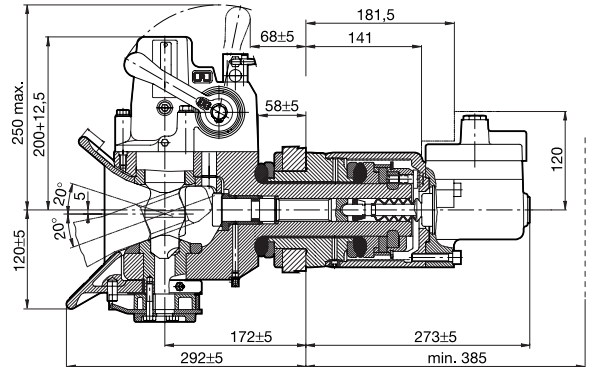
\*\* Stahl, steel, acier, acciaio, acero

## RO\*530 – 50 mm

- DE** Comfortkupplung. Spielfrei, gefedert, gedämpft
- EN** Comfort hitch. Slack-free, with buffers, dampened
- FR** Crochet d'attelage confort. Sans jeu, à ressorts, amorti
- IT** Gancio comfort. Senza gioco, molleggiato, ammortizzato
- ES** Enganche confort. Exento de juego, con almohadillas, amortiguado



a = 50 mm  
DIN 74053, ECE R55-01 (Class D)



	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)
6	160,0	100,0	200,0	140,0	21,0	94,0

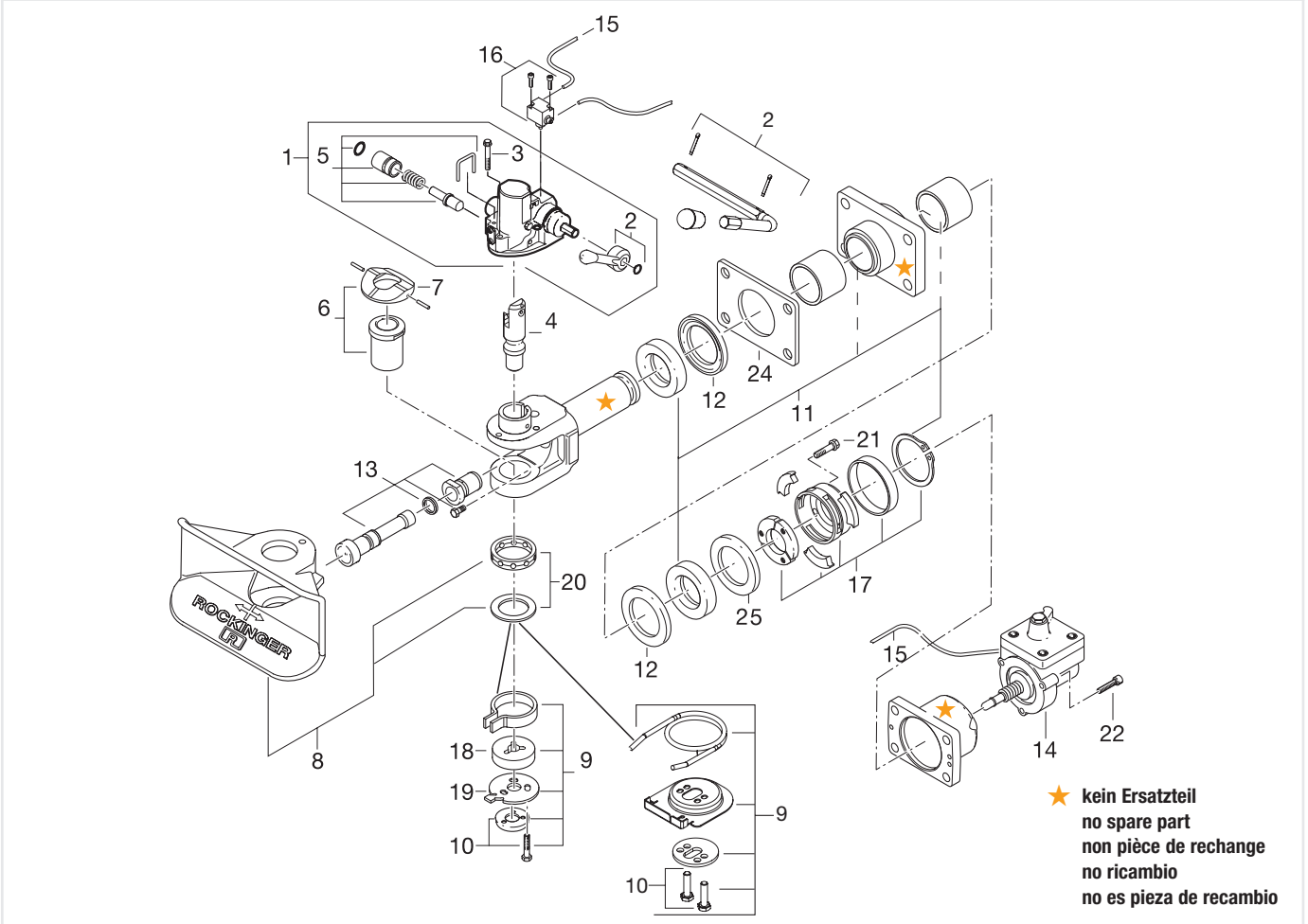
	K (mm)	K (mm)
6	11-28	max. 28

### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

			(mm)	D (kN)	Dc (kN)	S (kg)	V (kN)	(kg)	ECE
RO 530A60000	6	160 x 100	190	115	1000	50,0	54,0	010407	
RO 530B60000	6	160 x 100	190	115	1000	50,0	54,0	010407	

# RO\*530

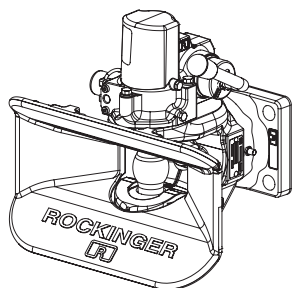
## Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



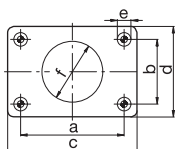
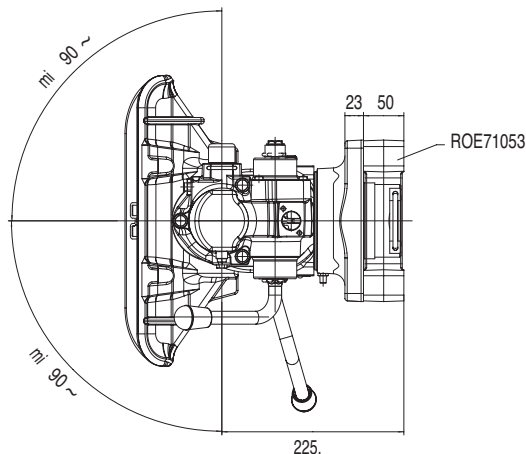
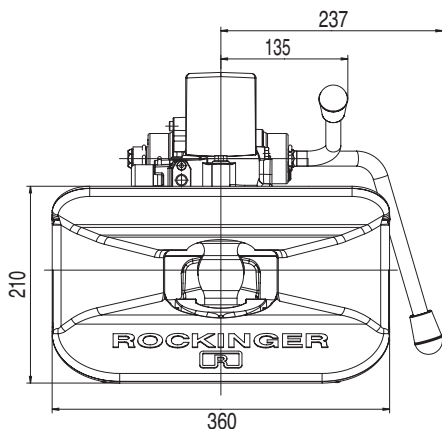
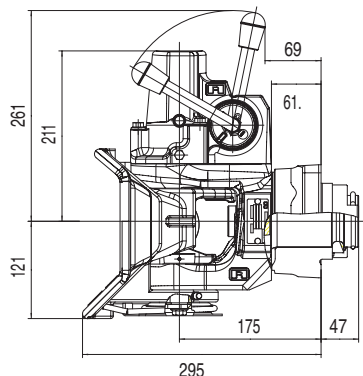
Pos		ROE		Pos		ROE	
01	RO xxxAxxxx	ROE 71869A	1	11		ROE 25475	1
01	RO xxxBxxxx	ROE 71869B	1	12		ROE 44159	1
02	RO xxxAxxx0	ROE 71644A	1	13		ROE 70948	1
02	RO xxxBxxx0	ROE 71644B	1	14		ROE 70939	1
02	RO xxxAxxxC	ROE 50244	1	15		ROE 70981	1
02	RO xxxBxxxC	ROE 70735	1	16		ROE 90291	1
03		ROE 30269	1	17		ROE 59277	1
04		ROE 47081	1	18		ROE 53467	1
05		ROE 70925	1	19		ROE 65626	1
06		ROE 53490	1	20		ROE 25479	1
07		ROE 70850	1	21		ROE 30365	1
07		ROE 70851	1	22		ROE 30364	1
08		ROE 46111	1	24		ROE 59169	1
09	RO xxxxC	ROE 65693	1	25		ROE 45133	1
09	RO xxxx0	ROE 71331	1	Kit	04, 05, 06, 09 RO xxxxC	ROE 71125	1
10	RO xxxxC	ROE 30358	1				
10	RO xxxx0	ROE 30486	1				

## RO\*560 – 50 mm

- DE** Kupplung mit Flansch
- EN** Hitch with flange
- FR** Crochet avec bride
- IT** Gancio con flangia
- ES** Enganche con brida

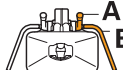
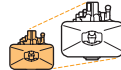

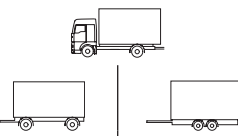




a = 50 mm  
DIN 74053,  
94/20/CE  
ISO 1102,  
ROE 57005



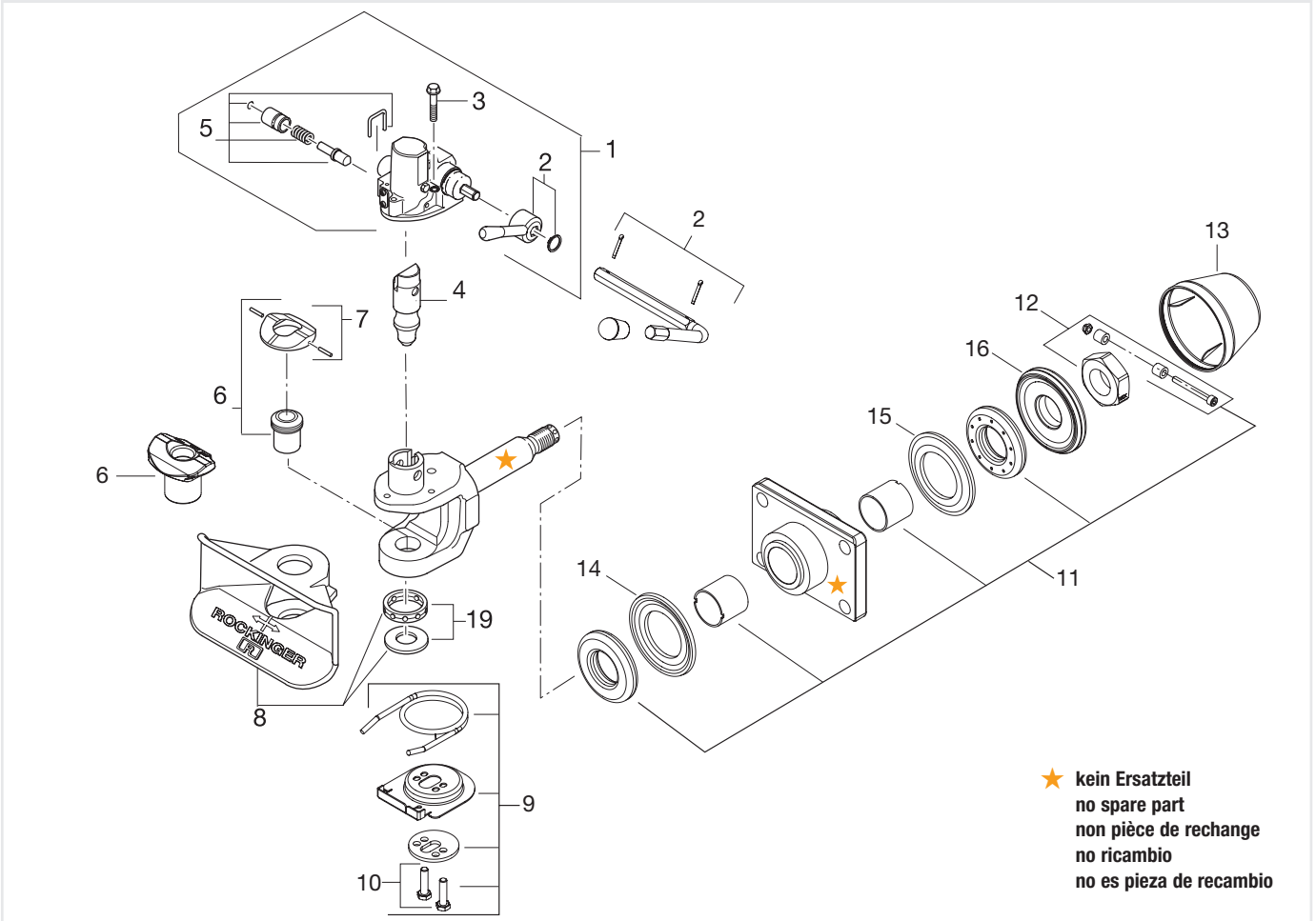
	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)
6	160,0	100,0	200,0	140,0	21,0	94,0

### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

		 (mm)					 (kg)	ECE
			D (kN)	Dc (kN)	S (kg)	V (kN)		
RO 560A6000	6	160 x 100	190	106	1000	45,6	38,0	010404
RO 560A6000	6	160 x 100	190	106	2000	35,8	38,0	010404
RO 560B6000	6	160 x 100	190	106	1000	45,6	38,0	010404
RO 560B6000	6	160 x 100	190	106	2000	35,8	38,0	010404

# RO\*560

## Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



Pos		ROE	
01		ROE 70849	
01	RO xxxAxx	ROE 71858A	1
01	RO xxxBxx	ROE 71858B	1
02	RO xxxAxxxxC	ROE 50244	1
02	RO xxxAxxxxC	ROE 70735	1
02	RO xxxBxxxx0	ROE 71644A	1
02	RO xxxAxxxx0	ROE 71644B	1
03		ROE 30269	1
04		ROE 47081	1
05		ROE 70925	1
06		ROE 53490	1
06	*	ROE 53490	1
06	**	ROE 53536	1
06	RO xxxAxxxx0	ROE 53532	1

Pos		ROE	
07		ROE 70850	1
07		ROE 70851	1
08		ROE 46111	1
09		ROE 65693	1
09	RO xxxxxx0	ROE 71331	1
10	RO xxxxxxC	ROE 30358	1
10	RO xxxxxx0	ROE 30486	1
11		ROE 53467	1
12		ROE 65626	1
13		ROE 25479	1
14		ROE 71053	1

## Reparatursatz • Repair kit • Kit de réparation • Kit riparazione • Juego de reperation

Pos.	ROE	
04, 05, 06, 09	ROE 71125	RO 560xxxxC

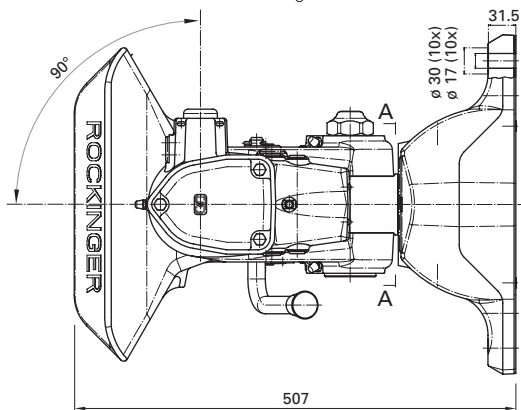
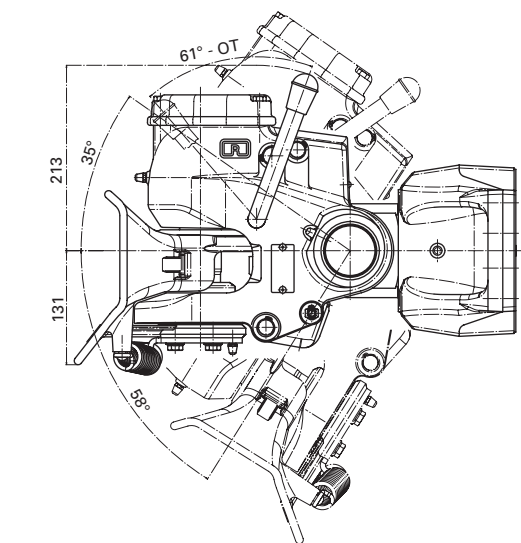


## RO\*56 E / 561 – 50 mm (e1-Version)

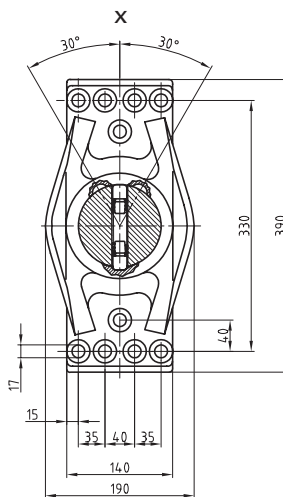
- DE** Schwerlastkupplung mit Vertikalgelenk
- EN** Heavy duty hitch with vertical articulating hitch head
- FR** Crochet d'attelage pour lourdes charges à articulation verticale
- IT** Gancio per traini eccezionali con campana snodata
- ES** Enganche de carga pesada con articulación vertical



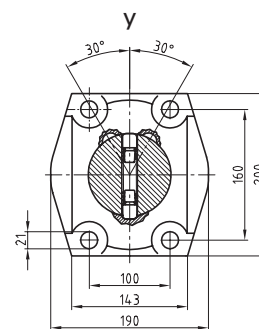
a = 50 mm  
 nur Schwerlastzugöse  
 only heavy duty towing eye  
 uniquement anneau de remorquage pour lourdes charges  
 solo occhio di traino eccezionali  
 sólo punta de lanza para cargas pesadas  
 ROE 57005 / ROE57394



RO\*56 E (561 E)



RO 567A8000



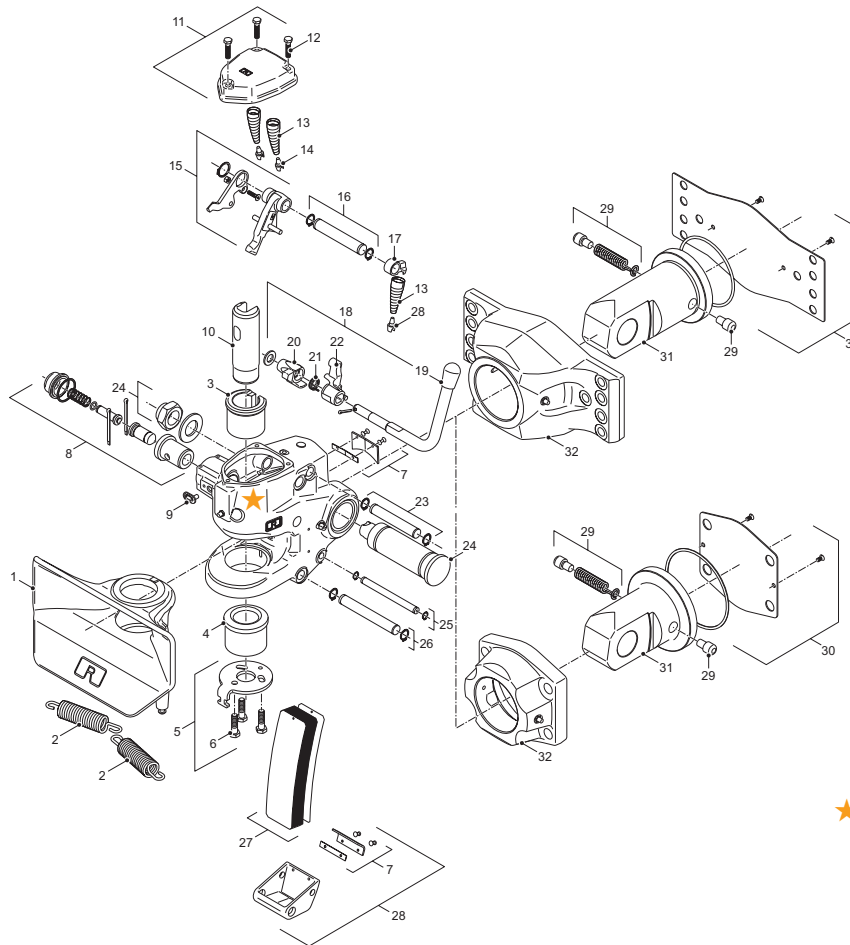
RO 567A66000

### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

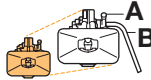

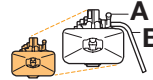

							<b>ECE</b>
	<b>A</b>	<b>6</b>	<b>(mm)</b>	<b>D (kN)</b>	<b>S (kg)</b>	<b>(kg)</b>	
RO 567A8000	A		x	314		80	011630
RO 567A6600	A	6	y	200		60	011631

## RO\*56 E / 561 – 50 mm (e1-Version)

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



★ kein Ersatzteil  
no spare part  
non pièce de rechange  
no ricambio  
no es pieza de recambio

Pos		ROE		Pos		ROE	
01		ROE 46020	1	19		ROE 25104	1
01a	(1 + 3)	ROE 71740	1	20		ROE 51012	1
02		ROE 55005	2	21		ROE 55025	1
03		ROE 53643	1	22		ROE 51013	1
04		ROE 53642	1	23		ROE 52011	1
05		ROE 59453	1	24		ROE 52578	1
06		ROE 30441	1	25		ROE 52010	1
07		ROE 25010	2	26		ROE 52009	1
08		ROE 52575	1	27		ROE 55026	1
09		ROE 25558	2	28		ROE 65066	1
10		ROE 47139	1	29		ROE 52014	1
11		ROE 45484	1	30	56	ROE 54274	1
13		ROE 55024	3		561	ROE 54276	1
14		ROE 13005	3	31	56	ROE 42016	1
15		ROE 51228	1		561	ROE 42014	1
16		ROE 52002	1	32		siehe Reparatursatz	
17		ROE 65010	1				
18		ROE 50092	1				

Reparatursatz • Repair kit • Kit de réparation • Kit riparazione • Juego de reperacion

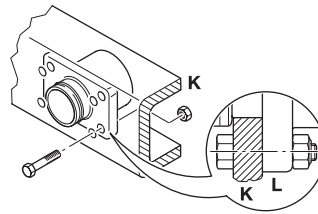
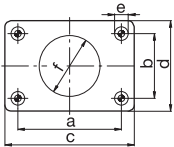
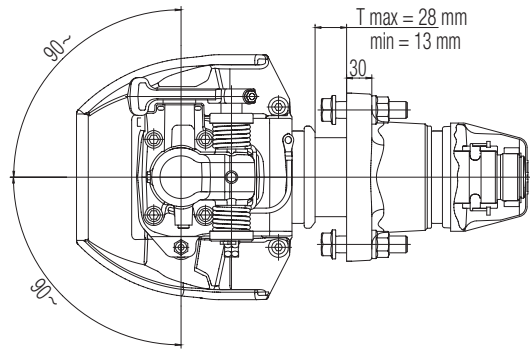
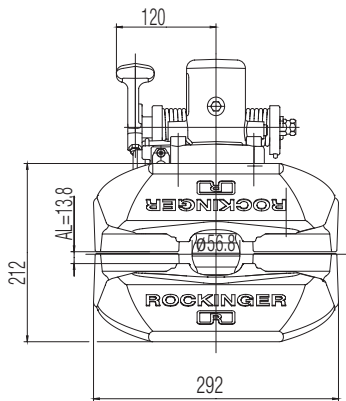
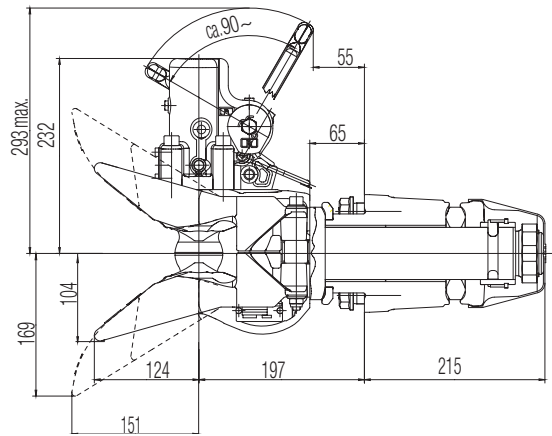
Pos.	ROE	
03, 04, 10, 21, 24, 25, 27, 29, 30, 31, 32	ROE 71746	561 / A66
03, 04, 10, 21, 24, 25, 27, 29, 30, 31, 32	ROE 71745	56 / A80

## RO\*57 – 57 mm

- DE** Standardkupplung
- EN** Standard hitch
- FR** Crochet standard
- IT** Gancio di traino standard
- ES** Enganche estándar



a = 57,5 mm  
 Schwedische Norm  
 Swedish standard  
 Norme suédoise  
 Normativa svedese  
 Norma sueca



	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)
6	160,0	100,0	200,0	140,0	21,0	94,0

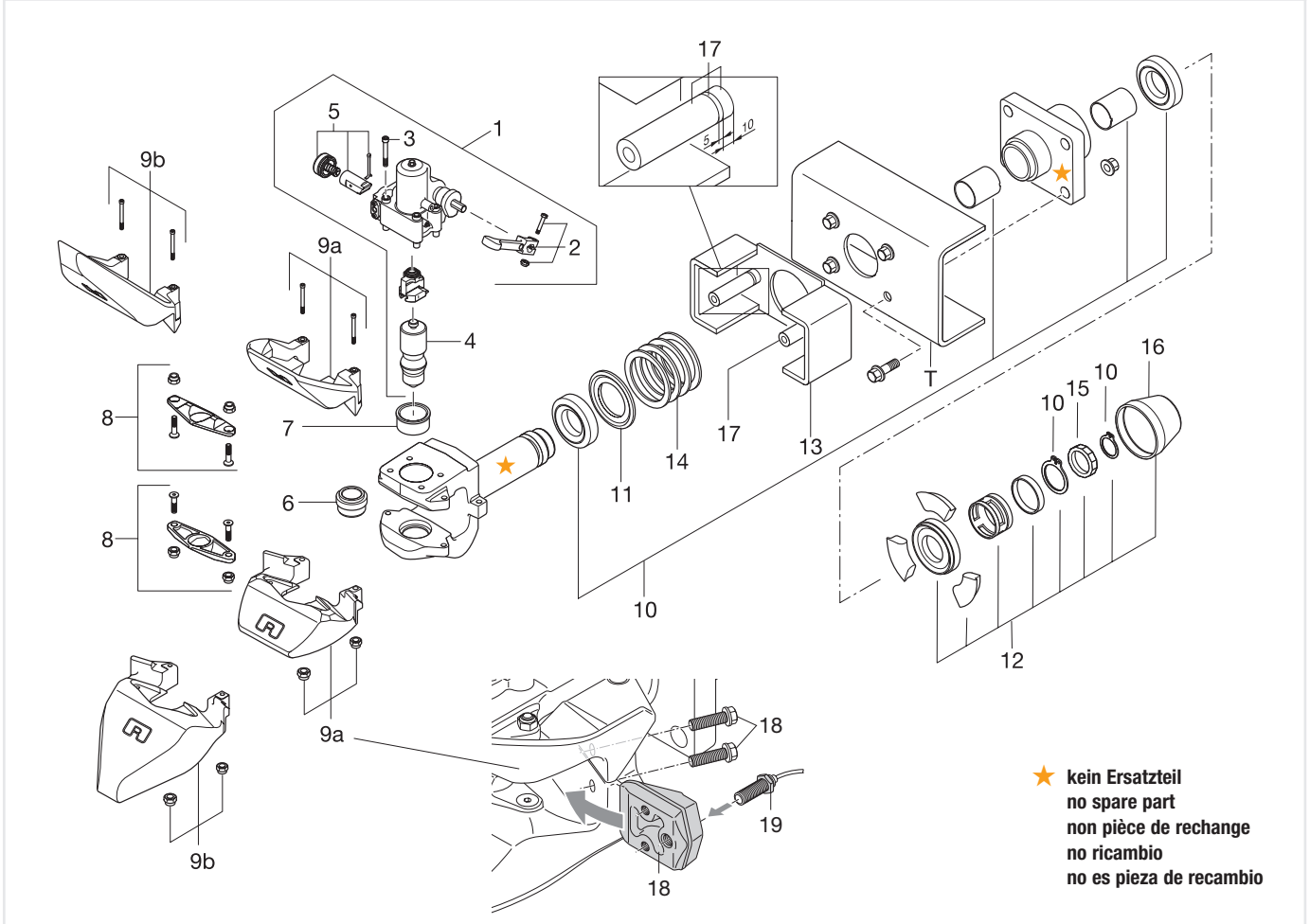
	K (mm)	K (mm)
6	13-28	max. 28

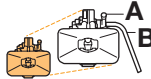

### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

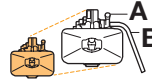

							ECE					
		D (kN)	Dc (kN)	S (kg)	V (kN)							
RO 570C61000	160 x 100	300	145	1000	95	18	011361	69			x	
RO 570D61000	160 x 100	300	145	1000	95	18	011361	69			x	
RO 570C61200	160 x 100	300	145	1000	95	18	011361	69	x		x	
RO 570C61400	160 x 100	300	145	1000	95	18	011361	75	x	x	x	
RO 570C61500	160 x 100	300	145	1000	95	18	011361	66	x	x		
RO 570C61510	160 x 100	300	145	1000	95	18	011361	60				
RO 570C61540	160 x 100	300	145	1000	95	18	011361	63				a
RO 570C61560	160 x 100	300	145	1000	95	18	011361	69	x	x		a
RO 570C61570	160 x 100	300	145	1000	95	18	011361	75	x	x		a, b

# RO\*57

## Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



Pos		ROE	
01	RO xxxCxxxx (2C, 3, 4, 5)	ROE 71192	1
01	RO xxxDxxxx (2D, 3, 4, 5)	ROE 71198	1
02	RO xxxD6155C	ROE 71644B1	1
02	RO xxxCxxxx	ROE 50257	1
02	RO xxxDxxxx	ROE 50258	1
03		ROE 30229	1
04		ROE 47116	1
05		ROE 71153	1
06		ROE 53544	1
07		ROE 53543	1
08		ROE 71154	2
09a	RO 570x6155C	ROE 46122N	2

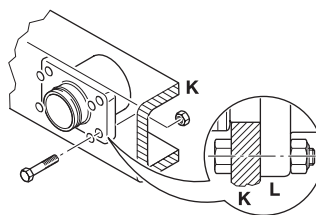
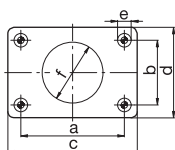
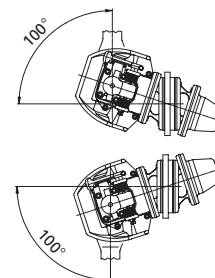
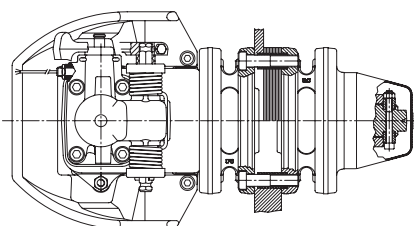
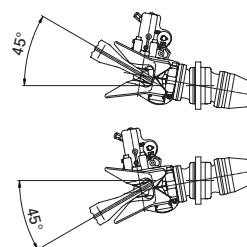
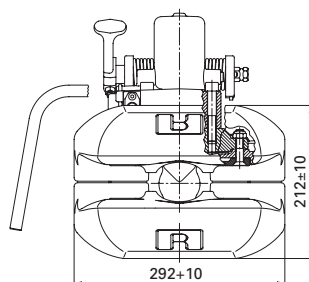
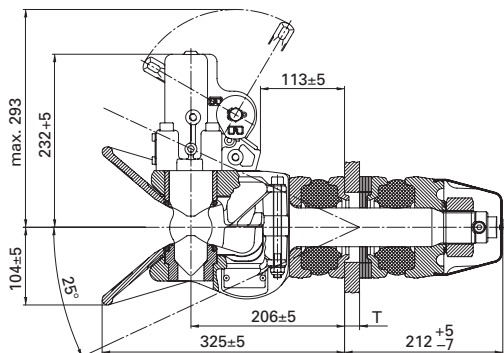
Pos		ROE	
09a		ROE 71161	2
09b		ROE 71162	2
10		ROE 71155	1
11		ROE 44177	1
12		ROE 71156	1
13	14, 17	ROE 71157	1
14		ROE 71158	1
15		ROE 56120	1
16		ROE 25347	1
17		ROE 71211	1
18	RO 570x6155x	ROE 46152	2
19	RO 570x6155x	ROE 70983	2

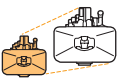
## RO\*57 flex – 57 mm

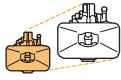
- DE** Anhängerkupplung für hohe Beanspruchungen und im Off-Road-Einsatz
- EN** Towing hitch for rugged conditions and off road applications
- FR** Crochet d'attelage pour sollicitations élevées et en utilisation off-road
- IT** Gancio di traino per elevate sollecitazioni e fuoristrada
- ES** Enganche para remolque para altas prestaciones fuera de la carretera




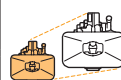

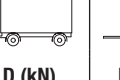
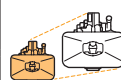










a = 57,5 mm  
 Schwedische Norm  
 Swedish standard  
 Norme suédoise  
 Normativa svedese  
 Norma sueca



	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)
 6	160,0	100,0	200,0	140,0	21,0	94,0

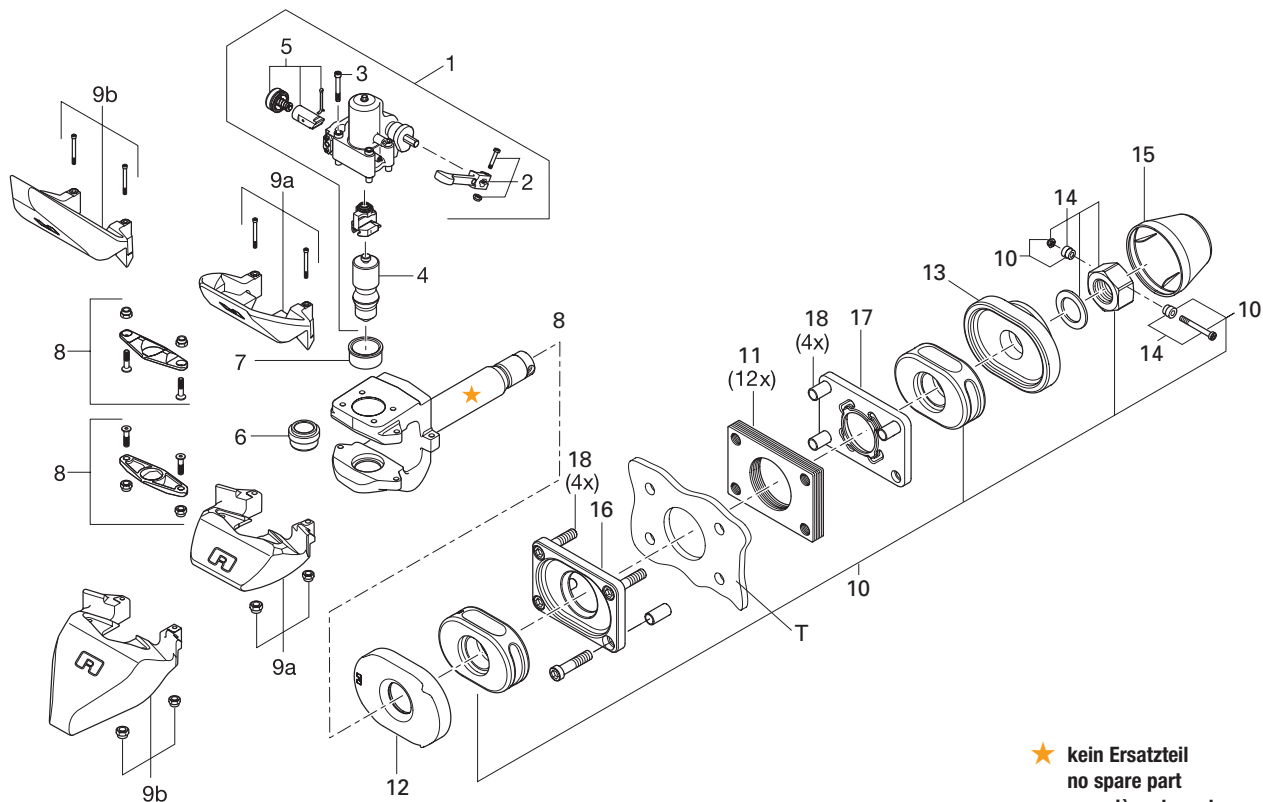
	K (mm)	K (mm)
 6	-	max. 35

### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

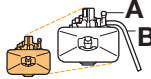

   		 (mm)	 D (kN)	 Dc (kN)	 S (kg)	 V (kN)	 (kg)	ECE			 a	 b
RO 576C61000	6	160 x 100	260				57	014982				
RO 576D61000	6	160 x 100	260				57	014982				
RO 576C61400	6	160 x 100	260				63	014982	x	x		
RO 576C61560	6	160 x 100	260				65	014982	x	x	a	

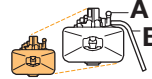

## RO\*57 flex

### Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



★ kein Ersatzteil  
no spare part  
non pièce de rechange  
no ricambio  
no es pieza de recambio

Pos		ROE	
01	RO xxxCxxxx (2C, 3, 4, 5)	ROE 71192	1
01	RO xxxDxxxx (2D, 3, 4, 5)	ROE 71198	1
02	RO xxxCxxxx	ROE 50257	1
02	RO xxxDxxxx	ROE 50258	1
03		ROE 30329	1
04		ROE 47116	1
05		ROE 71153	1
06		ROE 53544	1
07		ROE 53543	1
08		ROE 71154	1
09a		ROE 71161	1
09b		ROE 71162	1

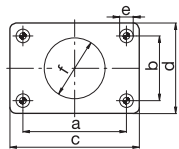
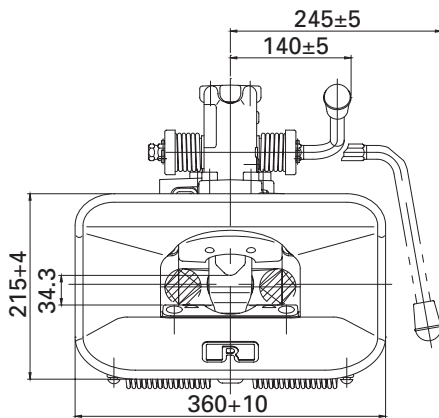
Pos		ROE	
10		ROE 71266	1
11		ROE 15690	1
12		ROE 12615	1
13		ROE 43480	1
14		ROE 56122	1
15		ROE 25347	1
16		ROE 43478	1
17		ROE 43479	1
18		ROE 30399	1

## RO\*50 BNA – 68 mm

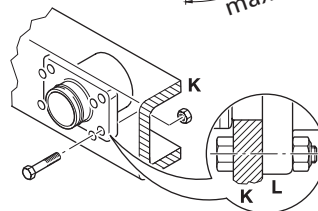
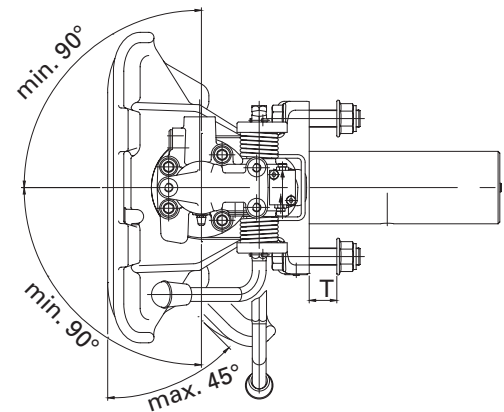
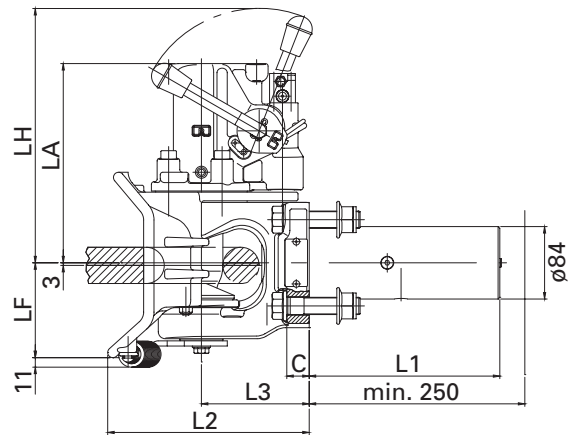
- DE** 68 mm Anhängerkupplung für BNA-Ringzugösen
- EN** 68 mm towing hitch for BNA ring towing eyes
- FR** Crochet d'attelage 68 mm pour anneau torique de traction BNA
- IT** Gancio di traino 68 mm per occhioni BNA
- ES** Enganche para remolque de 68 mm para punta de lanza en forma de anillo-BNA



a = 68 mm  
 NF R 41-102  
 Ringzugöse • towing eye •  
 anneau de remorquage • occhione  
 torico • argolla de tracción anular



	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)
U6	160,0	100,0	200,0	140,0	21,0	94,0



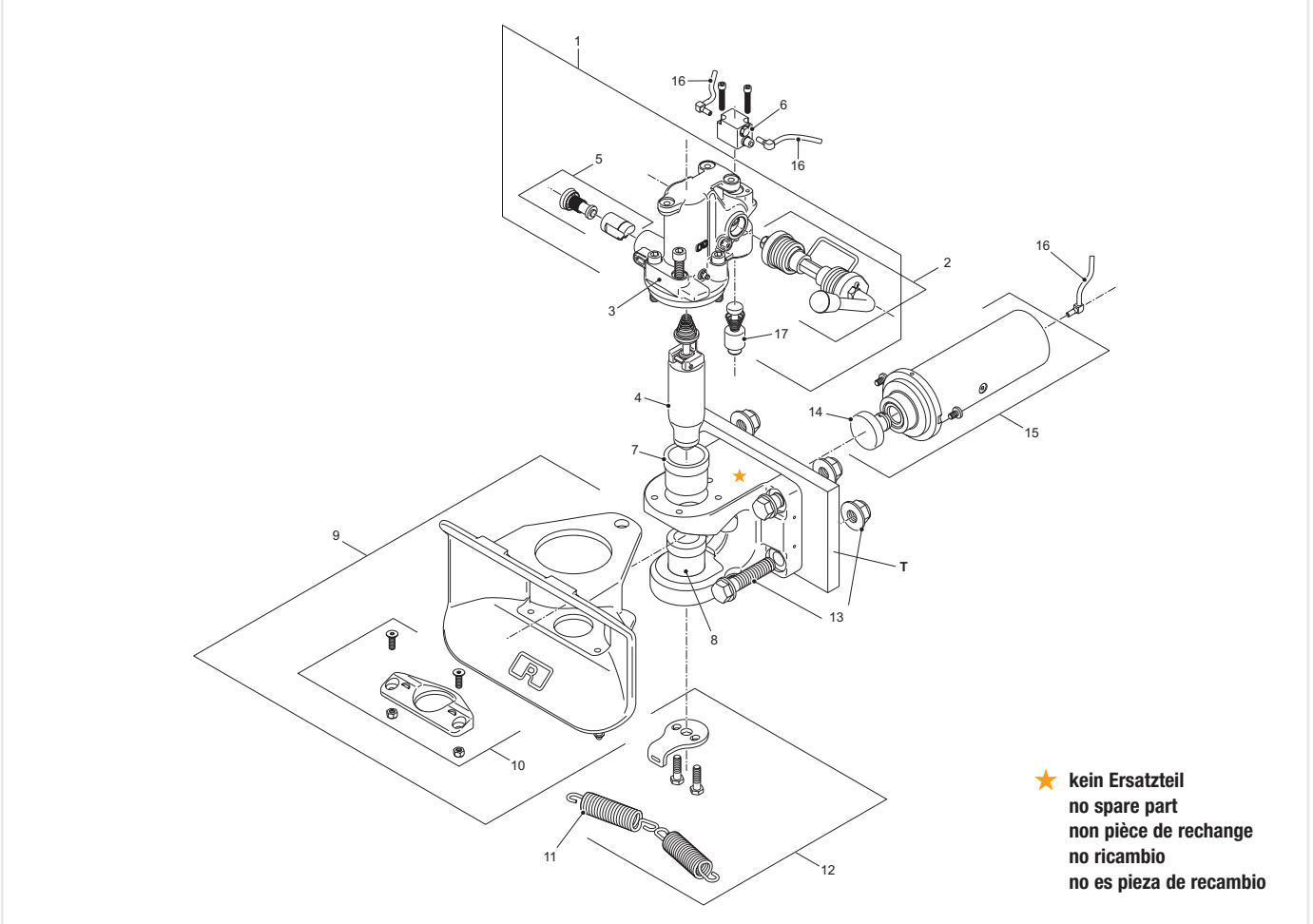
	LH (mm)	LA (mm)	LF (mm)	L1 (mm)	L2 (mm)	L3 (mm)	C (mm)	T (mm)
U6	295,0	231,0	110,0	234,0	234,0	125,0	26,0	32,0

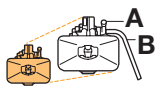

### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

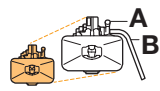

C A D B	U6	(mm)	Truck				(kg)	ECE	Truck	Truck	Truck
			D (kN)	Dc (kN)	S (kg)	V (kN)					
RO 590A61001	U6	160x100	200	140	1000	75	40	011614			
RO 590A61001	U6	160x100	200				40	011614			
RO 590B61001	U6	160x100	200				40,5	011614			
RO 590B61001	U6	160x100	200				40,5	011614			
RO 590A61401	U6	160x100	200				53	011614		X	X
RO 590A61401	U6	160x100	200				53	011614		X	X
RO 590A61511	U6	160x100	200	150	1000	50	52	011614	X		X
RO 590A61511	U6	160x100	200				52	011614	X		X

# RO\*50 BNA

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



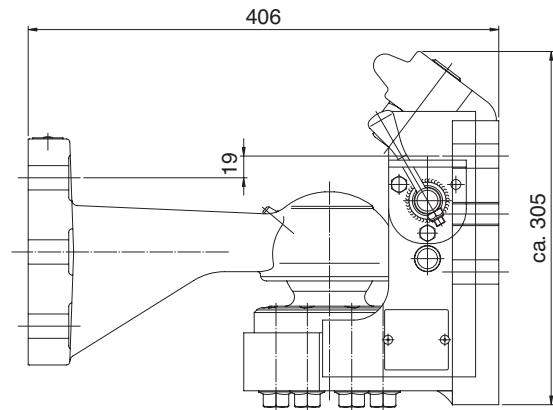
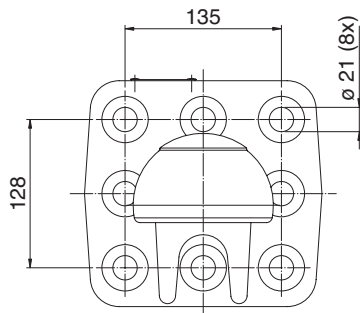
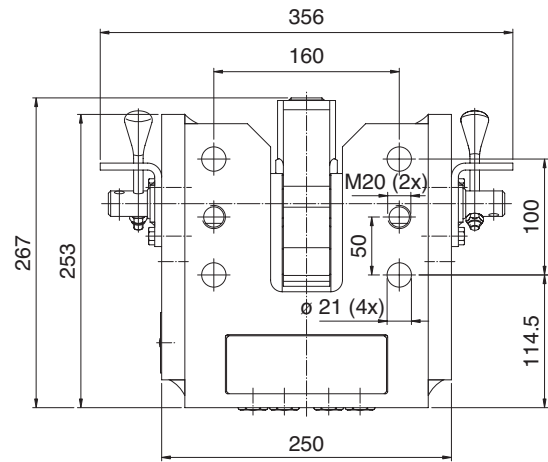
Pos		ROE	
01	RO xxxAxxxxx	ROE 71443A	1
01	RO xxxBxxxxx	ROE 71443B	1
02	RO xxxAxxxxx	ROE 71644A	1
02	RO xxxBxxxxx	ROE 71644B1	1
03		ROE 30458	1
04		ROE 47127	1
05		ROE 71697	1
06		ROE 71610	1
07		ROE 53596	1
08		ROE 53597	1

Pos		ROE	
09		ROE 46143	1
10		ROE 12642	1
11		ROE 55008	1
12		ROE 59454	1
13		ROE 71589	1
14		ROE 52568	1
15		ROE 71637	1
16		ROE 71380	1
17		ROE 52549	1


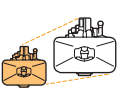






## RO\***KU** 80 – 80 mm


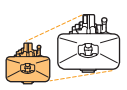




- DE** Kugelkupplungssystem 80 mm für Fahrzeugtransporter
- EN** Ball Coupling System 80 mm for Car Carrier
- FR** Système d'attelage à boule 80 mm pour plateau porte-voiture
- IT** Sistema gancio a sfera 80 mm per veicolo adibito al trasporto vetture
- ES** Sistema de enganches esféricos de 80 mm para vehículos de transporte



### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

							<b>EG94/20 ECE 55R</b>	
			<b>D (kN)</b>	<b>Dc (kN)</b>				<b>S (kg)</b>
RO 908 <b>H</b> 61000	6	160x100	140,0	140,0	1000	90	65,4*	00-5779
RO 908 <b>H</b> 61000	6	160x100	140,0	140,0	2500	75	65,4*	00-5779
RO 908 <b>H</b> 61000	6	160x100	-	140,0	1000	90	65,4*	015779
RO 908 <b>H</b> 61000	6	160x100	-	140,0	2500	75	65,4*	015779

Schraubensatz 85 mm • Bolt kit 85 mm • Jeu de vis 85 mm • Kit viti 85 mm • Juego de tornillos 85 mm

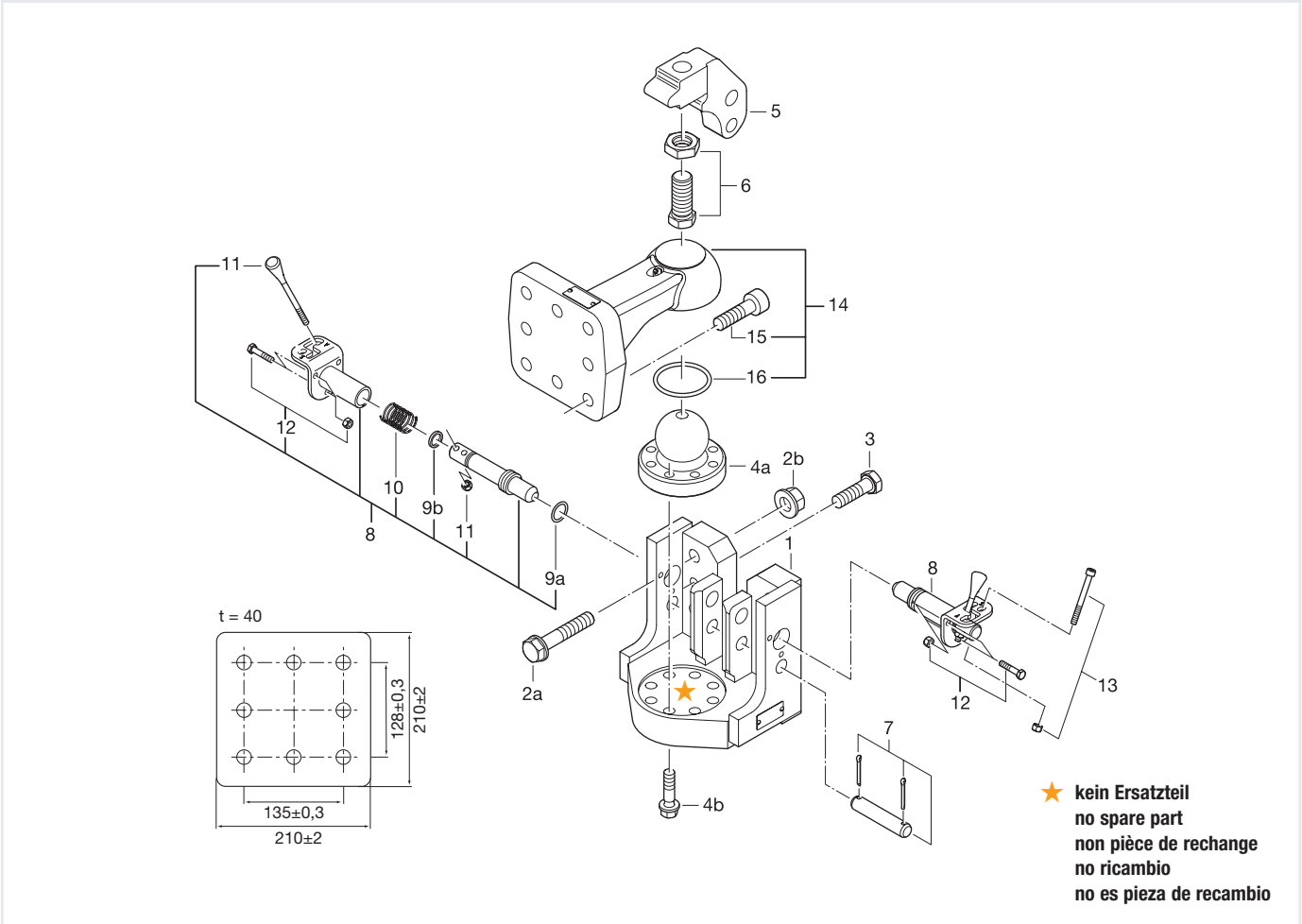
							<b>EG94/20 ECE 55R</b>	
			<b>D (kN)</b>	<b>Dc (kN)</b>				<b>S (kg)</b>
RO 908 <b>H</b> 61500	6	160x100	140,0	140,0	1000	90	65,4*	00-5779
RO 908 <b>H</b> 61500	6	160x100	140,0	140,0	2500	75	65,4*	00-5779
RO 908 <b>H</b> 61500	6	160x100	-	140,0	1000	90	65,4*	015779
RO 908 <b>H</b> 61500	6	160x100	-	140,0	2500	75	65,4*	015779

Schraubensatz 110 mm • Bolt kit 110 mm • Jeu de vis 110 mm • Kit viti 110 mm • Juego de tornillos 110 mm

\* Gewicht komplett mit Zugöse • weight complete with towing eye • poids complet avec anneau de remorquage • peso totale con occhione di traino • peso total con punta de lanza

# RO\***KU** 80

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



Pos		ROE	
02	2 a/b 85 mm	ROE 71687	1
02a	110 mm	ROE 30474-4	1
02b		ROE 31139-4	1
03		ROE 30133-2	1
04		ROE 71685	1
05		ROE 63002	1
06		ROE 71684	1
07		ROE 52563	1
08		ROE 71665	1
09		ROE 71683	2

Pos		ROE	
10		ROE 55286	2
11		ROE 50283	2
12		ROE 71682	2
13		ROE 71686	2
14		ROE 57388R	1
15		ROE 30485-8	1
16		ROE 25568	1

## 50 mm – Kugel • ball • boule • sfera • bola

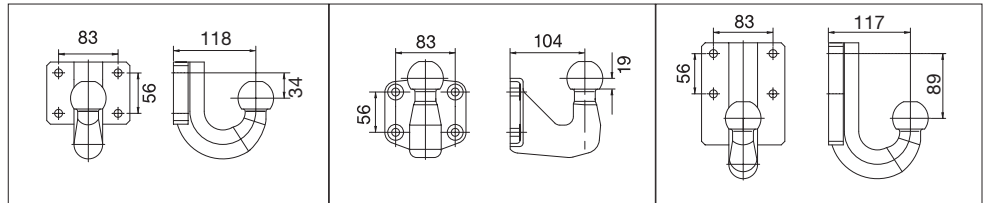
- DE** Kugelkupplungssystem mit Flansch
- EN** Ball hitch with flange
- FR** Attelage à boule avec platine
- IT** Gancio a sfera con flangia
- ES** Enganches esféricos con brida



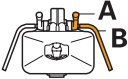



KK 260

KK 370

KK 390

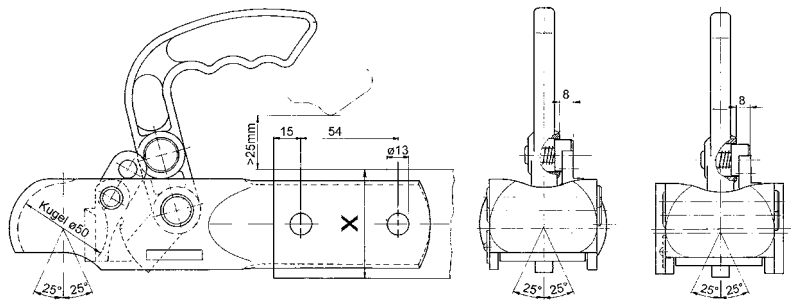
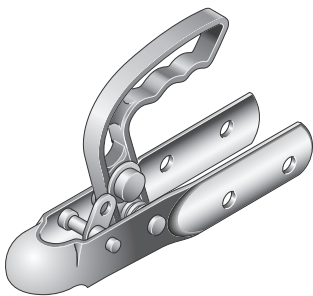


### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos






	 (mm)	 D (kN)	 S (kg)	<b>ECE</b>
RO KK260	83 x 56	22,5	275	01 0101
RO KK370	83 x 56	27,5	300	01 0100
RO KK390	83 x 56	22,1	270	01 0099

## RO★200

- DE** Zugkugelkupplung zur Verbindung mit Kupplungskugel 50 mm
- EN** Ball hitch for connecting with coupling ball 50 mm
- FR** Attelage à boule d'assemblage avec une boule d'attelage 50 mm
- IT** Gancio a sfera in combinato con un gancio a sfera 50 mm
- ES** Enganches esféricos para la conexión con una cabeza 50 mm

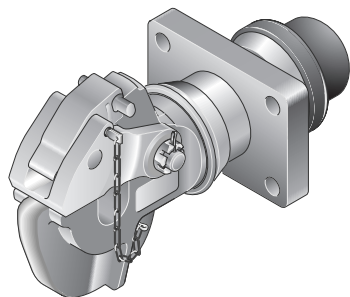


### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

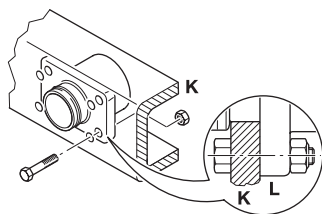
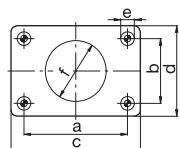
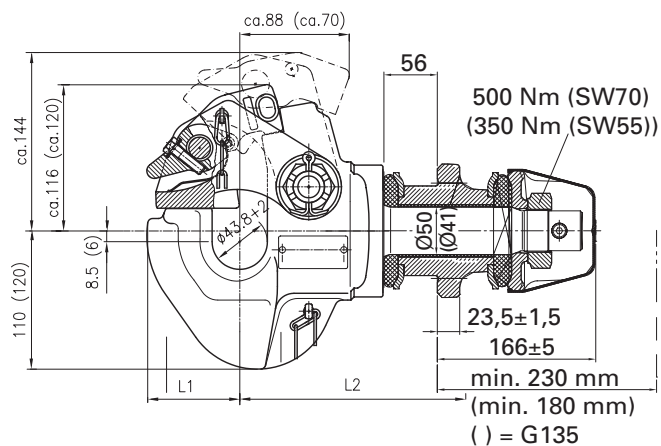
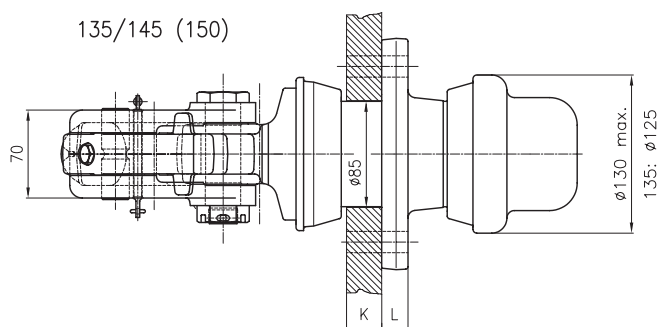
	Typ	Deichsel • Drawbar • Flèches • Forcelle • Barras • (mm)	 S (kg)	 C (kg)	 $\varnothing$ (mm)	 (kg)	<b>ABG KTA</b>
RO 200A0050	KK 92 A	$\varnothing 70$	120	1600	50	1,4	1708
RO 200B0050	KK 92 B	$\varnothing 60$	120	1600	50	1,4	1708
RO 200F0050	KK 92 F	$\varnothing 60$	120	1600	50	1,4	1708

## RO\*283 – 76 mm

- DE** Gefederte Hakenkupplung mit Sicherheitsklinkenverschluss
- EN** Hook trailer hitch with buffers and safety lock
- FR** Accouplement à crochet suspendu avec verrouillage à contrecliquet
- IT** Gancio a uncino oscillante con spinotto di sicurezza
- ES** Enganche de gancho con cierre de pestillo de seguridad



a = 76 mm  
VG 74059  
NATO



	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)
135	74	167	131	372
145	88	180	156	410
150	88	180	156	424

	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)
135	120,0	55,0	155,0	90,0	15,0	74,0
145	140,0	80,0	180,0	120,0	17,0	84,0
150	160,0	100,0	200,0	140,0	21,0	94,0

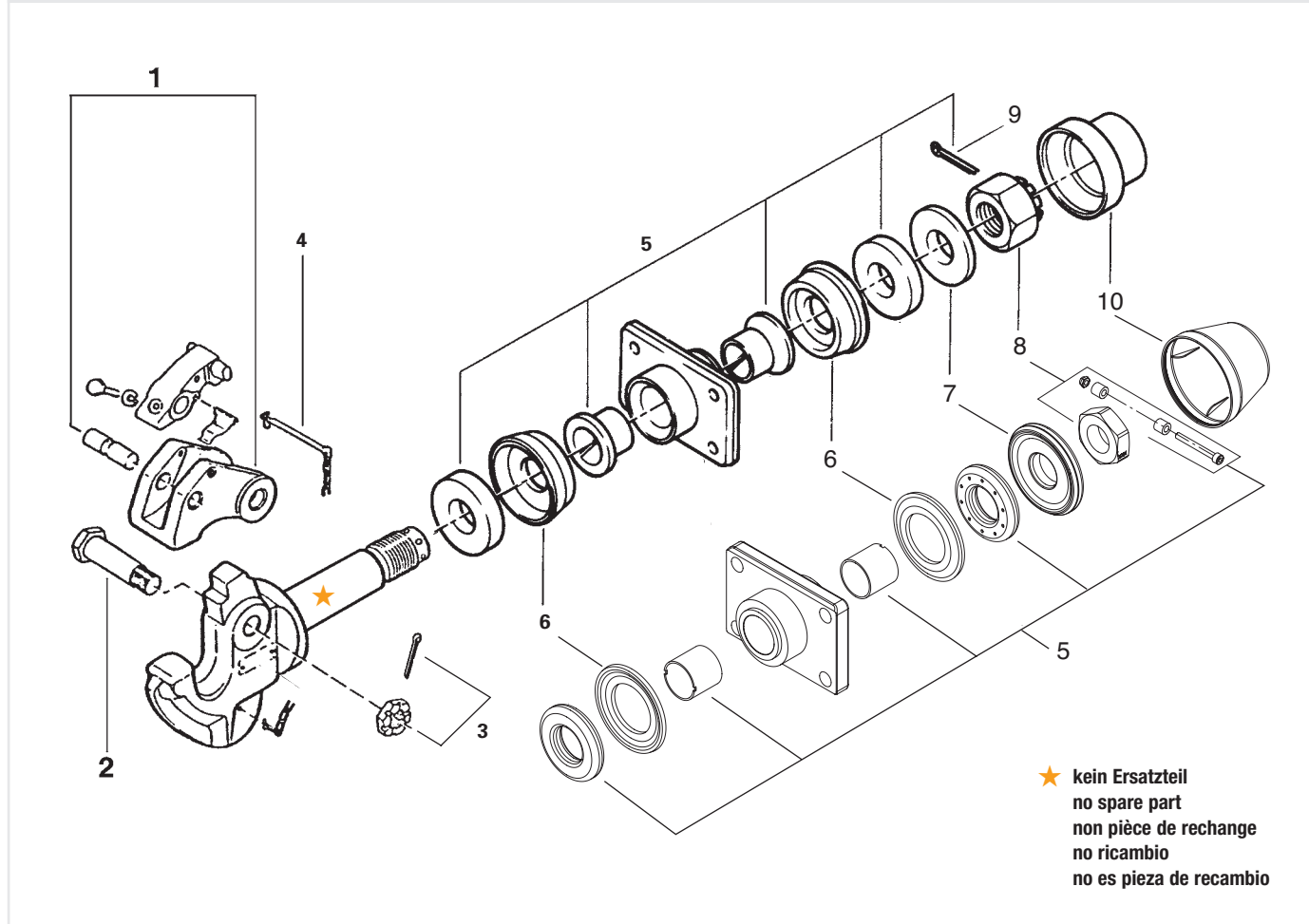
	K (mm)	K (mm)
135	20	20
145	28	28
150	28	28

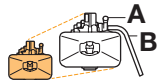

### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

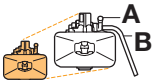

		(mm)	D (kN)	Dc (kN)	S (kg)	V (kN)	C (t)	R (t)	(kg)
RO 283A35002		135	70	42,5	800	15,6	6,5	16	17,7
RO 283A45002		145	95	54,0	1000	21,6	9,0	30	22,7
RO 283A50002		150	160	54,0	1500	21,6	9,0	40	31,0
RO 283A50092		150	160	54,0	1500	21,6	9,0	40	31,0

# RO\*283

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



Pos		ROE	
01	135, 145	ROE 66393	1
01	150	ROE 66324	1
01	283xxxxx2	ROE 70932	1
02	135, 145	ROE 52036	1
02	283xxxxx2	ROE 52037	1
03		ROE 56030	1
04	283A35xx1	ROE 71606	1
04	283Axxxxx	ROE 70285	1
05	135	ROE 70343	1
05	283A45xx0	ROE 70344	1

Pos		ROE	
05	283A45/50xx2	ROE 70344	1
06	135	ROE 44060	2
06	145, 150	ROE 44134	2
07	283A50xx2	ROE 59280	1
08	283A45/50xx2	ROE 71796	1
09	283xxxxx2	ROE 30492	1
10	135	ROE 56051	1
10	145, 150	ROE 56049	1
10	283A45/50xx2	ROE 25347	1

## RO\*205 / 207 / 230

- DE** Abschleppkupplungen
- EN** Manual towing hitches
- FR** Chapes de remorquage
- IT** Ganci di manovra
- ES** Enganches para remolcar



- a = 40 mm DIN 74054, 94/20/CE
- a = 50 mm DIN 74053, CE-KI. D
- a = 76 mm VG 74059 NATO

**DE Amtlicher Hinweis:** Abschleppkupplungen sind nicht bauartgenehmigungspflichtig. Der Verwendungszweck ist auf das Abschleppen von betriebsunfähigen Fahrzeugen und in Ausnahmefällen auf Rangierzwecke beschränkt. Die Verwendung für den **Anhängerbetrieb ist nicht gestattet.**

**EN Official advice:** Manual towing hitches are not obliged to be homologated. The purpose is restricted on the towing of non-usable vehicles and in exceptional cases on **purposes of switching rails.**

**FR Remarque administrative :** Les chapes de remorquage ne nécessitent pas d'homologation de type. L'affectation se limite au remorquage de véhicules hors d'état de rouler et, dans des cas exceptionnels, à des fins de manœuvres. L'utilisation en mode **remorque n'est pas autorisé.**

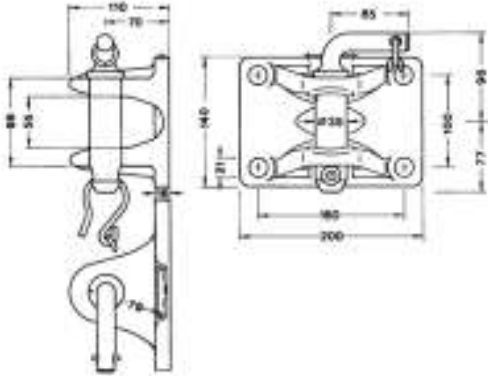
**IT Avviso ufficiale:** I ganci di manovra non sono soggetti ad omologazione. Vengono impiegati limitatamente allo scopo di trainare veicoli non funzionanti e in casi eccezionali anche a scopo di manovra. Non è ammesso il loro impiego per la **marcia con rimorchio.**

**ES Nota oficial:** Los enganches para remolcar no requieren homologación. El uso previsto está restringido a remolcar vehículos incapaces de funcionar y está limitado en casos excepcionales a fines de maniobra. El uso para el servicio con **remolque no está permitido.**

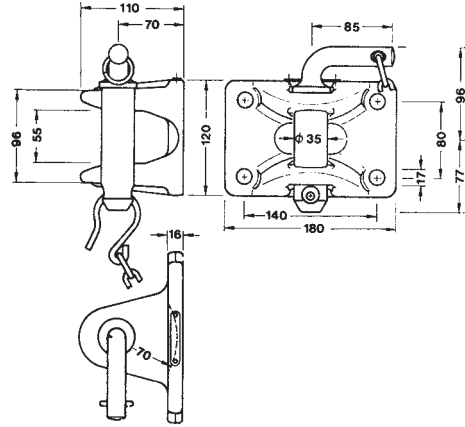
## RO\*205 / 207 / 230

- DE** Abschleppkupplungen
- EN** Manual towing hitches
- FR** Chapes de remorquage
- IT** Ganci di manovra
- ES** Enganches para remolcar

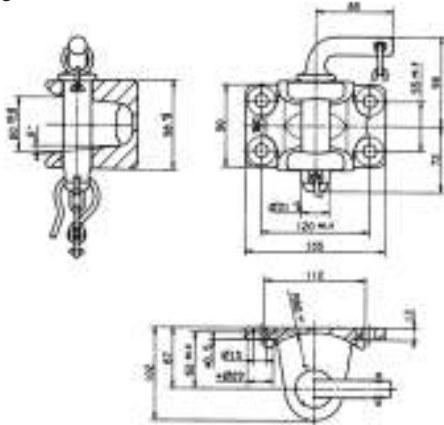
**RO\*205**






**RO\*207**



**RO\*230**

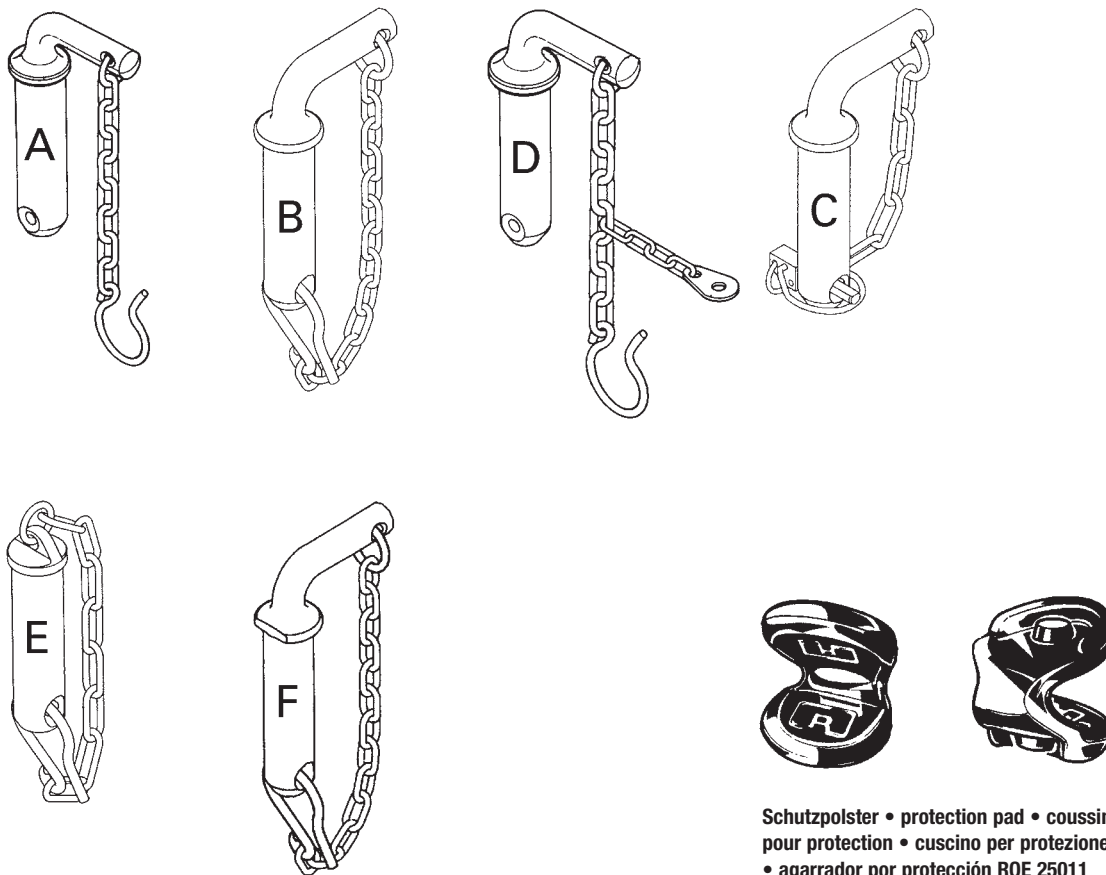


### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

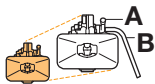

	Pos.	ø (mm)	(mm)	 (t)	 (t)	EWG		 (kg)
						77/389	79/533	
RO 205A50000	A	35	160 x 100	25,0	100,0			6,7
RO 205A51000	A	35	160 x 100	50,0	120,0	x		6,7
RO 207A45000	A	35	140 x 80	25,0	50,0			6,0
RO 230B35000	B	32	120 x 55	25,0	50,0	x	x	4,0
RO 230C35000	C	32	120 x 55	25,0	50,0	x	x	4,0
RO 230D35000	D	32	120 x 55	25,0	50,0	x	x	4,0
RO 230E35000	E	32	120 x 55	25,0	50,0	x	x	4,0
RO 230B35090	B	32	120 x 55	25,0	50,0	x	x	4,0
RO 230F35000	F	32	120 x 55	25,0	50,0	x	x	4,0

## RO\*205 / 207 / 230

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



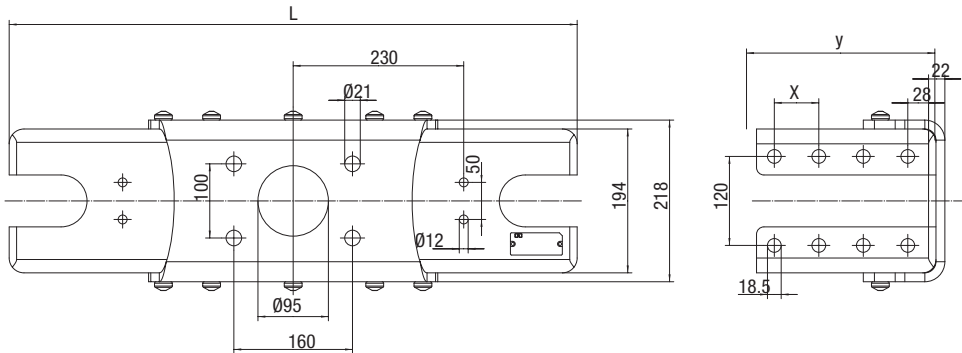
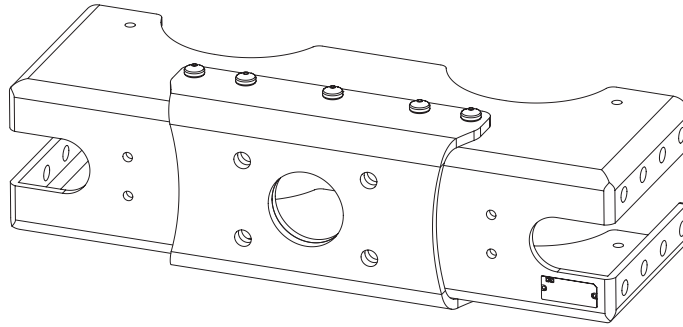
Schutzpolster • protection pad • coussin pour protection • cuscino per protezione • agarrador por protección ROE 25011




	Pos.	ROE	
RO 205 <b>A</b> 50000	A	66167	58097
RO 205 <b>A</b> 51000	A	66212	58097
RO 207 <b>A</b> 45000	A	66167	58096
RO 230 <b>B</b> 35000	B	70323	58094
RO 230 <b>C</b> 35000	C	70357	58094
RO 230 <b>D</b> 35000	D	66192	58094
RO 230 <b>E</b> 35000	E	66714	58094
RO 230 <b>B</b> 35090	B	70848	58094
RO 230 <b>F</b> 35000	F	67029	58094



## RO\*CM 75-2 – Cross Member

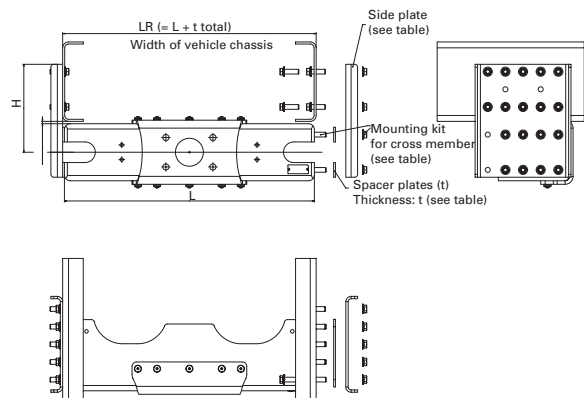
- DE** Traverse
- EN** Traverse
- FR** Traverse
- IT** Traversa
- ES** Travesaña



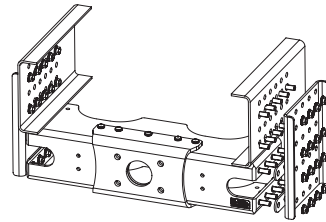
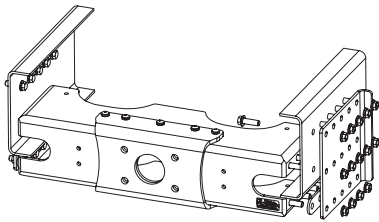
Order No.		L (mm)	x	y	D (kN)					ECE
						Dc (kN)	S (kg)	V (kN)		
RO CM75N728A02	ROE 71579	728	60	242	200				46,4	011615
RO CM75N742A02	ROE 71579	742	60	242	200				51,7	011615
RO CM75N752A02	ROE 71579	752	60	242	200	130	1000	75	48,0	011615
RO CM75N756A02	ROE 71579	756	60	242	200				48,1	011615
RO CM75N762A02	ROE 71579	762	60	242	200				48,4	011615
RO CM75N766A02	ROE 71579	766	60	242	200				48,5	011615
RO CM75N770A02	ROE 71579	770	60	242	200	130	2000	63	48,7	011615
RO CM75N784A02	ROE 71579	784	60	242	200				49,2	011615
RO CM75N834A02	ROE 71579	834	60	242	200				51,1	011615
RO CM75N850A02	ROE 71579	850	60	242	200	144	1000	53	51,7	011615
RO CM75N834B02	ROE 71620	834	50	262	200				52,0	011615
RO CM75N822B02	ROE 71620	822	50	262	200				50,0	011615

## RO\*CM 75-2 – Side plates

Order No.	Thickness t (mm)	x (mm)	Weight (kg)
ROE 75051	1	60	0,1
ROE 75052	2	60	0,2
ROE 75053	3	60	0,2
ROE 75054	4	60	0,3
ROE 75056	6	60	0,5
ROE 75057	8	60	0,6
ROE 75058	10	60	0,8
ROE 75135	1	50	0,1
ROE 75136	2	50	0,2
ROE 75137	5	50	0,4
ROE 75138	8	50	0,7
ROE 75139	10	50	0,8

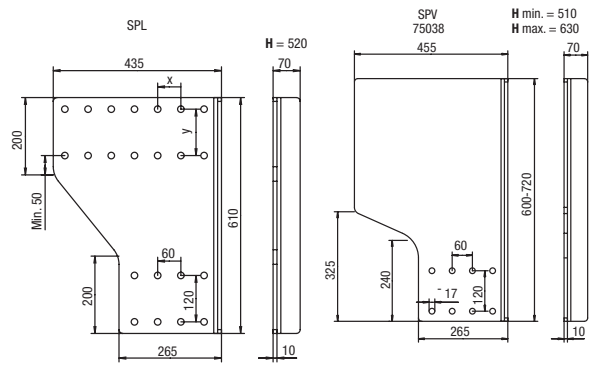
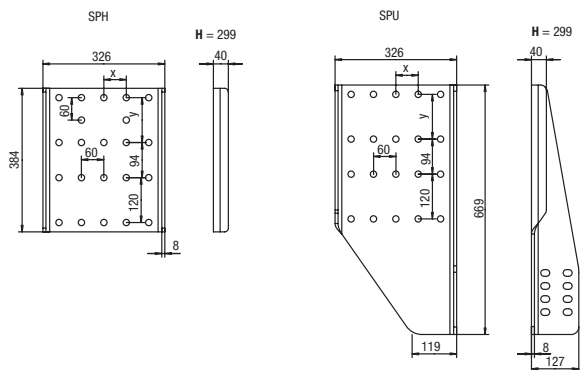
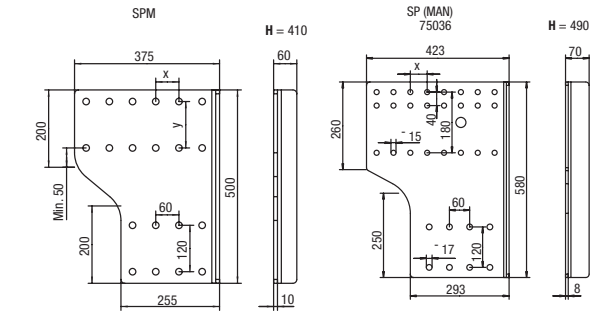
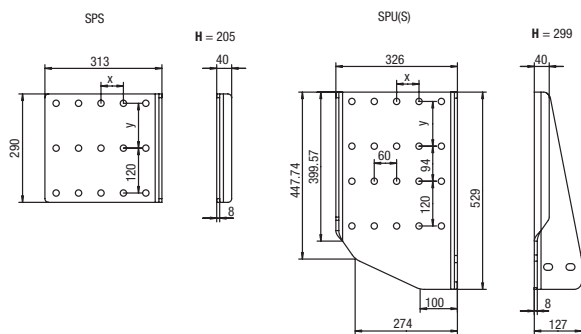


# RO\*CM 75-2 – Side plate



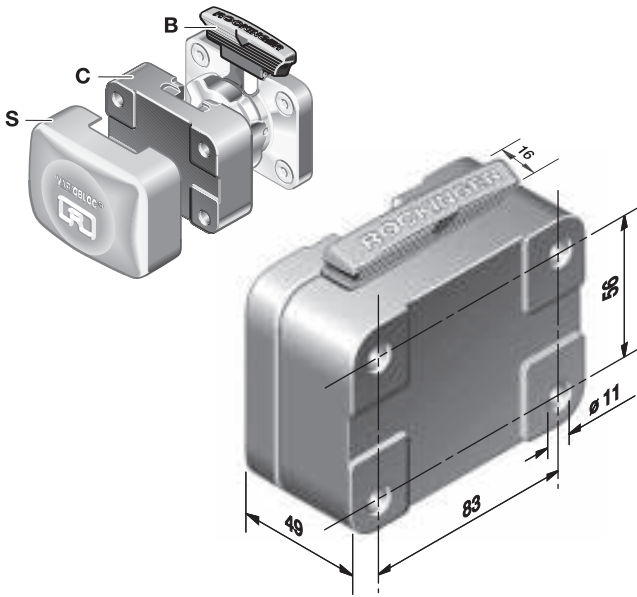
- Installation half underslung
- Assembly using SPS side plates

- Installation completely underslung
- Assembly using SPH; SPU; SPU(S); SPM; SPL; SPV; SP(MAN)



Designation	Order No.	Order No. Mounting kit	H (mm)	Weight Set (kg)	X (mm)	Y (mm)
SPS	ROE 75031	ROE 71580	205	12	60	120
SPS	ROE 75150	ROE 71892	205	10,5	50	120
SPH	ROE 75032	ROE 71620	299	17,6	60	120
SPH	ROE 75062	ROE 71621	299	17,6	50	120
SPH	ROE 75089	ROE 71871	291	17	50	100
SPH	ROE 75092	ROE 71872	341	19,2	50	150
SPU	ROE 75034	ROE 71620	299	30,6	60	120
SPU	ROE 75064	ROE 71872	341	32,6	50	150
SPU	ROE 75090	ROE 71621	291	30,3	50	100
SPU(S)	ROE 75035	ROE 71620	299	25,6	60	120
SPU(S)	ROE 75065	ROE 71621	299	25,6	50	100
SPM	ROE 75037	ROE 71621	410	27,6	60	120
SPM	ROE 75067	ROE 71622	410	25,4	50	120
SP(MAN)	ROE 75036	acc. MAN installation rules	490	29,5	50	s. figure
SPL	ROE 75033	ROE 71622	520	37,8	60	120
SPV	ROE 75038	ROE 71622	510 – 630	ca. 49	s. figure	s. figure

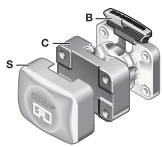
# RO\*100, VARIOBLOC








- DE** Multifunktionales Wechselsystem für Transporter, Geländewagen, Busse in Verbindung mit Bolzen-, Hakenkupplung, Kupplungskugel; geeignet für Hecktragesysteme und Arbeitsgeräte.
- EN** Multifunctional alternating system for transporter, cross-country vehicles and buses, in connection with pin hitch, hook trailer hitch, hitch ball, suitable for towbar bracket systems and work devices.
- FR** Système mobile multifonction pour véhicules utilitaires, voitures tout terrain et bus liaison avec accouplement à boulon, à crochet ou boule d'attelage ; convient pour systèmes de portage arrière et outillage.
- IT** Sistema intercambiabile multifunzione per furgoni, fuoristrada, bus in abbinamento a ganci a perno a uncino e ganci a sfera; adatto per sistemi di trasporto posteriori e attrezzi di lavoro.
- ES** Sistema de cambio multifuncional para furgonetas, vehículos todo terreno, autobuses en combinación con enganches de bulón, enganches de gancho, enganches de bola; indicado para sistemas de soporte posterior y útiles de trabajo.

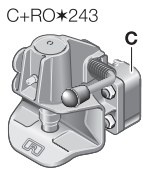







## Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

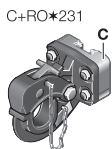







	 (mm)	 D (kN)	 Dc (kN)	 S (kg)   V (kN)	 (kg)	<b>ECE</b>
ROE 100A01001*	83 x 56	30	30	250   12,0	2,7	010044
ROE 100A02001*	85 x 45	30	18	200   9,6	2,7	010044

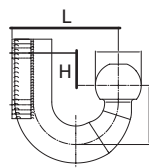
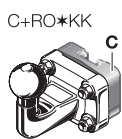
**DE** \* nur in Verbindung mit RO\*243    **EN** \* only in combination with RO\*243    **FR** \* uniquement en combinaison avec RO\*243\*  
**IT** \* solo assieme a ganci a RO\*243    **ES** \* solamente en combinación con RO\*243







	 (mm)	 D (kN)	 Dc (kN)	 S (kg)   V (kN)	 (kg)	<b>ECE</b>
<b>Lastfall A, B</b> Loading condition A, B	83 x 56	30	18	250   12,0	4,1	010031
	83 x 56	30	30	250   8,4	4,1	



	 (mm)	 D (kN)	 Dc (kN)	 S (kg)   V (kN)	 C (t)   (kg)	<b>ECE</b>
<b>Lastfall C</b> Loading condition C	83 x 56	20	18	150   -	3,5   3,3	011958

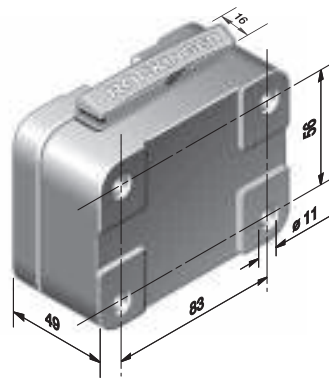
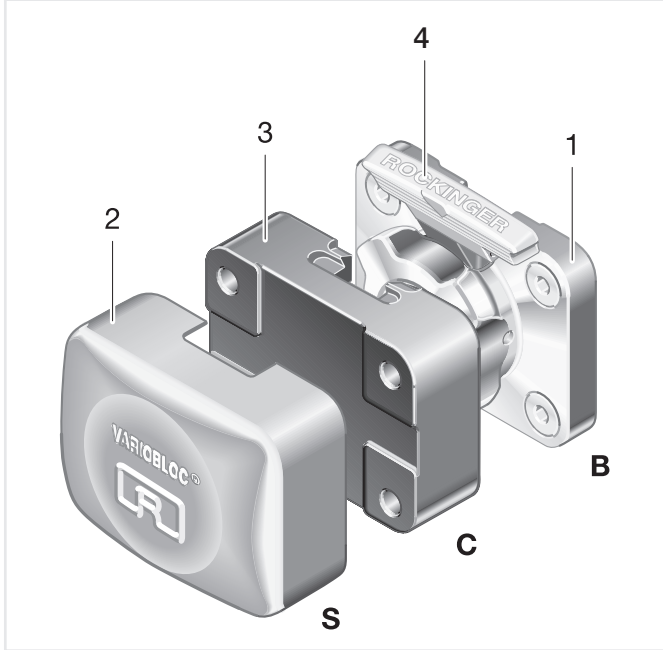




	 (mm)	 D (kN)	 S (kg)	H	L	 (kg)	<b>ECE</b>
<b>Lastfall I, II</b> Loading condition I, II	83 x 56	22,5	275	-34	118	3,9	010101
ROE 100C01531*	83 x 56	27,5	300	19	104	3,9	010100
ROE 100C01551*	83 x 56	22,1	270	-89	117	4,2	010099
ROE 100C01561	83 x 56	19,0	200	-29	136	4,1	010101

\* Bei Kombination von Basis- und Wechselplatten unterschiedlicher Lochbildausführungen sind die jeweils kleineren Belastungswerte der Tabelle/ISO-Linien zulässig.  
 \* Where base and interchangeable plates with different hole patterns are combined, the lower load figures in the table/ISO-Linien shall be applicable in each case.

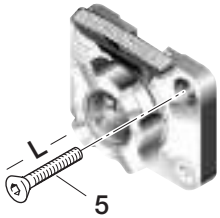
# RO\*100


Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



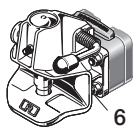
Pos		ROE	
01	83,0 x 56,0 mm	ROE 100B01001	1
01	85,0 x 45,0 mm	ROE 100B02001	1
02		ROE 25344	1
03	83,0 x 56,0 mm	ROE 100C01001	1
03	85,0 x 45,0 mm	ROE 100C02001	1
04		ROE 70761	1


Befestigungssätze • Screw sets • Kits de fixation • Kit di fissaggio • Juego de elementos de sujeción



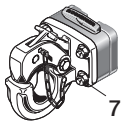
Pos	L	ROE	
05	40 mm	ROE 70759	1
05	50 mm, 30 mm	ROE 70756	1
05	55 mm	ROE 70570	1
05	60 mm	ROE 70558	1
05	110 mm	ROE 70754	1
05	130 mm, 40 mm	ROE 70805	1

Basisplatte • Base plate on the vehicle • Plaque de base • Piastra base • Placa base



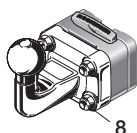
Pos	L	ROE	
06	50 mm	ROE 70755	1


Bolzenkupplung 243 auf Wechselplatte • Pin hitch 243 on the quick-change plate • Accouplement à boulon 243 sur plaque mobile • Gancio a perno 243 su piastra intercambiabile • Enganche de bulón 243 en placa intermedia



Pos	L	ROE	
07	50 mm	ROE 70755	1

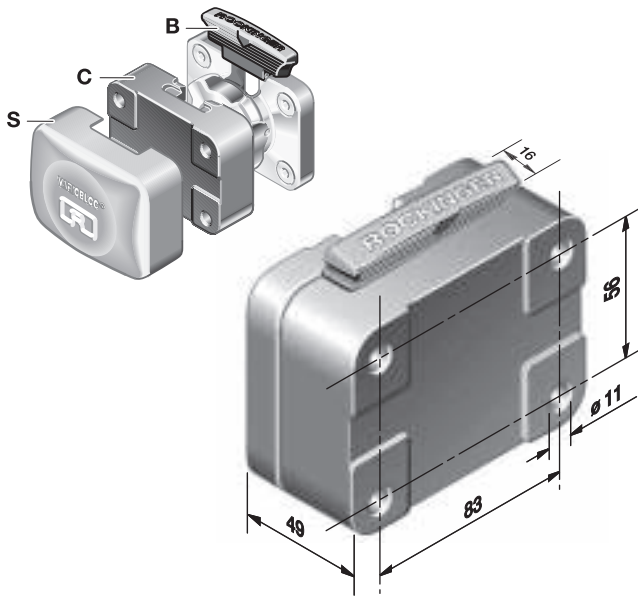
Hakenkupplung 231 auf Wechselplatte • Hook trailer hitch 231 on the quick-change plate • Accouplement à crochet 231 sur plaque mobile • Gancio a uncino 243 su piastra intercambiabile • Enganche de gancho 243 en placa intermedia



Pos	L	ROE	
08	50 mm	ROE 70755	1
08	60 mm	ROE 70757	1
08	65 mm	ROE 70758	1

Kupplungskugel auf Wechselplatte • Hitch ball on the quick-change plate • Boule d'attelage sur plaque mobile • Gancio a sfera su piastra intercambiabile • Enganche de bola en placa intermedia

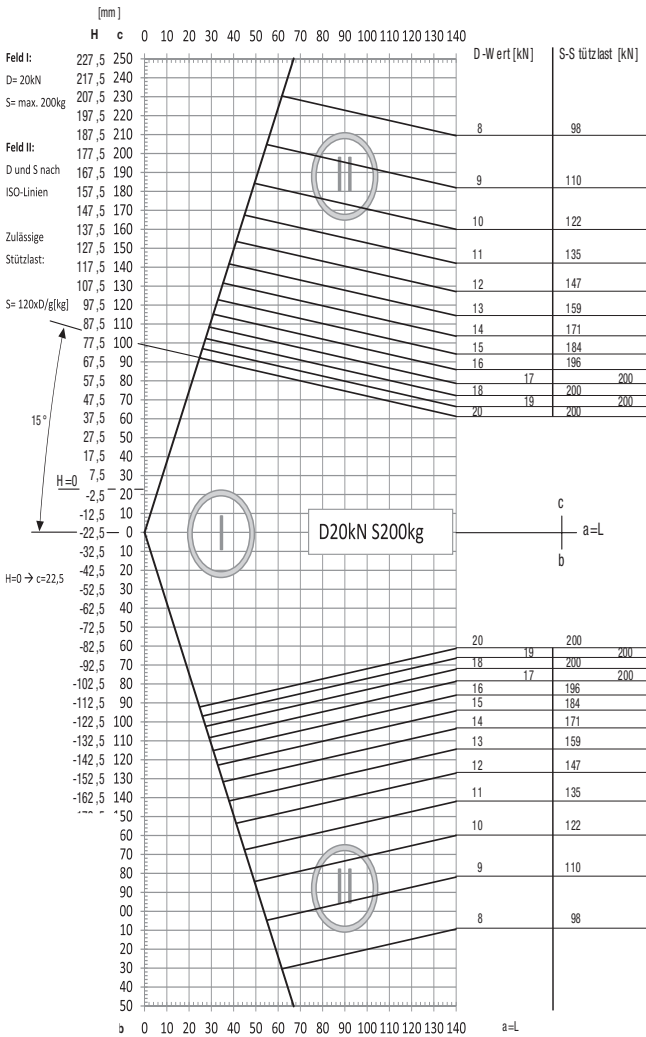
# RO\*100, VARIOBLOC



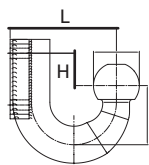
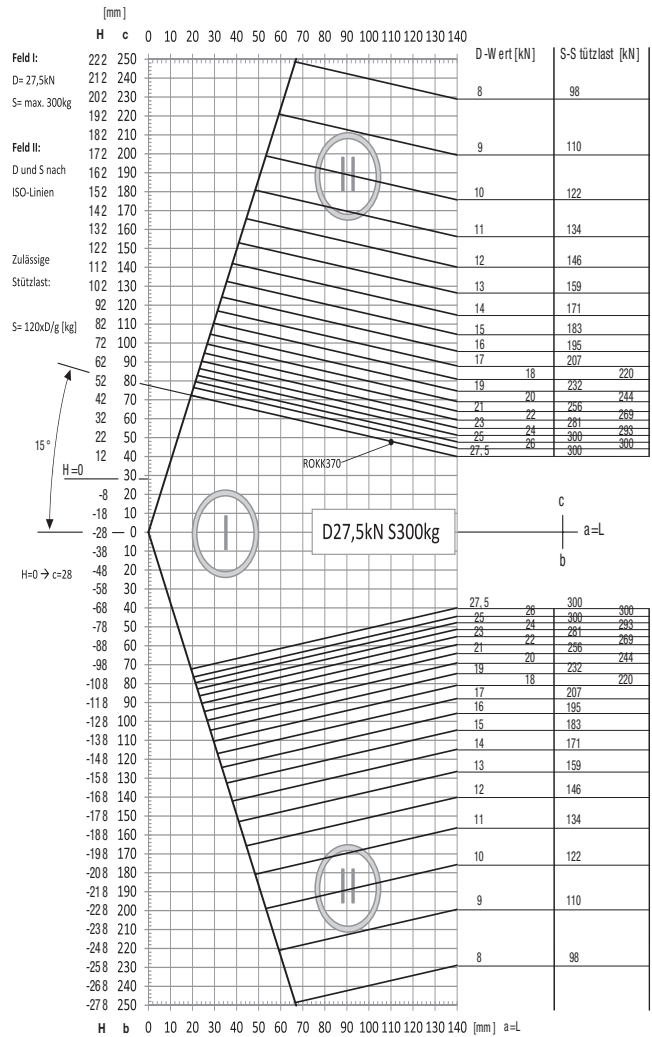
- DE** In Verbindung mit Kugelkupplungen von Fremdherstellern
- EN** In combination with ball hitches from other manufacturers
- FR** Pour les crochets à boule d'autres fabricants
- IT** Assieme a ganci a sfere di altre case produttrici
- ES** En combinación con enganches esféricos de fabricantes ajenos



## ISO 83 x 56

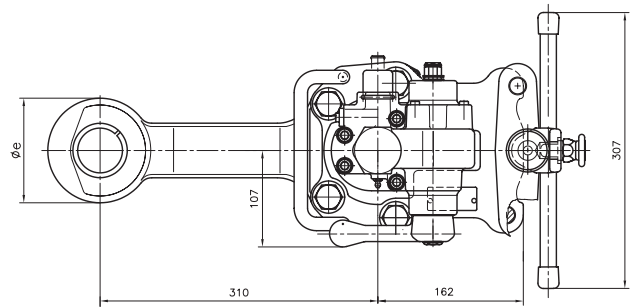
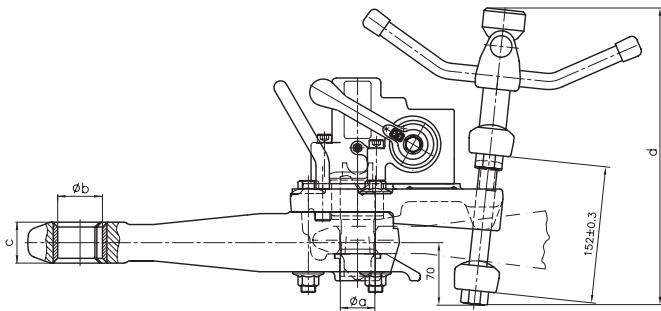


## ISO 85 x 45



## RO\*480 / 483 / 580 – 40 mm / 50 mm

- DE** Selbsttätige Adapterkupplungen für 40 / 50 mm Zugösen und 40 / 50 mm Kupplungen
- EN** Automatic adapter hitches for 40 / 50 mm towing eyes and 40 / 50 mm hitches
- FR** Crochets d'adaptation automatiques pour anneaux de remorquage 40 / 50 mm et crochets 40 / 50 mm
- IT** Adattatori automatici per occhioni da 40 / 50 mm e ganci da 40 / 50 mm
- ES** Enganches adaptadores automáticos para puntas de lanza de 40 / 50 mm y enganches de 40 / 50 mm



	$\phi a$ (mm)	$\phi b$ (mm)	c (mm)	d (mm)	$\phi e$ (mm)
480	38,5	50,0	45,0	330,0	115,0
483	38,5	50,0	45,0	338,0	115,0
580	48,7	40,0	30,5	344,0	100,0

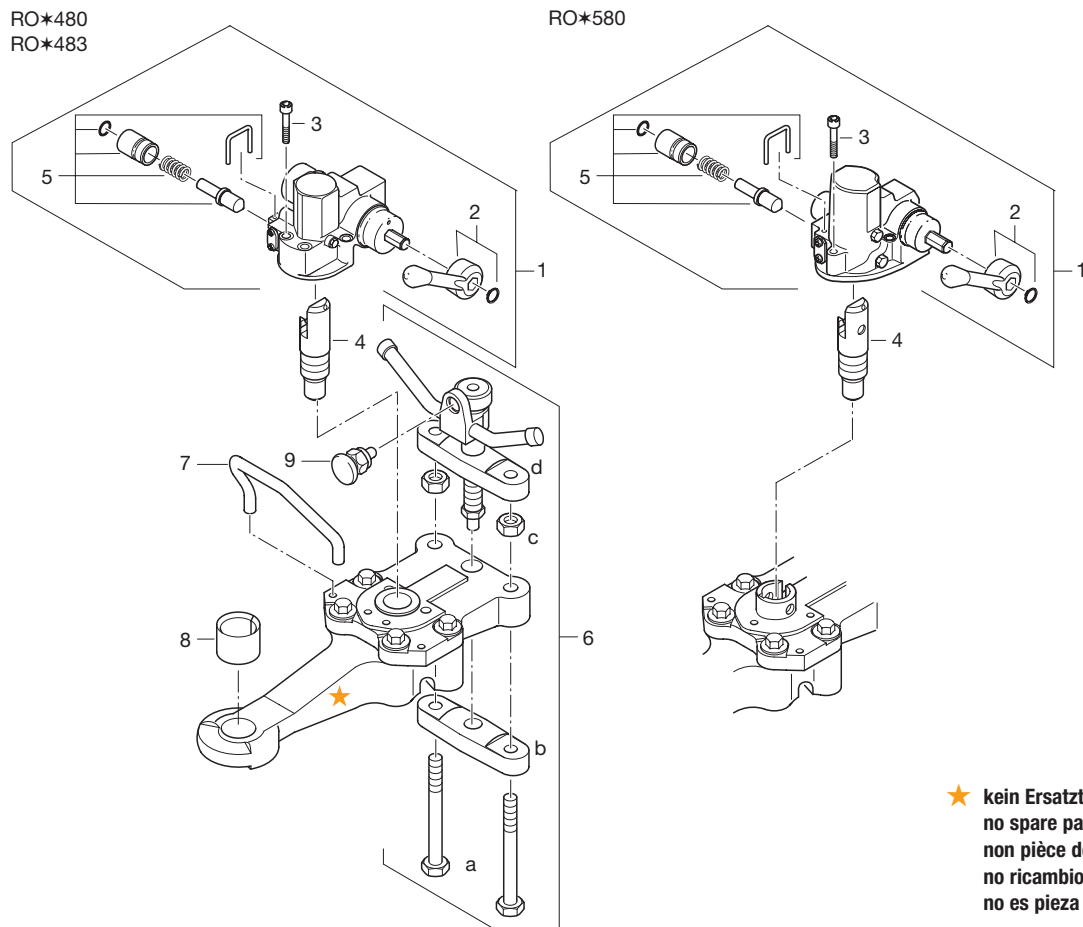
### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

		 D (kN)	 S (kg)	 50 (mm)	 40 (mm)	 (kg)	TÜV EINZEL GUTACHTEN
ROE 480B0000	A	130	-	DIN 74052 / ECER55 Kl. C	DIN 74054 / ECER55 Kl. S	35	§22a-StVZO §13 FzTV0
ROE 483B0000	A	130	-	DIN 74052 / ECER55 Kl. C	CH	35	§22a-StVZO §13 FzTV0

		 D (kN)	 S (kg)	 50 (mm)	 40 (mm)	 (kg)	TÜV EINZEL GUTACHTEN
ROE 580B0000	A	130	-	DIN 74051 / ECER55 Kl. S	DIN 74053 / ECER55 Kl. D	33	§22a-StVZO §13 FzTV0

# RO\*480 / 483 / 580

## Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



Pos		ROE	
01	480, 483	ROE 71093	1
01	580	ROE 71094	1
02		ROE 50244	1
03	480, 483	ROE 30361	1
03	580	ROE 30369	1
04	480	ROE 47111	1
04	483	ROE 47112	1
04	580	ROE 47113	1

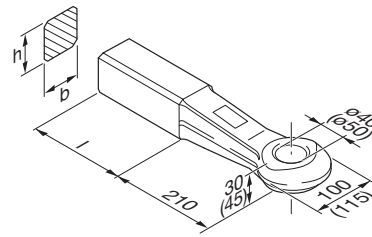
Pos		ROE	
05		ROE 70925	1
06	a, b, c, d, 09	ROE 71095	1
07		ROE 52501	1
08	480, 483	ROE 53004	1
08	580	ROE 53051	1
09		ROE 70618	1

## Reparatursatz • Repair kit • Kit de réparation • Kit riparazione • Juego de reperacion



Pos.	ROE
a, b, c, d, 09	ROE 71095

## Zugösen • Towing eyes • Anneaux de remorquage • Occhioni di traino • Puntas de lanza 40 mm / 50 mm

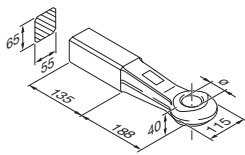
- DE** Form A mit Schweißende
- EN** Shape A for welding
- FR** Forme A avec extrémité soudée
- IT** Forma A con estremità saldata
- ES** Forma A con extremo soldado




### Technische Daten • Technical data • Données technique • Dati tecnici • Datos técnicos

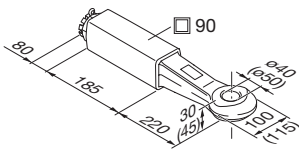
	ø (mm)	h x b (mm)	l (mm)			S (kg)	V (kN)	(kg)	ECE
				D (kN)	Dc (kN)				
ROE 57260	40	40 x 40	110	18	18	180	8	4,1	012545
ROE 57262	40	50 x 40	110	25	25	250	9	4,7	012544
ROE 57264	40	50 x 50	110	70	50	500	14	5,9	012543
ROE 57268	40	65 x 55	125	125	66	900	20	7,8	012541
ROE 57270	40	65 x 60	125	125	74	1000	23	8,2	012540
ROE 57374	40	65 x 57	125	125	42,4	250	12	5,0	012481
ROE 57272	50	65 x 60	170	190	90	1000	30	11,4	012561


Form A mit Schweißende nur für Schweizer Kupplungen • Shape A for welding only for Swiss hitches • Forme A avec extrémité soudée uniquement pour crochets suisses • Forma A con estremità saldata solo per ganci svizzeri • Forma A con extremo soldado sólo para enganches suizos



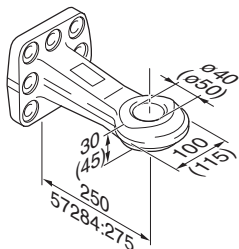
	ø (mm)	D (kN)	Dc (kN)	S (kg)	V (kN)	(kg)	ECE


Form B mit Schraubende • Shape B for bolting • Forme B avec extrémité vissée • Forma B con estremità a vite • Forma B con extremo atornillado

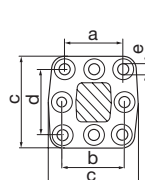



	ø (mm)	D (kN)	Dc (kN)	S (kg)	V (kN)	(kg)	ECE
ROE 57321	50	190	90	1000	25,0	12,6	012564

Form C/D mit Flansch • Shape C/D with flange • Forme C/D avec platine • Forma C/D con flangia • Forma C/D con brida



	ø (mm)	D (kN)	Dc (kN)	S (kg)	V (kN)	(kg)	ECE
ROE 57349	40	130	100	1000	35,8	8,8	010046
ROE 57244	50	190	135	1000	72,5	9,5	010045
ROE 57244	50	190	113	2500	43,2	9,5	010045
ROE 57284	50	250	135	1000	90,0	17,9	010162
ROE 57284	50	250	113	3000	43,2	17,9	010162

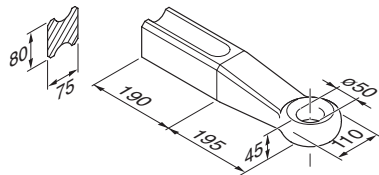





	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)
ROE 57243	100±0,5	110±0,5	ca. 154	110±0,5	17,0
ROE 57349	100±0,5		ca. 154	110±0,5	17,0
ROE 57244	100±0,5	110±0,5	ca. 154	110±0,5	17,0
ROE 57284	130±0,3	130±0,3	190+4	130±0,3	21,0



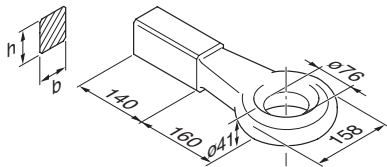
## Zugösen • Towing eyes • Anneaux de remorquage • Occhioni di traino • Puntas de lanza






Schwerlastzugösen mit Schweißende 50 mm • Heavy duty towing eyes for welding 50 mm • Anneaux de remorquage pour lourdes charges avec extrémité soudée 50 mm • Occhioni per traini eccezionali con estremità saldata 50 mm • Puntas de lanza para cargas pesadas con extremo soldado 50 mm



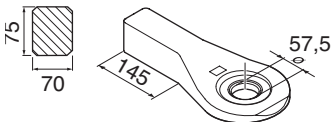
	 <b>D (kN)</b>	 <b>(kg)</b>	<b>e1</b>
ROE 57005	314	13,4	00-0693
ROE 57394	314	13,4	00-0693







Ringzugösen mit Schweißende 76 mm VG 74059 • Ring towing eyes for welding 76 mm VG 74059 • Anneaux de remorquage avec extrémité soudée 76 mm VG 74059 • Occhioni torici con estremità saldata 76 mm VG 74059 • Puntas de lanza anulares con extremo soldado 76 mm VG 74059



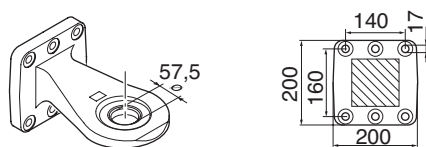
	<b>h x b (mm)</b>	 <b>D (kN)</b>	 <b>S (kg)</b>	 <b>C' (t)</b>	 <b>(kg)</b>
ROE 57006	60 x 65	120	1000	12	10,3



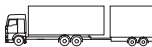




Zugösen 57,5 mm • Towing eyes 57,5 mm • Anneaux de remorquage de 57,5 mm • Occhioni di traino 57,5 mm • Puntas de lanza 57,5 mm



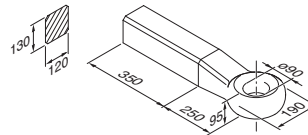
	 <b>D (kN)</b>	 <b>Dc (kN)</b>	 <b>S (kg)</b>	 <b>C' (t)</b>	 <b>(kg)</b>	<b>ECE</b>
ROE 57384 (V)	200	90	1000	25	10,0	011659
ROE 57386 (R)	200	90	1000	25	10,0	011658




Zugösen 57,5 mm • Towing eyes 57,5 mm • Anneaux de remorquage de 57,5 mm • Occhioni di traino 57,5 mm • Puntas de lanza 57,5 mm



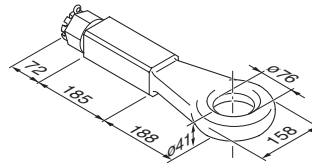
	 <b>D (kN)</b>	 <b>Dc (kN)</b>	 <b>S (kg)</b>	 <b>V (kN)</b>	 <b>Av (t)</b>	 <b>(kg)</b>	<b>ECE</b>
ROE 57370	300	131	1000	82	18	18,7	011356
ROE 57370	300	130	2000	50	18	18,7	011356
ROE 57370	300	146,5	1000	65,5	18	18,7	011356






mit Schweißende 90 mm • for welding 90 mm • avec extrémité soudée 90 mm • con estremità saldata 90 mm • con extremo soldado 90 mm



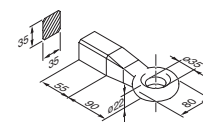
	 <b>R (t)</b>	 <b>(kg)</b>
ROE 57121	1000	82





mit Schraubende 76 mm • for bol ting 76 mm • avec extrémité vissée 76 mm • con estremità a vite 76 mm • con extremo atornillado 76 mm



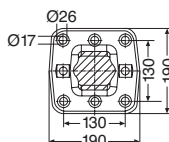
	 <b>D' (kN)</b>	 <b>S (kg)</b>	 <b>C' (t)</b>	 <b>(kg)</b>
ROE 57294	120	1000	12	18,5
ROE 57295	200	1500	15	18,5







Zugösen für Flurförderzeuge mit Schweißende 35 mm VG 74059 • Towing eyes for industrial trucks for welding 35 mm VG 74059 • Anneaux de remorquage pour chariots de manutention avec extrémité soudée 35 mm VG 74059 • Occhioni per veicoli trasporti interni con estremità saldata 35 mm VG 74059 • Puntas de lanza para vehiculos industriales con extremo soldado 35 mm VG 74059



	 <b>R (t)</b>	 <b>S (kg)</b>	 <b>(kg)</b>
ROE 57065	4		1,4

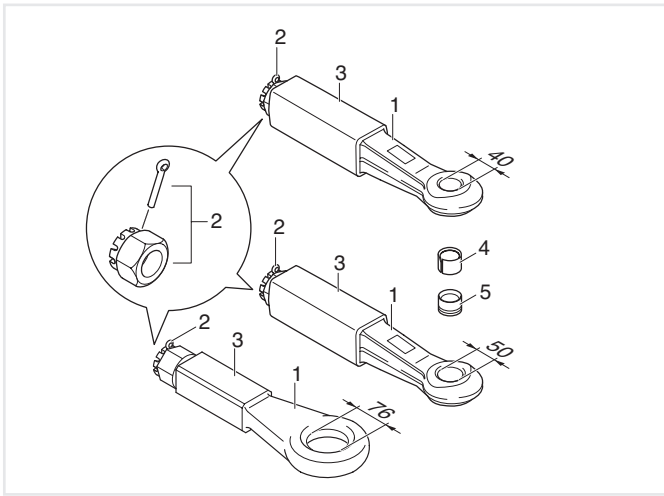
Zugösen mit Flansch VG 74059 • Towing eyes with flange VG 74059 • Anneaux de remorquage avec bride VG 74059 • Occhioni di traino con flangia VG 74059 • Puntas de lanza con brida VG 74059



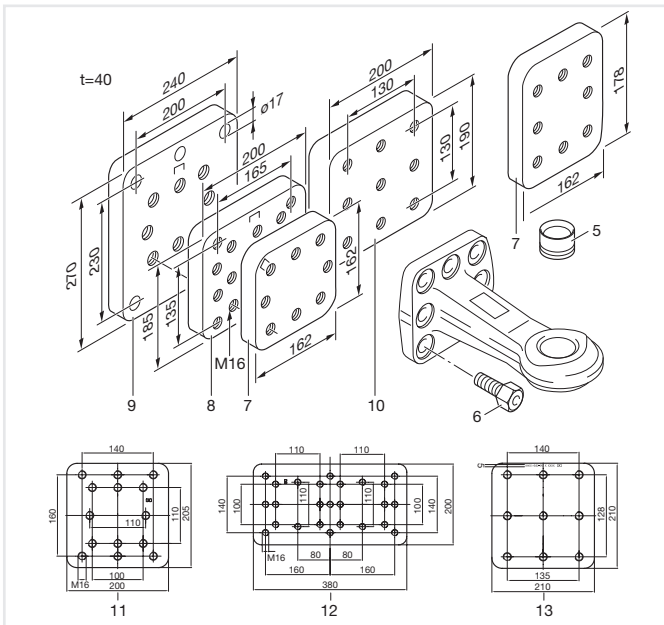
	 <b>D (kN)</b>	 <b>Dc (kN)</b>	 <b>V (kN)</b>	 <b>S (kg)</b>	 <b>(kg)</b>
ROE 57406	190	130	70	1500	23,3
ROE 57406	190	130	75	1000	23,3

## Zugösen • Towing eyes • Anneaux de remorquage • Occhioni di traino • Puntas de lanza 40 mm / 50 mm

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio

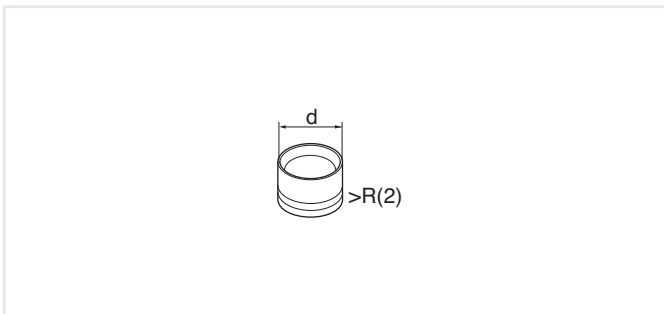


Pos	ø (mm)	ROE	
01	40	ROE 57319	1
01	50	ROE 57322	1
01	76	ROE 57303	1
01	76	ROE 57304	1
02	40/50/76	ROE 56049	1
03	40/50/76	ROE 53435	1
04	40	ROE 53051	1
04	50	ROE 53004	1
05	40 (57243)	ROE 53386	1
05	50 (57244)	ROE 53376	1
05	90	ROE 53250	1



Pos	ø (mm)	ROE	
05	40	ROE 53386	1
05	50	ROE 53376	1
05	57,5 R (57386)	ROE 53556	1
05	57,5 V (57384)	ROE 53611	1
06	40 (57349)	ROE 70951	1
06	40 (57243)	ROE 70950	1
06	50 (57244)	ROE 70950	1
06	50 (57284)	ROE 70965	1
06	57,5	ROE 30414	1
07	40/50	ROE 70304	1
08	40/50	ROE 70305	1
09	40/50	ROE 70306	1
10	40/50	ROE 59357	1
10	50 (57284)	ROE 70307	1
11	50/57,5/40	ROE 59394	1
12	57,5/50/40	ROE 59395	1
13	908 (57388)	ROE 59455	1

## Übermaßbuchsen • Oversize bushes • Douilles à surmesure • Bussole maggiorate • Casquillos de sobremedida



	d (mm)	R	ROE
a = 40 mm	48,5	1	ROE 53206
	49,0	2	ROE 53207
	49,5	3	ROE 53208
	50,0	4	ROE 53209

	d (mm)	R	ROE
a = 50 mm	60,5	1	ROE 53362
	61,0	2	ROE 53363

## Prüflehren • Wear gauges • Calibres de contrôle • Calibri • Patrones de comprobación

- DE** Kupplungsbolzen und Zugöse
- EN** Hitch pin and towing eye
- FR** Boulon d'accouplement et anneau de remorquage
- IT** Perno di traino e occhione
- ES** Pernos de acoplamiento y punta de lanza



(mm)		ROE
30 (LoF), 40		ROE 57026
50 (ISO)		ROE 57122
57	RO 57/57 flex	ROE 71354

- Untere Buchse • Lower bush • Coussinet inférieur • Bussola inferiore • Casquillo inferior

(mm)		ROE
40		ROE 57290
50	(RO 700, RO 710, RO 715)	ROE 57277
50	(RO 500, RO 530, RO 560)	ROE 57334
57,5	(RO 57/57 flex)	ROE 71354

## Werkzeuge • Tools • Outils • Attrezzi • Herramientas

- DE** Montagedorn zum Ein- und Ausschlagen von Zugösenbuchsen
- EN** Mounting tool for hammering in and removing bushes
- FR** Outil enrouleur pour coussinets d'anneaux de remorquage
- IT** Mandrino di montaggio per infilare e sfilare le bussole degli occhioni
- ES** Punzón de montaje para insertar y sacar los casquillos de las puntas de lanza



ø (mm)	ROE
40	ROE 57111
50	ROE 57228

- DE** Einroll-Werkzeug für geschlitzte Zugösenbuchsen
- EN** Rolling-in-device for bushes
- FR** Outil enrouleur pour coussinets d'anneaux de remorquage
- IT** Utensile per profilare a rullo le bussole degli occhioni
- ES** Herramienta de arrollar para casquillos de punta de lanza

ø (mm)	ROE
40	ROE 57059
50	ROE 57088

- DE** Werkzeugkoffer
- EN** Tool Box
- FR** Boîte à outils
- IT** Maletín de herramientas
- ES** Valigia utensili

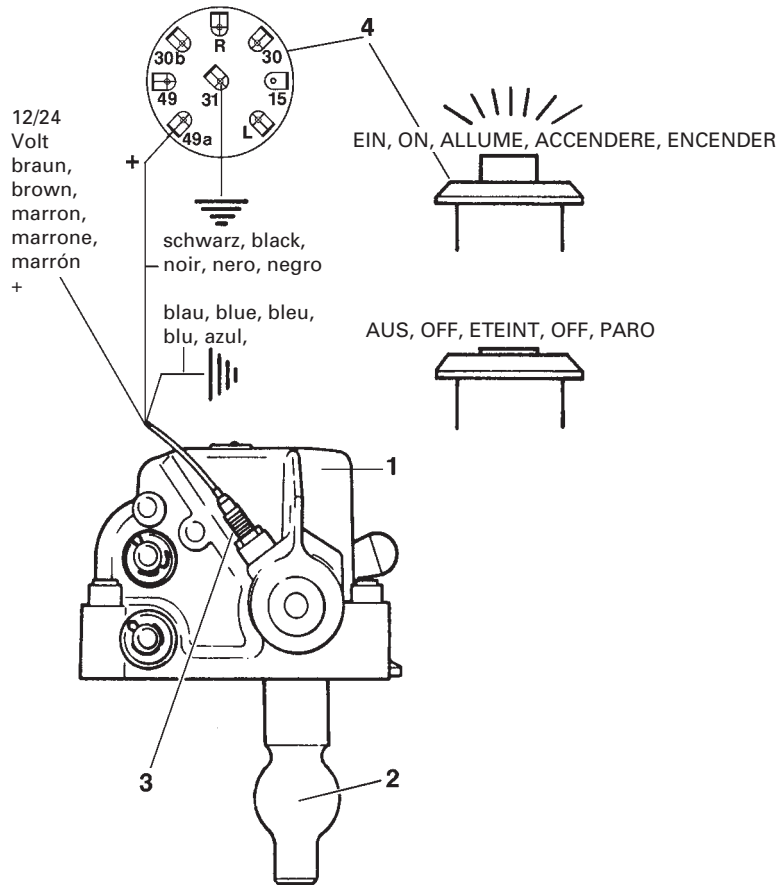


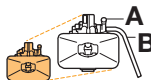

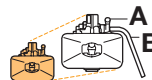

	ROE
RO 57/57flex	ROE 71275
ROE 57370 / ROE 57371 / ROE 57386 / ROE 57384	ROE 57397

## Fernanzeige • In-cab status indicator • Affichage à distance • Teleindicación • Segnalatore

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio

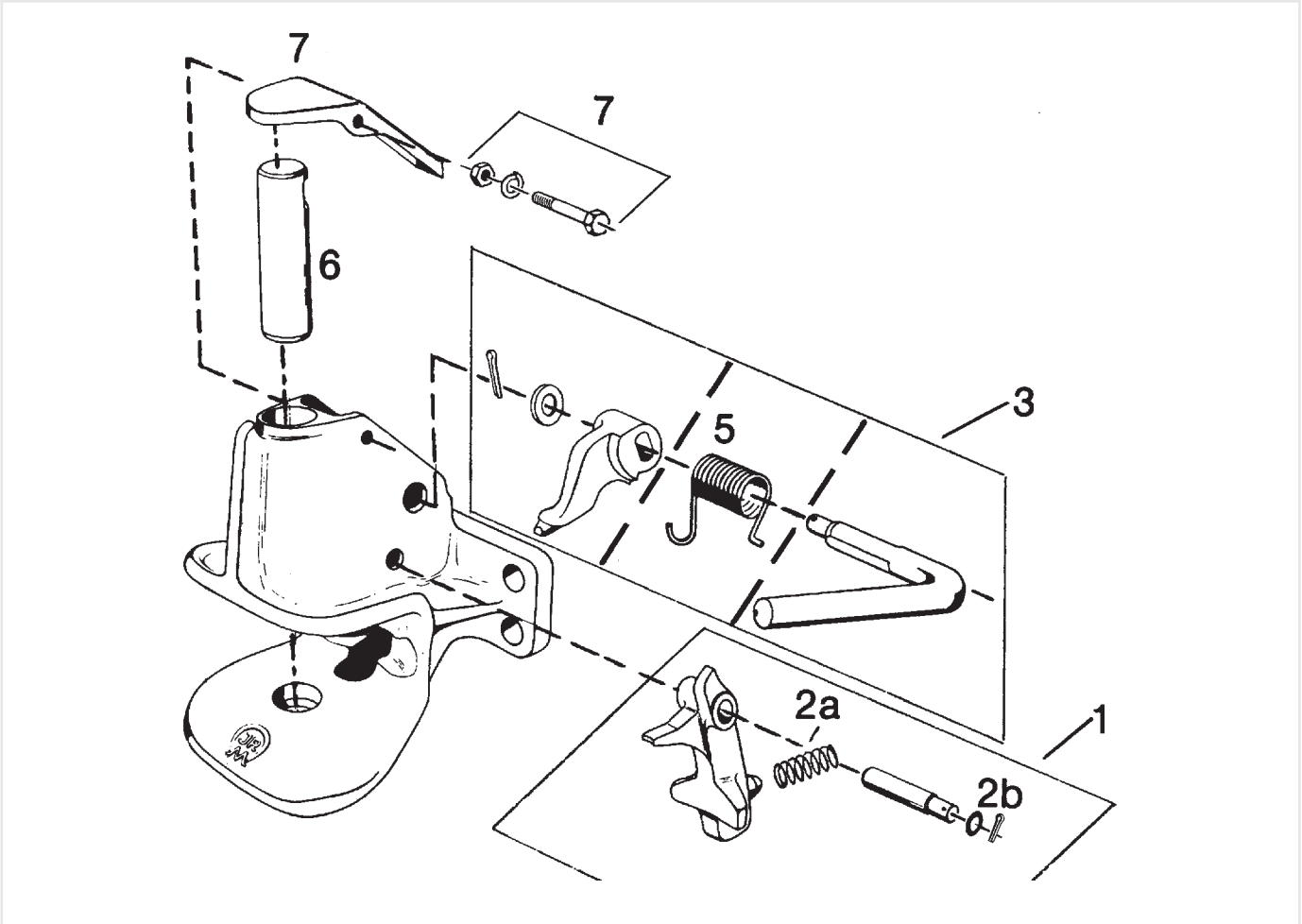
Druckknopfschalter, Press button, Interrupteur à poussoir,  
Interruttore a pulsante, Interruptor pulsador

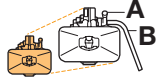



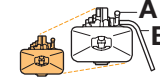

Pos		ROE		Pos		ROE	
01	RO 260	ROE 67740	1	02	RO 340	ROE 47075	1
01	RO 260	ROE 67739	1	02	RO 700, RO 710	ROE 47063	1
01	RO 340	ROE 70441	1	03	RO 260, RO 340, RO 700, RO 710	ROE 90091	1
01	RO 700	ROE 70428	1	04	RO 260, RO 340, RO 700, RO 710	ROE 90080	1
01	RO 710	ROE 70001	1				
02	RO 260	ROE 47012	1				

**RO\*244-1 (ABG-Version)**

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio  
 Auslaufmodell • Discontinued model • Modèle de fin de série • Modello in via di esaurimento •  
 Modelo de expiración



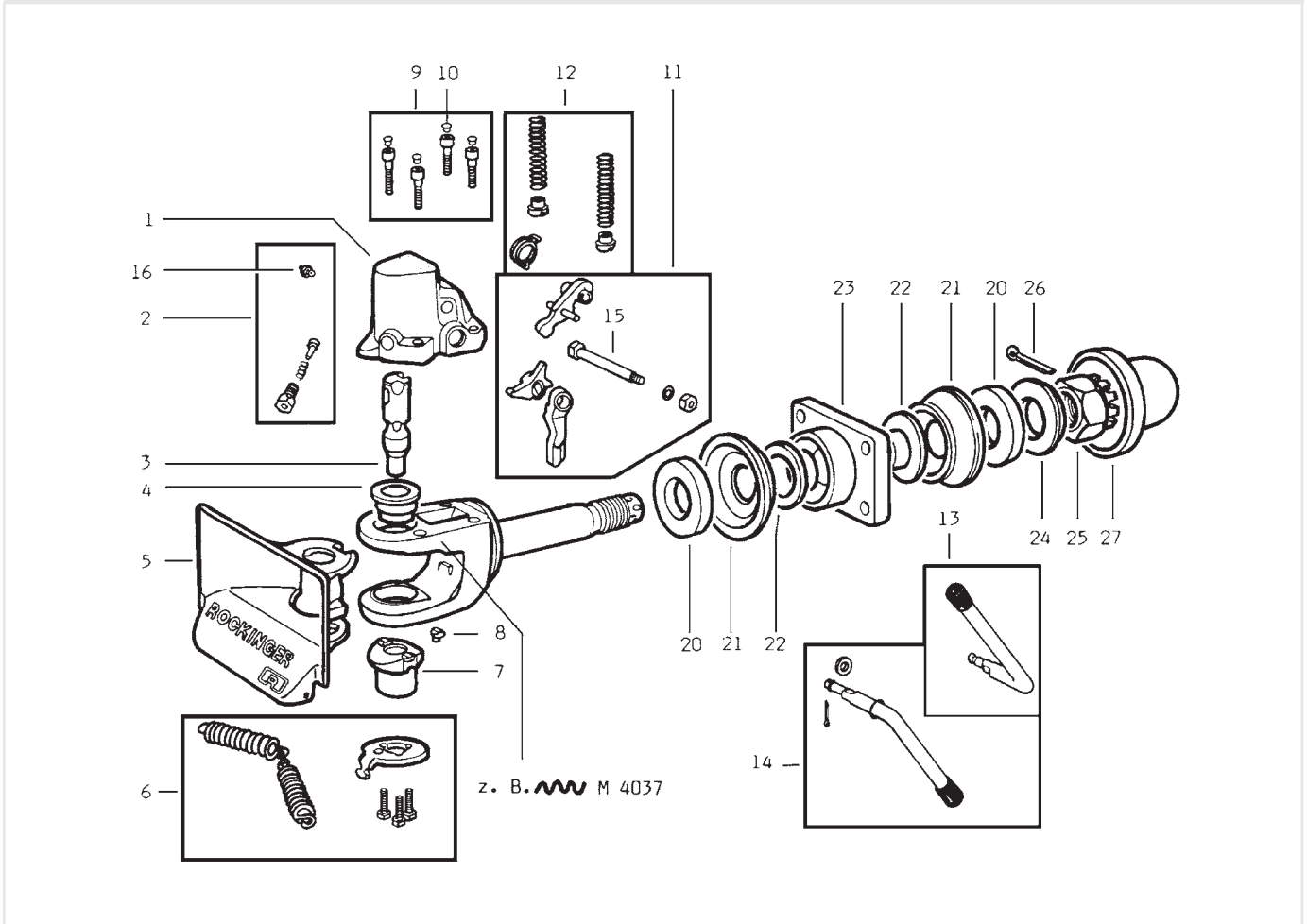
Pos		ROE	
01	Kit 1 RO 244xxx0	ROE 70237	1
01	Kit 1 RO 244xxx1	ROE 70858	1
01	Kit 1 RO 244A35511	ROE 70922	1
02	1 RO 244Axx0	ROE 55204	1
02	1 RO 244Axx1	ROE 55252	1
03	Kit	ROE 70238	1

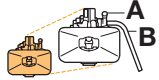

Pos		ROE	
05	RO 244xxx0	ROE 55205	1
06		ROE 47014	1
07		ROE 70240	1

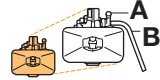

1 s. Typenschild, s. type plate, v. plaque d'identification, s. targhetta di identificazione, v. placa de identificación

# RO\*260

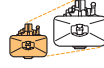
**Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio**  
**Auslaufmodell • Discontinued model • Modèle de fin de série • Modello in via di esaurimento •**  
**Modelo de expiración**



Pos		ROE	
01	RO xxxAxxxx	ROE 67262	
01	RO xxxBxxxx	ROE 67263	
02		ROE 67796	1
03		ROE 47012	1
04		ROE 53293	1
05		ROE 46049	1
06		ROE 70721	1
07		ROE 67260	1
09		ROE 57162	1
10		ROE 25151	4
11		ROE 67797	1
12		ROE 67798	1
13	RO xxxAxxxx	ROE 50215	1
14	RO xxxBxxxx	ROE 50184	1

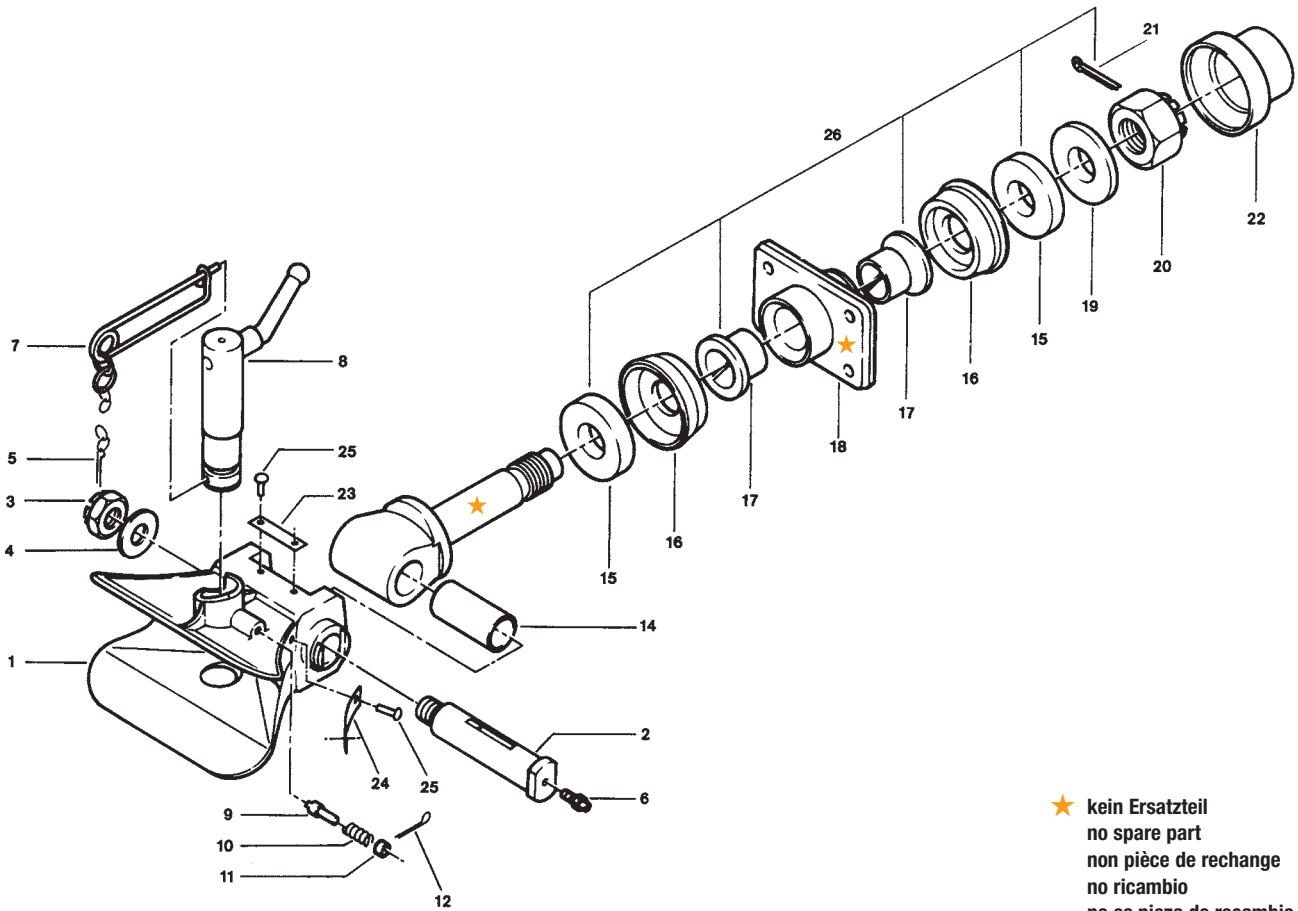
Pos		ROE	
16		ROE 39179	1
21	135	ROE 44080	2
21	145, 150	ROE 44079	2
23	135	ROE 43242	1
23	145	ROE 43235	1
23	150	ROE 43236	1
24	135	ROE 54707	1
24	145, 150	ROE 54680	1
25	135	ROE 56051	1
25	145, 150	ROE 56049	1
27	135	ROE 25214	1
27	145, 150	ROE 25072	1

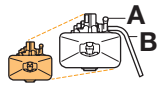

**Reparatursatz • Repair kit • Kit de réparation Kit riparazione • Juego de reparation**

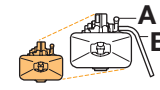

Pos.	ROE	
08, 20, 22, 26	ROE 67472	135
08, 20, 22, 26	ROE 67471	145, 150
02, 03, 04, 06, 07, 08	ROE 71123	135, 145, 150

# RO\*372

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio  
 Auslaufmodell • Discontinued model • Modèle de fin de série • Modello in via di esaurimento •  
 Modelo de expiración



Pos		ROE	
02		ROE 70052	1
07		ROE 65526	1
08		ROE 65527	1
09		ROE 70051	1
14		ROE 70508	2
16	235	ROE 44084	2
16	240, 250	ROE 44079	2
18	235		1

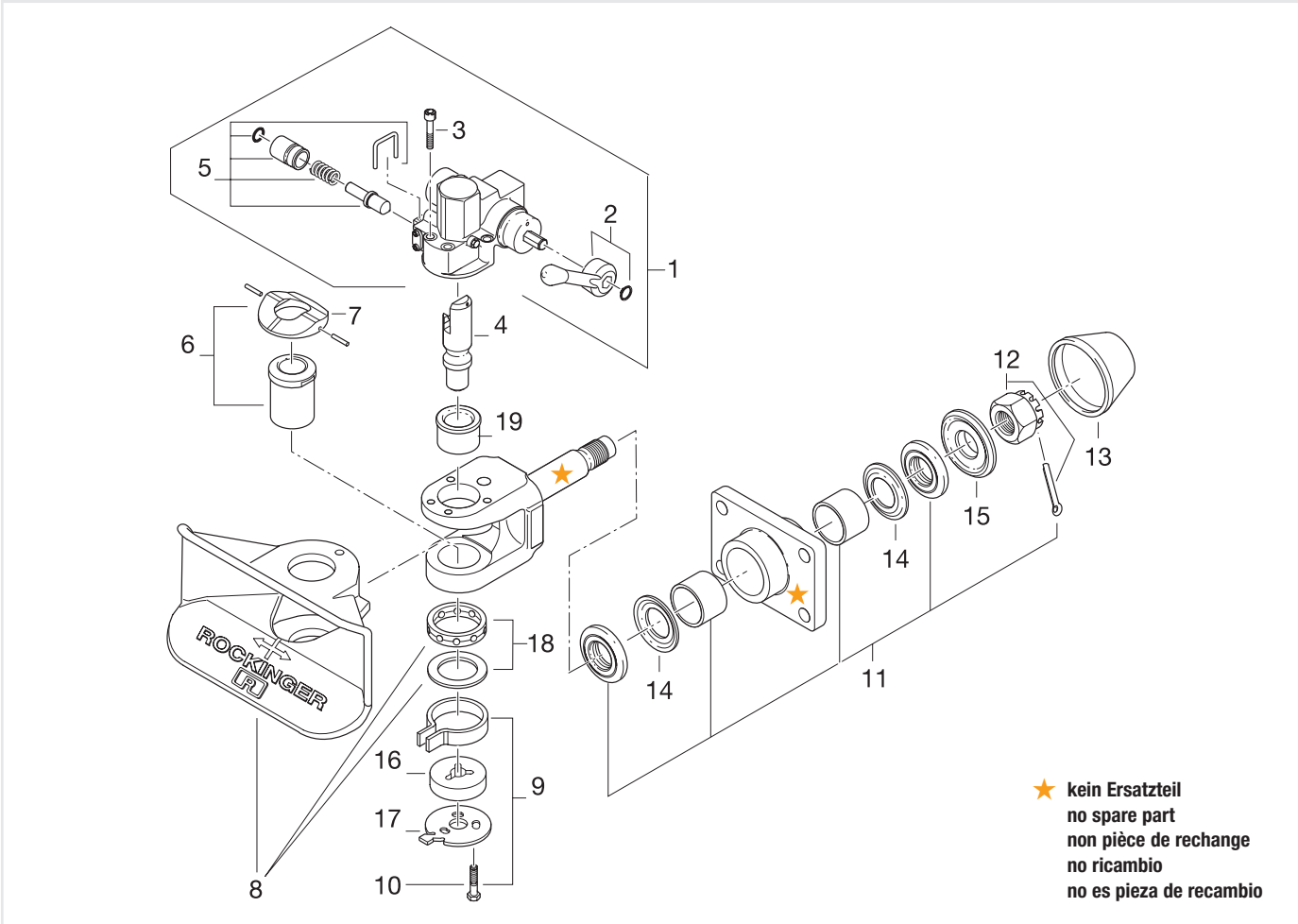
Pos		ROE	
19	235	ROE 54707	1
19	240, 250	ROE 54680	1
20	235	ROE 56051	1
20	240, 250	ROE 56049	1
22	235	ROE 25214	1
22	240, 250	ROE 25072	1

## Reparatursatz • Repair kit • Kit de réparation Kit riparazione • Juego de reparation

Pos.	ROE	
15, 17, 21	ROE 70343	235
15, 17, 21	ROE 70344	240, 250
01, 02, 07, 08, 09	ROE 70048	235, 240, 250

# RO★400 C

**Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio**  
**Auslaufmodell • Discontinued model • Modèle de fin de série • Modello in via di esaurimento •**  
**Modelo de expiración**



Pos		ROE	
01		ROE 70944	1
02	RO xxxAxxxx	ROE 50244	1
02	RO xxxBxxxx	ROE 70735	1
03		ROE 30361	1
04		ROE 47099	1
05		ROE 70925	1
06		ROE 53519	1
07		ROE 59278	1
08		ROE 46109	1
09		ROE 55256	1
10		ROE 30362	1
11	135	ROE 25476	1
11	145, 150	ROE 25477	1
12	135	ROE 56111	1

Pos		ROE	
12	145, 150	ROE 56112	1
13	135	ROE 25254	1
13	145, 150	ROE 25347	1
14	135	ROE 44160	1
14	145, 150	ROE 44161	1
15	135	ROE 59279	1
15	145, 150	ROE 59280	1
16		ROE 53467	1
17		ROE 65626	1
18		ROE 25479	1
19		ROE 53520	1

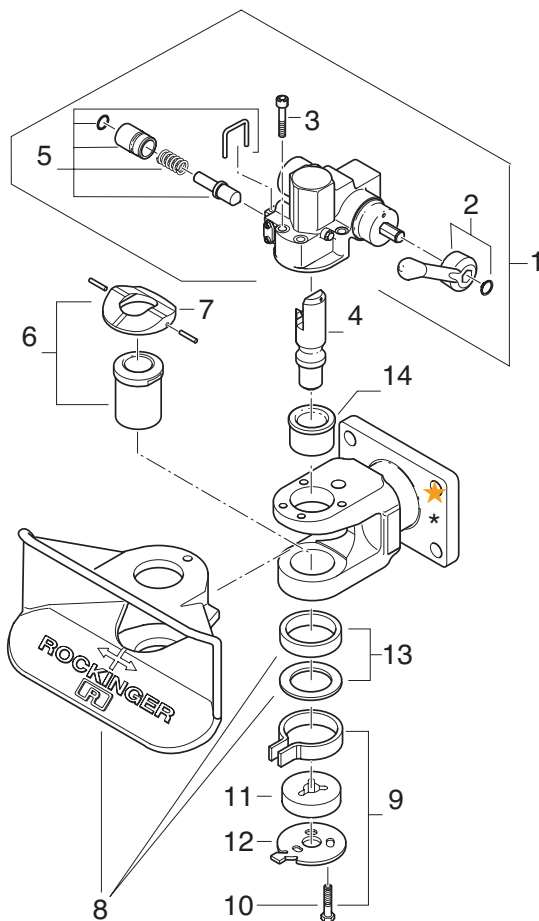
**Reparatursatz • Repair kit • Kit de réparation Kit riparazione • Juego de reperation**

Pos.	ROE
04, 06, 09, 16, 17, 19	ROE 71124

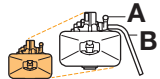



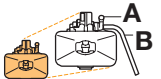

# RO\*460

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio  
 Auslaufmodell • Discontinued model • Modèle de fin de série • Modello in via di esaurimento •  
 Modelo de expiración



★ kein Ersatzteil  
 no spare part  
 non pièce de rechange  
 no ricambio  
 no es pieza de recambio

Pos		ROE	
01		ROE 70944	1
02	RO xxxAxxxx	ROE 50244	1
02	RO xxxBxxxx	ROE 70735	1
03		ROE 30361	1
04		ROE 47099	1
05		ROE 70925	1
06		ROE 53519	1
07		ROE 59278	1

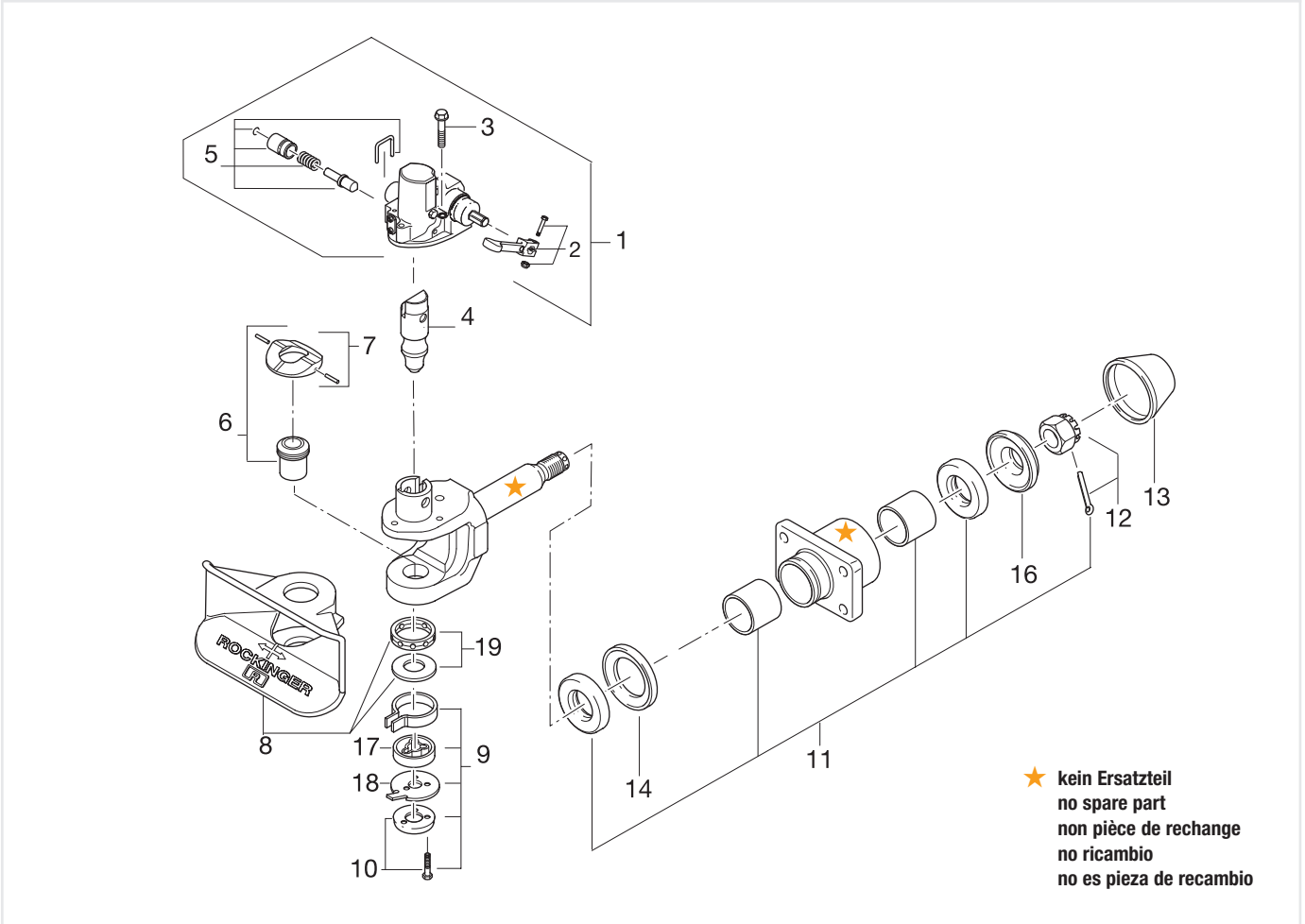
Pos		ROE	
08		ROE 46109	1
09		ROE 55256	1
10		ROE 30362	1
11		ROE 53467	1
12		ROE 65626	1
13		ROE 25479	1
14		ROE 53520	1

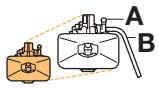

## Reparatursatz • Repair kit • Kit de réparation • Kit riparazione • Juego de reperation

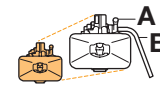

Pos.	ROE
04, 05, 06, 09, 11, 12, 14	ROE 71124

# RO\*500 G 65

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio  
 Auslaufmodell • Discontinued model • Modèle de fin de série • Modello in via di esaurimento •  
 Modelo de expiración

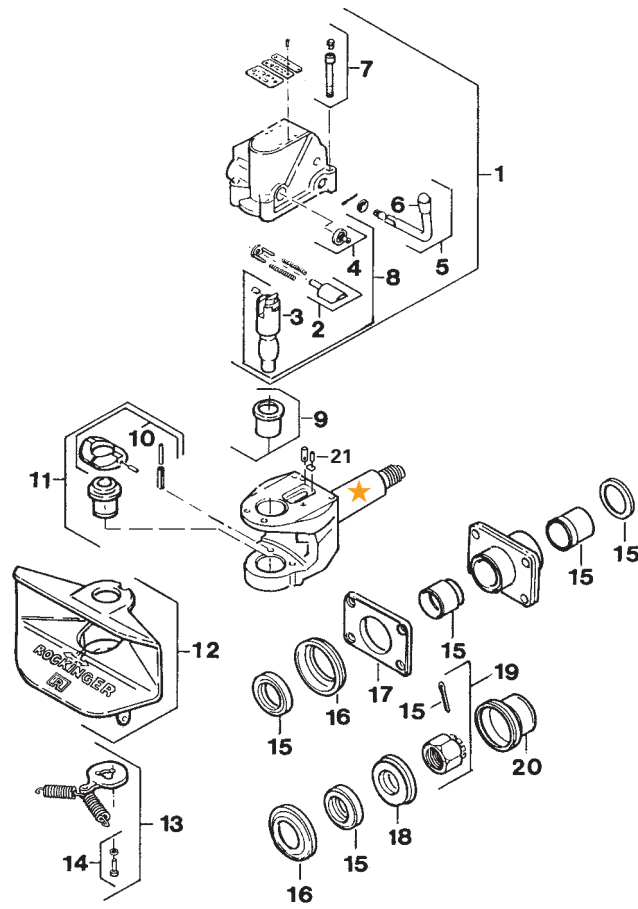


Pos		ROE	
01	RO xxxAxxxx	ROE 71366	1
01	RO xxxBxxxx	ROE 71366	1
02	RO xxxAxxxx	ROE 50257	1
02	RO xxxBxxxx	ROE 50282	1
03		ROE 30269	1
04		ROE 47081	1
05		ROE 70925	1
06		ROE 53536	1
07		ROE 70851	1
08		ROE 46118	1

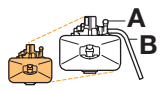

Pos		ROE	
09		ROE 65693	1
10		ROE 30358	1
11		ROE 71534	1
12		ROE 56102	1
13		ROE 25347	1
14		ROE 44177	1
16		ROE 59141	1
17		ROE 53467	1
18		ROE 65626	1
19		ROE 25479	1

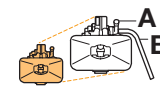

# RO\*700

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio  
 Auslaufmodell • Discontinued model • Modèle de fin de série • Modello in via di esaurimento •  
 Modelo de expiración



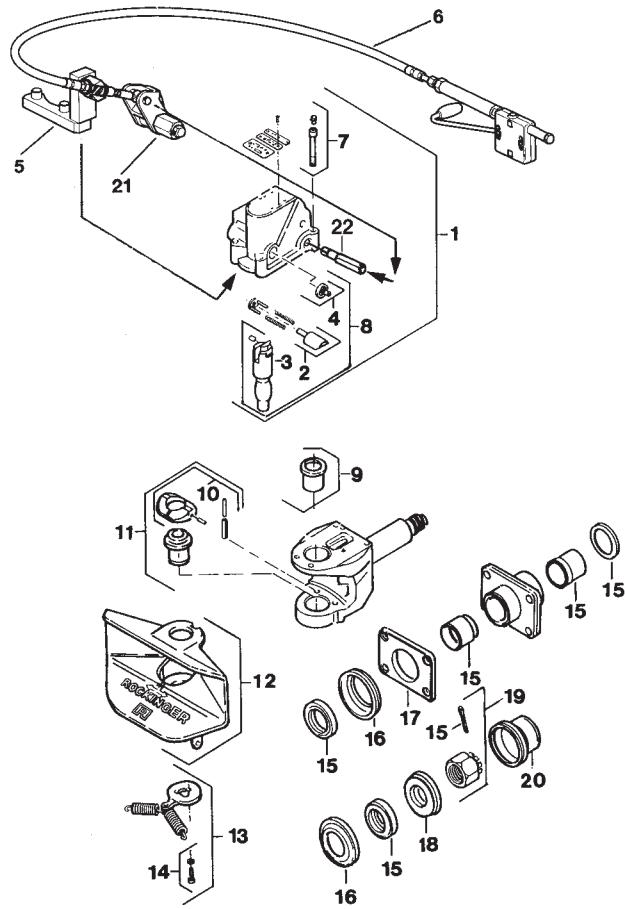
★ kein Ersatzteil  
 no spare part  
 non pièce de rechange  
 no ricambio  
 no es pieza de recambio

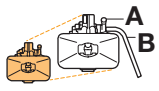

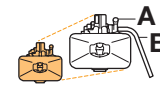

Pos		ROE	
01	61	ROE 70428	1
01	RO xxxBxxxx	ROE 71023	1
02		ROE 70078	1
03		ROE 70009	1
04		ROE 70036	1
05	RO xxxAxxxx	ROE 70005	1
05	RO xxxBxxxx	ROE 70006	1
06		ROE 25104	1
07		ROE 57275	1
08		ROE 71024	1
09		ROE 53456	1
10		ROE 70074	1
11		ROE 70429	1
12		ROE 46098	1

Pos		ROE	
12		ROE 46104	1
13		ROE 70430	1
14		ROE 70431	1
15		ROE 70432	1
16		ROE 44119	2
17	61	ROE 59144	1
17	62	ROE 59146	1
18		ROE 59122	1
19		ROE 56100	1
20		ROE 25326	1
21	6	ROE 70073	1

# RO\*700 E

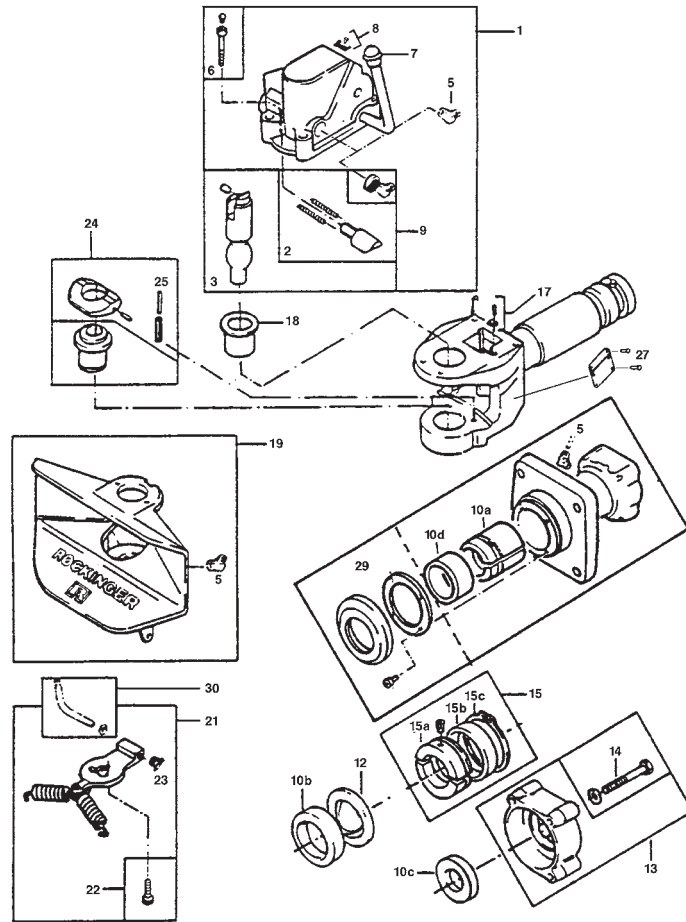
Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio  
 Auslaufmodell • Discontinued model • Modèle de fin de série • Modello in via di esaurimento •  
 Modelo de expiración

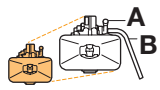



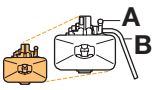

Pos		ROE		Pos		ROE	
01		ROE 70446	1	15		ROE 70432	1
02		ROE 70078	1	16		ROE 44119	2
03		ROE 47063	1	17		ROE 59144	1
04		ROE 70036	1	18		ROE 59122	1
05		ROE 70467	1	19		ROE 56100	1
06		ROE 57315	1	20		ROE 25326	1
07		ROE 70115	1	21		ROE 70466	1
08		ROE 70114	1	22		ROE 52495	1
09		ROE 53456	1	•		ROE 70595	1
10		ROE 70074	1	•		ROE 90091	1
11		ROE 70429	1	•		ROE 90080	1
12		ROE 46098	1				
13		ROE 70430	1				
14		ROE 70431	1				

# RO\*715 A

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio  
 Auslaufmodell • Discontinued model • Modèle de fin de série • Modello in via di esaurimento •  
 Modelo de expiración

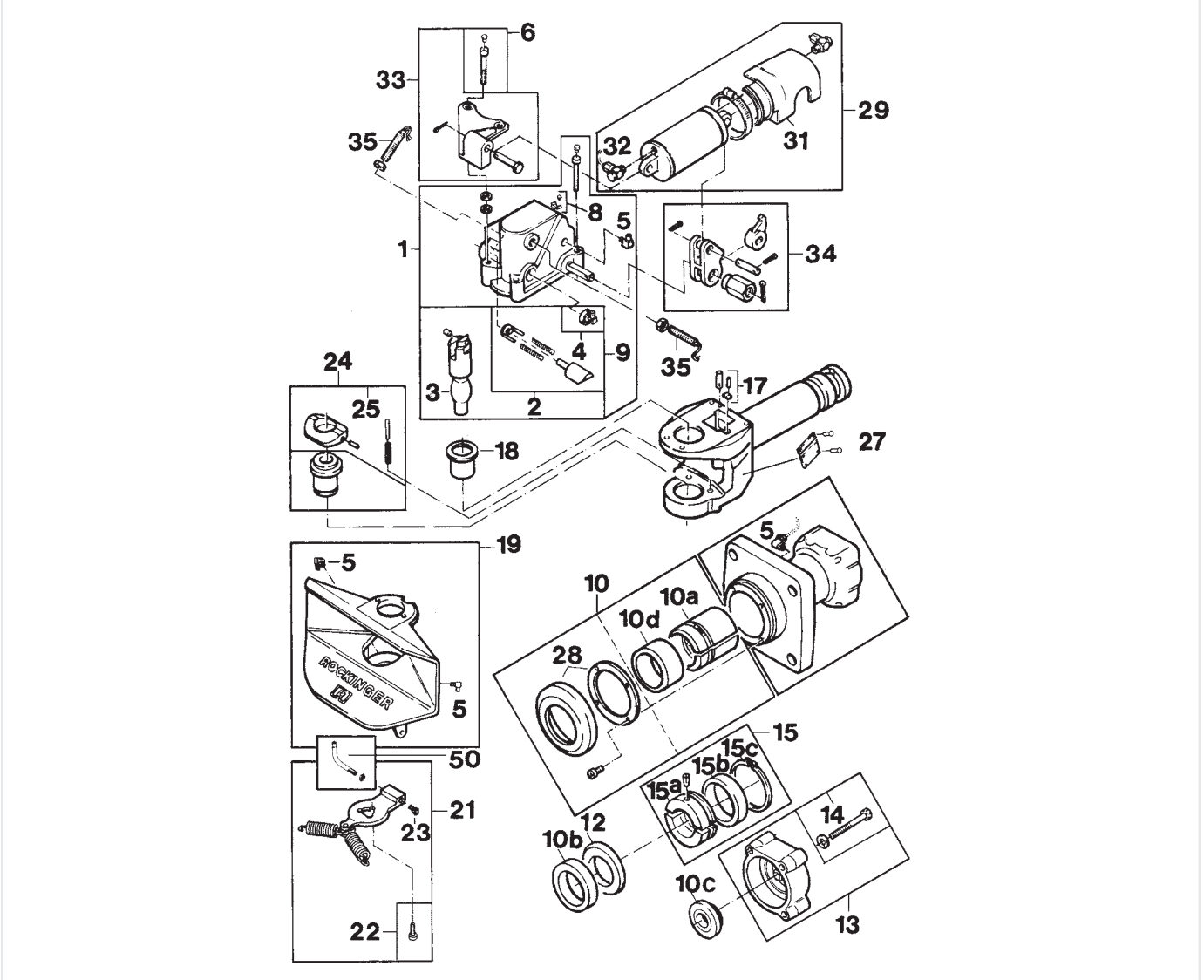


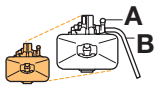

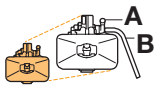

Pos		ROE	
01	RO xxxAxxxx	ROE 70816	1
02		ROE 70991	1
03		ROE 70009	1
05		ROE 70196	5
06		ROE 57275	1
07		ROE 25104	1
08		ROE 70197	1
09		ROE 70992	1
10		ROE 70994	1
12		ROE 59042	1
13		ROE 70088	1
14		ROE 70014	1

Pos		ROE	
15		ROE 70089	1
17		ROE 70073	1
18		ROE 53367	1
19		ROE 70204	1
21		ROE 70995	1
22		ROE 70996	1
23		ROE 25230	1
24		ROE 70169	1
25		ROE 70170	1
29		ROE 25273	1
30		ROE 70202	1

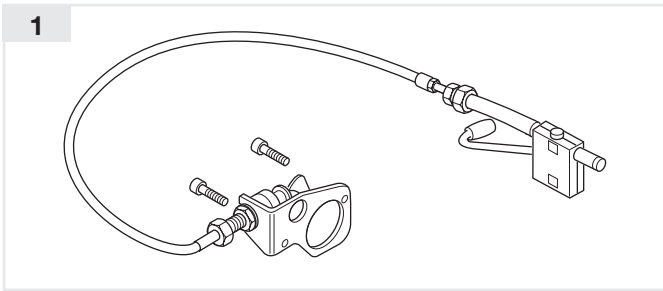
# RO\*715 E

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio  
 Auslaufmodell • Discontinued model • Modèle de fin de série • Modello in via di esaurimento •  
 Modelo de expiración



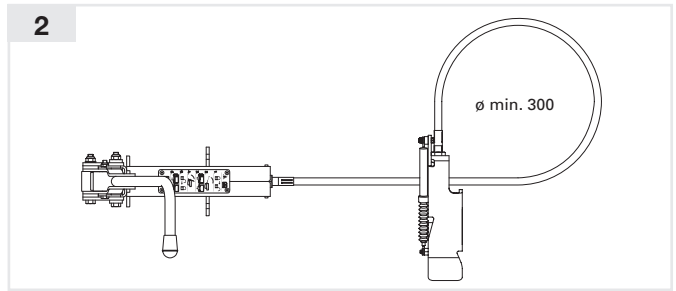
Pos		ROE		Pos		ROE	
01		ROE 70815	1	18		ROE 53367	1
02		ROE 70991	1	19		ROE 70204	1
03		ROE 47063	1	21		ROE 70995	1
04		ROE 70198	1	22		ROE 70996	1
05		ROE 70196	5	23		ROE 25230	1
06		ROE 70115	1	24		ROE 70169	1
08		ROE 70197	1	25		ROE 70170	1
09		ROE 70993	1	28		ROE 25273	1
10		ROE 70994	1	29		ROE 70102	1
12		ROE 59042	1	31		ROE 25241	1
13		ROE 70088	1	32		ROE 90105	1
14		ROE 70014	1	33		ROE 70103	1
15		ROE 70089	1	34		ROE 70104	1
17		ROE 70073	1	50		ROE 70202	1

## Aufrüstsätze • Upgrade kits • Kits d'adaptation • Kit complementari • Juegos de equipamiento posterior



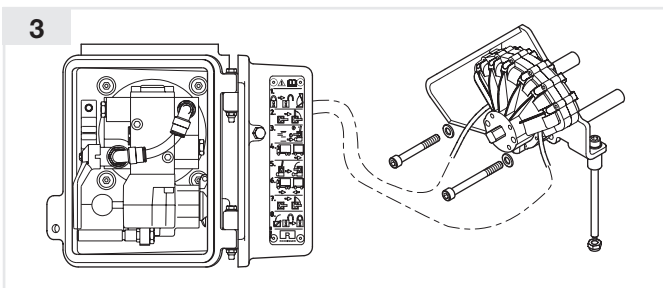
Mechanische Fernbedienung (40, 50 mm) • Mechanical remote control (40, 50 mm) • Commande à distance mécanique (40, 50 mm) • Apertura meccanica a distanza (40, 50 mm) • Telemando mecánico (40, 50 mm)

ROE	
ROE 70962	bis / up to / jusqu'à / fino a / hasta RO 500xxx3, RO 400xxxC, RO 430xxxC, RO 500xxx3, RO 530xxxC, RO 560xxxC
ROE 71676	für / for / pour / per / para RO 400xxx1, RO 410xxx0, RO 413 ab/from/de/da/de RO 430xxx2, RO 500x66xx0, RO 510xxx0



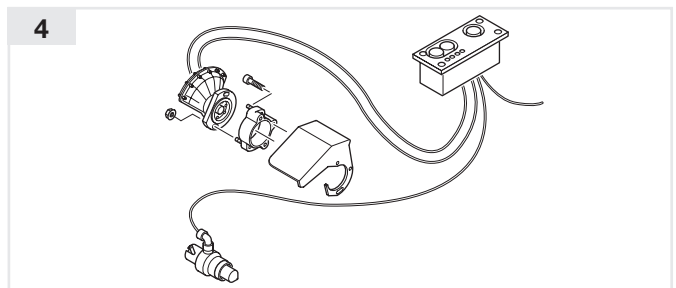
Mechanische Fernbedienung kraftunterstützend (40, 50 mm) • Mechanical remote operation power assisted (40, 50 mm) • Commande à distance mécanique à transmission de force (40, 50 mm) • Apertura meccanica a distanza a trasmissione di forza (40, 50 mm) • Telemando mecánico con transmisión de fuerza (40, 50 mm)

ROE	
ROE 71469FA	bis / up to / jusqu'à / fino a / hasta RO 400xxxC, RO 430xxxC, RO 500xxx3, RO 530xxxC, RO 560xxxC
ROE 71599FA1	für / for / pour / per / para RO 400xxx1, RO 430xxx2, RO 590xxx1
ROE 71599FA2	für / for / pour / per / para RO 410xxx0, RO 413 ab/from/de/da/de TO
ROE 71599FA3	für / for / pour / per / para RO 500x66xx0
ROE 71599FA4 H	für / for / pour / per / para RO 510xxx0
ROE 71599FA5	für / for / pour / per / para RO 590xxx1



Pneumatische Fernbedienungen • Pneumatic remote operation • Commandes pneumatiques à distances • Comando a distanza pneumatico • El mando a distancia neumático

ROE	
ROE 71270	bis / up to / jusqu'à / fino a / hasta RO 500xxx3, RO 530xxxC, RO 560xxxC
ROE 71461	für / for / pour / per / para RO 400xxx1, RO 430xxx2
ROE 71459	für / for / pour / per / para RO 410xxx0, RO 413 ab/fRO m/de/da/de
ROE 71645	für / for / pour / per / para RO 590xxx1
ROE 71677	für / for / pour / per / para RO 500x66xxx
ROE 71167	für / for / pour / per / para RO 570xx, RO 576xxx
ROE 71594	für / for / pour / per / para RO 510x61xxx



Elektropneumatische Fernbedienung • Electropneumatic remote operation • Commande à distance électropneumatique • Apertura elettropneumatica a distanza • Telemando electroneumático

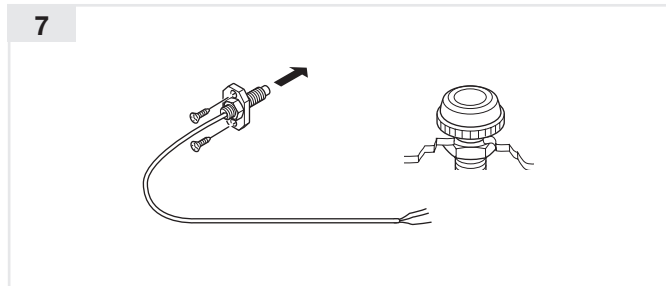
ROE	
ROE 70844C	bis / up to / jusqu'à / fino a / hasta RO 400xxxC, RO 430xxxC, RO 500xxx3, RO 530xxxC, RO 560xxxC

## Aufrüstsätze • Upgrade kits • Kits d'adaptation • Kit complementari • Juegos de equipamiento posterior



Elektrische Fernanzeige, Anzeige am Heck • In-cab status indicator, display at the rear • Affichage à distance électrique, affichage à l'arrière • Segnalatore elettronico, segnalatore posteriore • Teleindicación eléctrica, monitor en la parte trasera

ROE	
ROE 71701	für / for / pour / per / para RO 400xxx1, RO 410xxx0, ab/from/de/da/de RO 413xx0, RO 430xxx2, RO 500x66xx0, RO 510xxx0, RO 590xxx1



Elektrische Fernanzeige, Anzeige in der Kabine • In-cab status indicator, display in the cab • Affichage à distance électrique, affichage en cabine • Segnalatore elettronico, segnalatore nella cabina • Teleindicación eléctrica, monitor en la cabina

ROE	
ROE 70936	bis / up to / jusqu'à / fino a / hasta RO 400xxxC, RO 430xxxC, RO 500, RO 530xxxC, RO 560xxxC
ROE 71654	für / for / pour / per / para RO 400xxx1, RO 410xxx0, ab/from/de/da/de RO 413xx0, RO 430xxx2, RO 500x66xx0, RO 510xxx0, RO 567xxx0, RO 590xxx1



Elektronische Fernanzeige (zwei Sensor) • Electronically in-cab status indicator (2-sensor) • Affichage à distance électronique (2 capteurs) • Segnalatore apertura/chiusura elettronico (2 sensori) • Teleindicación electrónico (2 sensores)

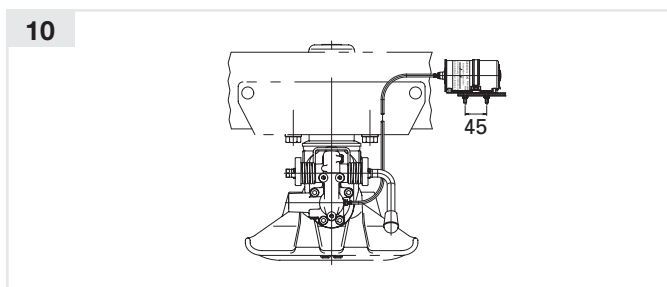
ROE	
ROE 71546	für / for / pour / per / para RO 400xxx1, RO 410xxx0, ab/from/de/da/de RO 413xx0, RO 430xxx2, RO 500x66xx0, RO 510xxx0, RO 567xxx0, RO 590xxx1



Schwenkwinkel-Warnanzeige (50 mm) • Drawbar turn angle warning system (50 mm) • Voyant d'angle de rotation (50 mm) • Indicazione di pericolo angolo di inclinazione (50 mm) • Indicador de advertencia de ángulo de giro (50 mm)

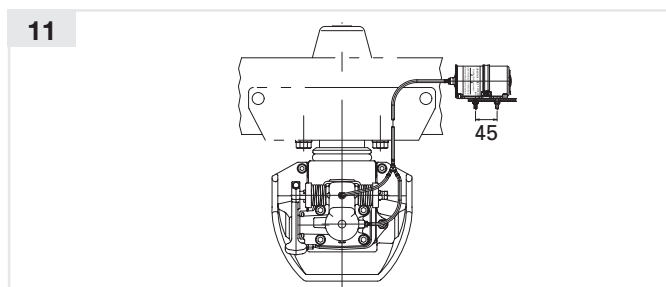
ROE	
ROE 70935	bis / up to / jusqu'à / fino a / hasta RO 500xxx3, RO 530xxxC, RO 560xxxC
ROE 71547*	ab/from/de/da/de RO 510xxx0, RO 500x66xx0

\* 3 Sensor Lösung inkl. elektronische Fernanzeige (8) • 3 sensor solution including in-cab status indicator (8) • Solution à 3 capteurs, affichage à distance électronique inclu (8) • Soluzione a 3 sensori con segnalatore elettronico (8) • Solución de 3 sensores incl. teleindicación eléctrica (8)



LubeTronic AK1 mit einer Schmierstelle • LubeTronic AK1 with one lubricating point • LubeTronic AK1 avec un point de graissage • LubeTronic AK1 con un punto di lubrificazione • LubeTronic AK1 con un punto de engrase

ROE	
ROE 71624-1	für / for / pour / per / para RO 400, RO 410, RO 413, RO 430, RO 500, RO 510, RO 530, RO 560, RO 590, RO 50E, RO 50



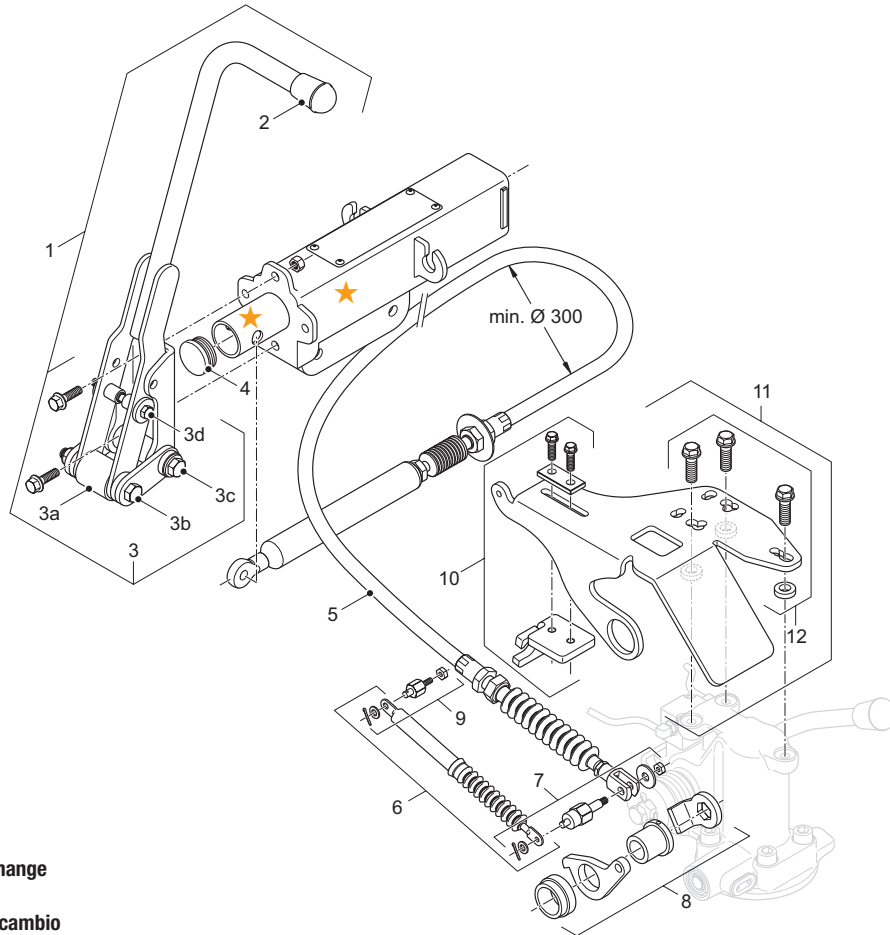
LubeTronic AK2 mit zwei Schmierstellen • LubeTronic AK2 with two lubricating points • LubeTronic AK2 avec deux points de graissage • LubeTronic AK2 con due punti di lubrificazione • LubeTronic AK2 con dos puntos de engrase

ROE	
ROE 71624-2	für / for / pour / per / para RO 570, RO 576

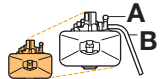

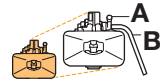



# Aufrüstsatz mechanische Fernbetätigung • Upgrade kit mechanical remote control • pièce de conversion de la commande mécanique à distance • Kit complementare azionamento a distanza meccanico • Teleaccionamiento mecánico del juego de reequipamiento (ROE 71599FA...)

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio

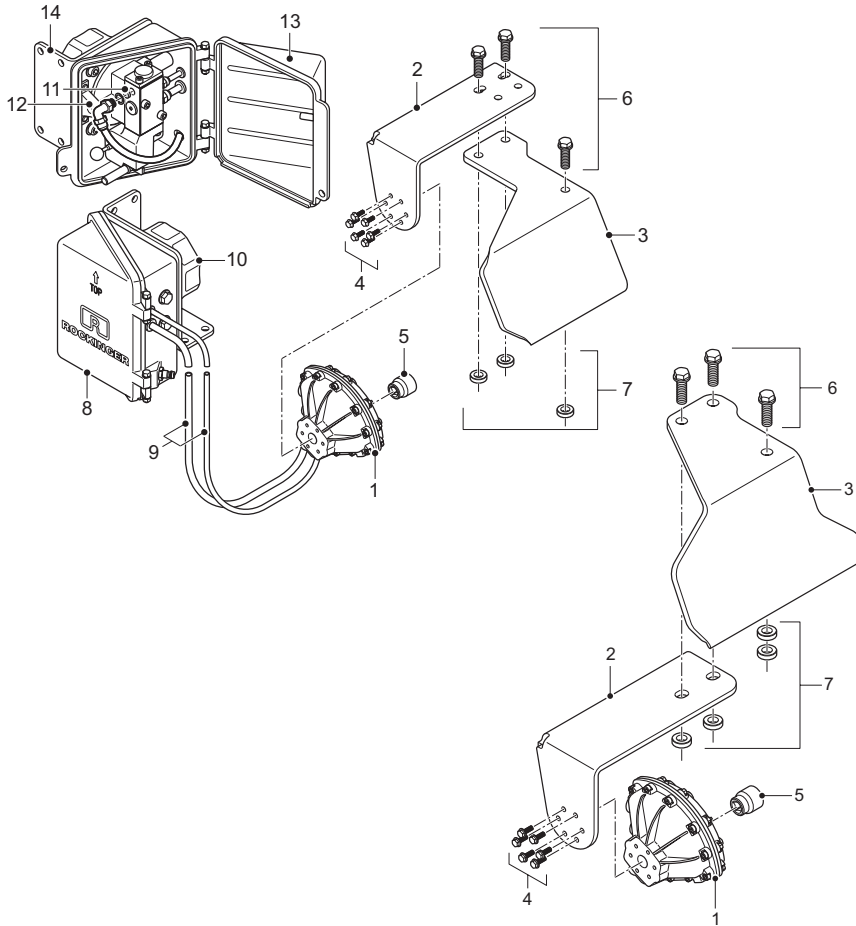


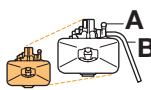

★ kein Ersatzteil  
no spare part  
non pièce de rechange  
no ricambio  
no es pieza de recambio

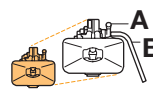

Pos		ROE		Pos		ROE	
01		ROE 71419	1	05		ROE 71563	1
02		ROE 25104	1	06		ROE 90401	1
03		ROE 51212	1	07		ROE 52567	1
03a		-	1	08		ROE 51218	1
03b		-	1	09		ROE 52573	1
03c		-	1	10		ROE 59452	1
03d		-	1	11		ROE 59451FA5	1
04		ROE 25536	1	12		ROE 71609	1

# Aufrüstsatz pneumatische Fernbetätigung • Upgrade kit pneumatic remote control • pièce de conversion de la commande pneumatique à distance • Kit complementare azionamento a distanza pneumatico • Teleaccionamiento neumático del juego de reequipamiento (ROE 71461 / 71459 / 71645 / 71594)

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio

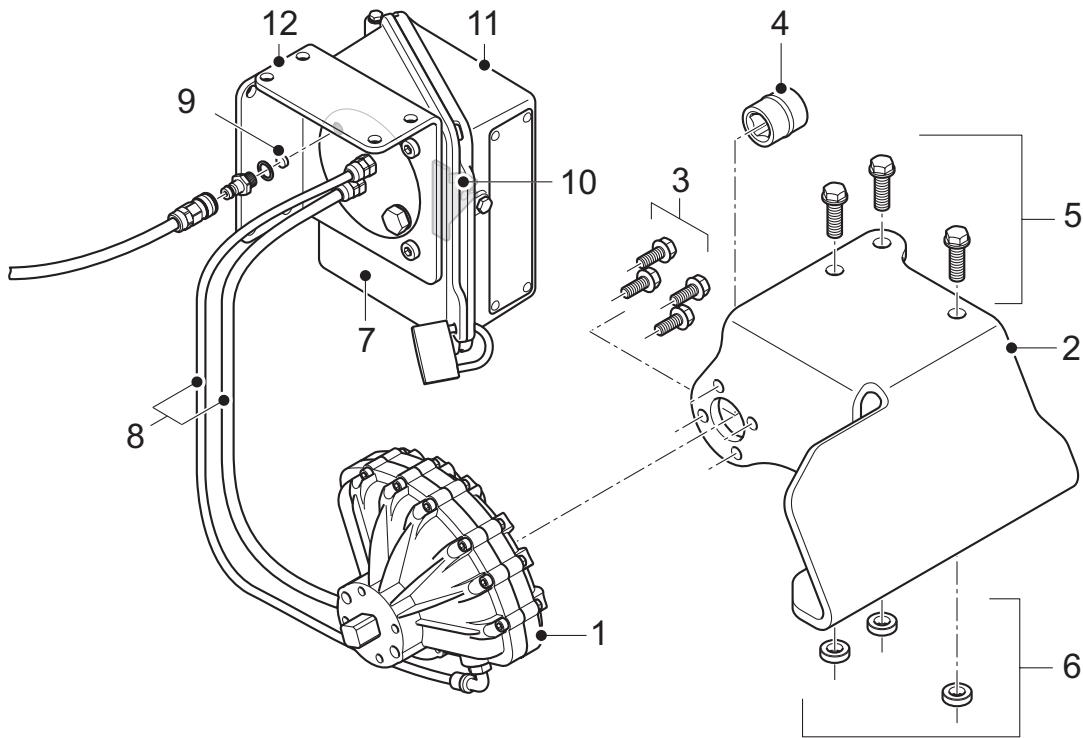


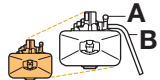

Pos		ROE	
01		ROE 71653	1
02		ROE 15746	1
02	RO 590	ROE 15750	1
03	RO 590	ROE 15749	1
03		ROE 15759	1
04		ROE 30479	1
05		ROE 65770	1
06	RO 590	ROE 30476	1
06		ROE 30426	1
07	410/413	ROE 53636	1

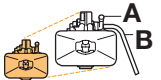

Pos		ROE	
07	400/430	ROE 53633	1
07		ROE 53599	1
08		ROE 71420	1
09		ROE 25514	1
10		ROE 90376	1
11		ROE 90379	1
12		ROE 65753	1
13		ROE 76002	1
14		ROE 65752	1

# Aufrüstsatz pneumatischen Fernbetätigung • Upgrade kit pneumatic remote control • pièce de conversion de la commande pneumatique à distance • Kit complementare azionamento a distanza pneumatico • Teleaccionamiento neumático del juego de reequipamiento (ROE 71677)

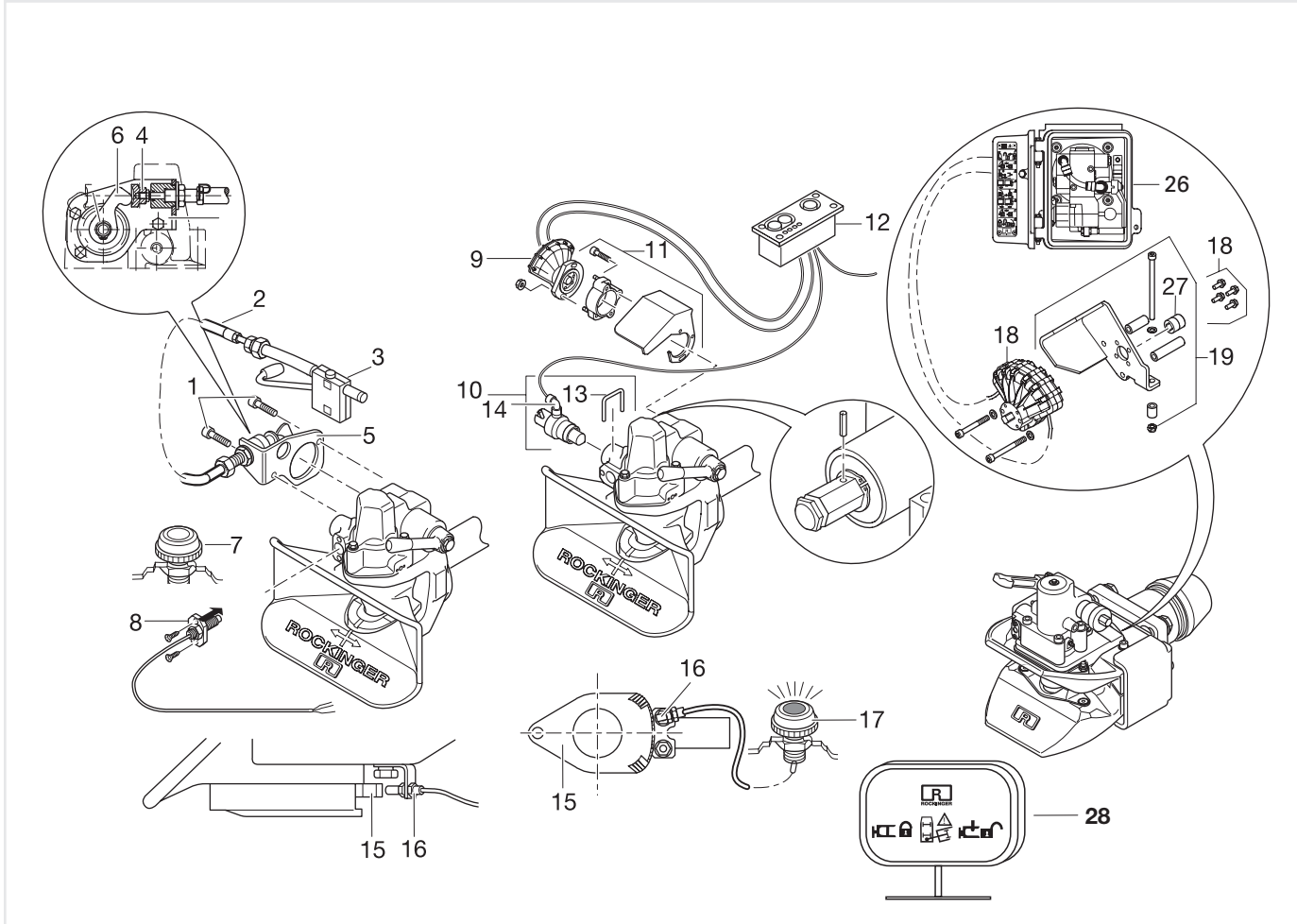
Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio





Pos		ROE	
01	RO 570, RO 576	ROE 71653	1
01	RO 50, RO 500 665	ROE 71273	1
02		ROE 15747	1
03		ROE 30479	1
04		ROE 65726	1
05		ROE 30426	1
06		ROE 53599	1
07	RO 570, RO 576, RO 50	ROE 71541	1

Pos		ROE	
08		ROE 25514	1
09		ROE 90379	1
10		ROE 65753	1
11		ROE 76002	1
12		ROE 65752	1

Ersatzteile • Spare parts • Pièces de rechange • Ricambi • Piezas de recambio



Pos	ROE	
<b>70962</b>		
01	ROE 70728	1
02	ROE 57323	1
05	ROE 70984	1
06	ROE 70830	1
<b>70936</b>		
07	ROE 90292	1
08	ROE 70986	1
<b>70844</b>		
09	ROE 71076	1
10	ROE 71077	1
11	ROE 71078	1
12	ROE 90299	1
13	ROE 35070	1
14	ROE 90353	1







Pos	ROE	
<b>70935</b>		
15	ROE 70982	1
16	ROE 70983	1
17	ROE 90293	1
<b>71167</b>		
18	ROE 71264	1
19	ROE 71254	1
26	ROE 71420 *	1
26	ROE 71541 **	1
27	ROE 65726	1
<b>71676</b>		
01	ROE 30426	1
02	ROE 57323	1
05	ROE 65787	1
06	ROE 15768	1
<b>71546</b>		
28	ROE 90405	1

\* RO 500

\*\* RO 57, RO 57 flex

# Schraubensätze • Screw sets • Kits de vis • Kit di viti • Juegos de tornillos

- DE** Schraubensätze für die Befestigung der Kupplung an der Traverse  
**EN** Screw sets for the fastening of the hitch on the crossbar  
**FR** Kits de vis pour fixation du crochet d'attelage sur la traverse  
**IT** Kit di viti per il fissaggio del gancio sulla traversa  
**ES** Juegos de tornillos para la fijación del enganche al travesaño

			 K (mm)	 K (max. mm)	 (Nm)	<b>ROE</b>
225G110	M 14	8.8	22	22	135	ROE 58094
227G110	M 10	8.8	11-15	11-15	49	ROE 57126
231A0553	M 12	8.8	17	17	85	ROE 70949
231A1153	M 10	8.8	20	20	49	ROE 70923
232A04	M 12	10.9	24	24	125	ROE 70879
232A0453	M 12	8.8	24	24	85	ROE 70873
232A0653	M 12	8.8	18	18	85	ROE 70874
232A11	M 10	10.9	27	27	72	ROE 70878
232A1153	M 10	8.8	27	27	49	ROE 70875
240B04	M 12	10.9	24	24	125	ROE 70879
240B0453	M 12	8.8	24	24	85	ROE 70873
240B06	M 12	10.9	18	18	125	ROE 70880
240B0653	M 12	8.8	18	18	85	ROE 70874
240B11	M 10	10.9	27	27	72	ROE 70878
240B1153	M 10	8.8	27	27	49	ROE 70875
245	M 16	8.8	26	26	210	ROE 58096
253B04	M 12	10.9	24	24	125	ROE 70879
253B0453	M 12	8.8	24	24	85	ROE 70873
253B06	M 12	10.9	18	18	125	ROE 70880
253B0653	M 12	8.8	18	18	85	ROE 70874
253B11	M 10	10.9	27	27	72	ROE 70878
253B1153	M 10	8.8	27	27	49	ROE 70875
256A11 / B11	M 10	10.9	20	20	72	ROE 57237
256A35 / B35	M 14	10.9	20	20	135	ROE 58094
260G135	M 14	8.8	20	20	135	ROE 58094
260G145	M 16	8.8	28	28	210	ROE 58096
260G150	M 20	8.8	28	28	410	ROE 58097
263G135	M 14	8.8	20	20	135	ROE 58094
263G140	M 16	8.8	28	28	210	ROE 58096
263G150	M 20	8.8	28	28	410	ROE 58097
283A35	M 14	8.8	20	20	135	ROE 58094
283A45	M 16	8.8	28	28	210	ROE 70952
283A50	M 20	8.8	28	28	410	ROE 70509
39U135	M 14	8.8	22	22	135	ROE 58094
39U140	M 16	8.8	24	24	210	ROE 58096
39U150	M 20	8.8	19	19	410	ROE 58097
400G135	M 14	8.8	11-32	32	135	ROE 70970
400G145	M 16	8.8	11-35	35	210	ROE 70952
400G150	M 20	8.8	11-35	35	410	ROE 70971
42G235	M 14	8.8	20	20	135	ROE 58094
42G240	M 16	8.8	28	28	210	ROE 58096
42G250	M 20	8.8	28	28	410	ROE 58097
430G145	M 16	8.8	11-28	28	210	ROE 70251
430G150	M 20	8.8	11-28	28	410	ROE 70252
433G145	M 16	8.8	11-28	28	210	ROE 70251
433G150	M 20	8.8	11-28	28	410	ROE 70252
460U135	M 14	8.8	18	18	135	ROE 70970
460U145	M 16	8.8	33	33	210	ROE 70952
460U150	M 20	8.8	28	28	410	ROE 70971
500G3	M 14	8.8	11-32	32	135	ROE 70970
500G4	M 16	8.8	11-35	35	210	ROE 70952
500G5	M 20	8.8	11-35	35	410	ROE 70509
500G61	M 20	8.8	11-32	32	410	ROE 70509
500G62	M 20	8.8	11-35	35	410	ROE 70509
500G65/570	M 20	10.9	28-35	35	580	ROE 71122
530G6	M 20	8.8	11-28	28	410	ROE 70252
56 E	M 16	10.9	30	30	330	ROE 56116-10
700G61	M 20	8.8	22-28	28	410	ROE 58097
700G62	M 20	8.8	28-35	35	410	ROE 58097



## DE Berechnung Auswahl von Kupplung und Zugöse

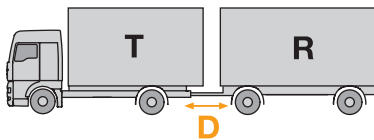
### Größe von Kupplung und Zugöse

- Lochbild in der Traverse des Zugfahrzeuges
- Lochbild des Kupplungsflansches
- Bolzengröße der Kupplung

### Kenngößen

- Kenngößen der Kupplung
- Kenngößen von Zugfahrzeug und Anhänger (siehe Fahrzeugschein)
- Kenngößen der Zugöse

#### Zugfahrzeug und Gelenkdeichselanhänger: Der D-Wert



- Theoretische Deichselkraft zwischen Zugfahrzeug und Anhänger, rechnerischer Vergleichswert von Kräften zwischen sich bewegenden Massen
- Der D-Wert läßt sich nur aus dem zulässigen Gesamtgewicht **beider** Größen ermitteln (Zugfahrzeug und Gelenkdeichselanhänger).
- Berechnung des D-Wertes (kN):

$$D \text{ (kN)} = g \cdot \frac{T \cdot R}{T + R}$$

T : Gesamtgewicht des Zugfahrzeuges in t  
R : Gesamtgewicht des Gelenkdeichselanhängers in t  
g : Erdbeschleunigung 9,81 m/s<sup>2</sup>

Der errechnete D-Wert darf **gleich** oder **kleiner** als der D-Wert von Kupplung bzw. Zugöse sein.

Bei zulässiger Verwendung der Kupplung am Anhänger:

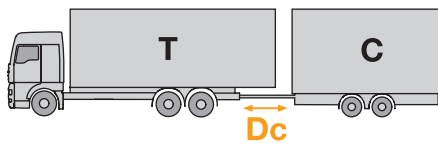
$$D \text{ (kN)} = g \cdot \frac{R_1 \cdot R_2}{R_1 + R_2}$$

R<sub>1</sub> : Gesamtgewicht des Anhängers, an den die Kupplung angebaut ist (max. 24 t) R<sub>1</sub> ≥ R<sub>2</sub>

#### Zugfahrzeug und Starrdeichselanhänger: Der Dc-Wert

##### Gilt nur im Zusammenhang mit dem V-Wert

Gilt nur im Zusammenhang mit dem V-Wert



- Theoretische Deichselkraft zwischen Zugfahrzeug und Anhänger, rechnerischer Vergleichswert von Kräften zwischen sich bewegenden Massen

- Der Dc-Wert läßt sich nur aus dem zulässigen Gesamtgewicht beider Größen ermitteln (Zugfahrzeug und Starrdeichselanhänger).
- Berechnung des Dc-Wertes (kN)

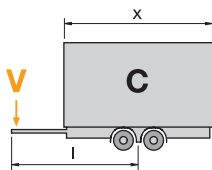
$$Dc \text{ (kN)} = g \cdot \frac{T \cdot C}{T + C}$$

T : Gesamtgewicht des Zugfahrzeuges in t  
C : Summe der Achslasten des Starrdeichselanhängers in t  
g : Erdbeschleunigung 9,81 m/s<sup>2</sup>

Der errechnete Dc-Wert darf **gleich** oder **kleiner** als der Dc-Wert von Kupplung bzw. Zugöse sein.

#### Starrdeichselanhänger: Der V-Wert

Gilt nur im Zusammenhang mit dem Dc-Wert



- Vertikale Belastung durch den Starrdeichselanhänger
- Abhängig von der Hinterachsfederung des Zugfahrzeuges
- Berechnung des V-Wertes (kN):

$$V \text{ (kN)} = a \cdot \frac{x^2}{l^2} \cdot C$$

a : Vergleichsbeschleunigung im Kuppelpunkt in m/s<sup>2</sup>  
a = 1,8 bei Fahrzeug mit Luft-Hinterachsfederung  
a = 2,4 bei Fahrzeug mit anderer Federung  
l : Theoretische Zugdeichsellänge in m  
x : Länge der Ladefläche in m  
x<sup>2</sup>/l<sup>2</sup> : mindestens 1,0

C : Summe der Achslasten des Starrdeichselanhängers in t

Der errechnete V-Wert darf **gleich** oder **kleiner** als der V-Wert von Kupplung bzw. Zugöse sein.

#### Starrdeichselanhänger: Die statische Stützlast S

Gilt nur im Zusammenhang mit dem V-Wert

- Vertikale Belastung durch den Starrdeichselanhänger am Kuppelpunkt
- Die maximal mögliche statische Stützlast hängt von der

Kupplungsgröße ab und beträgt 10 % der Gesamtmasse des Anhängers oder 1.000 kg (es gilt der kleinere Wert). Höhere Werte sind möglich.

- Die statische Stützlast sollte mindestens 4 % des Anhängergewichts betragen, um schädliche Negativstützlast zu vermeiden.

## EN Calculation Choice of hitch and towing eye

### Hitch and towing eye size

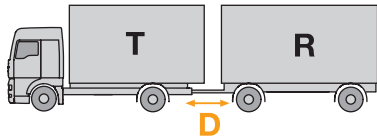
- Hole pattern in the crossbar of the towing vehicle
- Hole pattern in the hitch flange
- Pin size of the hitch

### Characteristic values

- Values of the hitch
- Values of towing vehicle and trailer (see vehicle registration certificate)
- Values of the towing eye

#### Truck and trailer:

##### D-value



- Theoretical horizontal force between towing vehicle and trailer
- The D-value can only be calculated with the permissible total weight of **both** truck **and** trailer
- Calculation of the D-value (kN):

$$D \text{ (kN)} = g \cdot \frac{T \cdot R}{T + R}$$

T : total weight of the towing vehicle in t  
R : total weight of the drawbar trailer in t  
g : gravitation acceleration 9,81 m/s<sup>2</sup>

The calculated D-value can be **equal** to or **lower than** the D-value of the hitch and of the towing eye.  
In case of mounting on a trailer is permitted:

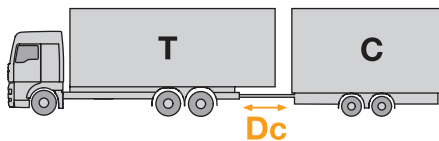
$$D \text{ (kN)} = g \cdot \frac{R_1 \cdot R_2}{R_1 + R_2}$$

R<sub>1</sub> : total weight of trailer where the hitch is mounted (max. 24 t) R<sub>1</sub> ≥ R<sub>2</sub>

#### Towing vehicle and central-axle trailer:

##### Dc-value

Valid only in connection with the V-value



- Theoretical horizontal force between towing vehicle and trailer

- The Dc-value can only be calculated with the permissible total weight of **both** truck **and** trailer
- Calculation of the Dc-value (kN):

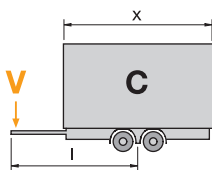
$$Dc \text{ (kN)} = g \cdot \frac{T \cdot C}{T + C}$$

T : total weight of the towing vehicle in t  
C : sum of the axle loads of the central-axle trailer in t  
g : gravitation acceleration 9,81 m/s<sup>2</sup>

The calculated Dc-value can be **equal** to or **lower than** the Dc-value of the hitch and of the towing eye.

#### Central-axle trailer: V-value

Valid only in connection with the Dc-value



- Vertical force for central-axle trailer
- Dependent on the rear axle suspension of the towing vehicle
- Calculation of the V-value (kN):

$$V \text{ (kN)} = a \cdot \frac{x^2}{l^2} \cdot C$$

a : an equivalent vertical acceleration in the hitch point in m/s<sup>2</sup>  
a = 1,8 for vehicles with air suspension  
a = 2,4 for vehicles with other suspensions  
l : theoretical drawbar length in meters  
x : length of the loading area in meters  
x<sup>2</sup>/l<sup>2</sup> : at least 1,0  
C : sum of the axle loads of the central-axle trailer in t

The calculated V-value can be **equal** to or **lower than** the V-value of the hitch and of the towing eye.

#### Central-axle trailer:

##### Static vertical load

Valid only in connection with the V-value

- Vertical load of the central-axle trailer on the hitch point
- The vertical load depends on the size of the hitch and the

maximum is 10 % of the gross weight of the trailer or 1.000 kg (whichever is less).

- When using a central-axle trailer the vertical load should amount to at 4 % of the trailer weight in order to prevent increased wear caused by bouncing of the towing eye.

## FR Calcul / Choix du crochet d'attelage et de l'anneau de remorquage

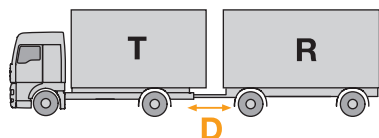
### Dimension du crochet d'attelage et de l'anneau de remorquage

- Schéma de perçage dans la traverse du véhicule tracteur
- Schéma de perçage de la bride d'accouplement
- Dimension des boulons du crochet d'attelage

### Valeurs caractéristiques

- Valeurs caractéristiques du crochet d'attelage
- Valeurs caractéristiques du véhicule tracteur et de la remorque (voir carte grise)
- Valeurs caractéristiques de l'anneau de remorquage

#### Véhicule tracteur et remorque articulée : la valeur D



- Effort théorique à la fourche d'attelage entre le véhicule tracteur et la remorque, valeur comparée théorique des efforts entre les masses mobiles
- La valeur D se détermine uniquement à partir du poids total admissible des **deux** éléments (véhicule tracteur **et** remorque articulée).
- Calcul de la valeur D (kN) :

$$D \text{ (kN)} = g \cdot \frac{T \cdot R}{T + R}$$

T : poids total du véhicule tracteur en t  
R : poids total de la remorque articulée en t  
g : accélération due à la gravité 9,81 m/s<sup>2</sup>

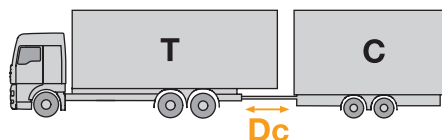
$$D \text{ (kN)} = g \cdot \frac{R_1 \cdot R_2}{R_1 + R_2}$$

La valeur D calculée peut être **égale ou inférieure** à la valeur D du crochet d'attelage ou de l'anneau de remorquage. En cas d'autorisation d'utiliser le crochet d'attelage sur la remorque :

R<sup>1</sup> : poids total de la remorque à laquelle le crochet d'attelage est fixé (maxim. 24 t)  $R_1 \geq R_2$

#### Véhicule tracteur et remorque fixe : la valeur Dc

Valable uniquement en lien avec la valeur V



- Effort théorique à la fourche d'attelage entre le véhicule tracteur et la remorque, valeur comparée théorique des efforts entre les masses mobiles

- La valeur Dc se détermine uniquement à partir du poids total admissible des **deux** éléments (véhicule tracteur et remorque fixe).
- Calcul de la valeur Dc (kN) :

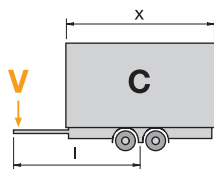
$$Dc \text{ (kN)} = g \cdot \frac{T \cdot C}{T + C}$$

T : poids total du véhicule tracteur en t  
C : somme des charges de l'essieu de la remorque fixe en t  
g : accélération due à la gravité 9,81 m/s<sup>2</sup>

La valeur Dc calculée peut être **égale ou inférieure** à la valeur Dc du crochet d'attelage ou de l'anneau de remorquage.

#### Remorque fixe : La valeur V

Valable uniquement en lien avec la valeur Dc



- Charge verticale due à la remorque à fourche d'attelage fixe
- Dépend de la suspension de l'essieu arrière du véhicule tracteur
- Calcul de la valeur V (kN) :

$$V \text{ (kN)} = a \cdot \frac{x^2}{l^2} \cdot C$$

a : accélération de référence au point d'attelage en m/s<sup>2</sup>  
a = 1,8 sur un véhicule à ressorts pneumatique sur l'essieu arrière  
a = 2,4 sur un véhicule à ressorts autre  
l : longueur théorique de la fourche d'attelage de remorque en m  
x : longueur de la surface de chargement en m  
 $x^2/l^2$  : au moins 1,0  
C : somme des charges de l'essieu de la remorque fixe en t

La valeur V calculée peut être **égale ou inférieure** à la valeur V du crochet d'attelage ou de l'anneau de remorquage.

#### Remorque fixe : La charge statique de timon S

Valable uniquement en lien avec la valeur V

- Charge verticale due à la remorque fixe au point d'attelage
- La charge statique de timon maximale possible dépend de la dimension du crochet d'attelage et se monte à 10 % de la

- masse totale de la remorque ou à 1.000 kg (plus petite des deux valeurs). Des valeurs plus importantes sont possibles.
- La charge statique de timon devrait être d'au moins 4 % du poids de la remorque pour éviter une charge statique de timon négative dommageable.



## IT Calcolo Scelta del gancio e dell'occhione

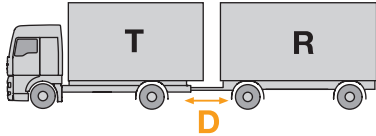
### Dimensioni del gancio e dell'occhione

- Interasse dei fori di fissaggio sulla traversa della motrice
- Interasse dei fori di fissaggio della flangia del gancio di traino
- Dimensioni del perno del gancio

### Parametri

- Parametri tecnici del gancio
- Parametri tecnici della motrice e del rimorchio (vedi libretto di circolazione)
- Parametri tecnici dell'occhione di traino

#### Motrice e rimorchio con timone snodato: valore D



- Indice di calcolo comparativo riferito alla forza teorica del timone che si sviluppa tra motrice e rimorchio, quindi fra masse in movimento
- Il valore D è calcolabile soltanto in riferimento al peso totale ammesso di **entrambe** le unità: motrice e rimorchio con timone snodato.
- Calcolo del valore D in (kN):

$$D \text{ (kN)} = g \cdot \frac{T \cdot R}{T + R}$$

T : peso totale massimo ammesso della motrice in t

R : peso totale massimo in t ammesso del rimorchio con timone snodato

g : accelerazione di gravità 9,81 m/s<sup>2</sup>

Il valore D ottenuto può essere **uguale o inferiore** al valore D riferito al gancio di traino e all'occhione.

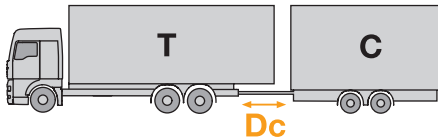
Per impieghi del gancio di traino ammessi al rimorchio:

$$D \text{ (kN)} = g \cdot \frac{R_1 \cdot R_2}{R_1 + R_2}$$

R<sub>1</sub> : peso totale del rimorchio sul quale è applicato il gancio di traino (max. 24 t) R<sub>1</sub> ≥ R<sub>2</sub>

#### Motrice con rimorchio a timone rigido: valore Dc

valido solo abbinato al valore V



- Indice di calcolo comparativo riferito alla forza teorica del timone che si sviluppa tra motrice e rimorchio, quindi fra masse in movimento

- Il valore Dc è calcolabile soltanto in riferimento al peso totale ammesso di **entrambe** le unità: motrice e rimorchio con timone rigido.
- Calcolo del valore Dc in (kN):

$$Dc \text{ (kN)} = g \cdot \frac{T \cdot C}{T + C}$$

T : peso totale massimo ammesso della motrice in t

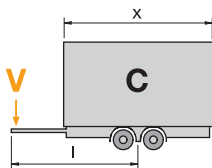
C : somma dei carichi assiali del rimorchio con timone rigido in t

g : accelerazione di gravità 9,81 m/s<sup>2</sup>

Il valore Dc ottenuto può essere **uguale o inferiore** al valore Dc riferito al gancio di traino e all'occhione.

#### Rimorchio a timone rigido: valore V

valido solo abbinato al valore Dc



- Carico verticale determinato dal rimorchio a timone rigido
- Dipendente dalla sospensione posteriore della motrice
- Calcolo del valore V in (kN):

$$V \text{ (kN)} = a \cdot \frac{x^2 \cdot C}{l^2}$$

a : accelerazione comparativa nel punto di aggancio in m/s<sup>2</sup>

a = 1,8 per veicoli con sospensioni posteriori pneumatiche

a = 2,4 per veicoli con altro tipo di sospensioni

l : lunghezza teorica del timone di traino in m

x : lunghezza della superficie di carico in m x<sup>2</sup>/l<sup>2</sup>: almeno 1,0

C : somma dei carichi assiali del rimorchio con timone rigido in t

Il valore V ottenuto può essere **uguale o inferiore** al valore V riferito al gancio di traino e all'occhione.

#### Rimorchio a timone rigido: carico statico S

valido solo abbinato al valore V

- Carico verticale statico che il rimorchio trasmette sul punto di aggancio
- Il carico verticale statico massimo possibile dipende dalla dimensione del gancio di traino e corrisponde al 10 % del

carico complessivo del rimorchio, fino ad un max di 1.000 kg (è valido il valore inferiore). Per alcuni ganci di traino sono possibili valori superiori.

- Per evitare carichi verticali negativi, che potrebbero risultare dannosi, il carico statico dovrebbe raggiungere almeno il 4 % del peso del rimorchio.



## ES Cálculo Selección de enganche y punta de lanza

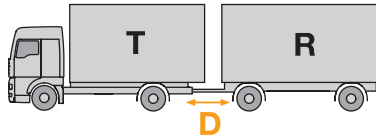
### Tamaño de enganche y punta de lanza

- Disposición de agujeros en el travesaño del vehículo tractor
- placa de enganchebrida de acoplamiento
- Tamaño de bulón del enganche

### Valores característicos

- Valores característicos del enganche
- Valores característicos del vehículo tractor y el remolque (véase el permiso de circulación)
- Valores característicos de la punta de lanza

#### Vehículo tractor y remolque de barra de tracción articulada: El Valor D



- Fuerza teórica sobre la lanza entre el vehículo tractor y el remolque, valor comparativo calculado de las fuerzas entre las masas en movimiento
- El valor D sólo se puede determinar a partir del peso máximo admisible de **ambos** valores vehículos (tractor y remolque con corona giratoria delantera).
- Cálculo del valor D (kN):

$$D \text{ (kN)} = g \cdot \frac{T \cdot R}{T + R}$$

- T : peso máximo del vehículo tractor en t
- R : peso máximo del remolque con corona giratoria delantera en t
- g : aceleración de la gravedad 9,81 m/s<sup>2</sup>

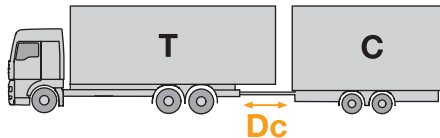
El valor D calculado puede ser **igual o menor** que el valor D del enganche o la punta de lanza. En caso de utilización admisible del enganche en el remolque:

$$D \text{ (kN)} = g \cdot \frac{R_1 \cdot R_2}{R_1 + R_2}$$

- R<sub>1</sub> : peso máximo del remolque en el que está montado el enganche (máx. 24 t) R<sub>1</sub> ≥ R<sub>2</sub>

#### Vehículo tractor y remolque de ejes centrales: El Valor Dc

sólo es válido en relación con el valor V



- Fuerza teórica sobre la lanza entre el vehículo tractor y el remolque, valor comparativo calculado de las fuerzas entre las masas en movimiento

- El valor Dc sólo se puede determinar a partir del peso máximo admisible de **ambos** valores vehículos (tractor y remolque de ejes centrales).
- Cálculo del valor Dc (kN):

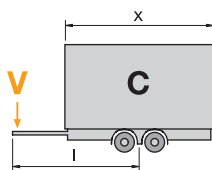
$$Dc \text{ (kN)} = g \cdot \frac{T \cdot C}{T + C}$$

- T : peso máximo del vehículo tractor en t
- C : suma de las cargas de los ejes del remolque de ejes centrales en t
- g : aceleración de la gravedad 9,81 m/s<sup>2</sup>

El valor Dc calculado puede ser **igual o menor** que el valor Dc del enganche o la punta de lanza.

#### Remolque de ejes centrales: El Valor V

sólo es válido en relación con el valor Dc



- Carga vertical ejercida por el remolque de ejes centrales fija
- En función de la suspensión del eje trasero del vehículo tractor
- Cálculo del valor V (kN):

$$V \text{ (kN)} = a \cdot \frac{x^2}{l^2} \cdot C$$

- a : aceleración de comparación en el punto de acoplamiento en m/s<sup>2</sup>
- a = 1,8 en vehículo con suspensión neumática del eje trasero
- a = 2,4 en vehículo con otra suspensión
- l : longitud teórica de la barra de tracción en m
- x : longitud de la superficie de carga en m
- x<sup>2</sup>/l<sup>2</sup> : mínimo 1,0
- C : suma de las cargas de los ejes del remolque de ejes centrales en t

El valor V calculado puede ser **igual o menor** que el valor V del enganche o la punta de lanza.

#### Remolque de ejes centrales: La carga de apoyo estática S

sólo es válido en relación con el valor V

- Carga vertical ejercida por el remolque de ejes centrales en el punto de acoplamiento

- La carga de apoyo estática máxima posible depende del tamaño del enganche y supone un 10 % de la masa total del remolque o 1.000 kg (se aplica el valor menor). Son posibles valores mayores.
- La carga de apoyo estática debería ser al menos el 4 % del peso remolcado para evitar una carga de apoyo negativa perjudicial.



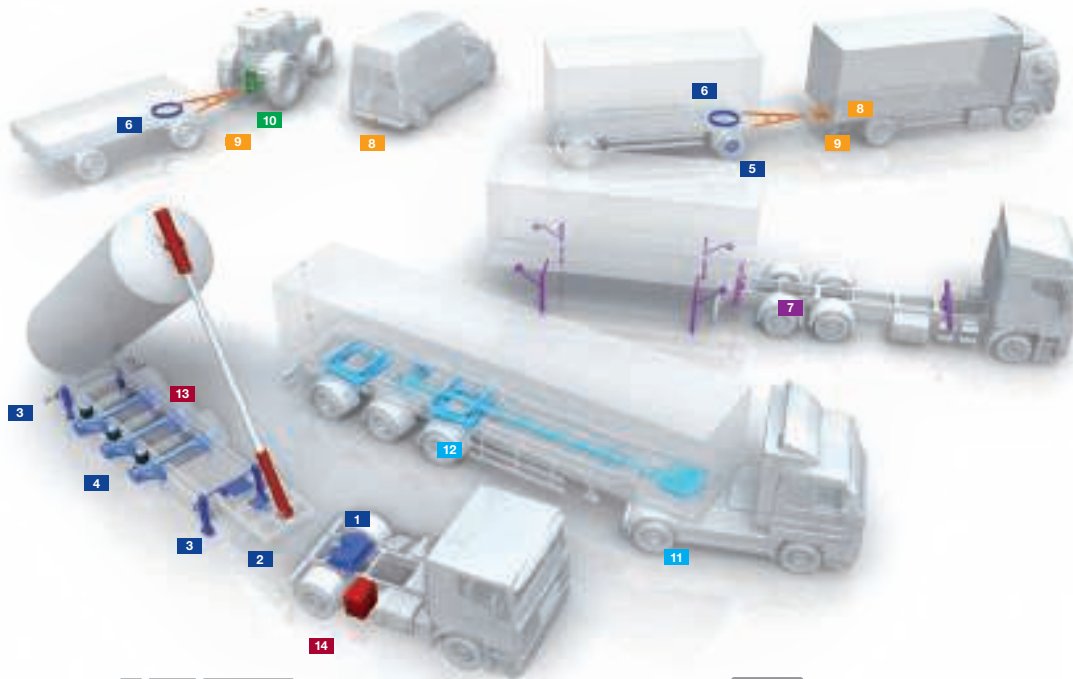
**DE** Für alle aufgeführten Produkte sind **technische Änderungen** vorbehalten.

**EN** We reserve the right to make changes to the **technical specifications** of all the products depicted in this catalogue.

**FR** Tous les produits sont présentés sous réserve de **modifications techniques**.

**IT** Per tutti i prodotti illustrati ci riserviamo il diritto di apportare **modifiche tecniche**.

**ES** Respecto a todos los productos indicados se reservan **modificaciones técnicas**.



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