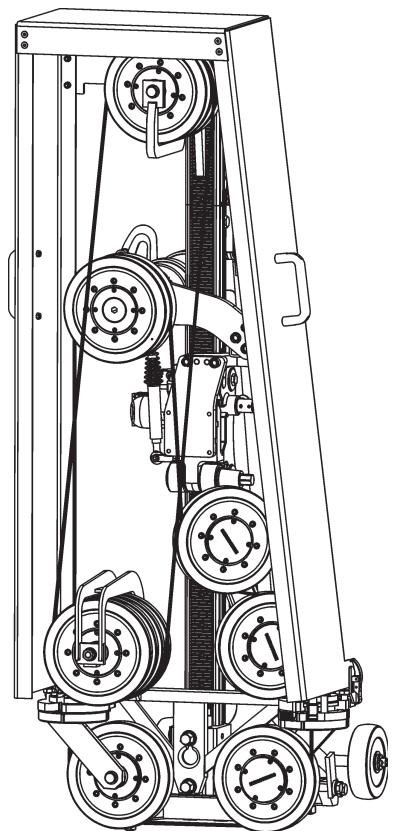


Operating Instructions

Wire saw WCH14P / WCE14P

Index 001



Congratulations!

With a Hydrostress unit from TYROLIT you have chosen a tried and tested piece of equipment designed and built to the highest technical standards. Only genuine TYROLIT Hydrostress replacement parts can guarantee quality and interchangeability. If maintenance work is neglected or carried out inexpertly we will be unable to honour our warranty obligations. Any repair work must be carried out by trained personnel only.

Our after-sales service is available to help ensure that your TYROLIT Hydrostress units remain in perfect working order.

We hope that working with your TYROLIT unit will be a satisfying and fault-free experience.

TYROLIT Hydrostress

Copyright © TYROLIT Hydrostress

TYROLIT Hydrostress AG
Witzbergstrasse 18
CH-8330 Pfäffikon
Switzerland
Tel. 0041 (0) 44 952 18 18
Fax 0041 (0) 44 952 18 00

1 Safety



These instructions are just one part of the documentation which is supplied together with the wire saw. These instructions go together with the "Safety Manual / System Description for Wire Saws" to form a complete set of documentation.



DANGER

Failure to comply with the safety instructions in the "Safety Manual / System Handbook" may result in serious injury or even death.

- ▶ Please ensure that the "Safety Manual / System Description for Wire Saws" has been read and understood in full.



DANGER

Cutting injuries from the diamond wire!

- ▶ Always wear protective gloves when working on the wire saw, particularly when working on the diamond wire.
- ▶ Only operate the wire saw with a guard.



DANGER

Serious injury or material damage as a result of uncontrolled movements of the wire saw!

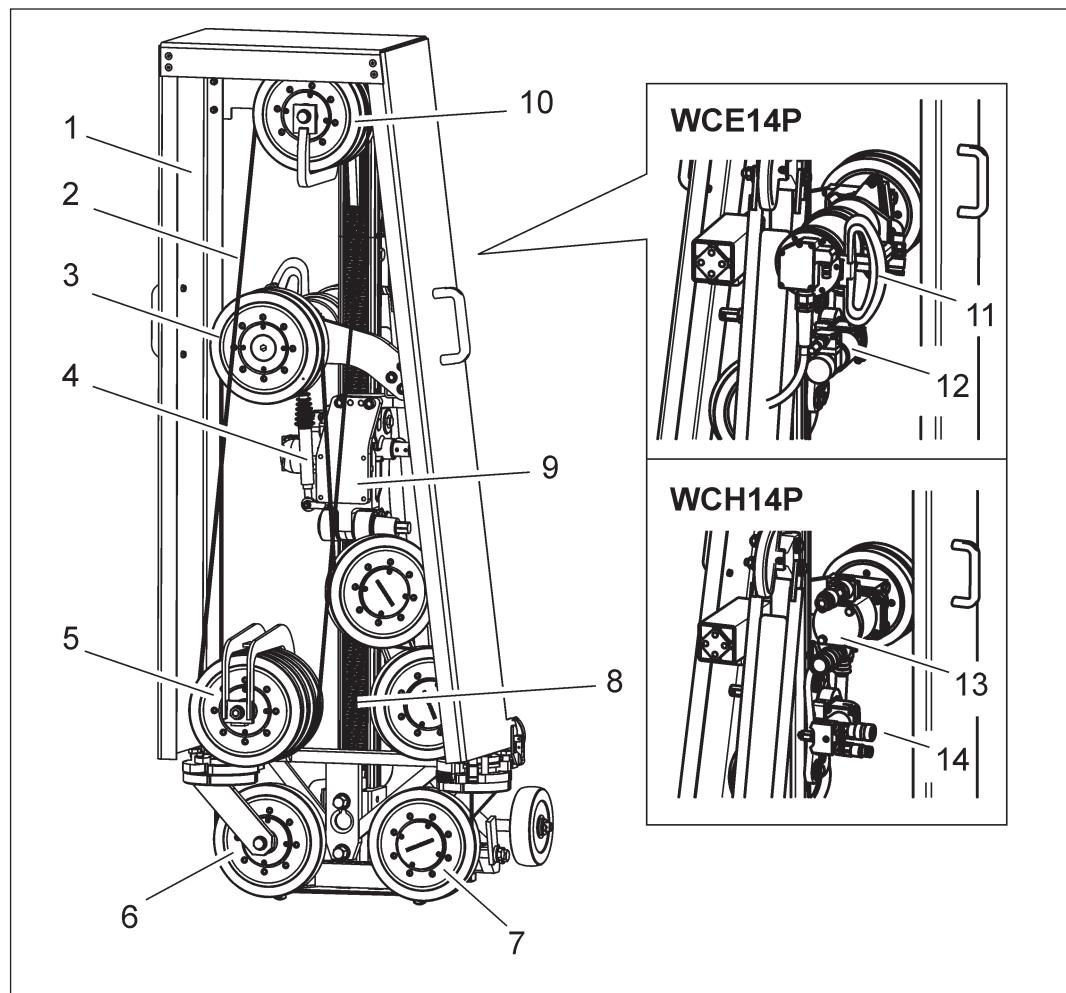
- ▶ Never connect or disconnect hoses or cables while the wire saw is running.

2 Description

2.1 Wire saw system

The functions of the wire saw systems are described in the "Safety Manual / System Description for Wire Saws".

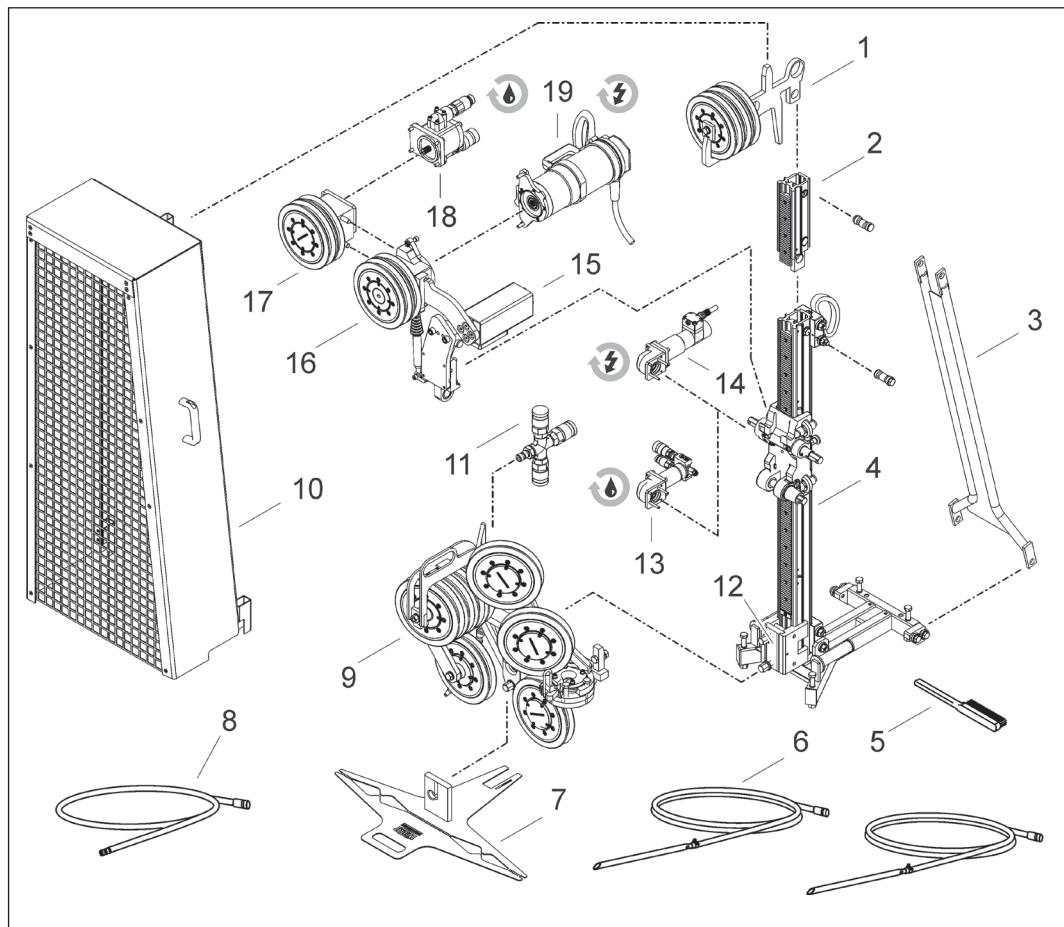
2.2 Wire saw



- | | |
|-------------------------------|----------------------------|
| 1 Diamond wire guard | 10 Storage roll unit |
| 2 Diamond wire | 11 Drive motor ⇒ electric |
| 3 Drive roller unit | 12 Electric ⇒ feed motor |
| 4 Damping element | 13 Drive motor ⇒ hydraulic |
| 5 Diverter roll unit | 14 Feed motor ⇒ hydraulic |
| 6 Swivel roll, slack side | |
| 7 Swivel roll, tensioned side | |
| 8 Core drill rig | |
| 9 Support | |

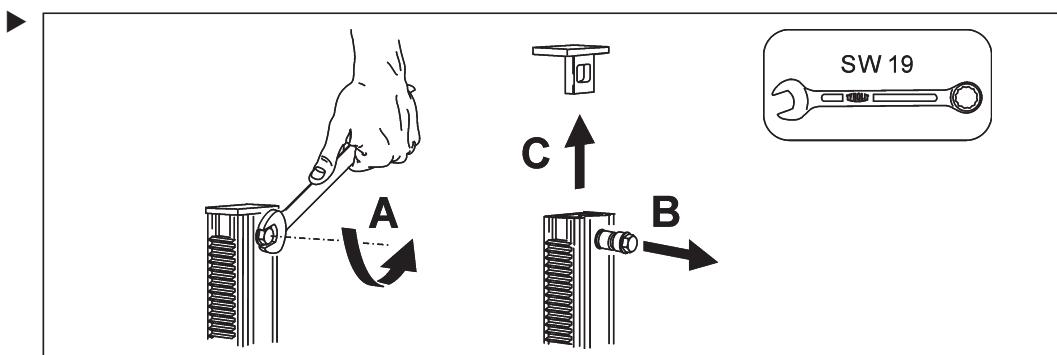
3 Assembly / Disassembly

3.1 Assembly overview

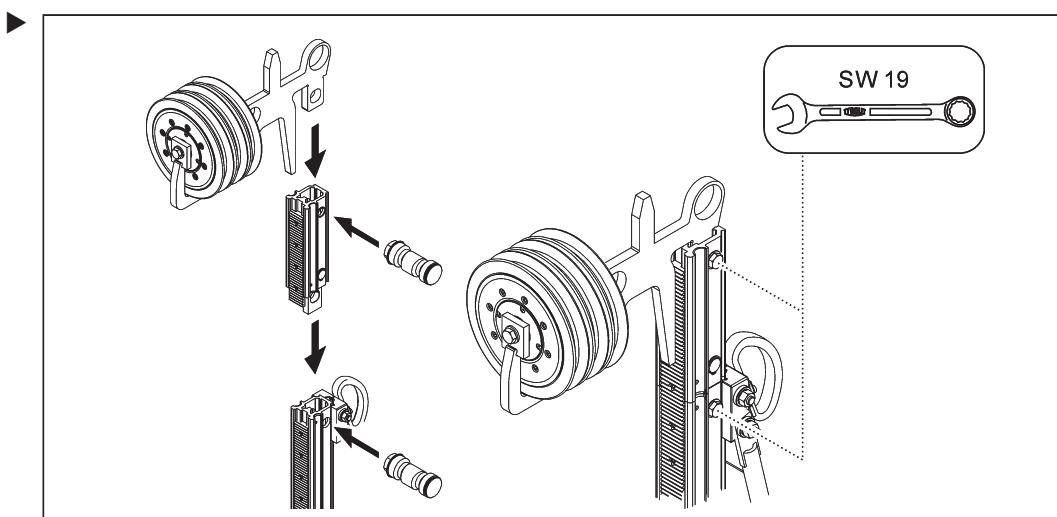


- | | |
|-----------------------|--------------------------------|
| 1 Storage roll unit | 11 Water distribution piece |
| 2 Rail extension | 12 Attachment bracket |
| 3 Support rod unit | 13 Feed motor ⇒ hydraulic |
| 4 Core drill rig | 14 Feed motor ⇒ electric |
| 5 Wire brush | 15 Drive roll unit holder |
| 6 Water lance | 16 Drive roll unit ⇒ electric |
| 7 Cutting gauge | 17 Drive roll unit ⇒ hydraulic |
| 8 Water hose | 18 Drive motor, hydraulic |
| 9 Diverter roll unit | 19 Drive motor, electric |
| 10 Diamond wire guard | |

3.2 Removing the cover



3.3 Fitting the storage roll unit and rail extension



3.4 Replacing the support rod

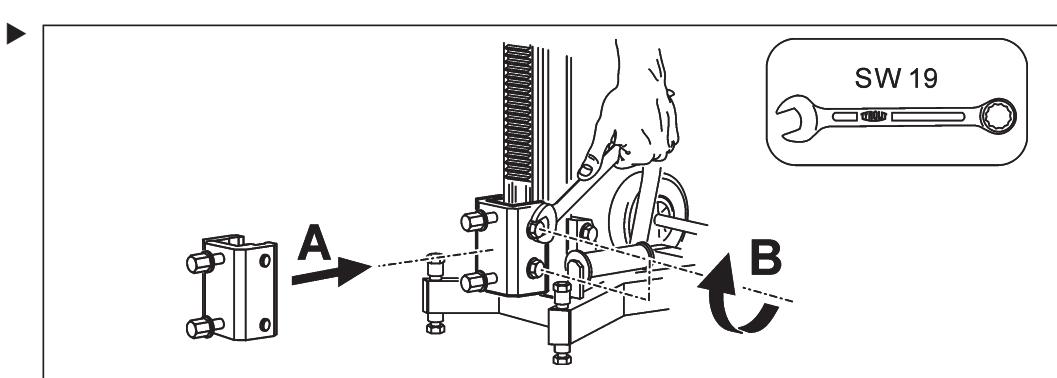


Replace the support rods with the support rod unit (see Assembly Overview 3.1). The support rod unit can also remain mounted on the drill rig for core bore holes.

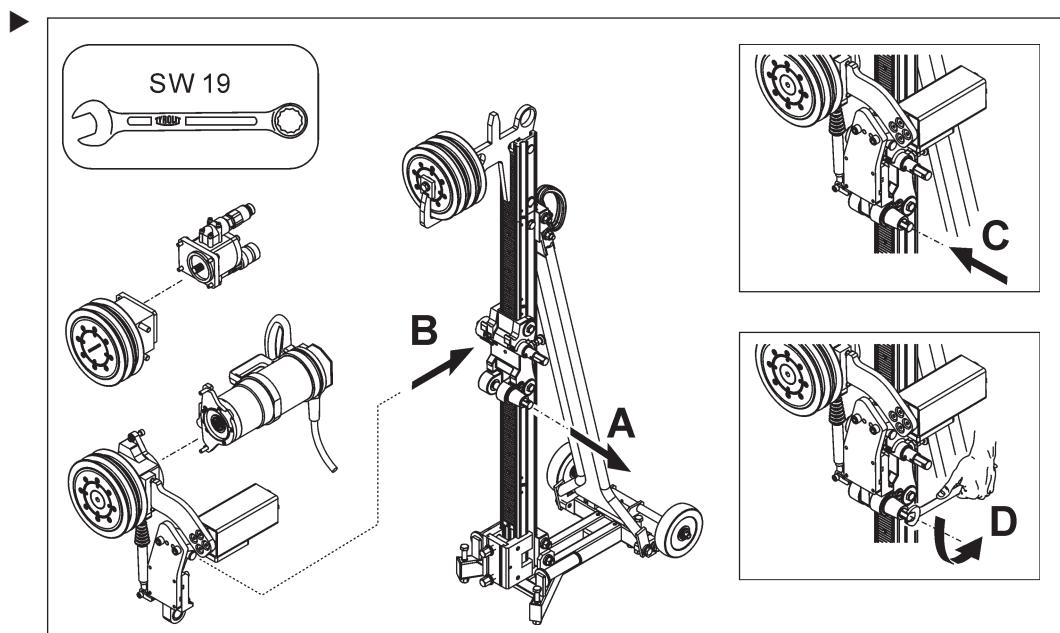
3.5 Fitting the attachment bracket



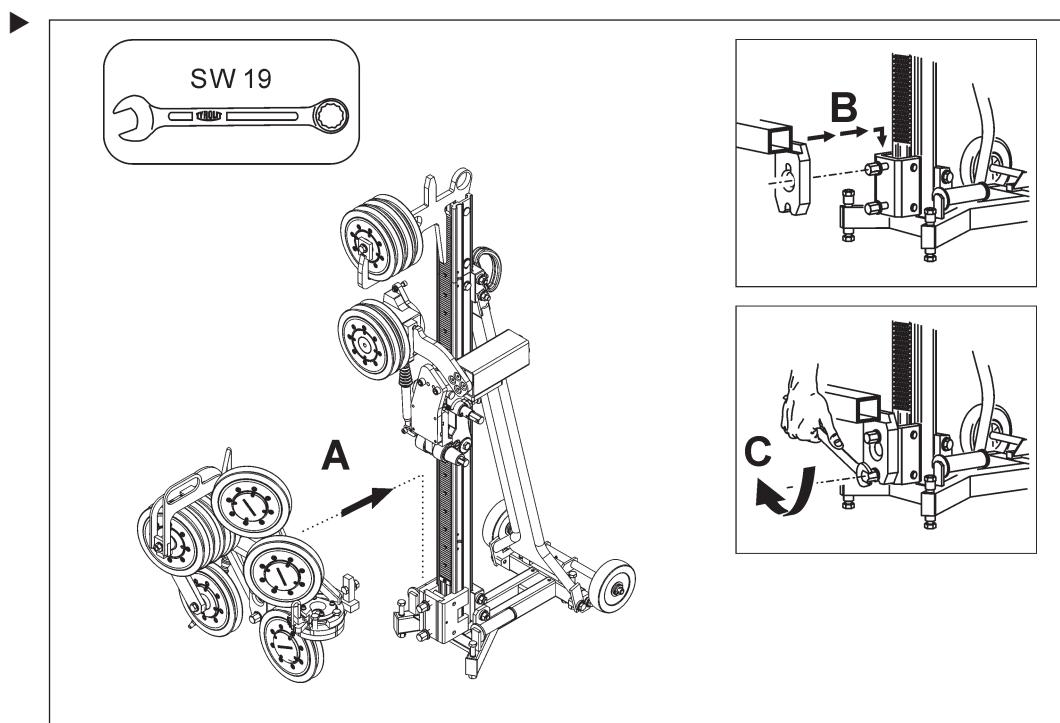
Fit the attachment bracket to the end of the guide rail.



3.6 Fitting the drive roll unit



3.7 Fitting the diverter roll unit



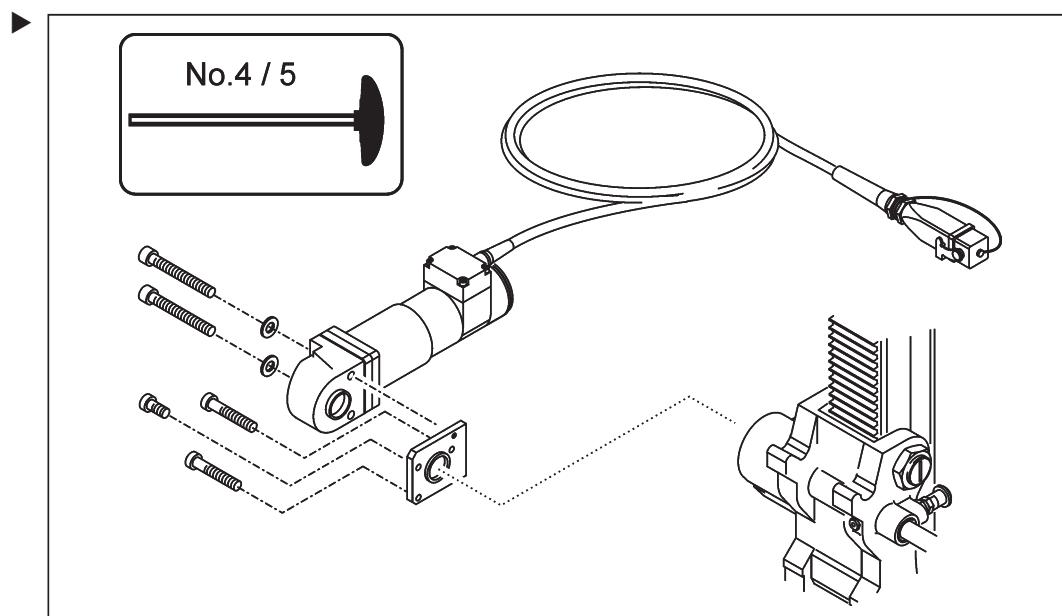
3.8 Fitting the drive motor and feed motor



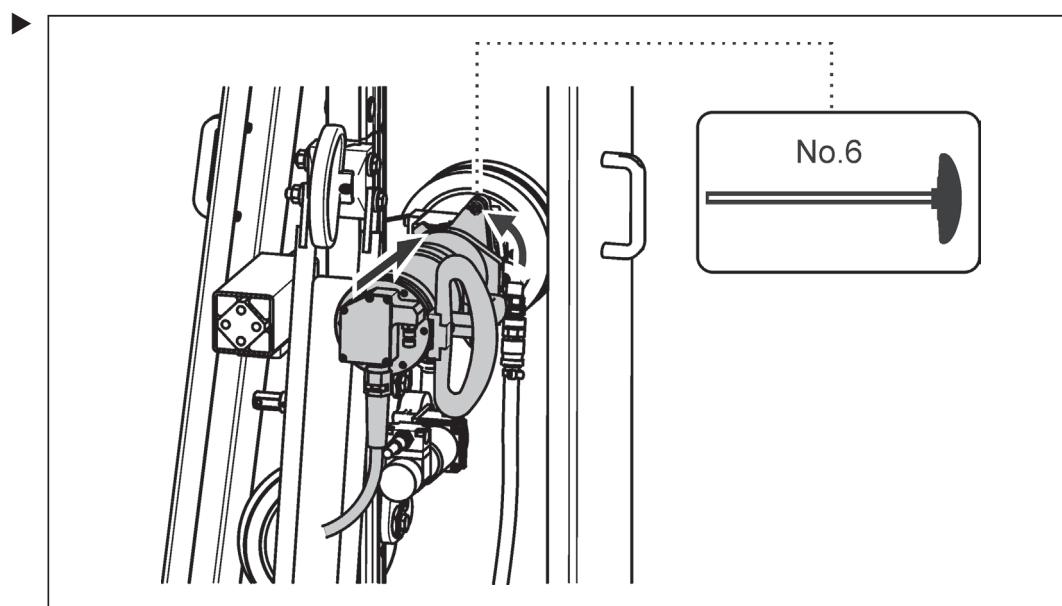
Wire saw WCE14P ⇒ electric version
Wire saw WCH14P ⇒ hydraulic version

Attaching the WSE14P motor

Electric feed motor

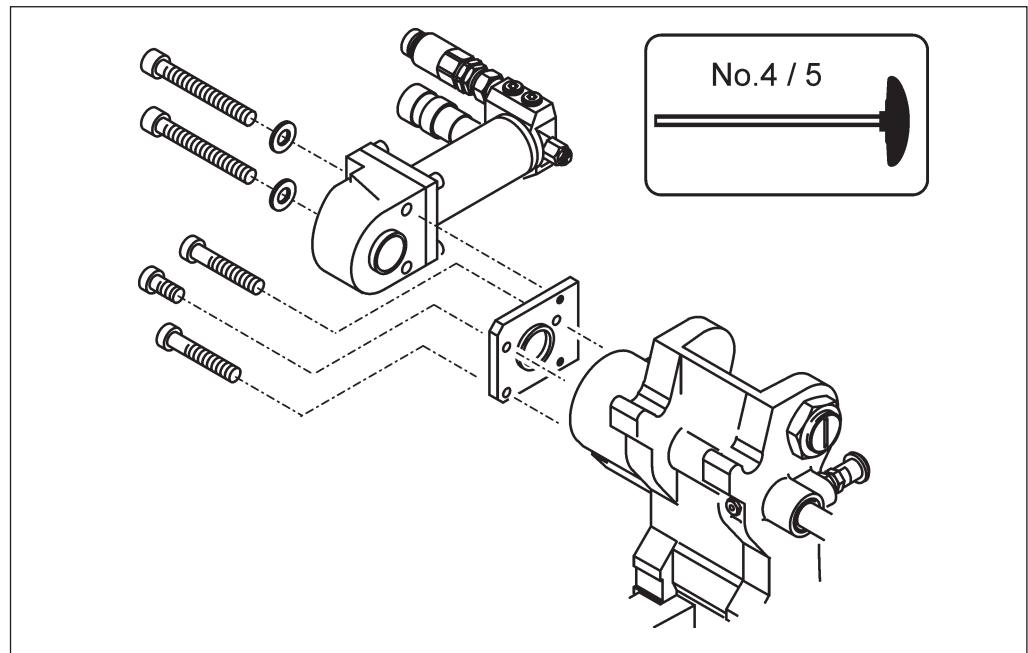


Main motor, electric

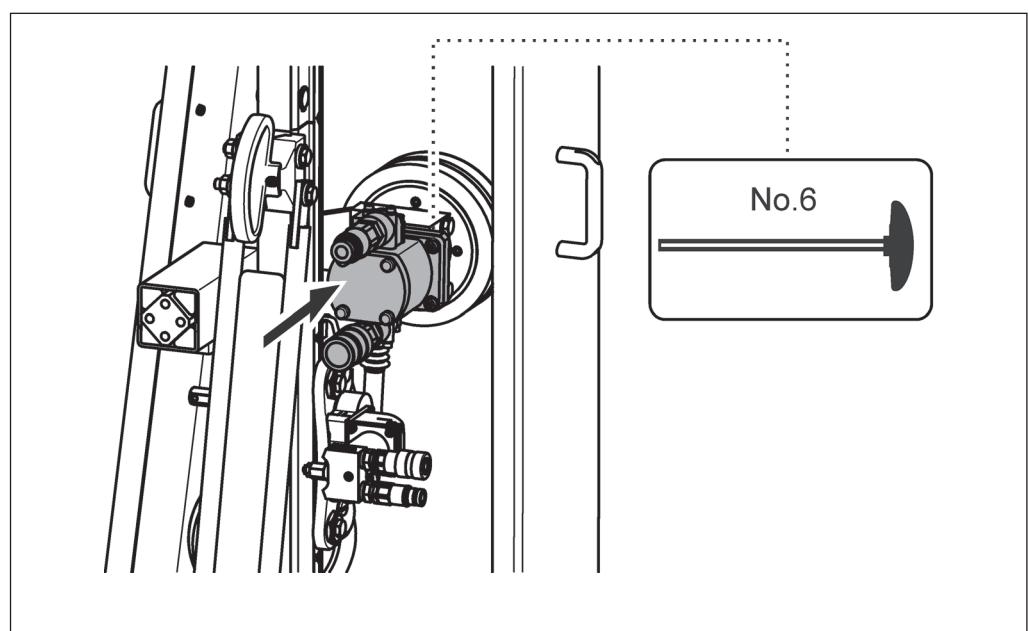


Attaching the WSH14P motor

Hydraulic feed motor



Main motor, hydraulic



3.9 Drawing in the diamond wire

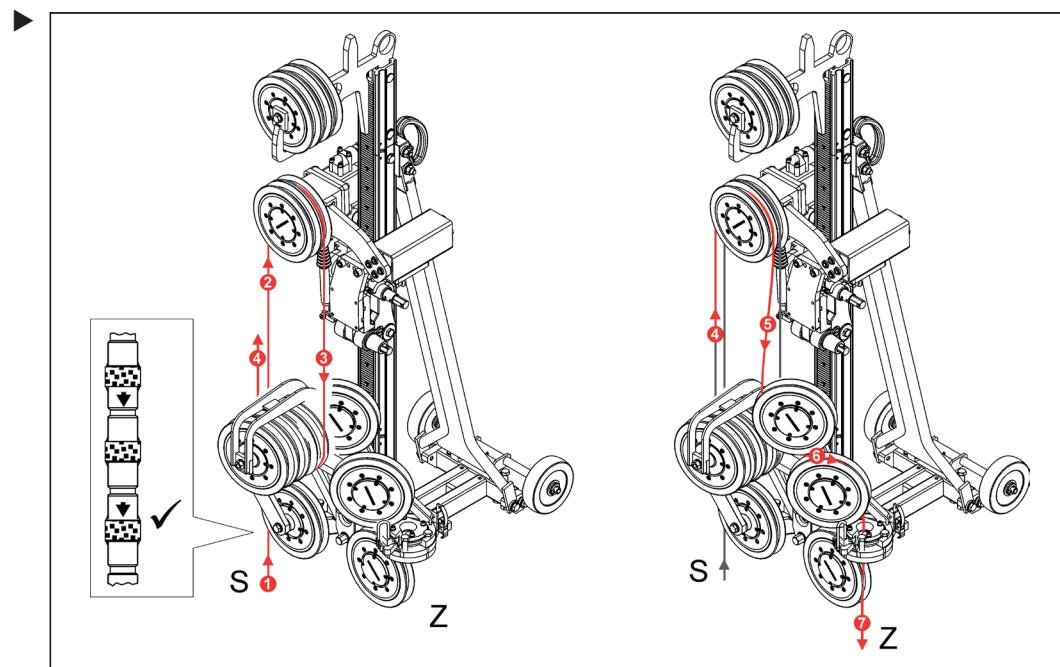
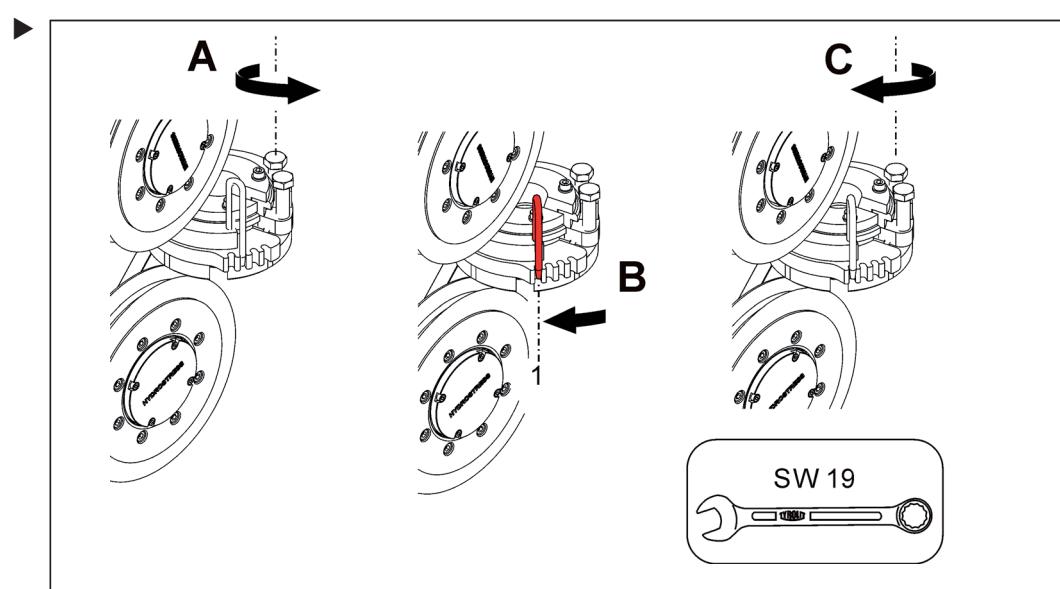


The TYROLIT diamond wire can be inserted into the wire saw open or closed. Details of the storage capacity can be found in the technical information.

3.10 Single diamond wire storage



Before the diamond wire is drawn in, the exit roll at the tensioned side must be moved to position 1.

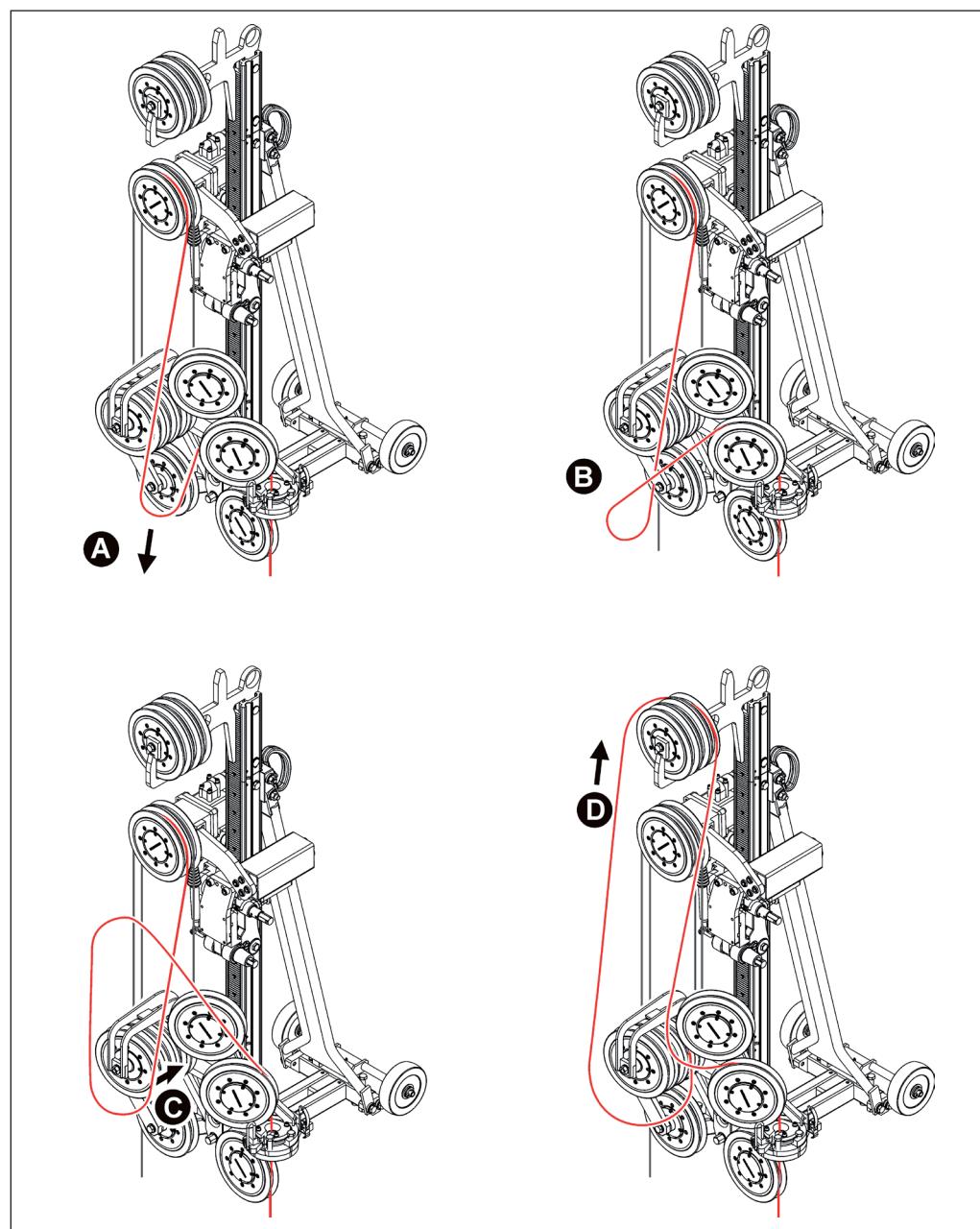
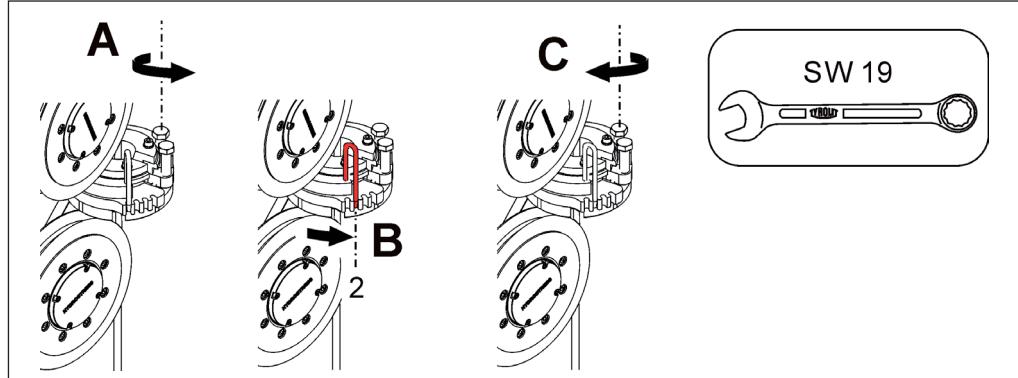


Z Tensioned side
S Slack side

3.11 Extending the diamond wire storage



Before the extended diamond wire storage can be used, the exit roller must be moved to position 2.



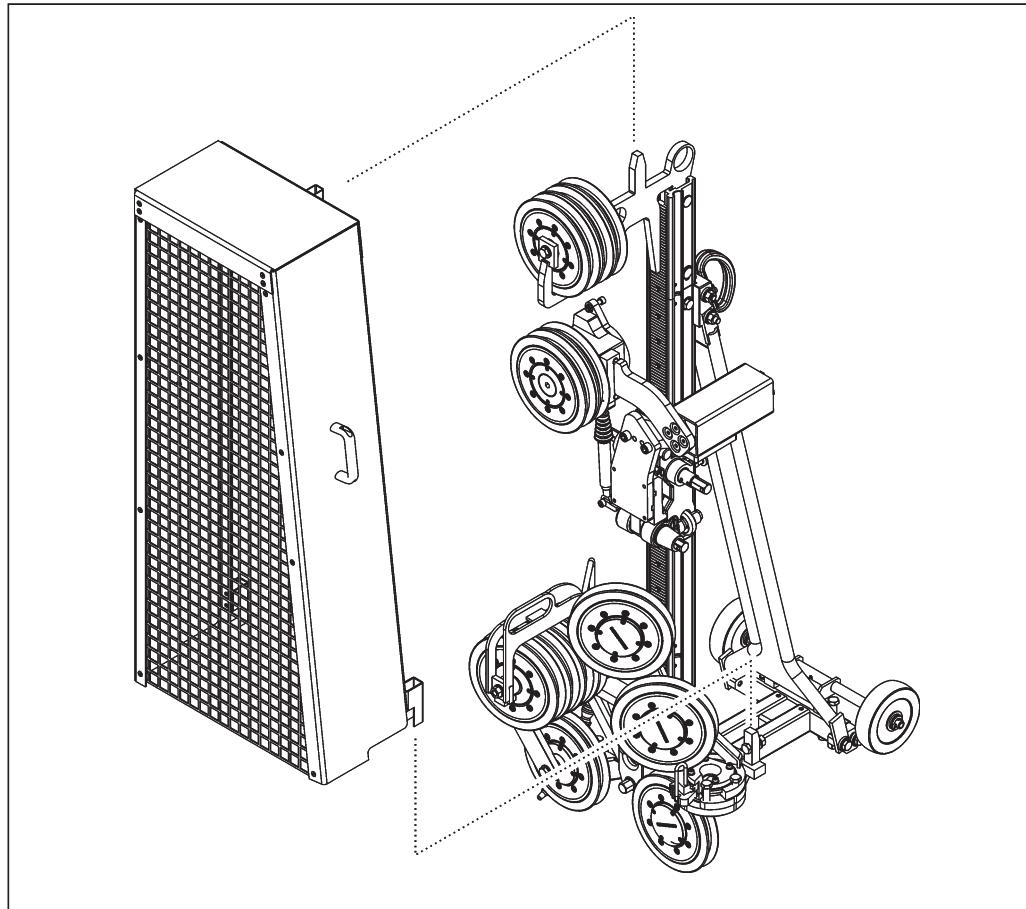
3.12 Fitting the diamond wire guard



DANGER

Death or serious injury from the whipping action of the wire or diamond wire elements flying off.

- ▶ Always work with the diamond wire guard fitted.
- ▶ Make sure that you always maintain the defined safety distances and working areas.



3.13 Positioning and securing wire saw WCE14P / WCH14P

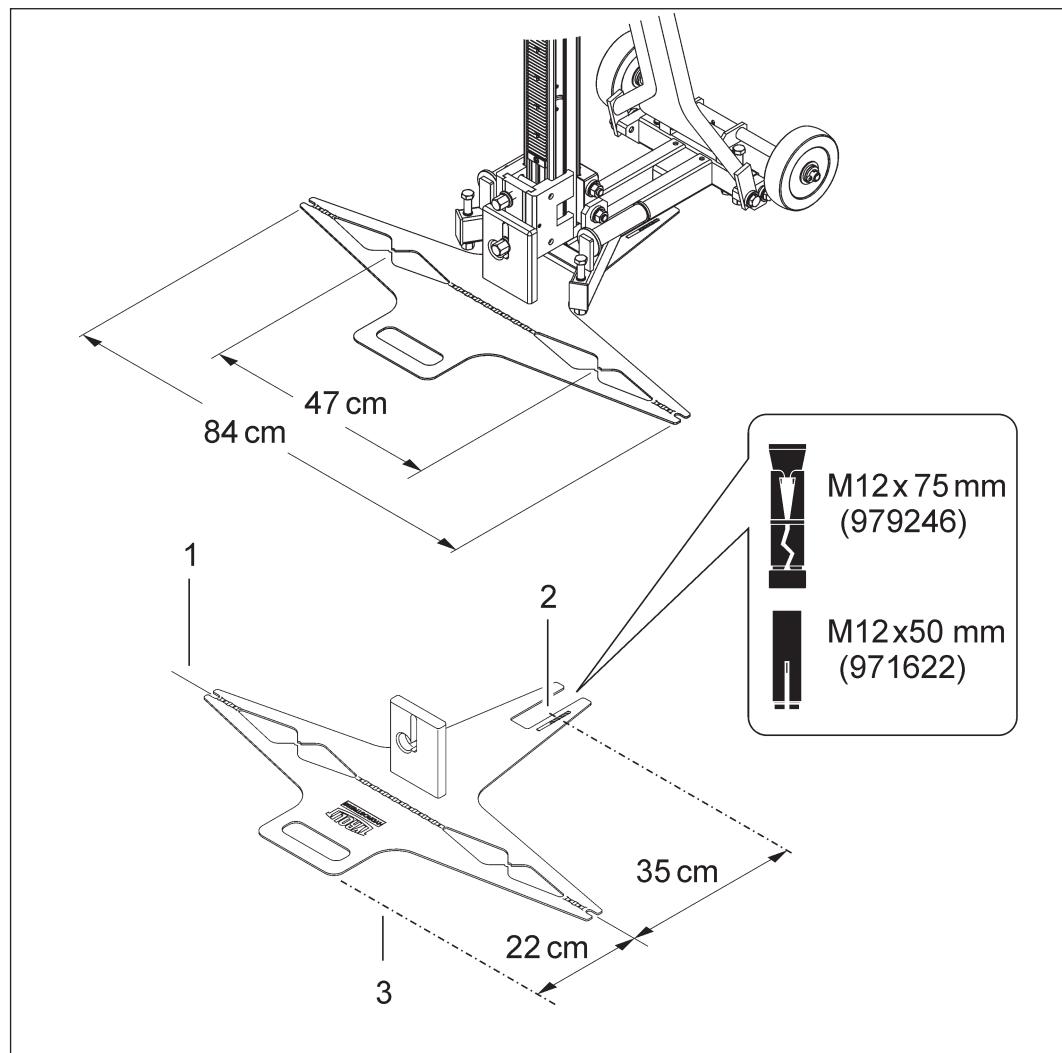


Cutting gauge aid

The cutting gauge is a simple aid for aligning and positioning the wire saw.

- Mount the cutting gauge onto the attachment bracket.
- Align the wire saw to the cut and mark the dowel space.

The following information can be obtained from the cutting gauge:



- 1 Cutting line
- 2 Dowel space
- 3 Outer edge of the diamond wire guard

3.14 Connecting the water supply



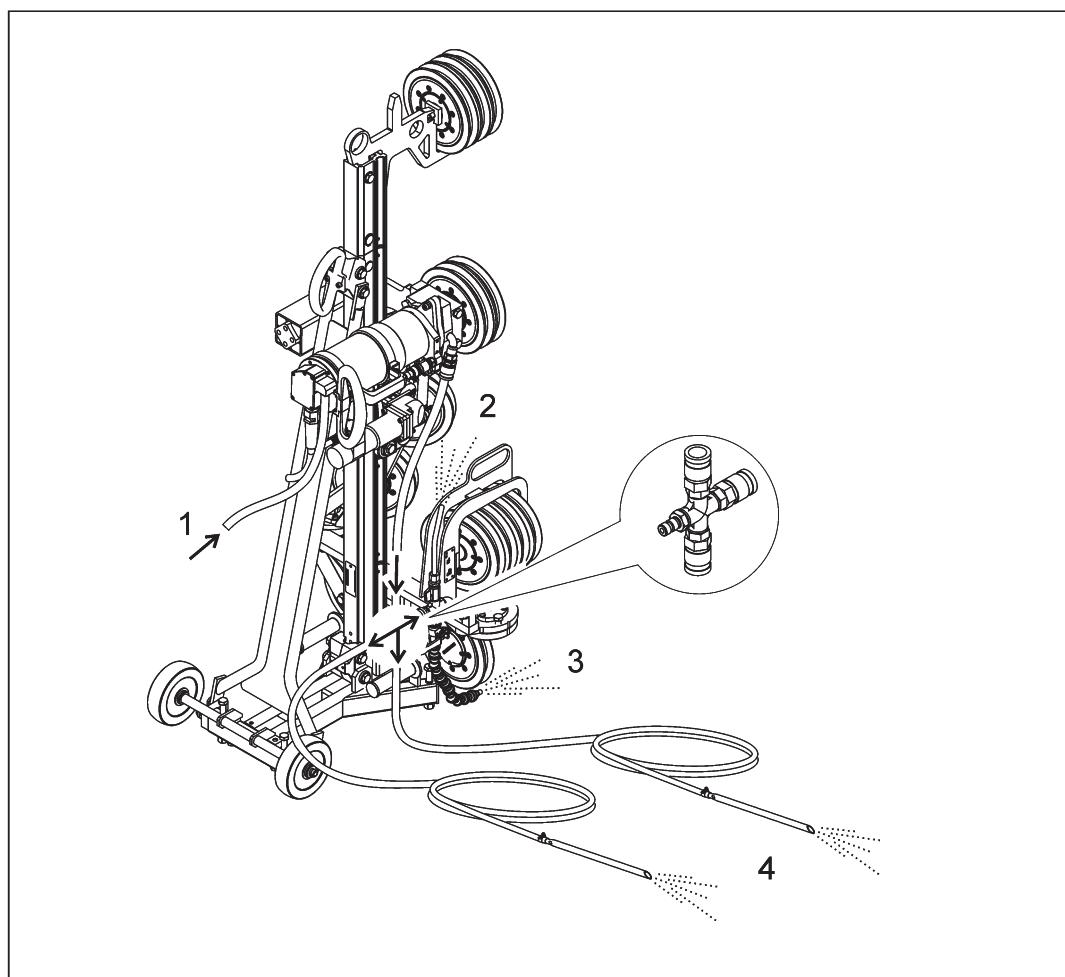
WCE14P water connection

The cooling water of the saw system flows from the control unit via the drive motor to the water distribution on the diverting roller unit.

WCH14P water connection

The cooling water of the saw system flows from the drive unit directly to the water distribution at the diverter roll unit.

Water connection with distribution piece



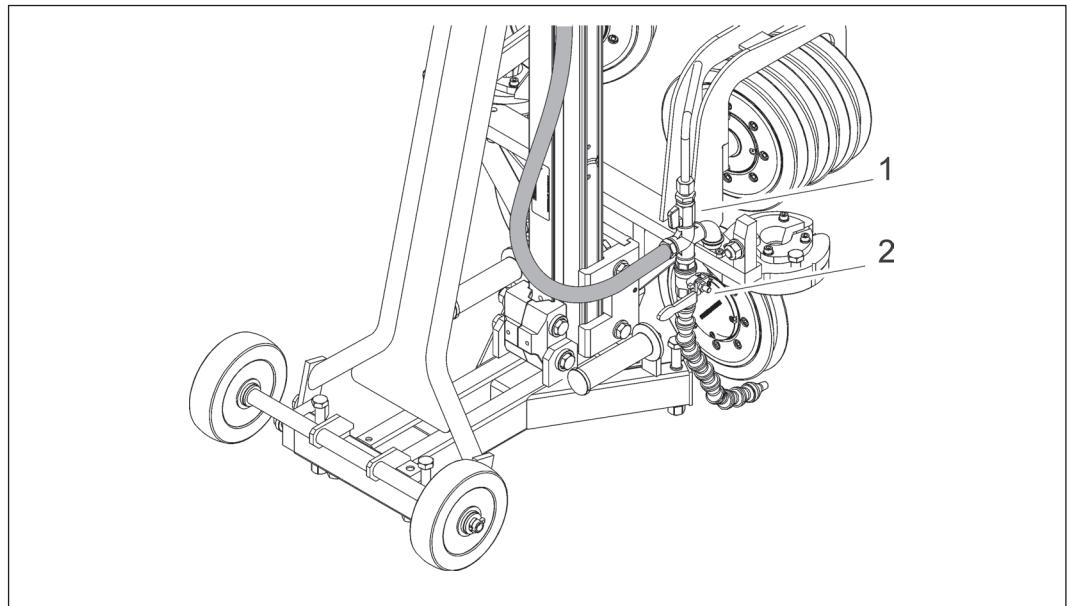
1 Water inlet

2 Water outlet, diverter roll unit

3 Water outlet, swivel roll

4 Water outlet, water lances

Water distribution without distribution piece



- 1 Water tap, diverter roll unit
- 2 Water tap, swivel roll

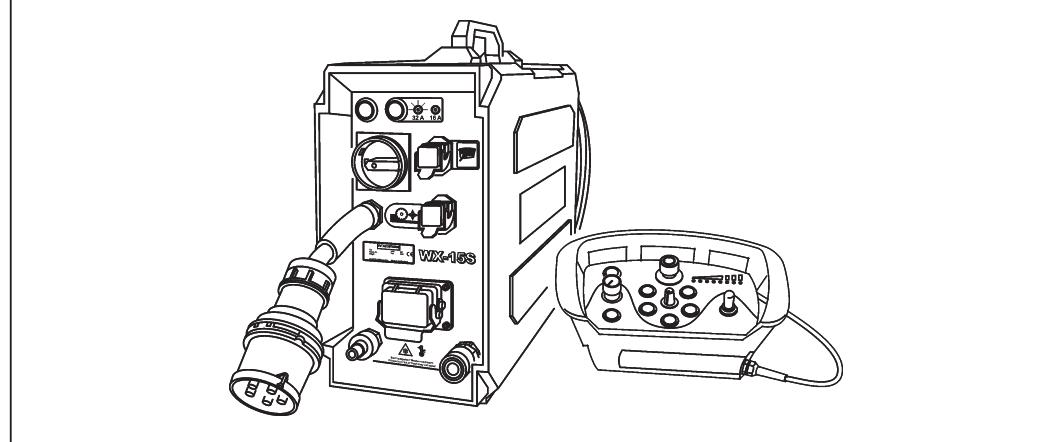
3.15 Connecting the wire saw to the power supply



WCE14P wire saw

The WCE14P wire saw is attached to the wire sawing system together with a control unit. Information about the correct way to connect and operate these units can be found in the operating instructions for the control unit.

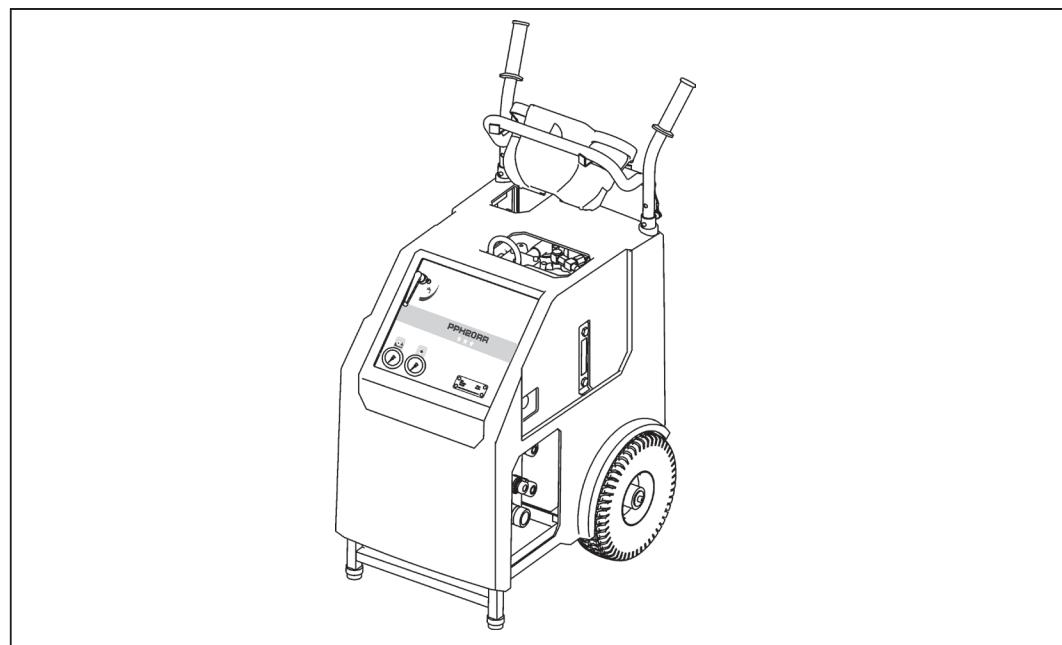
Example: Control unit



WCH14P wire saw

The WCH14P wire saw is attached to the wire sawing system together with a TYROLIT drive unit. Information about the correct way to connect and operate these units can be found in the operating instructions for the drive unit.

Example: drive unit (20-25 kW)



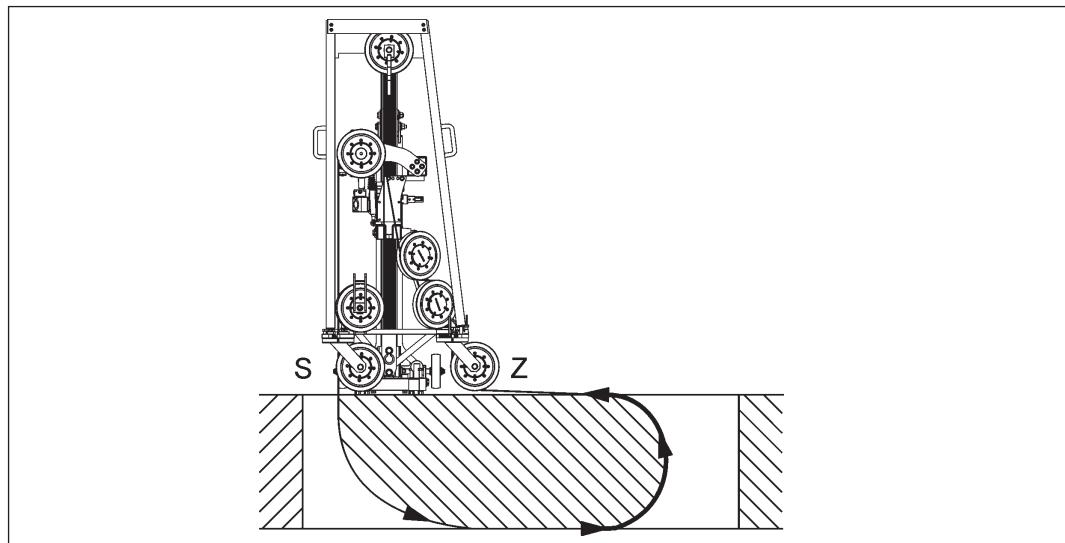
4 Application

4.1 Correct cutting direction



Tensioned side and slack side

The saw cut should be carried out with the tensioned side (Z) of the diamond wire, since this provides the best cutting conditions.

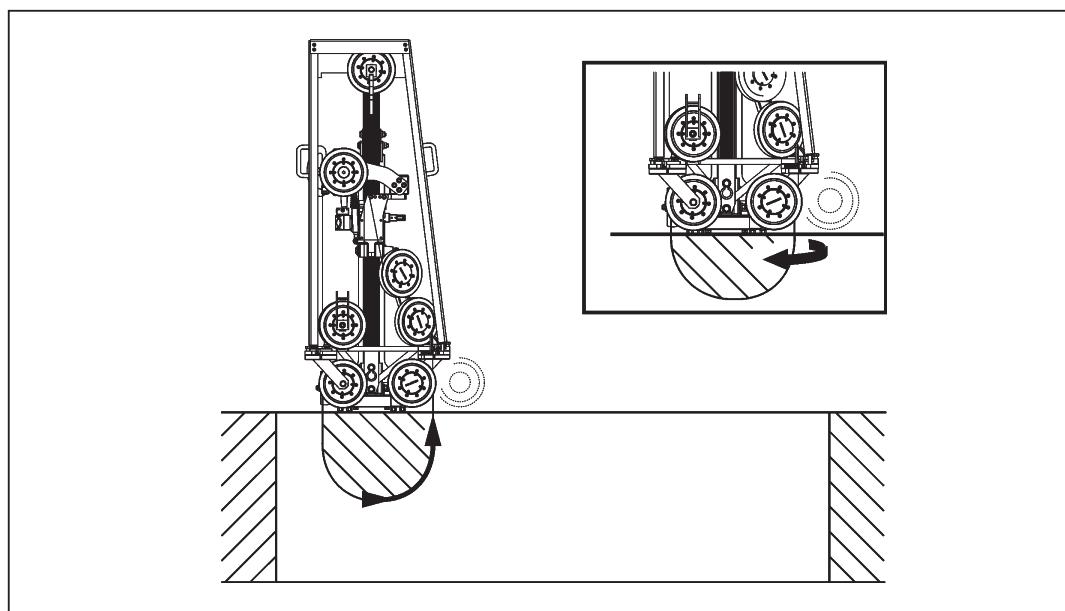


4.2 Finishing the cut



During the finishing cut the swivel roll must be swivelled inwards

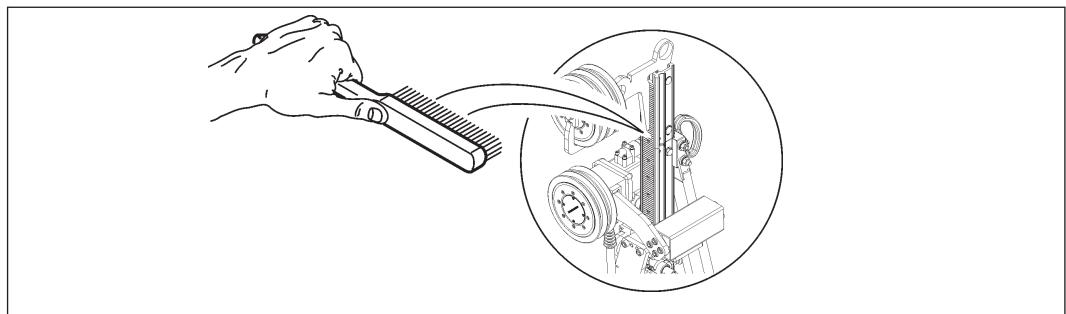
Reduced feed force should be used when approaching the end of a cut. This measure makes it possible for the swivel rolls to catch the diamond wire perfectly upon the exit of the diamond wire.



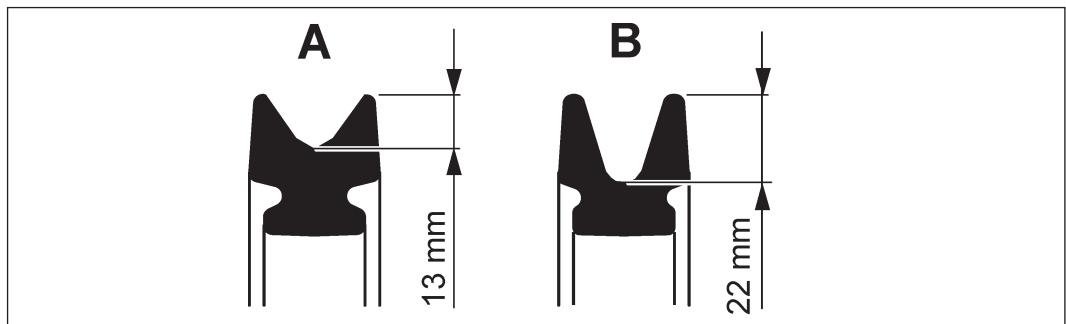
5 Servicing and maintenance

Maintenance and servicing table						
		Before each use	At end of work	Weekly	Yearly	After faults
Wire saw WCE14P / WCH14P	► Re-tighten loose screws and nuts			X		X X
Guide support	► Check wear and setting of the guide elements	X	X			X X
	► Lubrication			X		X X
Guide rail	► Clean the toothed rack and guide grooves, see 5.1		X			X X
Drive rolls and guide rolls	► Check the bandages for wear, see 5.2	X	X			X X
	► Check bearings			X		X X
	► Clean	X	X			X
Feed motor	► Check for cleanliness / damage	X	X			X X
Drive motor	► Check for cleanliness / damage	X	X			X X
Connectors, cables, couplings	► Check for cleanliness / damage	X	X			X X
Water economy	► Check the water line for cleanliness and leak-tightness	X				X X
	► Blow out water		X			
Diamond wire	► Clean with water		X			
	► Check for wear	X	X			X X
Service	► To be performed by TYROLIT Hydrostress AG or an authorised workshop	After 100 / 300 / 500 / 700 hours				

5.1 Clean the toothed rack



5.2 Check bandages for wear

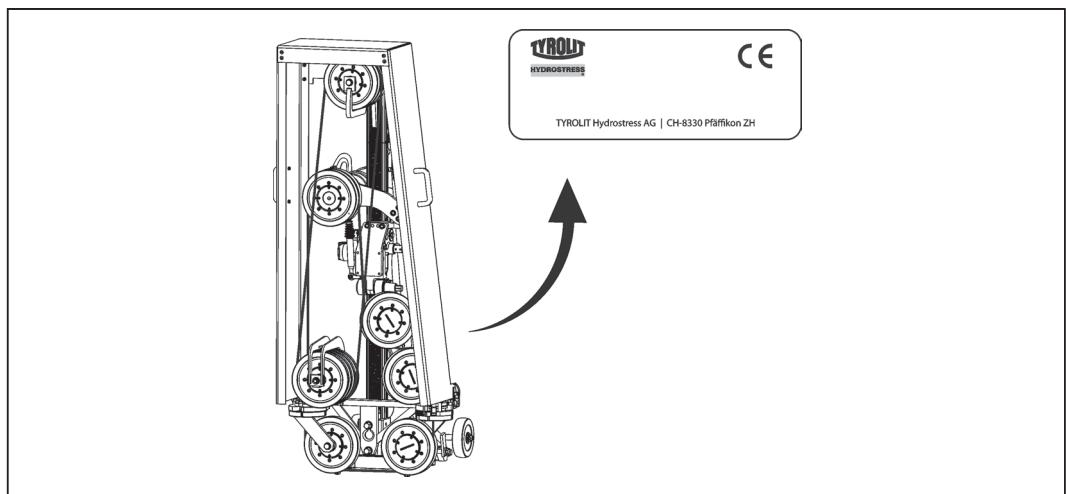


A New bandage
B Worn bandage

5.3 Troubleshooting

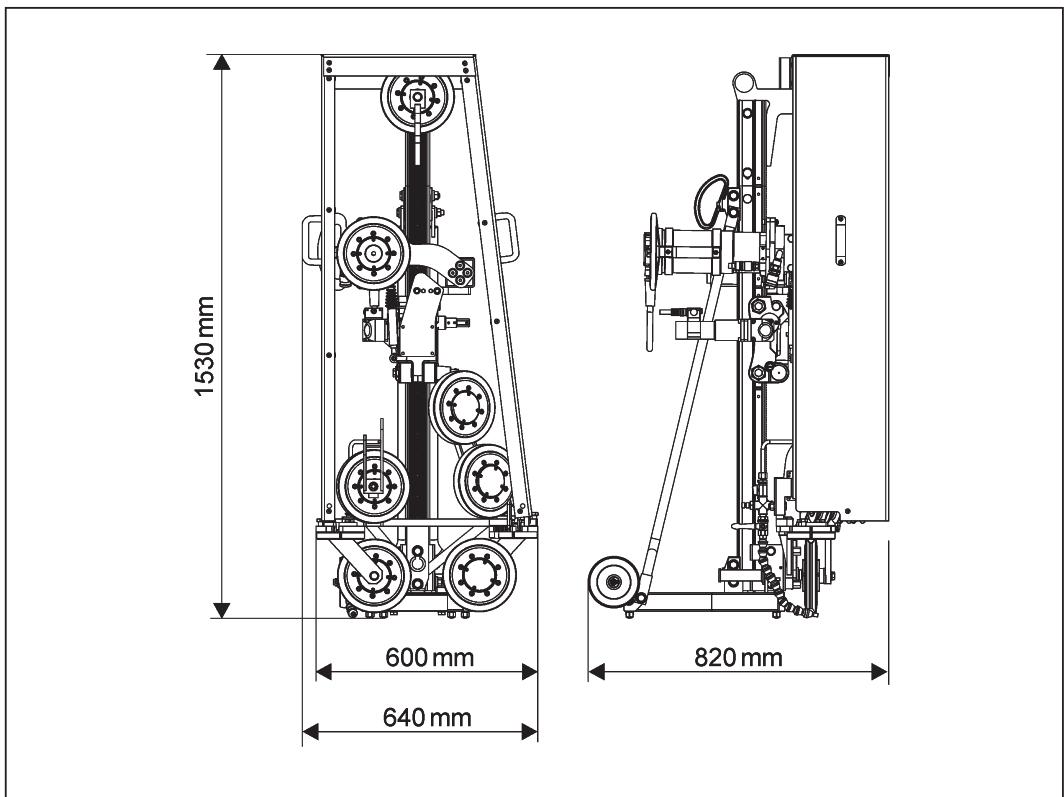
To guarantee a rapid and professional solution to the problem, it is important that you have prepared as follows before calling:

- Try to describe the fault as precisely as possible
- Make a note of the type and index description (refer to the name plate)
- Have the Operating Instructions close to hand

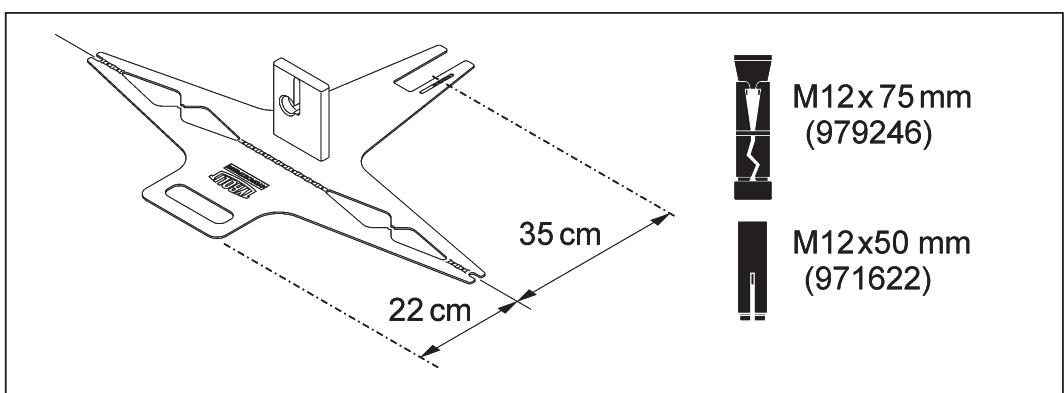


6 Technical data

6.1 Dimensions



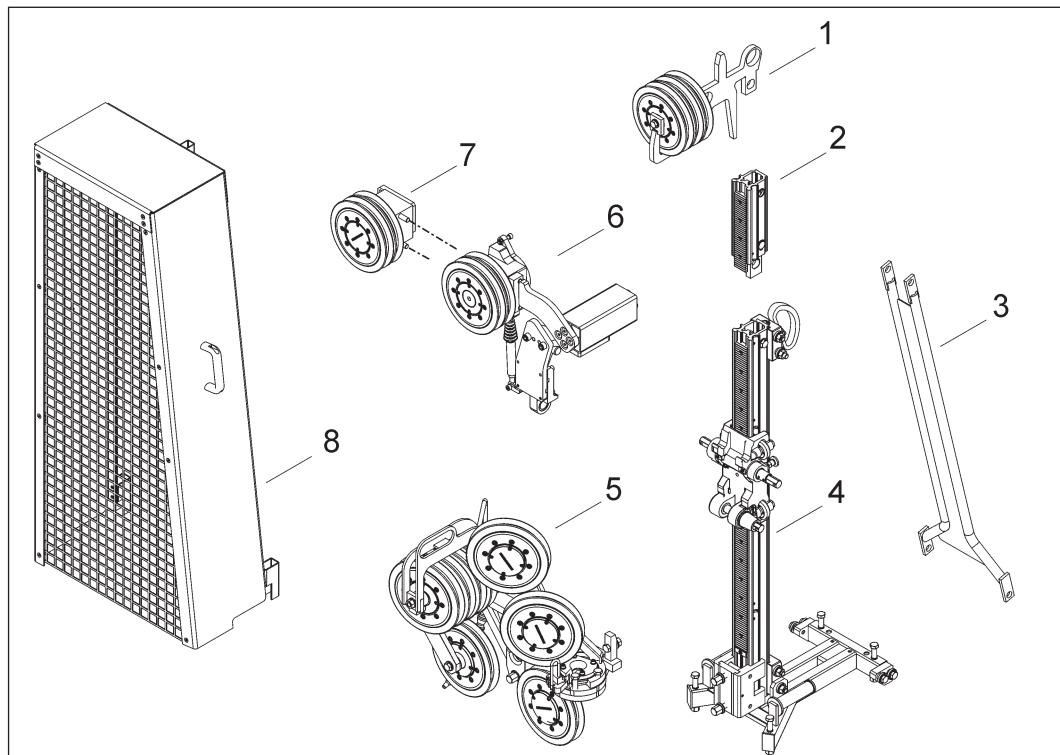
6.2 Dowel dimension



6.3 Water connection

Pressure	1 bar (min.) to 6 bar (max.)
Quantity	At least 4 l/min
Temperature	max. 25 °C

6.4 Weights



1 Diverter roll unit	10.03 kg
2 Rail extension	3.14 kg
3 Support rod unit	6.55 kg
4 Core drill rig	25.60 kg
5 Diverter roll unit	39.05 kg
6 Hydraulic drive unit	17.72 kg
7 Electric drive unit	19.13 kg
8 Diamond wire guard	12.1 kg

6.5 Noise data according to EN 15027 / ISO 3744



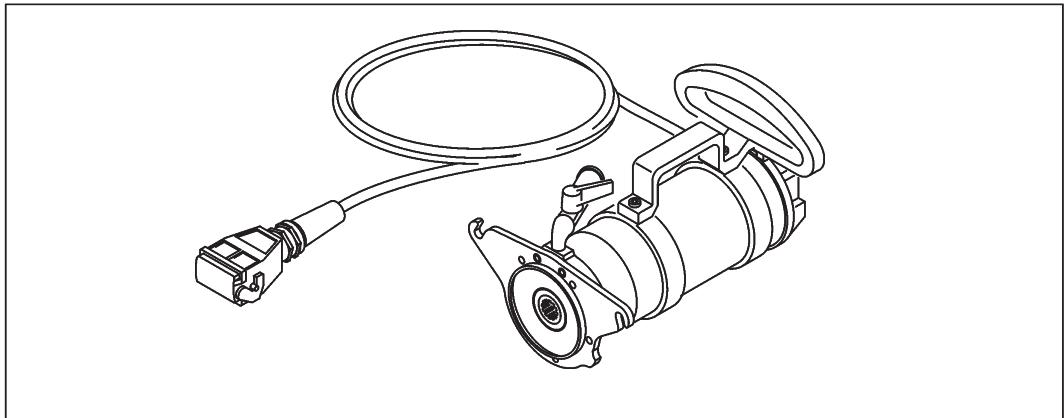
Hearing protection must be worn at all times when working with the WCE14P and WCH14P wire saws.



Parameter	Value WCE14P	Value WCH14P
Noise level at the ear of the user (L _{eq})	89 dB	86 dB
Noise level at workplace (L _{PA})	77.5 dB	76.4 dB
Sound power level in accordance with ISO 3744 (L _{WA})	97.5 dB	96.5 dB
Vibration DIN EN ISO 5349-2	-	-

6.6 Motors

Drive motor, WCE14P

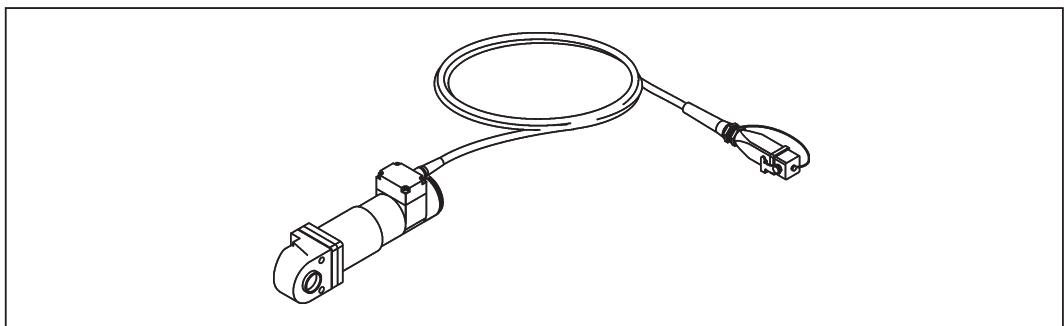


Example:

Electric motor (high frequency, water-cooled)

Output at 16 A	8 kW
Output at 32 A	15 kW
Weight	16.5 kg

Feed motor, WCE14P

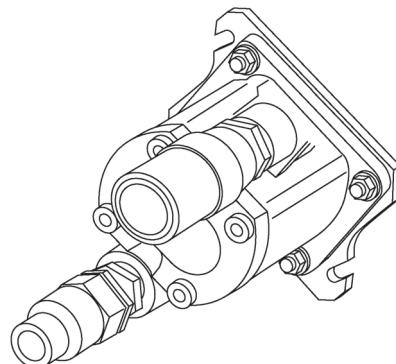


Example:

Electric feed motor with gears and brake

Gear reduction	1:100
Voltage	48 V
Feed	Toothed wheel on rail
Weight	4.1 kg

Drive motor, WSH14P



Example:

Hydraulic motor	
Speed	1100 to 3333 rpm.
Size	2
Absorption volume	12 cm ³ to 30 cm ³
Transmission ratio	1:1
Operating pressure	max. 260 bar
Type	External geared motor

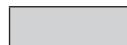
Rotational speeds

Hydraulic motors

Rotational speeds, hydraulic motors for wall saws						
		cm ³ 12	cm ³ 16	cm ³ 18	cm ³ 22	cm ³ 30
l/min	33	2750	2063	1833	1500	1269
l/min	40	3333	2500	2222	1818	1538
l/min	45	3750	2813	2500	2045	1731
l/min	50	4167	3125	2778	2273	1923
l/min	60	5000	3750	3333	2727	2308
l/min	70	5833	4375	3889	3182	2692

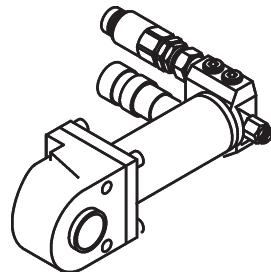


Operation possible



Operation not possible

Feed motor, WSH14P



Example:

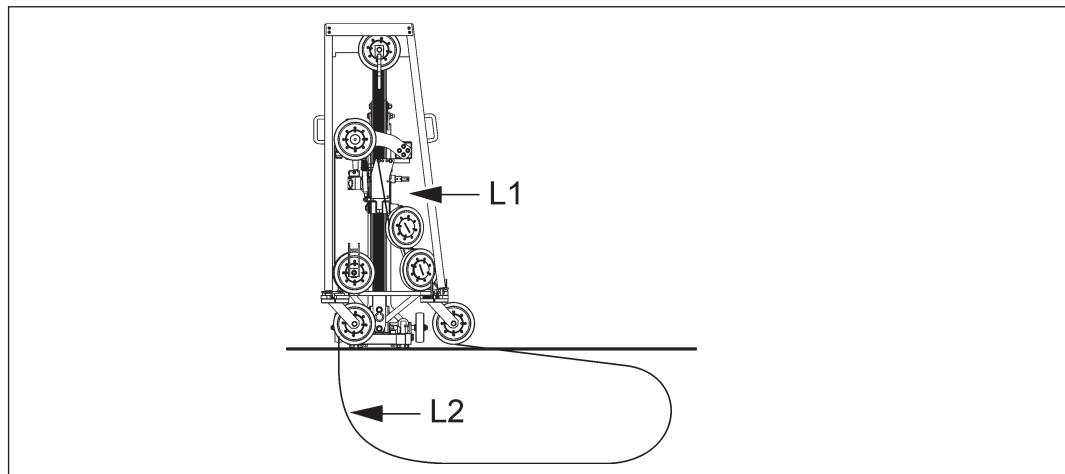
Hydraulic motor	
Speed	187 rpm
Type	Gerotor
Operating pressure	max. 120 bar
Rated torque	50 Nm
Feed force	6,000 N
Feed	Toothed wheel on rail

6.7 Diamond wire lengths



The total diamond wire storage volume of the WCE14P and WCH14P wire saw is 14.2 m.
Wire storage can be expanded by integrating the storage roll unit.

Diamond wire basic storage



L1 Diamond wire basic storage in the machine	3.2 m
L1 Diamond wire length outside the machine	11 m
Total storage length	14.2 m

EC declaration of conformity

Description	Wire saw
Type designation	WCE14P
Year of construction	2009

We declare under our sole responsibility that this product complies with the following directives and standards:

Applied directives

Machinery directives 2006/42/EC
EC EMC directives 89/336/EC
EC Low voltage directives 2006/95/EC
EN 2002/96/EC Waste electrical and electronic equipment
Noise protection regulation 2000/14 /CE

Applied standards

EN 12100-1	Safety of machinery – Basic concepts, general design principles
EN 12100-2	
EN 15027	Safety of machinery – Mobile wall and wire saws for use on construction sites
EN ISO 14121	Safety of machinery – Risk assessment
EN 60204-1	Safety of machinery – Electrical equipment of machines

EC declaration of conformity

Description	Wire saw
Type designation	WCH14P
Year of construction	2009

We declare under our sole responsibility that this product complies with the following directives and standards:

Applied directives

Machinery directives 2006/42/EC
Noise protection regulation 2000/14 /CE

Applied standards

EN 12100-1	Safety of machinery – Basic concepts, general design principles
EN 12100-2	
EN 15027	Safety of machinery – Mobile wall and wire saws for use on construction sites
EN ISO 14121	Safety of machinery – Risk assessment
EN 982	Safety of machinery Safety requirements of safety systems and their component hydraulics

How to use the spare parts list

The spare parts list is not intended as instructions for assembly or dismantling work. It is exclusively intended to help you to quickly and easily find spare parts, which can then be ordered at the address below.

Safety regulations



Danger

The assembling or dismantling of modules can involve risks which are not identified in this spare parts list.

The use of this spare parts list for assembly or dismantling purposes is strictly forbidden. For assembly or dismantling tasks it is essential to only follow the corresponding descriptions in the operating manual.

If this regulation is not heeded injuries may be incurred which in the worst case can also be fatal.

Ordering



Information

To avoid incorrect deliveries you should check the order details for correctness and completeness (see under ordering details) prior shipment.

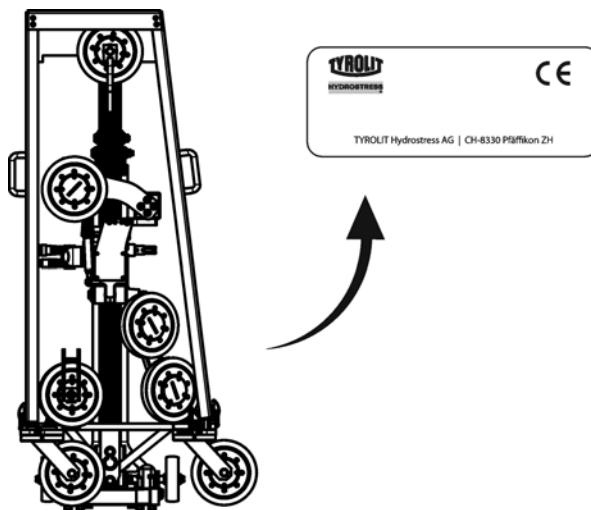
You should ensure that the delivery address is given in full.

Order address:

TYROLIT Hydrostress AG
Witzbergstrasse 18
CH-8330 Pfäffikon
Switzerland
Tel. +41 (0) 44 / 952 18 18
Fax +41 (0) 44 / 952 18 00
e-mail: info@tyrolit.com
www.tyrolit.com

0 Spare Parts List

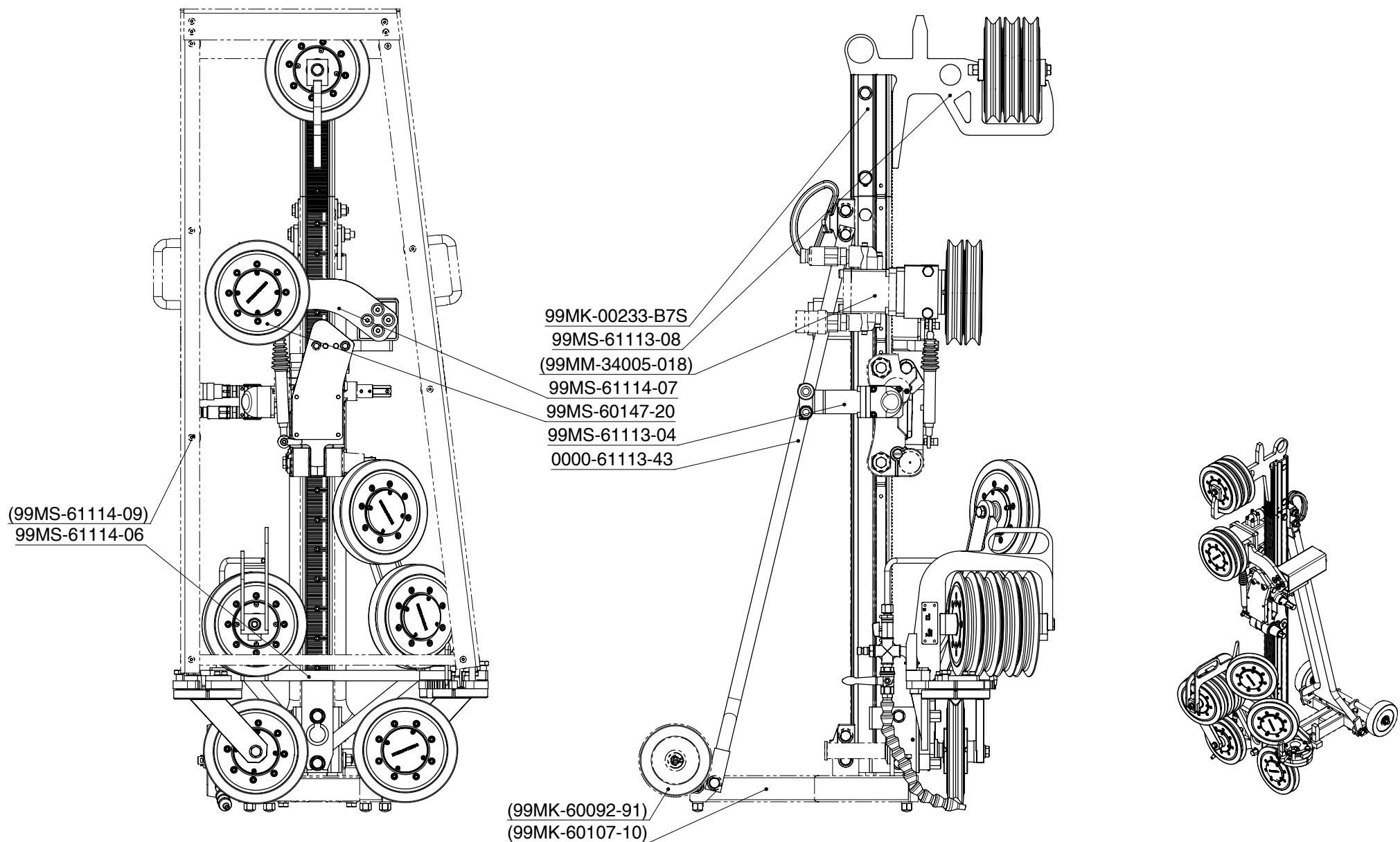
0.1 Ordering details



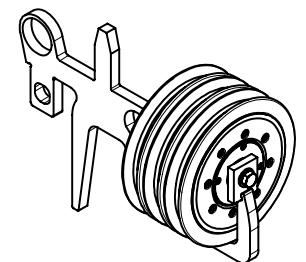
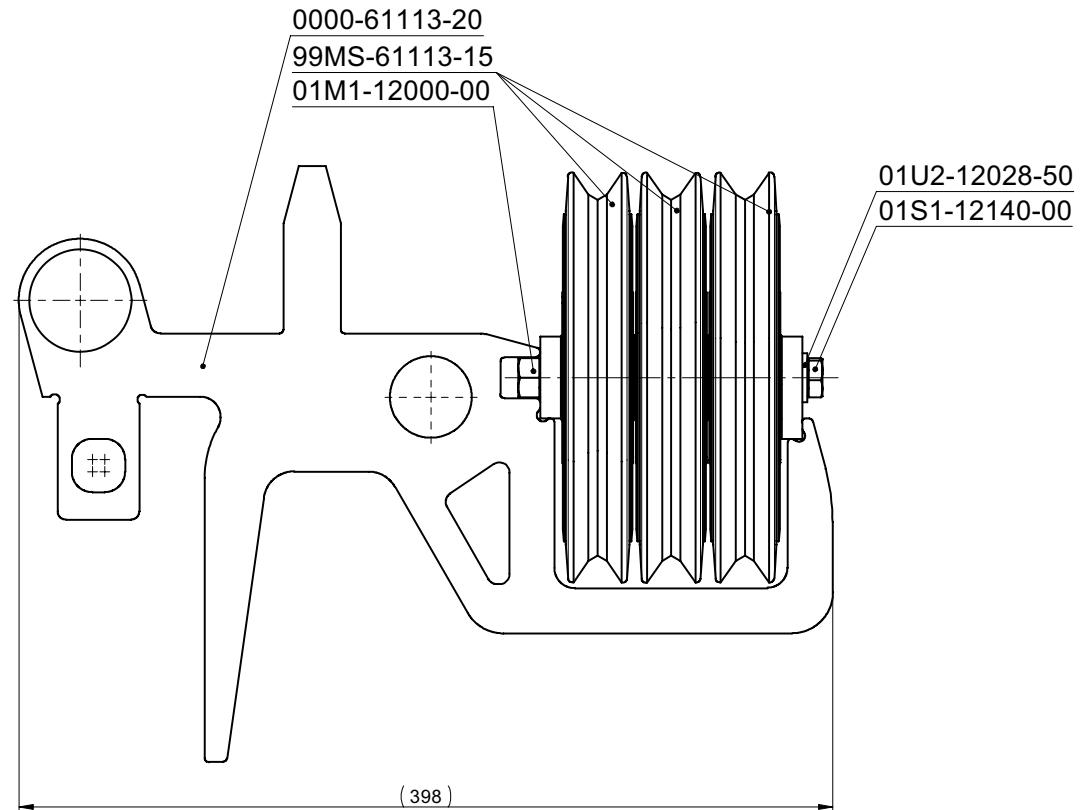
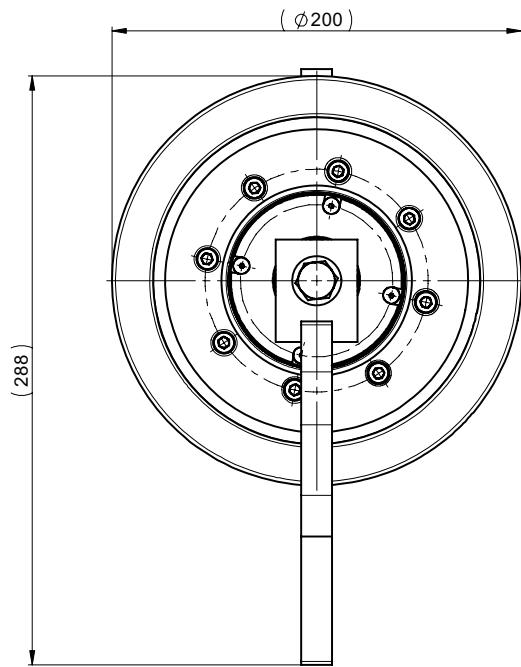
When spare parts are ordered we need the following details:

- Machine type according to nameplate (e.g. WCH14P)
- Machine number according to nameplate (e.g. 20030000)
- Machine index according to nameplate (e.g. 001)
- Spare part number according to the spare parts list (e.g. 977529)

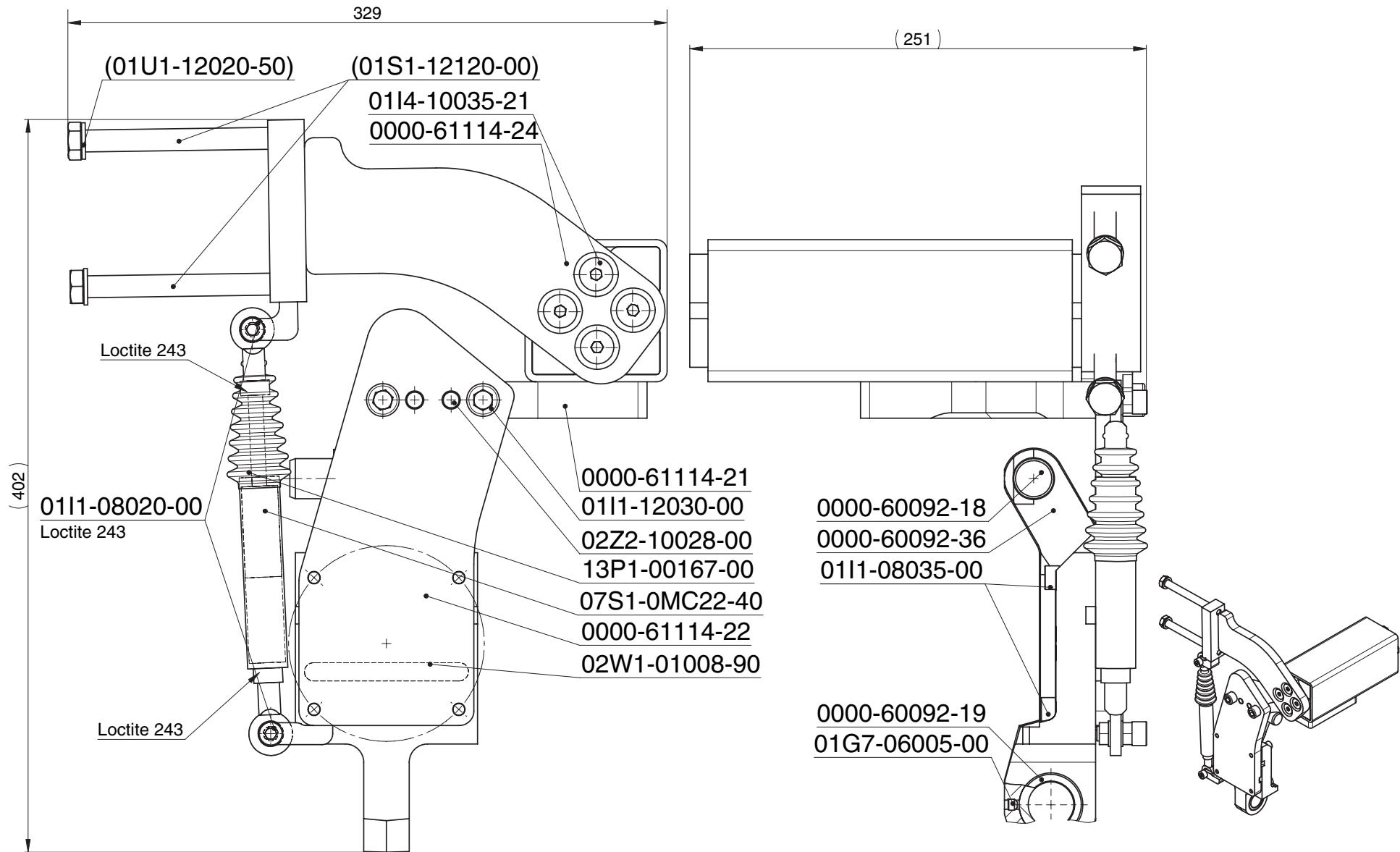
For orders, questions and information please contact your responsible branch office.



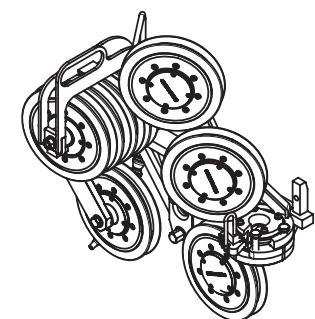
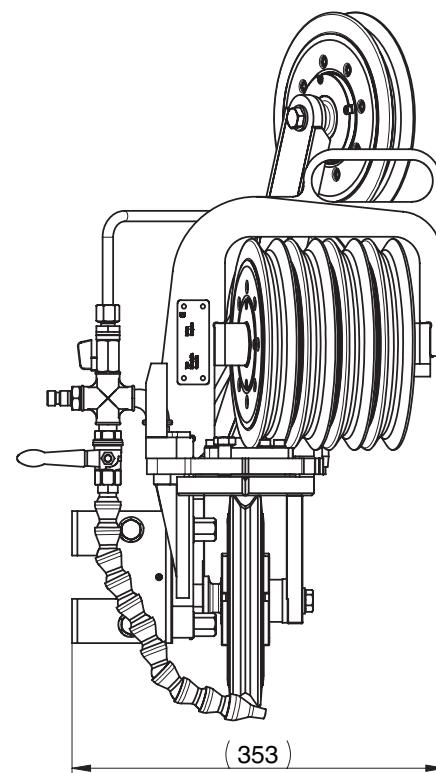
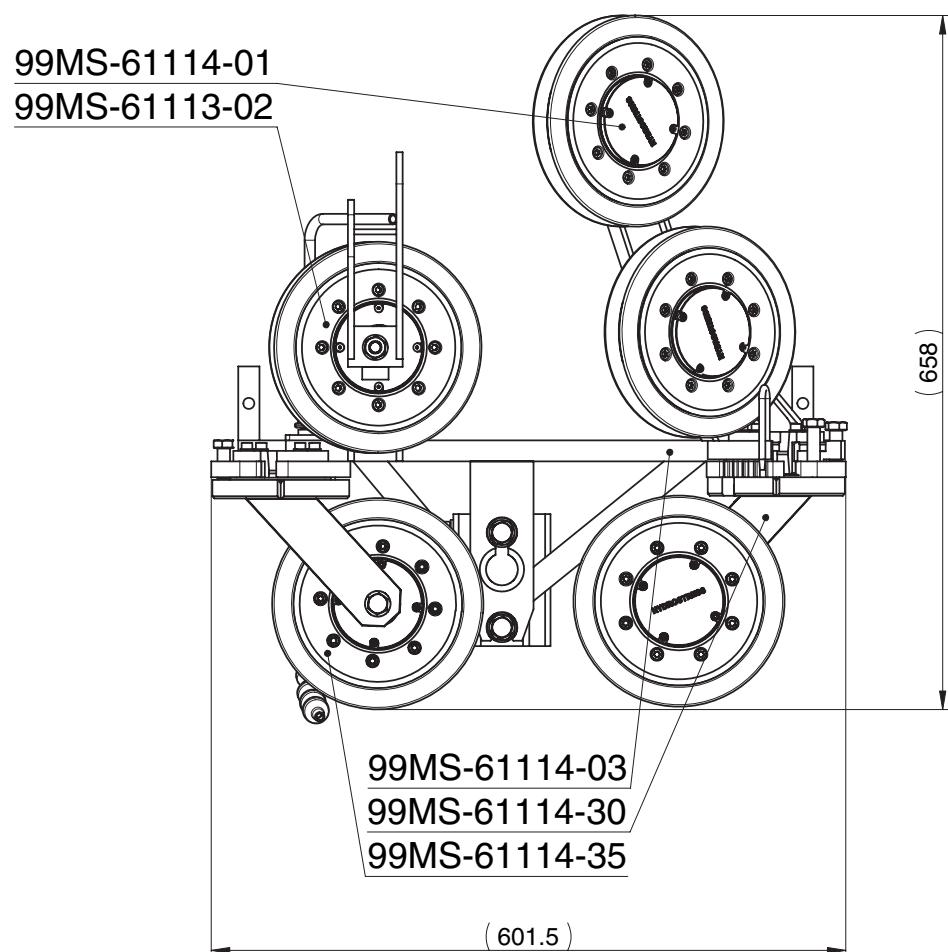
	99MS-61114-12	10984300	Seilsägekit. WCH14	Wire saw kit WCE14	Kit de scie à câble WCE14	Kit di sega a cavo diamantato WCE141	
	Baugruppe.	Mat. Nr.	Deutsch	English	Français	Italiano	Stk.
	0000-61113-43	10988510	Stütze WCU14	Reinforcing WCU14	Bute WCU14	Appoggio WCU14	1
	99MK-00233-B7S	984969	Verlängerung 233 kpl.	Toothed extension 233 cpl.	Elongation 233 compl.	Prolunga 233 compl.	1
	99MS-60147-20	965990	Twin-Antriebsrollen-Einh.	Twin-drive pulleys unit	Commande pulley unit twin	Unità comando puleggia twin	1
	99MS-61113-04	10988496	Vorsch.Mot.32 DBV/Getr/PI	Feed motor 32 DBV/Getr/PI	Mot. d'avancement 32 DBV/Getr/PI	Motore d'avanz. S32 DBV/Getr/PI	1
	99MS-61113-08	10988501	Speicherrolleneinh.	Storage pulley unit	Unité de puolie de stockage	Unità di accumulat.di puleggia	1
	99MS-61114-06	10988498	Umlenkrolleneinheit WCU14	Swivel pulleys WCU14	Poulies de renvoi WCU14	Puleggie orientabili WCU14	1
	99MS-61114-07	10988499	Halter Antr.einheit WCU14	Holder drive unit	Fixation pour entraînement	Fissaggio per trazione WCU14	1



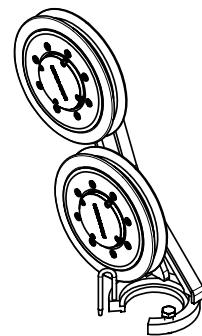
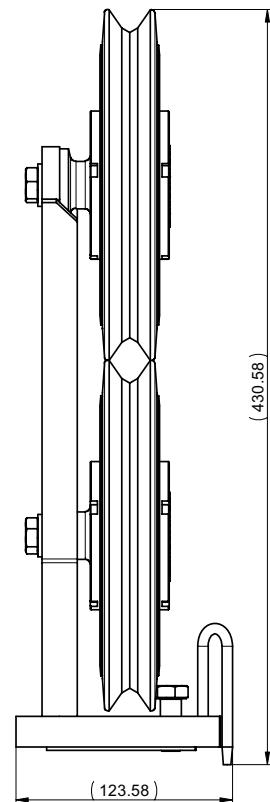
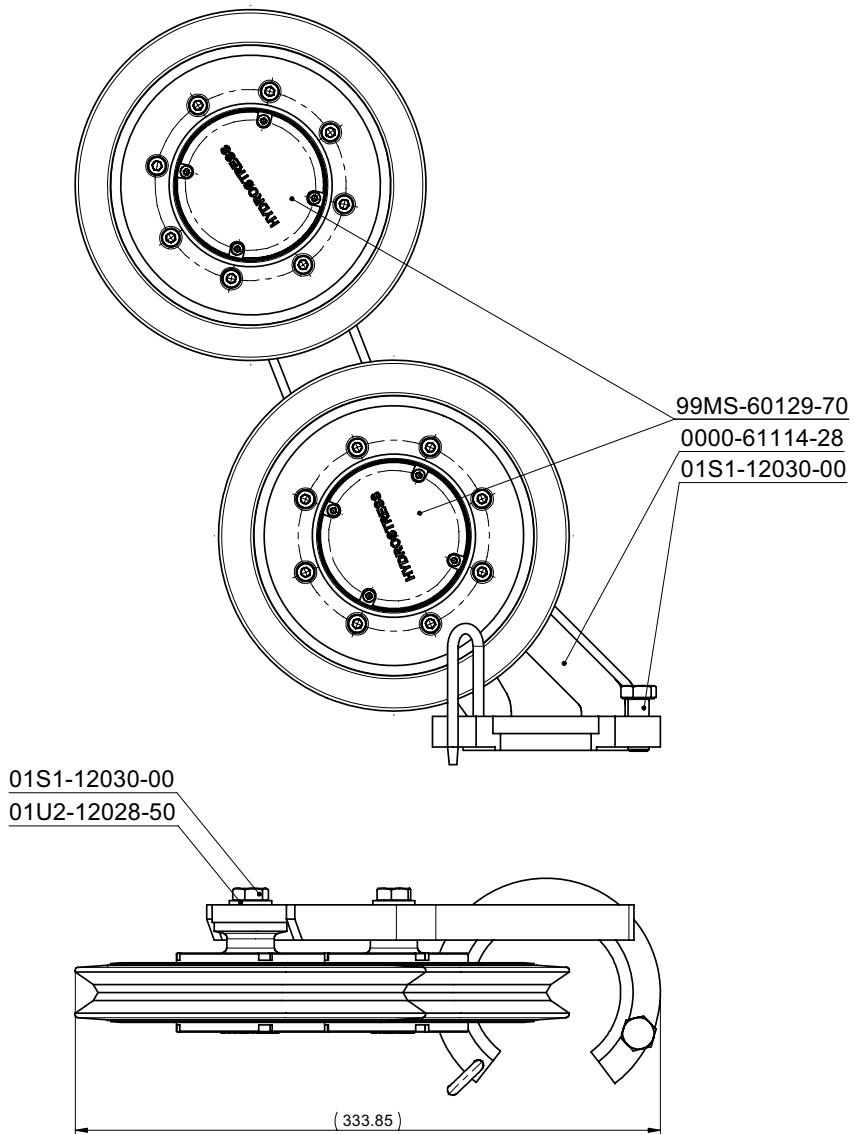
	99MS-61113-08	10988501	Speicherrolleneinh.	Storage pulley unit	Unité de puolie de stockage	Unità di accumulat.di puleggia	1
	Zeichn. Nr.	Mat. Nr.	Deutsch	English	Français	Italiano	Stk.
99MS-61113-15	10988391	Umlenkr. Ø200 schmal	Sivel pulley diam. 200 small	Pulies de renvoi diam. 200 effilé	Puleggia orientabile diam. 200 sottile	3	
0000-61113-20	10988380	Speicherträger	Träger	Träger	Träger	1	
01S1-12140-00	999952	6kt-Schraube M12x140	Hexagonal screw M12x140	Vis à tête hexagonale M12x140	Vite a testa esagonale M12x140	1	
01M1-12000-00	971849	Mutter 6Kt. M12	Hexagon nut	Ecrou 6 pans M12	Dado M12	2	
01U2-12028-50	971964	U-Scheibe M12 13/24/2,5	U-washer M12 13/24/2,5	Rondelle en U M12 13/24/2,5	Rondella a U M12 13/24/2,5	1	



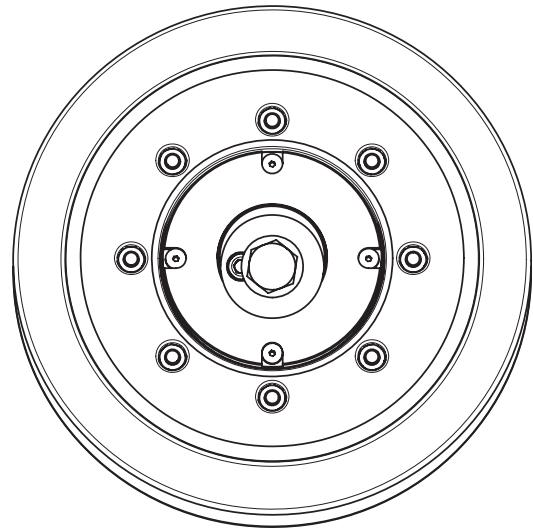
Ø	99MS-61114-07	10988499	Halter Antr.einheit WCU14	Bracket WCU14	Cadre support WCU14	Sostegno WCU14	1
Zeichn. Nr.	Mat. Nr.	Deutsch	English		Français	Italiano	Stk.
0000-60092-18	978541	Achse	Shaft		Axe	Albero	1
0000-60092-19	977588	Büchse	Cover backside		Couvercle derrière	Coperchio dietro	1
0000-60092-36	978555	Motorenplatte B6	Bearing shell		Cage de roulement double	Bossolo per supporto	1
0000-61114-21	10988381	Antriebsdämpfung	Power unit damping		Amortisem.de groupe d' entraînement	Ammortizzatore di centralina	1
0000-61114-22	10988382	Supportplatte	Supportplate		Plaque de support	Piastra di supporto	1
0000-61114-24	10988384	Antriebshalter	Bracket		Cadre support	Sostegno	1
01G7-06005-00	960776	Gewindestift M 6x5	Slotted set screw M6x5		Vis sans tête M6x5	Vite senza testa M6x5	1
01I1-08020-00	979283	Inbus-Schraube M8x20	Allen head screw M8x20		Vis à six pans creux M8x20	Vite ad esagono cavo M8x20	2
01I1-08035-00	10988894	Inbus-Schraube M8x35	Countersunk head screw M10x35		Vis à tête fraisée M10x35	Vite a testa svasata M10x35	4
01I1-12030-00	971778	Inbus-Schraube M12x30	Allen head screw M12x30		Vis à six pans creux M12x30	Vite ad esagono cavo M12x30	2
01I4-10035-21	10988894	Senkkopfschraube M10x 35	Countersunk head screw M10x35		Vis à tête fraisée M10x35	Vite a testa svasata M10x35	4
02W1-01008-90	965604	Wellenkeil 10x8x90	Shaft key 10x8x90		Clavette d'arbre 10x8x90	Cuneo dell'albero 10x8x90	1
02Z2-10028-00	972057	Zylinderstift 10 m6 x 28	Cylindrical pin 10 m6 x 28		Goupille cylindrique 10 m6x28	Spina cilindrica 10 m6x28	2
07S1-0MC22-40	10988504	Bremszyl. MC-22-40-B3874A	Brake cylinder MC-22-40-B3874A		Cylindre de frein MC-22-40-B3874A	Cilindro frenante MC-22-40-B3874A	1
13P1-00167-00	10988602	Faltenbalg Typ 167	Boot Typ 167		Soufflet Typ 167	Manicotto di tenuta a soffietto 167	1



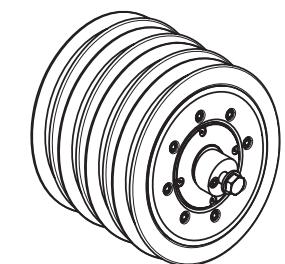
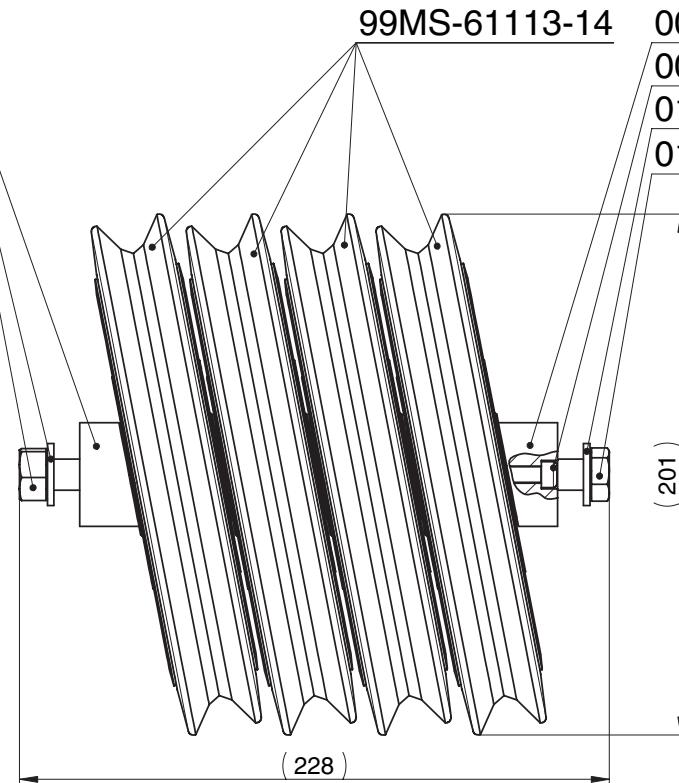
8	99MS-61114-06	10988498	Umlenkrolleneinheit WCU14	Swivel pulleys WCU14	Poulies de renvoi WCU14	Puleggie orientabili WCU14	1
Baugruppe.	Mat. Nr.	Deutsch	English	Français	Italiano	Stk.	
99MS-61113-02	10988514	Umlenkrollenpaket WCU	Swivel pulleys WCU	Poulies de renvoi WCU	Puleggie orientabili WCU	1	
99MS-61114-01	10988513	Stützrolleneinheit WCU	Pulleys	Poulies	Puleggie	1	
99MS-61114-03	10988518	Rollenträger WCU	Pulleys WCU	Poulies WCU	Puleggie WCU	1	
99MS-61114-30	10988533	Schwenkrolle Austritt WCU	Swivel pulley exit WCU	Galet de pivotage départ WCU	Rullo girevole uscita WCU	1	
99MS-61114-35	10988505	Schwenkrolle Eintritt WCU	Swivel pulley input WCU	Galet de pivotage entrée WCU	Rullo girevole entrata WCU	1	



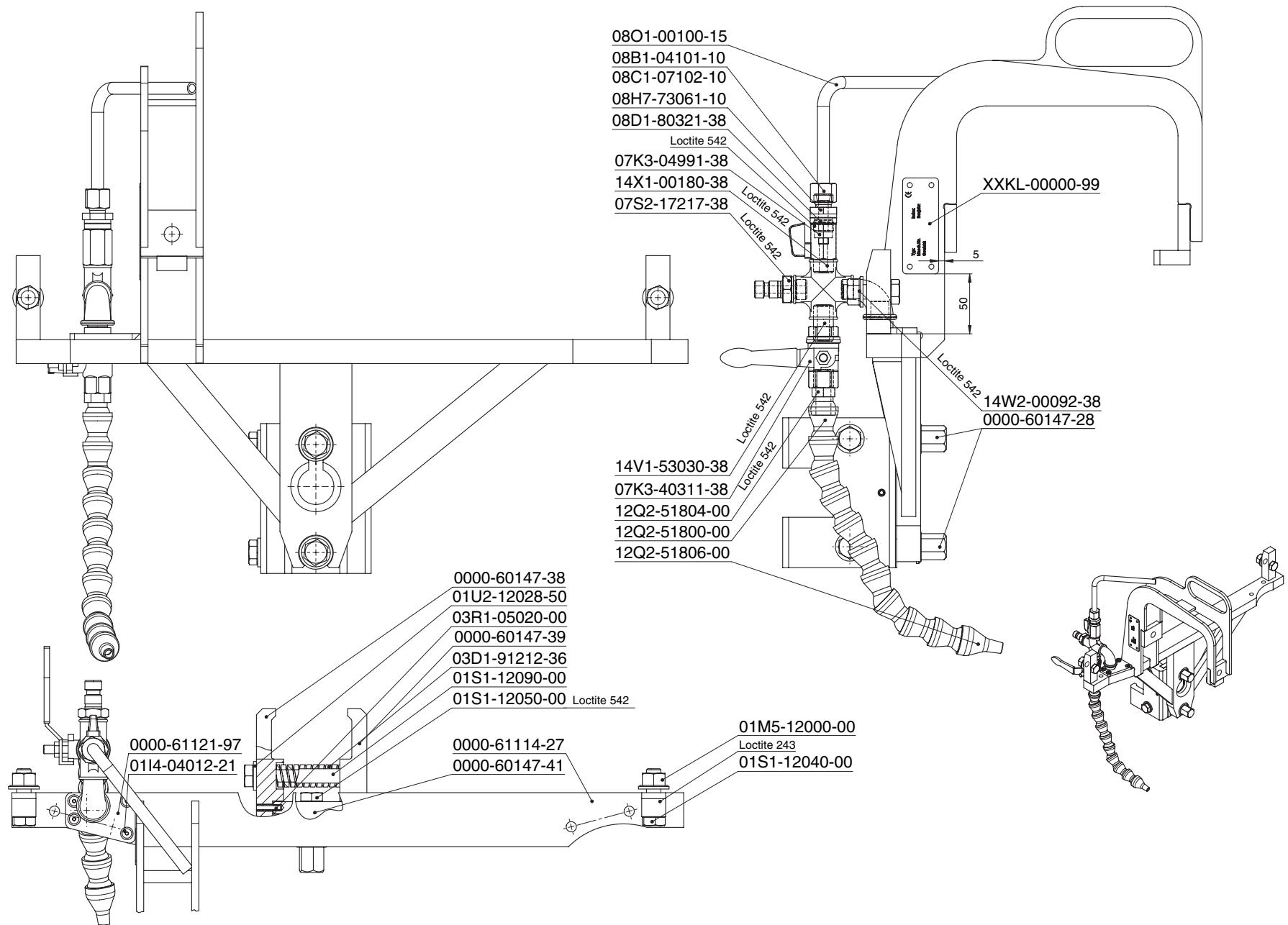
99MS-61114-01	10988513	Stützrolleneinheit WCU	Pulleys WCU	Poulies WCU	Puleggie WCU	1
Zeichn. Nr.	Mat. Nr.	Deutsch	English	Français	Italiano	Stk.
99MS-60129-70	961901	Umlenkrolle 200	Sivel pulley diam. 200	Pulies de renvoi diam. 200	Puleggia orientabile diam. 200	2
0000-61114-28	10988388	Austrittsausrichtung	Pointer	Indicateur	Indicatore	1
01S1-12030-00	971916	6kt-Schraube M12x30	Hexagonal screw M12x30	Vis à tête hexagonale M12x30	Vite a testa esagonale M12x30	2
01U1-12020-50	979354	U-Scheibe M12	U-washer M12	Rondelle en U M12	Rondella a U M12	2
01U2-12028-50	971964	U-Scheibe M12 13/24/2,5	U-washer M12 13/24/2,5	Rondelle en U M12 13/24/2,5	Rondella a U M12 13/24/2,5	1



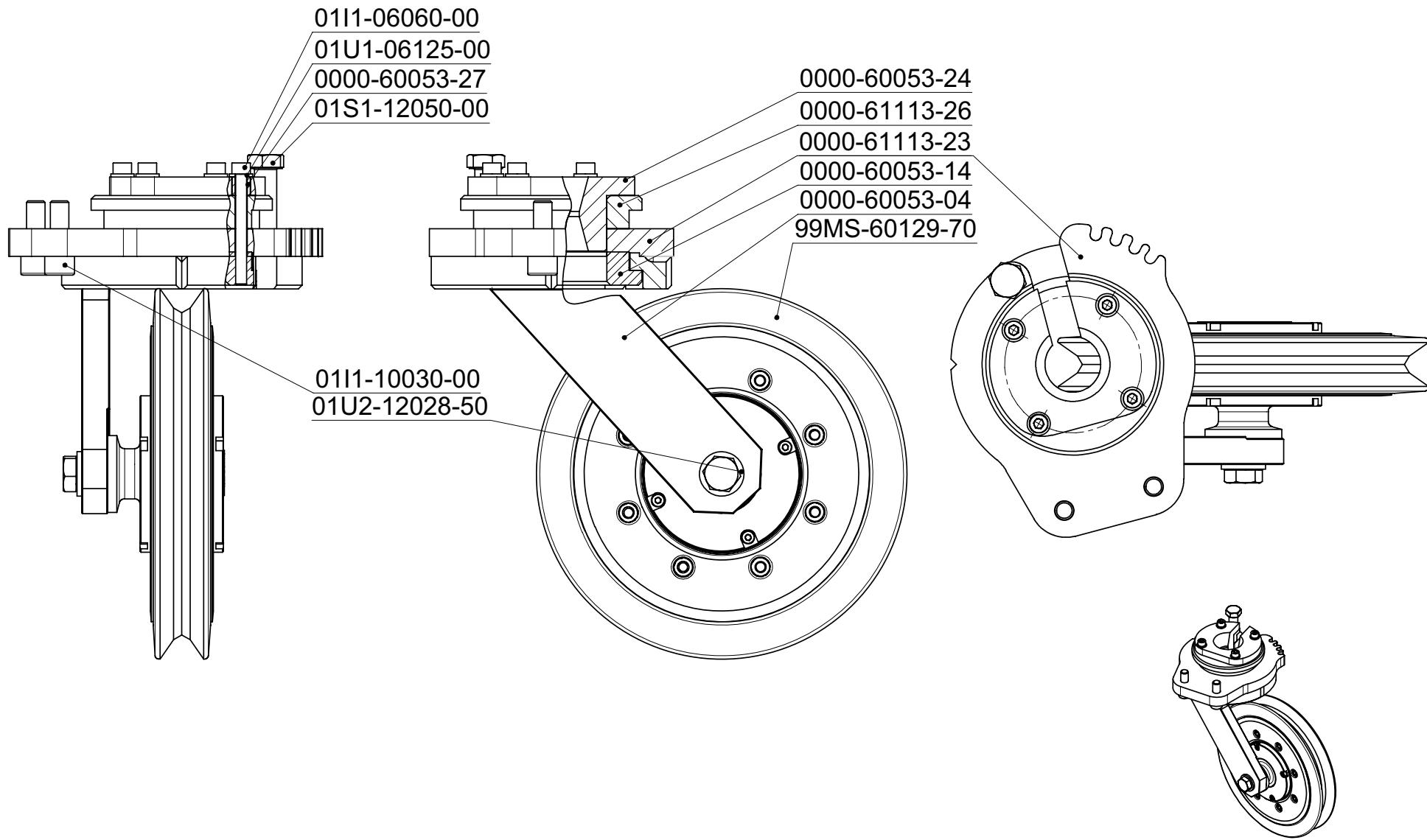
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01U2-12028-50
01M1-12000-00



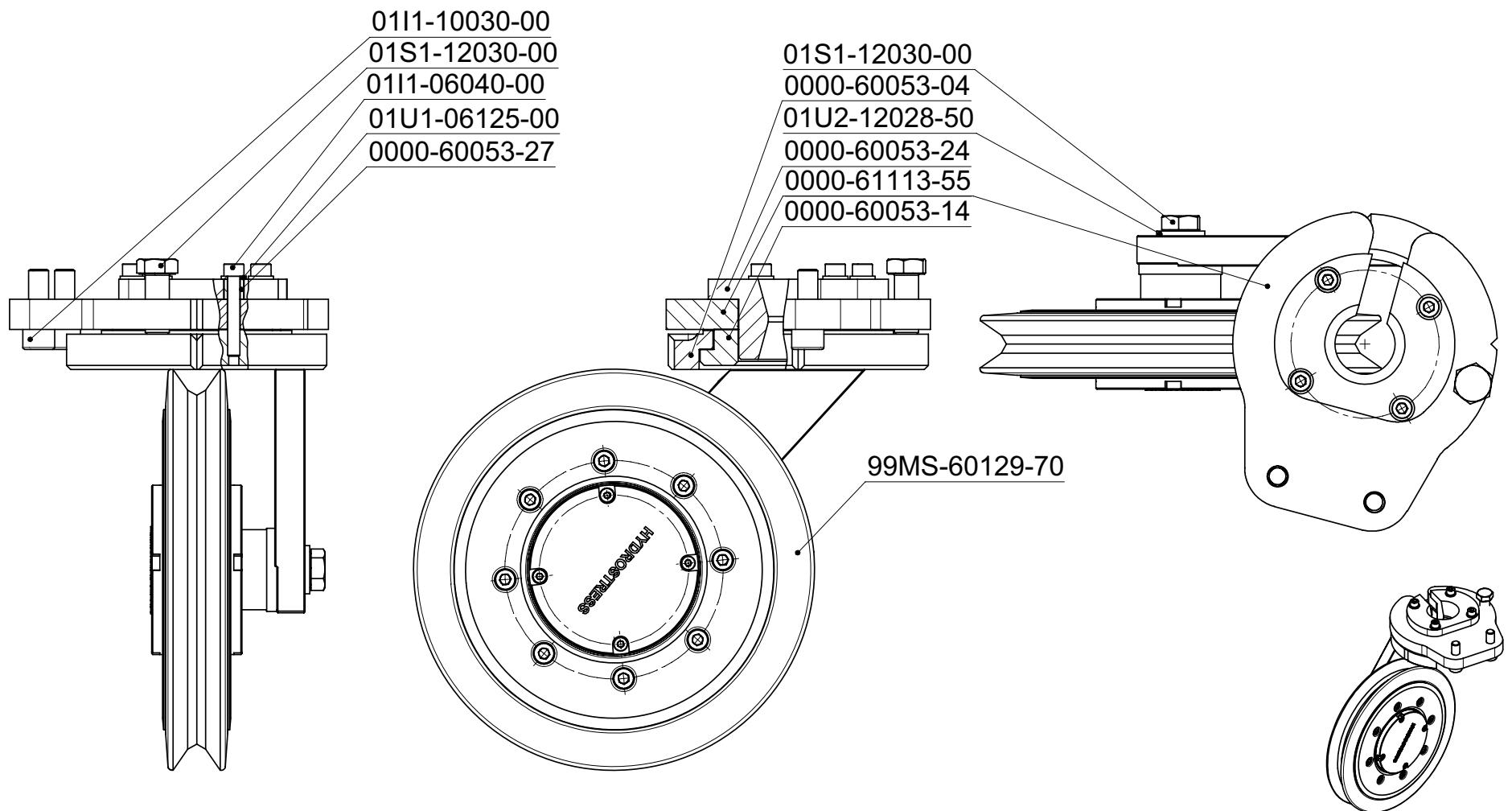
99MS-61113-02	10988514	Umlenkrollenpacket WCU	Swivel pulleys WCU	Poulies de renvoi WCU	Puleggie orientabili WCU	1
Zeichn. Nr.	Mat. Nr.	Deutsch	English	Français	Italiano	Stk.
99MS-61113-14	10988390	Umlenkr. Ø200 schmal 11°	Sivel pulley diam. 200 small 11°	Pulies de renvoi diam. 200 effilé 11°	Puleggia orient.diam. 200 sottile 11°	4
0000-61113-19	10988379	Lagerdeckel schräg (Gew.)	Bearing bush bevel	Coussinet oblique	Bussolo per supporto diagonale	1
0000-61113-49	10988649	Lagerd.schräg (Bohrung)	Bearing bush bevel	Coussinet oblique	Bussolo per supporto diagonale	1
0000-61113-51	10988696	Zyl. Schr. M6 x 180 Bearb	Cylinder screw M6x180	Vis cylindrique M6x180	Vite a testa cilindrica M6x180	1
01M1-12000-00	971849	Mutter 6Kt. M12	Hexagon nut	Ecrou 6 pans M12	Dado M12	2
01S1-12220-00	10988631	6kt-Schraube M12x220	Hexagonal screw M12x220	Vis à tête hexagonale M12x220	Vite a testa esagonale M12x220	1
01U2-12028-50	971964	U-Scheibe M12 13/24/2,5	U-washer M12 13/24/2,5	Rondelle en U M12 13/24/2,5	Rondella a U M12 13/24/2,5	2



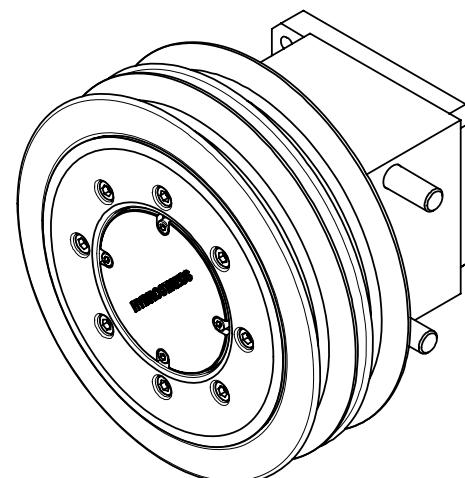
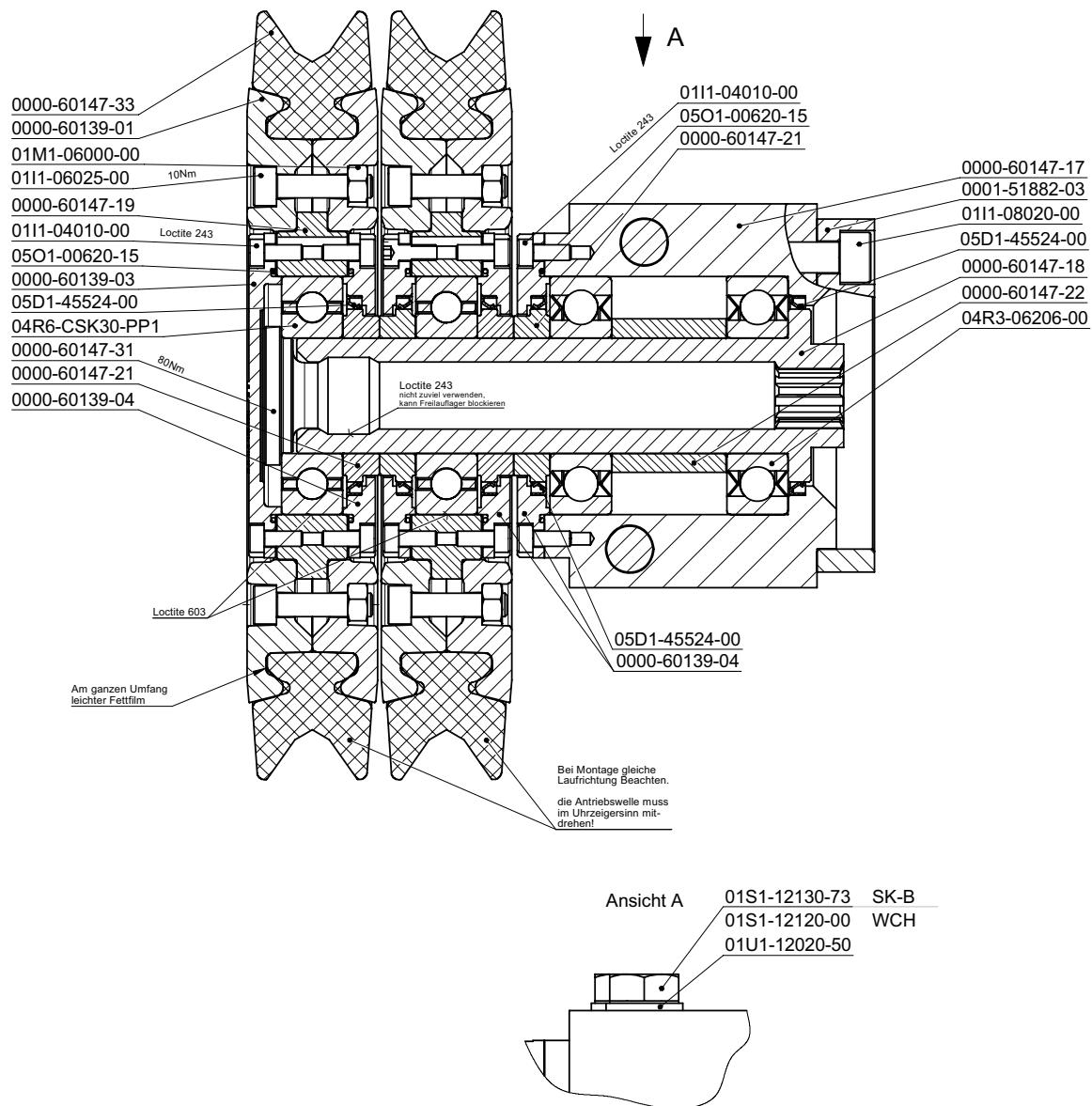
99MS-611143-03	10988518	Rollenträger WCU	Pulleys WCU	Poulies WCU	Puleggie WCU	1
Zeichn. Nr.	Mat. Nr.	Deutsch	English	Français	Italiano	Stk.
0000-60147-28	960573	Langmutter M12	Long nut M12	Ecrou longue M12	Dado lungo M12	2
0000-60147-38	999371	KLemmplatte B-7S	Clamp plate B-7S	Plaque de serrage B-7S	Piastra di fissaggio B-7S	1
0000-60147-39	999370	Bolzenplatte B-7S	Bolt plate B-7S	Plaque boulon B-7S	Piastra bullone B-7S	1
0000-60147-41	999412	Mittelplatte zu SK-B	Center plate SK-B	Plaque centrale SK-B	Piastra centrale SK-B	1
0000-61114-27	10988387	Basishalter	Bracket	Cadre support	Sostegno	1
01S1-12050-00	971919	6kt-Schraube M12x50	Hexagonal screw M12x50	Vis à tête hexagonale M12x50	Vite a testa esagonale M12x50	2
01S1-12090-00	971925	6kt-Schraube M12x90	Hexagonal screw M12x90	Vis à tête hexagonale M12x90	Vite a testa esagonale M12x90	2
01U2-12028-50	971964	U-Scheibe M12 13/24/2,5	U-washer M12 13/24/2,5	Rondelle en U M12 13/24/2,5	Rondella a U M12 13/24/2,5	2
03D1-91212-36	960572	Druckfeder Dm 20/10x76	Pressure spring Ø20/10x76	Ressort à pression Ø 20/10x76	Molla di compressione Ø 20/10x76	1
03R1-05020-00	972092	Zahnschlitz-Stift 5x20	Spring cotter 5x20	Goupille fendue 5x20	Spina elastica 5.20	2
01S1-12040-00	979337	6kt-Schraube M12x40	Hexagonal screw M12x40	Vis à tête hexagonale M12x40	Vite a testa esagonale M12x40	2
01M5-12000-00	971866	Kombi 6-kt.-Mutter M112	Hexagonal nut M112	Ecrou hexagonal M112	Dado esagonale M112	2
0000-61121-97	10988807	Platte mit nippel G3/8kon	Plate with nipple	Plaque avec raccord mâle	Piastra con raccordo	1
01I4-04012-21	10984838	Senkkopfschraube M 4x 12	Countersunk head screw M4x12	Vis à tête fraisée M4x12	Vite a testa svasata M4x12	4
07K3-04991-38	961666	Kugelhahn 3/8"i/a	Ball valve 3/8"i/a	Robinet d'eau à bille 3/8"i/a	Rubinetto sferico 3/8"i/a	1
07K3-40311-38	972566	Kugelhahn Teflon 3/8"	Ball valve Teflon 3/8"	Robinet d'eau à bille Teflon 3/8"	Rubinetto sferico Teflon 3/8"	1
07S2-17217-38	972795	Stecknippel 3/8 A 1-WR017	Nipple 3/8 A 1-WR017	Raccord d'eau mâle 3/8 A 1-WR017	Raccordo acqua mas. 3/8 A 1-WR017	1
08B1-04101-10	972844	Ueberwurfmutter 10 L	Swivel nut 10 L	Ecrou de serrage 10 L	Dado a risvolto 10 L	1
08C1-07102-10	972854	Schneidring Rohr 10	Cutting ring pipe 10	Douille à sertir pour tuyau 10	Anello maschiante per tubo 10	1
08D1-80321-38	972861	Dichtkantenring G 3/8"	Seal Edge ring G 3/8"	Joint prismatique 3/8" G	Anello tenuta metal. 3/8"	1
08H7-73061-10	972894	Ger.Verschr. 3/8-10L	Straight screw connection 3/8-10L	Vissage droit 3/8-10L	Avvitamento diritto 3/8-10L	1
08O1-00100-15	972930	Hydraulikrohr Dm 10x1,5	Hydraulic pipe Dm 10x1,5	Tuyau hydraulique Dm 10x1,5	Tubo idraulico Dm 10x1,5	0.240
12Q2-51800-00	976482	Loc-Line Gelenkstück gr.	Loc-Line link large	Loc-Line charnière	Elem. Tubo acqua orient S	10
12Q2-51806-00	977216	Loc-Line Düse 6mm 1/2	Loc-Line nozzle 6mm 1/2	Loc-Line buse 6mm 1/2	Loc-Line mantice 6mm 1/2	1
12Q2-51804-00	976483	LOC-LINE Gewindenippel	Loc-Line nipple	Raccord fileté Loc-Line	Elemento filettato Loc-Line	1
14V1-53030-38	960593	Rohrnippel GF530 3/8 x 30	Pipe nipple GF530 3/8 x 30	Raccord tube GF530 3/8 x 30	Raccordo a tubo GF530 3/8 x 30	2
14W2-00092-38	973711	Winkel GF92 3/8 A-3/8 I	GF-bracket 92 G3/8A-3/8 I	Angle GF92 3/8 A-3/8 I	Angolo GF92 3/8 A-3/8 I	1
14X1-00180-38	960590	Verteiler GF180 3/8"	Verteiler GF180 3/8"	Verteiler GF180 3/8"	Verteiler GF180 3/8"	1



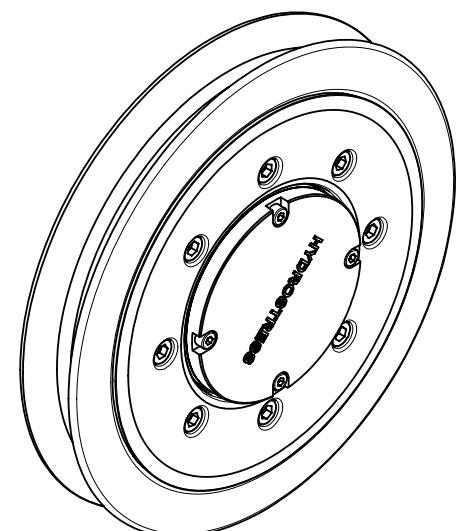
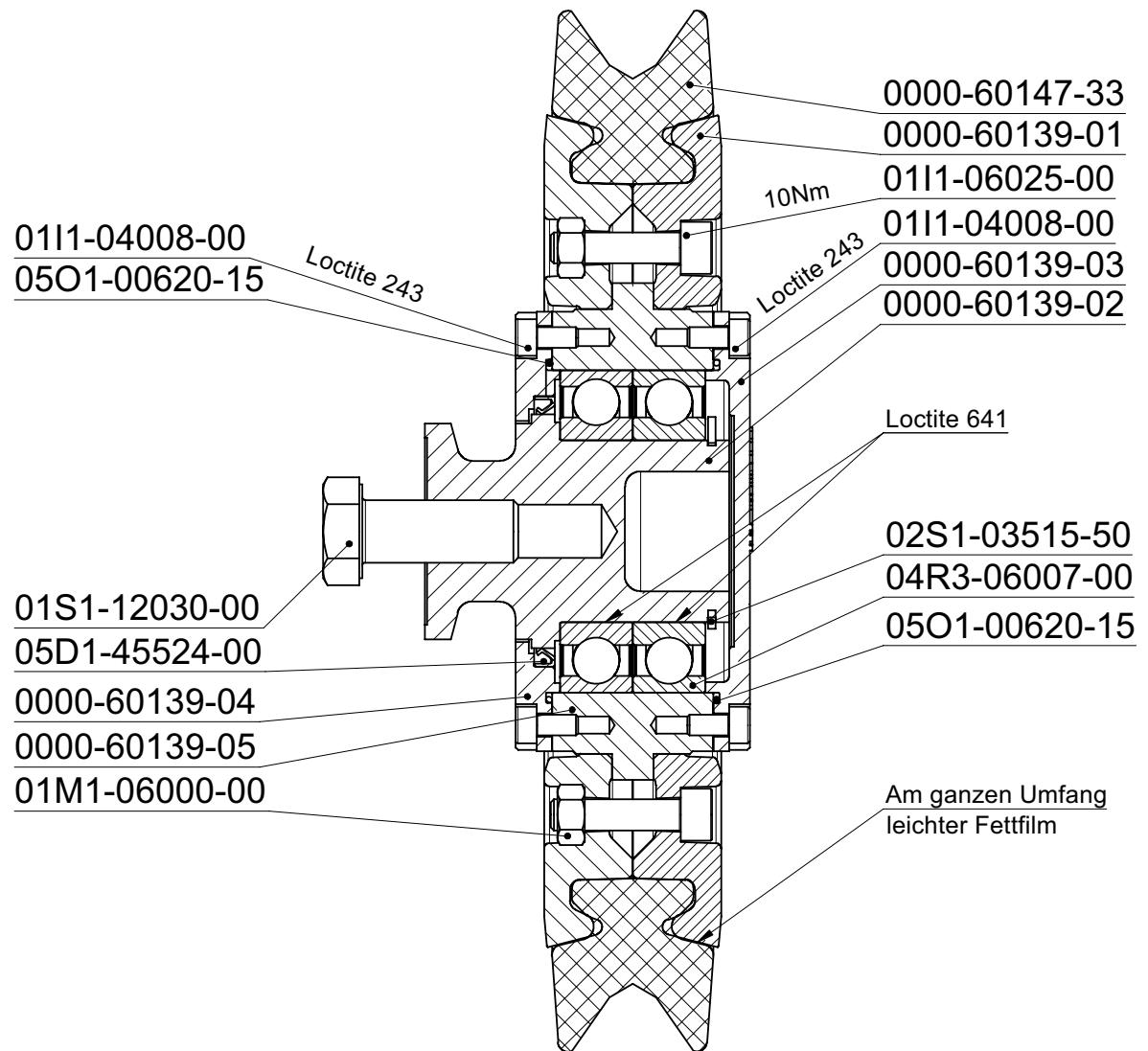
99MS-61114-35	10988505	Schwenkrolle Eintritt WCU	Swivel pulley input WCU	Galet de pivotage entrée WCU	Rullo girevole entrata WCU	1
Zeichn. Nr.	Mat. Nr.	Deutsch	English	Français	Italiano	Stk.
99MS-60129-70	961901	Umlenkrolle 200	Sivel pulley diam. 200	Pulies de renvoi diam. 200	Puleggia orientabile diam. 200	1
0000-60053-04	977114	Schwenkhalter	Swivelling support	Support orientable	Braccio ruota girevole	1
0000-60053-14	977120	Ring	Ring	Anneau	Anello	1
0000-60053-24	977954	Schutzbüchse	Cover bushing	Douille de protection nue	Anello PVC (vedi 977613)	1
0000-60053-27	977956	Hülse	Sleeve	Douille	Boccolla	4
0000-61113-23	10988383	Eintrittsplatte	Input plate	Plaque entrée	Piastra d'entrata	1
0000-61113-26	10988386	Eintrittsring	Input ring	Anneau entrée	Anello d'entrata	1
01I1-06060-00	971720	Inbus-Schraube M6x60	Allen head screw M6x60	Vis à six pans creux M6x60	Vite ad esagono cavo M6x60	4
01I1-10030-00	971817	Inbus-Schraube M10x30	Allen head screw M10x30	Vis à six pans creux M10x30	Vite ad esagono cavo M10x30	2
01S1-12050-00	971919	6kt-Schraube M12x50	Hexagonal screw M12x50	Vis à tête hexagonale M12x50	Vite a testa esagonale M12x50	1
01U1-06125-00	979352	U-Scheibe Dm 6.4x12.5x1.6	U-washer dia 6.4x12.5x1.6	Rondelle en U diam. 6.4x12.5x1.6	Rondella a U diam. 6.4x12.5x1.6	4
01U2-12028-50	971964	U-Scheibe M12 13/24/2,5	U-washer M12 13/24/2,5	Rondelle en U M12 13/24/2,5	Rondella a U M12 13/24/2,5	1



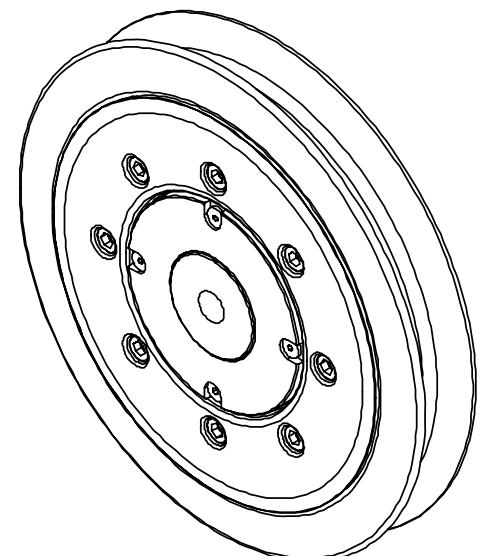
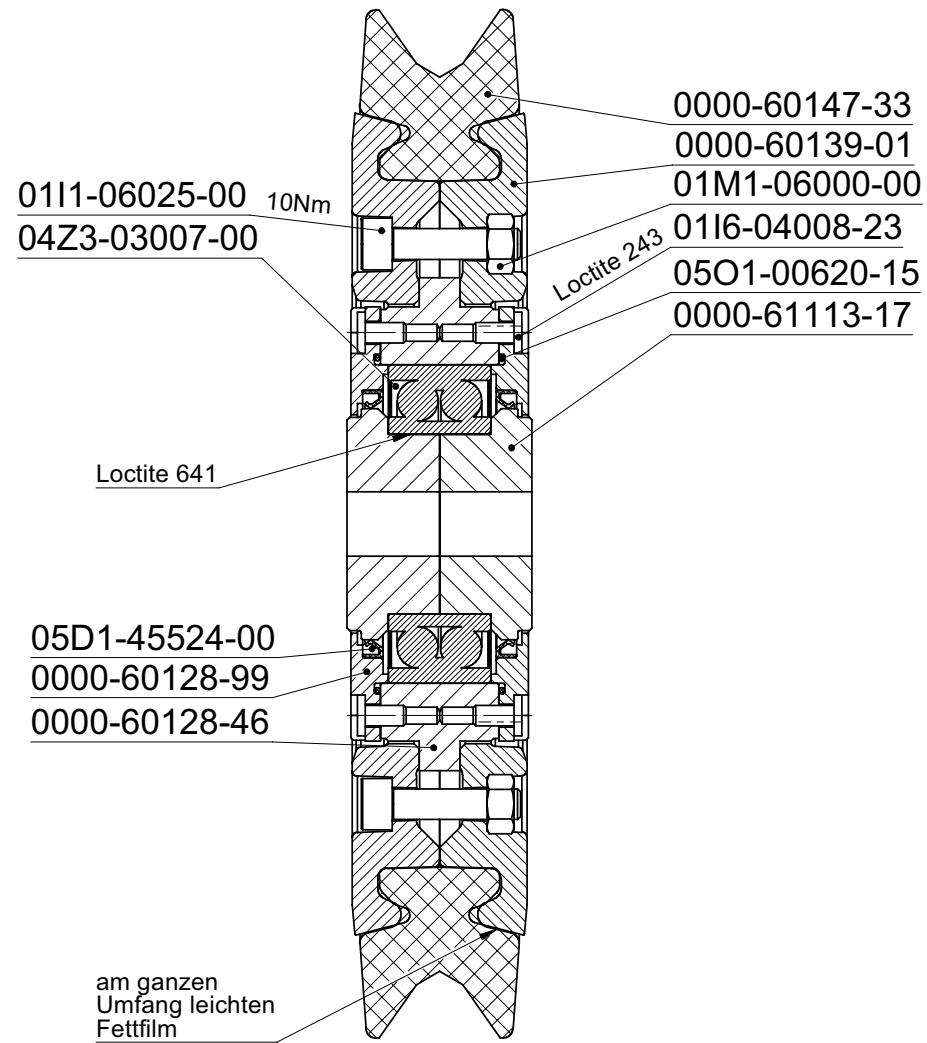
99MS-61114-30	10988533	Schwenkrolle Austritt WCU	Swivel pulley exit WCU	Galet de pivotage départ WCU	Rullo girevole uscita WCU	1
Zeichn. Nr.	Mat. Nr.	Deutsch	English	Français	Italiano	Stk.
99MS-60129-70	961901	Umlenkrolle 200	Sivel pulley diam. 200	Pulies de renvoi diam. 200	Puleggia orientabile diam. 200	1
0000-60053-04	977114	Schwenkhalter	Swivelling support	Support orientable	Braccio ruota girevole	1
0000-60053-14	977120	Ring	Ring	Anneau	Anello	1
0000-60053-24	977954	Schutzbüchse	Cover bushing	Douille de protection nue	Anello PVC (vedi 977613)	1
0000-60053-27	977956	Hülse	Sleeve	Douille	Boccola	4
0000-61113-55	10988522	Austrittsplatte	Exit plate	Plaque départ	Piastra di uscita	1
01I1-06040-00	971715	Inbus-Schraube M6x40	Allen head screw M6x40	Vis à six pans creux M6x40	Vite ad esagono cavo M6x40	4
01I1-10030-00	971817	Inbus-Schraube M10x30	Allen head screw M10x30	Vis à six pans creux M10x30	Vite ad esagono cavo M10x30	2
01S1-12030-00	971916	6kt-Schraube M12x30	Hexagonal screw M12x30	Vis à tête hexagonale M12x30	Vite a testa esagonale M12x30	2
01U1-06125-00	979352	U-Scheibe Dm 6.4x12.5x1.6	U-washer dia 6.4x12.5x1.6	Rondelle en U diam. 6.4x12.5x1.6	Rondella a U diam. 6.4x12.5x1.6	4
01U2-12028-50	971964	U-Scheibe M12 13/24/2,5	U-washer M12 13/24/2,5	Rondelle en U M12 13/24/2,5	Rondella a U M12 13/24/2,5	1



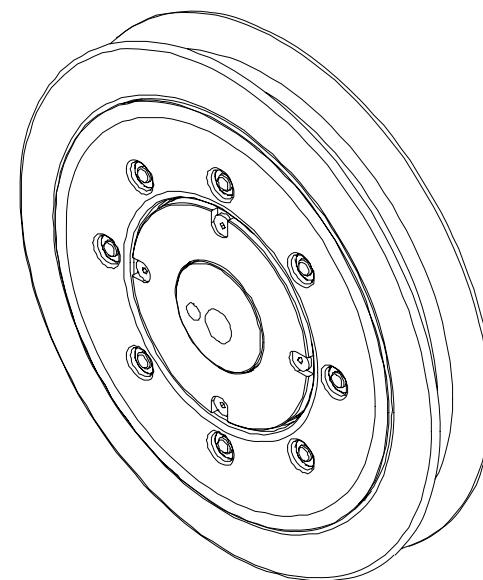
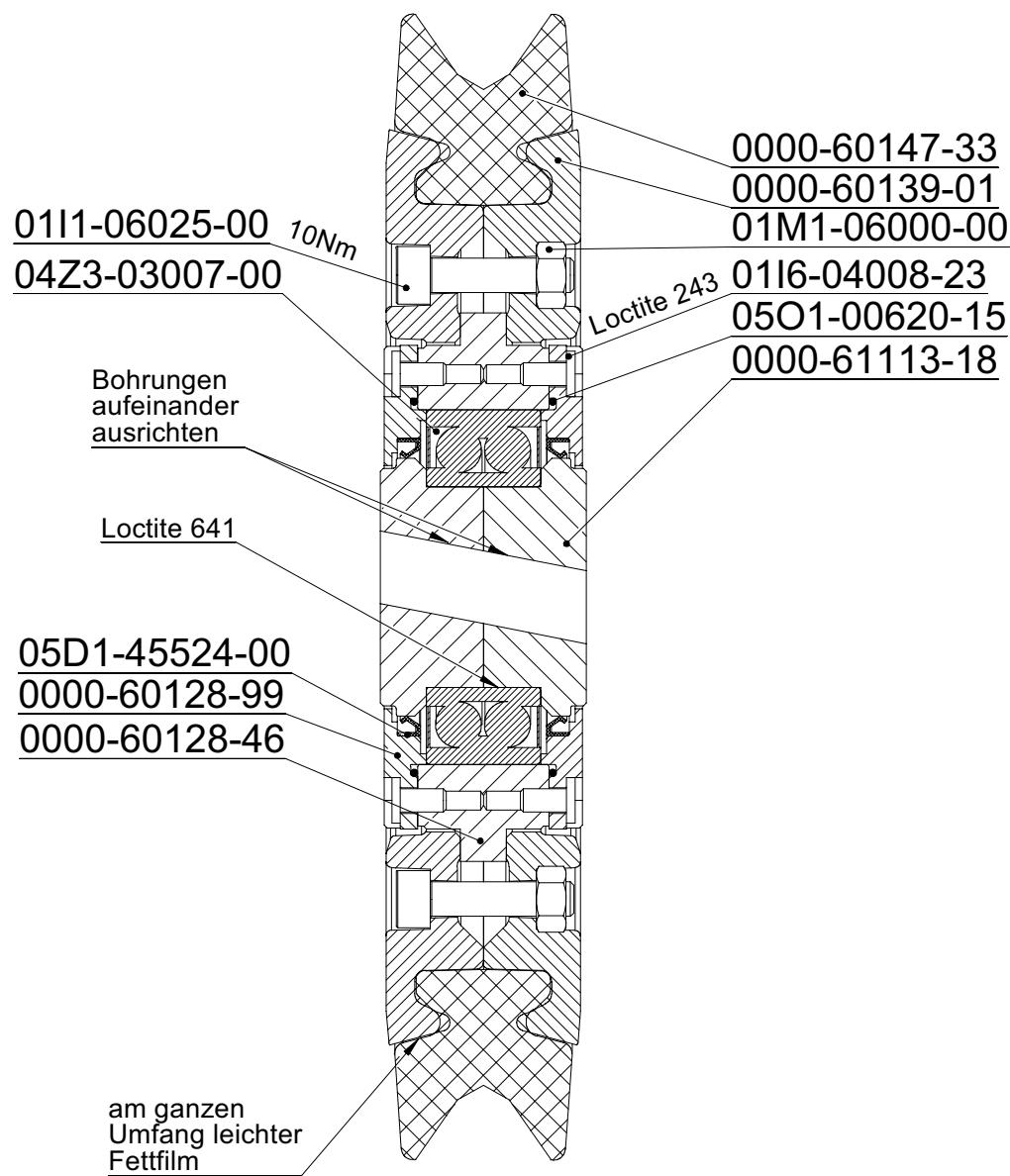
99MS-60147-20	965990	Twin-Antriebsrollen-Einh.	Twin-drive pulleys unit	Commande pulley unit twin	Unità comando puleggia twin	1
Zeichn. Nr.	Mat. Nr.	Deutsch	English	Français	Italiano	Stk.
0000-60139-01	964209	Felge	Rim	Jante	Cerchione	4
0000-60139-03	964218	Deckel vorn	Cover front	Couvercle avant	Coperchio davanti	1
0000-60139-04	964212	Deckel hinten	Cover backside	Couvercle derrière	Coperchio dietro	4
0000-60147-17	965656	Lagergehäuse SK-B	Bearing housing SK-B	Boîtier de palier SK-B	Scatola per Cuscinetto SK-B	1
0000-60147-18	965657	Antriebswelle SK-B	Drive shaft SK-B	Arbre d'entraînement SK-B	Albero di comando SK-B	1
0000-60147-19	965658	Rollenlager SK-B	Roller bearing SK-B	Coussinet pour poulie SK-B	Flangia intermedia SK-B	2
0000-60147-21	965659	Dichtring SK-B	Sealing ring SK-B	Joint d'étanchéité SK-B	Anello di tenuta SK-B	4
0000-60147-22	965660	Distanzring SK-B	Distance ring SK-B	Anneau entretoise SK-B	Anello distanziatore SK-B	1
0000-60147-31	960596	Schraube	Screw	Vis	Vite	1
0000-60147-33	960575	Antr.Bandage 200 schwarz	Lining for pull.Ø200black	Bandage poulie 200 (dur)	Gomma puleggia traz. 200	2
0001-51882-03	970397	Motorenplatte Bosch AZ	Motorplate Bosch AZ	Plaque moteur Bosch AZ	Flangia motore Bosch AZ	1
01I1-04010-00	971678	Inbus-Schraube M4x10	Allen head screw M4x10	Vis à six pans creux M4x10	Vite ad esagono cavo M4x10	20
01I1-06025-00	971711	Inbus-Schraube M6x25	Allen head screw M6x25	Vis à six pans creux M6x25	Vite ad esagono cavo M6x25	16
01I1-08020-00	979283	Inbus-Schraube M8x20	Allen head screw M8x20	Vis à six pans creux M8x20	Vite ad esagono cavo M8x20	2
01M1-06000-00	979307	Mutter 6 kt. M6x0.8d	nut hex. M6x0.8d	Ecrou 6 pans M6x0.8d	Dado M6x0.8d	16
01S1-12120-00	971930	6kt-Schraube M12x120	Hexagonal screw M12x120	Vis à tête hexagonale M12x120	Vite a testa esagonale M12x120	2
01S1-12130-73	971931	6kt-Schraube M12x130 12.9	Hexagonal screw M12x130 12.9	Vis à tête hexagonale M12x130 12.9	Vite a testa esagonale M12x130 12.9	2
04R3-06206-00	972153	Rillenkugellager 6206-2RS	Ball Bearing 6206-2RS	Roulement à billes 6206-2RS	Cuscinetto 6206 2RS	2
04R6-CSK30-PP1	960597	Freilauf CSK 30 ohne Keil	Free-wheel. 30 excl. key	Roue libre CSK 30 uni-dir	Ruota libera CSK 30 uni-dir	2
05D1-45524-00	969143	Dichtring Dm 45x52x4	Sealing ring diam. 45x52x4	Joint diam. 45x52x4	Anello di tenuta diam. 45X52X4	5
05O1-00620-15	964355	O-Ring 62.00x1.50 N 70	O-ring seal 62.00x1.50 N 70	Joint torique 62.00x1.50 N 70	Guarnizione OR 62.00x1.50 N 70	5



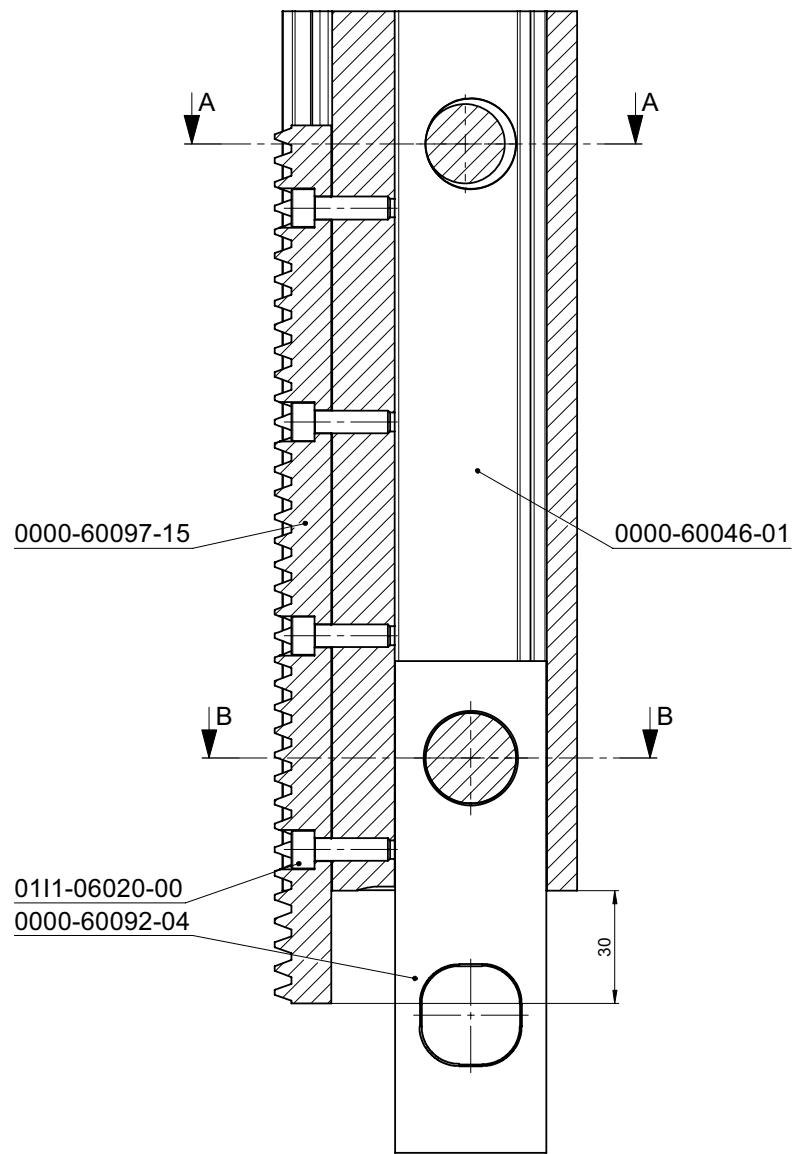
99MS-60129-70	961901	Umlenkrolle 200	Sivel pulley diam. 200	Pulies de renvoi diam. 200	Puleggia orientabile diam. 200	2
Zeichn. Nr.	Mat. Nr.	Deutsch	English	Français	Italiano	Stk.
0000-60139-01	964209	Felge	Rim	Jante	Cerchione	2
0000-60139-02	964210	Bolzen	Bolt	Axe poulie	Mozzo	1
0000-60139-03	964218	Deckel vorn	Cover front	Couvercle avant	Coperchio davanti	1
0000-60139-04	964212	Deckel hinten	Cover backside	Couvercle derrière	Coperchio dietro	1
0000-60139-05	964213	Lagerbüchse	Bearing shell	Cage de roulement double	Bossolo per supporto	1
0000-60147-33	960575	Antr.Bandage 200 schwarz	Lining for pull.Ø200black	Bandage poulie 200 (dur)	Gomma puleggia traz. 200	1
01I1-04008-00	971677	Inbus-Schraube M4x8	Allen head screw M4x8	Vis à six pans creux M4x8	Vite ad esagono cavo M4x8	8
01I1-06025-00	971711	Inbus-Schraube M6x25	Allen head screw M6x25	Vis à six pans creux M6x25	Vite ad esagono cavo M6x25	8
01M1-06000-00	979307	Mutter 6 kt. M6x0.8d	nut hex. M6x0.8d	Ecrou 6 pans M6x0.8d	Dado M6x0.8d	8
01S1-12030-00	971916	6kt-Schraube M12x30	Hexagonal screw M12x30	Vis à tête hexagonale M12x30	Vite a testa esagonale M12x30	1
01S1-12055-00	979338	6kt-Schraube M12x55	Hexagonal screw M12x55	Vis à tête hexagonale M12x55	Vite a testa esagonale M12x55	1
01S1-12070-00	971922	6kt-Schraube M12x70	Hexagonal screw M12x70	Vis à tête hexagonale M12x70	Vite a testa esagonale M12x70	1
02S1-03515-50	972000	Seegerring Welle Dm 35	Seeger circlip-ring arbre diam.35	Ann.de ret.Seeger arbre diam. 35	Anello tipo seeger albero diam.35	1
04R3-06007-00	972149	Rillenkugellager 6007-2RS	Ball Bearing 6007-2RS	Roulement à billes 6007-2RS	Cuscinetto 6007-2RS	2
05D1-45524-00	969143	Dichtring Dm 45x52x4	Sealing ring diam. 45x52x4	Joint diam. 45x52x4	Anello di tenuta diam. 45X52X4	1
05O1-00620-15	964355	O-Ring 62.00x1.50 N 70	O-ring seal 62.00x1.50 N 70	Joint torique 62.00x1.50 N 70	Guarnizione OR 62.00x1.50 N 70	2



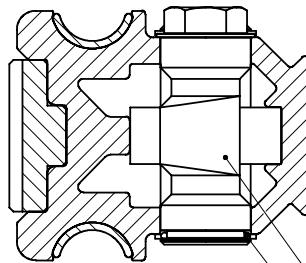
99MS-61113-15	10988391	Umlenkr. Ø200 schmal	Sivel pulley diam. 200 small	Pulies de renvoi diam. 200 effilé	Puleggia orientabile diam. 200 sottile3	
Zeichn. Nr.	Mat. Nr.	Deutsch	English	Français	Italiano	Stk.
0000-60128-46	960721	Lagerbüchse	Drive shaft SK-B	Arbre d'entraînement SK-B	Albero di comando SK-B	1
0000-60128-99	961286	Deckel hinten	Roller bearing SK-B	Coussinet pour poulie SK-B	Flangia intermedia SK-B	2
0000-60139-01	964209	Felge	Rim	Jante	Cerchione	2
0000-60147-33	960575	Antr.Bandage 200 schwarz	Lining for pull.Ø200black	Bandage poulie 200 (dur)	Gomma puleggia traz. 200	1
0000-61113-17	10988377	Lagerbolzen gerade	Bearing bush straight	Coussinet droite	Bussolo per supporto diritto	2
01I1-06025-00	971711	Inbus-Schraube M6x25	Allen head screw M6x25	Vis à six pans creux M6x25	Vite ad esagono cavo M6x25	8
01I6-04008-23	971833	Inb-Schr.extr.n.Kopf M4x8	Allen head screw M4x8	Vis tête basse M4x8	Vite ad esagono cavo M4x8 bassa	8
01M1-06000-00	979307	Mutter 6 kt. M6x0.8d	nut hex. M6x0.8d	Ecrou 6 pans M6x0.8d	Dado M6x0.8d	8
04Z3-03007-00	972178	Schräg-Kugellag. 3007-2RS	Angular ball bearing 3007-2RS	Roulem. à billes à contact obli.3007-2RS	Cuscinetto a sfere oblique 3007-2RS	1
05D1-45524-00	969143	Dichtring Dm 45x52x4	Sealing ring diam. 45x52x4	Joint diam. 45x52x4	Anello di tenuta diam. 45X52X4	2
05O1-00620-15	964355	O-Ring 62.00x1.50 N 70	O-ring seal 62.00x1.50 N 70	Joint torique 62.00x1.50 N 70	Guarnizione OR 62.00x1.50 N 70	2



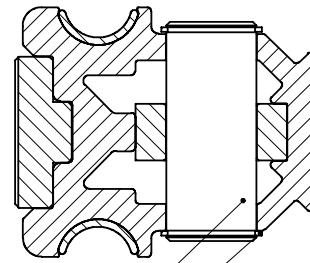
99MS-61113-14	10988390	Umlenkr. Ø200 schmal 11°	Sivel pulley diam. 200 small 11°	Pulies de renvoi diam. 200 effilé 11°	Puleggia orient.diam. 200 sottile 11°4	
Zeichn. Nr.	Mat. Nr.	Deutsch	English	Français	Italiano	Stk.
0000-60128-46	960721	Lagerbüchse	Drive shaft SK-B	Arbre d'entraînement SK-B	Albero di comando SK-B	1
0000-60128-99	961286	Deckel hinten	Roller bearing SK-B	Coussinet pour poulie SK-B	Flangia intermedia SK-B	2
0000-60139-01	964209	Felge	Rim	Jante	Cerchione	2
0000-60147-33	960575	Antr.Bandage 200 schwarz	Lining for pull.Ø200black	Bandage poulie 200 (dur)	Gomma puleggia traz. 200	1
0000-61113-18	10988378	Lagerbolzen schräg	Bearing bush bevel	Coussinet oblique	Bussolo per supporto diagonale	2
01I1-06025-00	971711	Inbus-Schraube M6x25	Allen head screw M6x25	Vis à six pans creux M6x25	Vite ad esagono cavo M6x25	8
01I6-04008-23	971833	Inb-Schr.extr.n.Kopf M4x8	Allen head screw M4x8	Vis tête basse M4x8	Vite ad esagono cavo M4x8 bassa	8
01M1-06000-00	979307	Mutter 6 kt. M6x0.8d	nut hex. M6x0.8d	Ecrou 6 pans M6x0.8d	Dado M6x0.8d	8
04Z3-03007-00	972178	Schräg-Kugellag. 3007-2RS	Angular ball bearing 3007-2RS	Roulem. à billes à contact obli.3007-2RS	Cuscinetto a sfere oblique 3007-2RS	1
05D1-45524-00	969143	Dichtring Dm 45x52x4	Sealing ring diam. 45x52x4	Joint diam. 45x52x4	Anello di tenuta diam. 45X52X4	2
05O1-00620-15	964355	O-Ring 62.00x1.50 N 70	O-ring seal 62.00x1.50 N 70	Joint torique 62.00x1.50 N 70	Guarnizione OR 62.00x1.50 N 70	2



Schnitt A-A

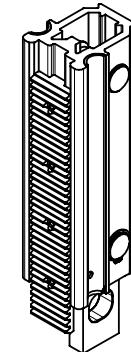
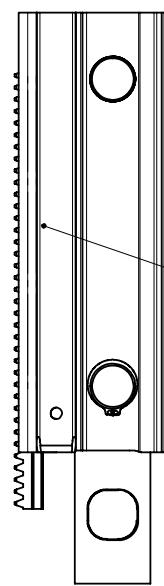


Schnitt B-B

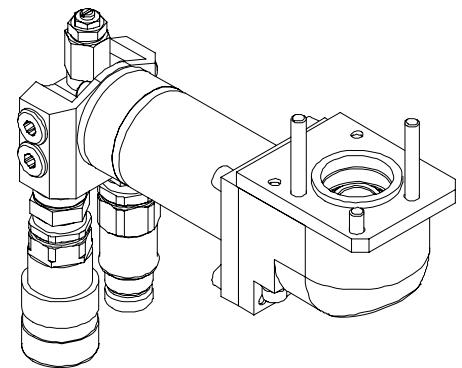
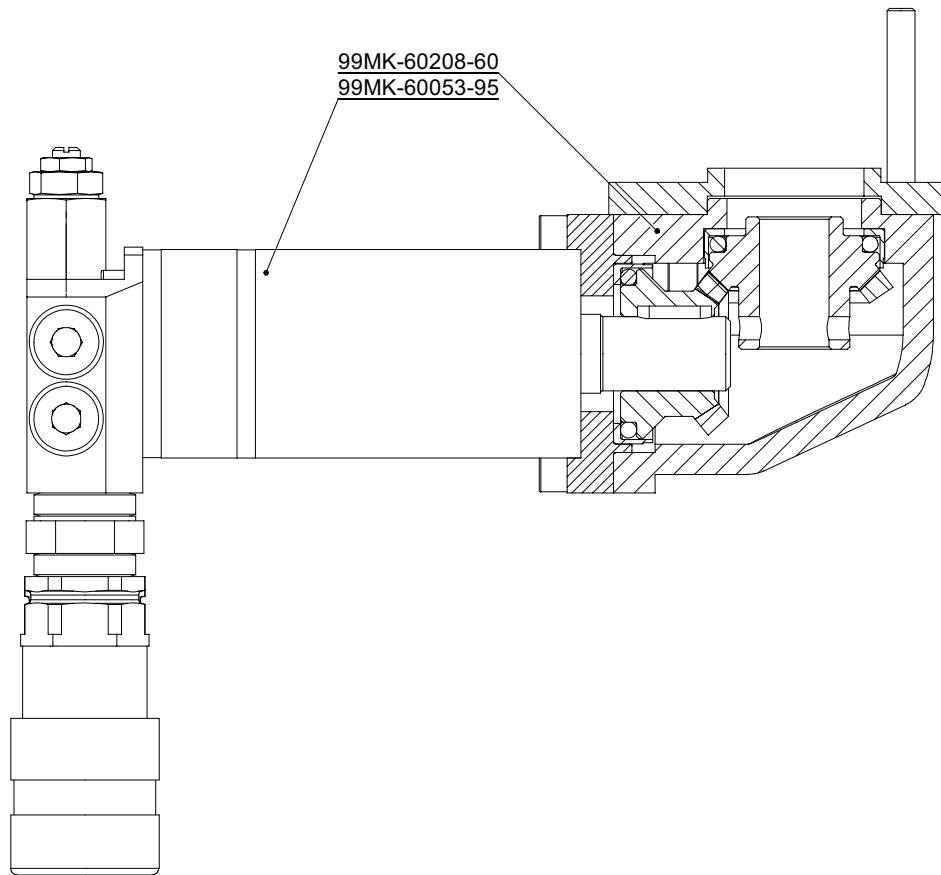


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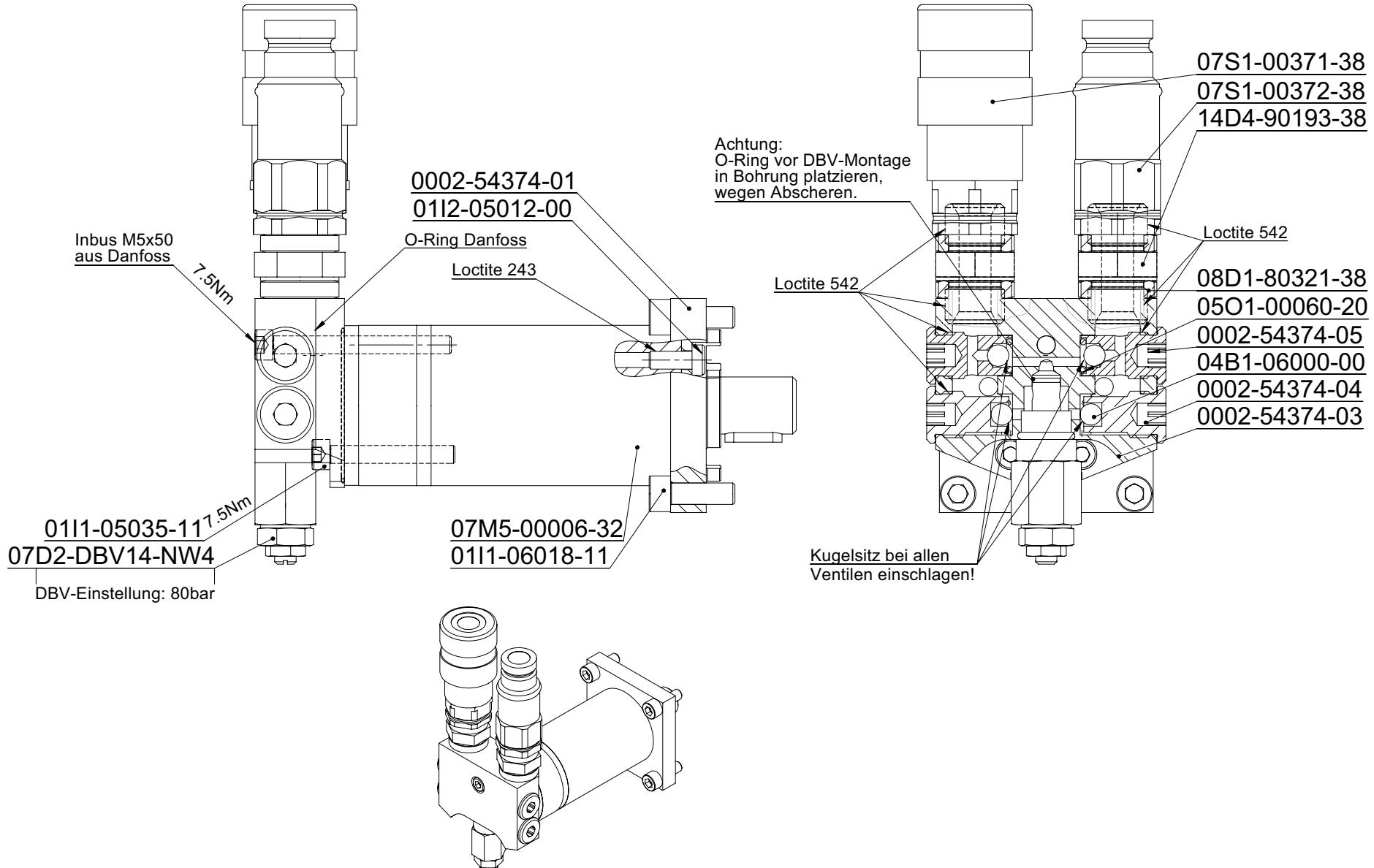
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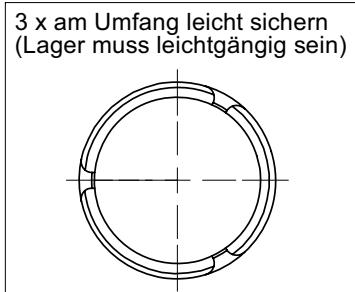
	99MK-00233-B7S	984969	Verlängerung 233 kpl.	Toothed extension 233 cpl.	Elongation 233 compl.	Prolunga 233 compl.	1
	Zeichn. Nr.	Mat. Nr.	Deutsch	English	Français	Italiano	Stk.
0000-60023-61	999131	Führungsenl. 233 (233mm)	Steel guide insert 233	Apport de guidage 233	Inserto per guida 233	2	
0000-60046-01	984966	Verlängerungsschiene 233	Extension track 233	Rail de rallonge 233	Binario di prolunga 233	1	
0000-60092-02	978530	Zapfen	Tappet	Tourrillon	Camma	1	
0000-60092-04	978532	Spannlasche	Tensioningstrap	Collier de serrage	Linguetta di tensione	1	
0000-60092-05	978533	Exzenter	Eccentric	Boulon d'excentrique	Eccentrico	1	
0000-60097-15	978600	Zahnstange 233	Bearing housing SK-B	Boîtier de palier SK-B	Scatola per Cuscinetto SK-B	1	
0111-06020-00	971709	Inbus-Schraube M6x20	Allen head screw M6x20	Vis à six pans creux M6x20	Vite ad esagono cavo M6x20	4	
02S1-02412-50	979379	Seegering Welle Dm 24	Seeger circlip-ring arbre diam.24	Ann.de ret.Seeger arbre diam. 24	Anello tipo seeger albero diam.24	2	
05O1-00200-20	979536	O-Ring 20.00x2.00 N 70	O-ring seal 20.00x2.00 N 70	Joint torique 20.00x2.00 N 70	Guarnizione OR 20.00x2.00 N 70	1	



99MS-61113-04	10988496	Vorsch.Mot.32 DBV/Getr/Pl	Feed motor 32 DBV/Getr/Pl	Mot. d'avancement 32 DBV/Getr/Pl	Motore d'avanz. S32 DBV/Getr/Pl	1
Baugruppe.	Mat. Nr.	Deutsch	English	Français	Italiano	Stk.
99MK-60053-95	964665	Vorsch.M.kpl.32ccm m. DBV	Feed motor 32ccm with DBV	Mot. d'avancement 32ccm avec DBV	Motore d'avanzamento 32ccm con DBV	1
99MK-60208-60	10980236	Vorschubgetr. m. Drehpl.	Feed gear with pivot.plate	Engren. d'avancem.av.plaque rotative	Ingrana.d'avanzam.con piastra rotat.	1

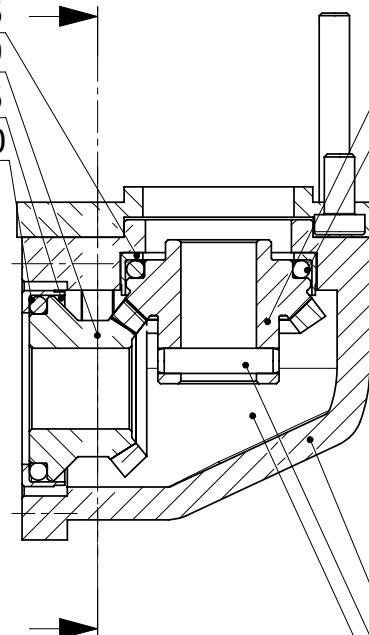


99MK-60053-95	964665	Vorsch.M.kpl.32ccm DBV	Feed motor 32ccm with DBV	Mot. d'avancement 32ccm DBV	Motore d'avanzamento 32ccm DBV	1
Zeichn. Nr.	Mat. Nr.	Deutsch	English	Français	Italiano	Stk.
0002-54374-01	976402	Motorplatte OML Anbau	Motorplate OML attachmt	Plaque moteur OML	Flangia motore OML	1
0002-54374-03	964736	Anschlussplatte DBV	Connection plate PRV	Plaque d'opturation DBV	Flangia supp. Mot. Avanz. DBV	1
0002-54374-04	964737	Rückschlagventil R	Back pressure valve R	Soupape de non-retour R	Valvola di rimando R	2
0002-54374-05	964738	Rückschlagventil P	Back pressure valve P	Soupape de non-retour P	Valvola di rimando P	2
01I1-05035-11	965772	Inb-Schraube M5x35 12.9	Allen head screw M5x35 12.9	Vis à six pans creux M5x35 12.9	Vite ad esagono cavo M5x35 12.9	2
01I1-06018-11	971708	Inb-Schraube M6x18 12.9	Allen head screw M6x18 12.9	Vis à six pans creux M6x18 12.9	Vite ad esagono cavo M6x18 12.9	4
01I2-05012-00	971804	Inb-Schr.nied.Kopf M5x12	Allen screw flhd M5x12	Vis tête basse M5x12	Vite ad esagono cavo M5x12 bassa	4
04B1-06000-00	979462	Kugel Dm 6	Ball Ø 6	Bille Ø 6	Sfera Ø 6	4
05O1-00060-20	976437	O-Ring 6.00x2.00 N 70	O-ring seal 6.00x2.00 N 70	Joint torique 6.00x2.00 N 70	Guarnizione OR 6.00x2.00 N 70	2
07D2-DBV14-NW4	964734	Druckbegr.	Pressure control valve	Soupape de limitation	Valvola di limit. di press.	1
07M5-00006-32	976442	Hydraulikmotor OML 32	Hydraulic motor OML 32	Moteur hydraulique OML 32	Motore idraulico 32 OML	1
07S1-00371-38	979703	FF Kupplung 3/8 Zoll	Coupling 3/8	Raccord femelle alu 3/8	"Raccordo femminile 3/8	"1
07S1-00372-38	979707	Nippel 3/8 Zoll	Nipple 3/8	"Raccord mâle alu 3/8	"Raccordo masch. 3/8	"1
08D1-80321-38	972861	Dichtkantenring G 3/8	Seal Edge ring G 3/8	Joint prismatique 3/8" G	Anello tenuta metal. 3/8	"4
14D4-90193-38	973686	Stutzen 3/8 -3/8 Zoll	Fitting 3/8" - 3/8"	Raccord 3/8" - 3/8"	Manicotto 3/8" - 3/8	"2



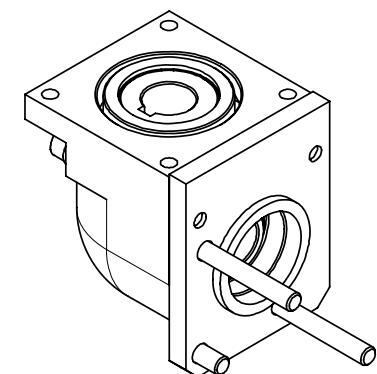
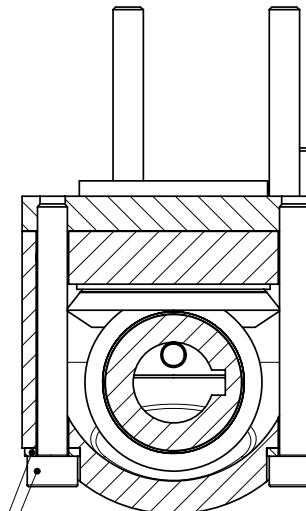
3 x am Umfang leicht sichern
(Lager muss leichtgängig sein)

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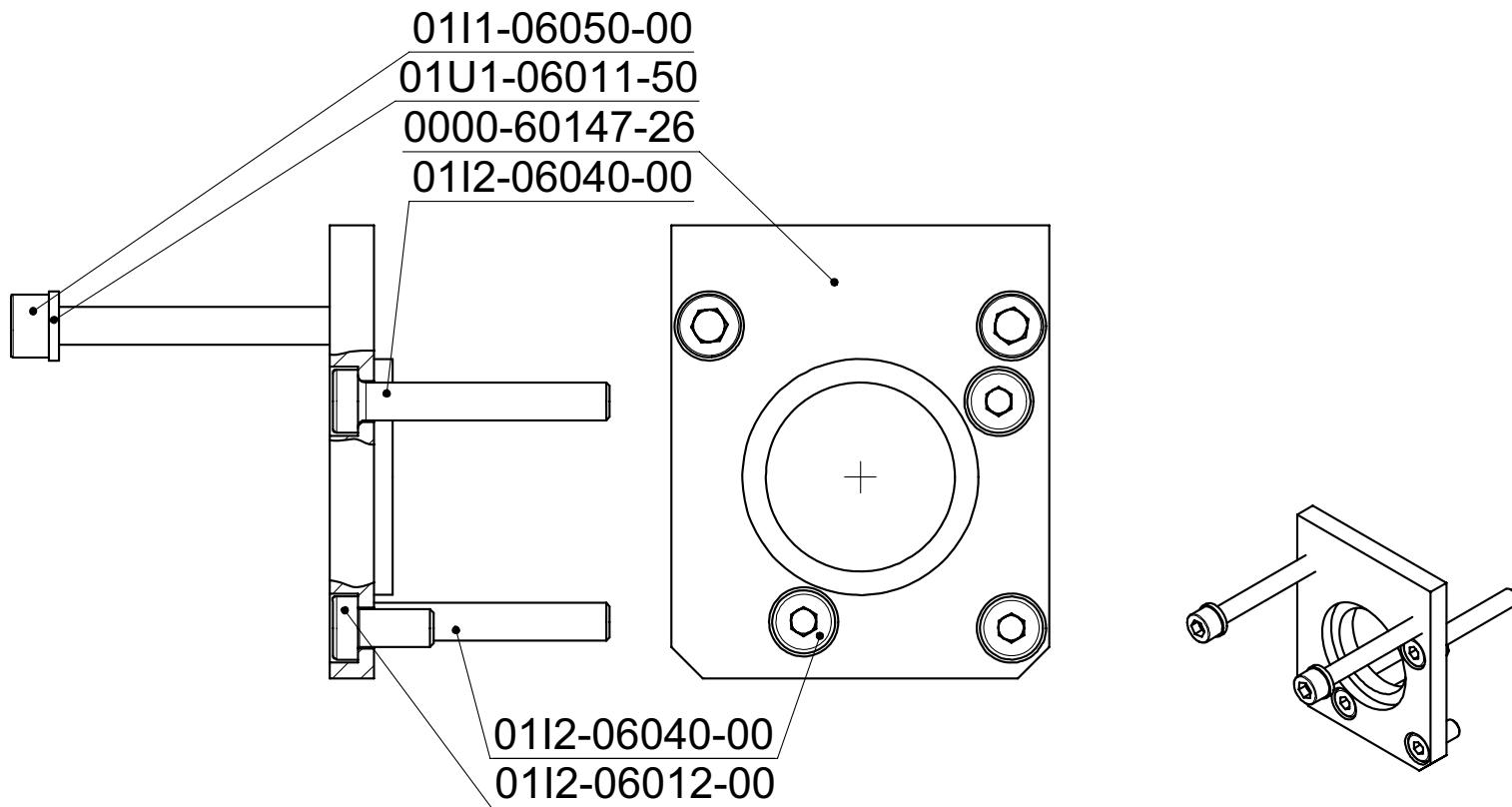


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04B1-03500-00
99MS-60147-80

(01U1-06011-50)
(01I1-06050-00)
0000-60056-07
02Z1-05024-00
Raum mit fett füllen



99MK-60208-60	10980236	Vorschubgetr. m. Drehpl.	Feed gear with pivot.plate	Engren. d'avancem.av.plaque rotative	Ingrana.d'avanzam.con piastra rotat.	1
Zeichn. Nr.	Mat. Nr.	Deutsch	English	Français	Italiano	Stk.
99MS-60147-80	960601	Vorschubdrehplatte	Feed swivel plate	Plaque d'avancement rotative	Piastra d'avanzamento girevole	1
0000-60056-07	977987	Getriebegehäuse	Gear housing	Carter d'engrenage	Scatola ingranaggio	1
0000-60056-18	977990	Kegelrad 20 Zähne	Bevel gear 20 teeth	Engrenage 20 dents	Ingranaggio 20 denti	1
0000-60056-19	977991	Kegelrad 16 Zähne	Bevel gear 16 teeth	Engrenage 16 dents	Ingranaggio 16 denti	1
0000-60056-35	978000	Lagerring	Bearingring	Bague d'appui	Anello porta sfere	2
02Z1-05024-00	979408	Zylinderstift 5 m6 x 24	Cylindrical pin 5 m6 x 24	Goupille cylindrique 5 m6x24	Spina cilindrica 5 m6x24	1
04B1-03500-00	972112	Kugel Dm 3,5	Ball Ø 3,5	Bille Ø 3,5	Sfera Ø 3,5	58



99MS-60147-80	960601	Vorschubdrehplatte	Feed swivel plate	Plaque d'avancement rotative	Piastra d'avanzamento girevole	1
Zeichn. Nr.	Mat. Nr.	Deutsch	English	Français	Italiano	Stk.
0000-60147-26	965981	Vorschubdrehplatte SK-B	Feed swivel plate SK-B	Plaque d'avancement rotative SK-B	Piastra d'avanzamento girevole SK-B	1
01I1-06050-00	971718	Inbus-Schraube M6x50	Allen head screw M6x50	Vis à six pans creux M6x50	Vite ad esagono cavo M6x50	2
01I2-06012-00	971808	Inb-Schr.nied.Kopf M6x12	Allen head screw M6x12	Vis tête basse M6x12	Vite ad esagono cavo M6x12 bassa	1
01I2-06040-00	960571	Inb-Schr.nied.Kopf M6x40	Allen head screw M6x40	Vis tête basse M6x40	Vite ad esagono cavo M6x40 bassa	2
01U1-06011-50	971955	U-Scheibe M6	U-washer M6	Rondelle en U M6	Rondella a U M6	2