

Spare parts catalog 2025

Spare parts and accessories

Table of content

1	Introduction.....	6
2	CCTV System/Camera systems.....	8
2.1	Omicron.....	8
2.1.1	Guide.....	9
2.2	Rausch-Tab.....	10
3	Cable drum.....	11
3.1	Cubix 300.....	11
3.2	Elka 600, Elka 600 C, Elka 600 HD.....	13
3.2.1	Operating lever/rotary pulse encoder.....	13
3.2.2	Brush holder.....	14
3.2.3	Cable guiding/Cross lead spindle.....	16
3.2.4	Cable guiding swivel arm.....	18
3.3	Elka 600 RRC.....	19
3.3.1	Operating lever/rotary pulse encoder.....	19
3.3.2	Brush holder.....	20
3.3.3	Cable guiding/Cross lead spindle.....	21
3.3.4	Cable guiding swivel arm.....	22
3.4	Quadtro SAT C, Quadtro SAT HD.....	23
3.4.1	Cable guiding extension arm.....	23
3.4.2	Electronic path length measuring device.....	24
3.5	Crane system.....	25
3.5.1	Crane - cable winch.....	25
3.5.2	Crane - chain winch.....	26
4	Crawler.....	27
4.1	FW 90, FW 90 EX.....	27
4.1.1	Foldable plug.....	28
4.1.1.1	Foldable plug C 90, C 90 EX.....	28
4.1.1.2	Foldable plug L 90.....	30
4.1.2	Height adjustment mechanical FW 90, FW 90 EX.....	32
4.1.3	Height adjustment electrical FW 90, FW 90 EX.....	33
4.1.4	Accessories.....	34
4.1.4.1	Wheel adapter, bumper, lowering/lifting hook, additional weight.....	34
4.2	C 100, C 100 EX, L 100 Cross, L 100 Cross EX.....	35
4.2.1	Foldable plug.....	36

4.2.1.1	Foldable plug C 100, C 100 EX.....	36
4.2.1.2	Foldable plug L 100 Cross, L 100 Cross EX.....	38
4.3	C 135, C 135 EX, L 135, L 135 EX.....	39
4.3.1	C 135, C 135 EX.....	39
4.3.2	L 135, L 135 EX.....	40
4.3.3	Holder C 135, C 135 EX, L 135, L 135 EX.....	41
4.3.4	Foldable plug.....	42
4.3.4.1	Foldable plug C 135, C 135 EX.....	42
4.3.4.2	Foldable plug L 135, L 135 EX.....	44
4.3.5	Electric lifting gear.....	45
4.3.6	Electric lifting gear with rear view camera.....	46
4.3.7	Accessories.....	48
4.3.7.1	Additional weight, lowering/lifting hook.....	48
4.3.7.2	Hight extension.....	49
4.3.7.3	Crawler extension for large profiles.....	50
4.3.7.4	Attachment for egg shaped profile.....	51
5	Camera.....	52
5.1	KS 60 CL.....	52
5.1.1	Change of lighting.....	53
5.1.2	Camera centering.....	54
5.2	KS 60 DB, KS 60 DB EX.....	55
5.2.1	KS 60 DB.....	55
5.2.2	KS 60 DB EX.....	57
5.2.3	Camera centering.....	59
5.3	KS 60 HD, KS 60 HD EX.....	60
5.3.1	KS 60 HD.....	60
5.3.2	KS 60 HD EX.....	62
5.3.3	Camera centering.....	64
5.4	KS 135.....	65
5.4.1	Lens glass.....	66
5.4.2	Lighting.....	67
5.4.3	Accessories diverse.....	69
5.5	M-series.....	69
5.5.1	SKM 135, PKM 200, ZKM 135, PM 135.....	69
5.5.2	PKM 200, PKM 200 EX, PKM 200 HD, PKM 200 HD EX.....	70
5.5.3	PM 135, PM 135 EX.....	71
5.5.4	Guidance PKM 200/PM 135.....	72
5.5.5	SKM 135 C, SKM 135 C EX.....	73
5.5.6	ZKM 135, ZKM 135 EX.....	75
5.5.7	Accessories.....	76

5.5.8	Flushing System.....	77
5.5.8.1	Flushing System KS 60.....	77
5.5.8.2	Flushing system hose holder.....	78
5.5.8.3	Flushing System M-series.....	79
5.6	SAT.....	80
5.6.1	SAT 42 DB.....	80
5.6.1.1	Front housing.....	81
5.6.1.2	Objective glass.....	82
6	Adapter.....	83
6.1	Adapter KS 60 DB, KS 60 DB EX.....	83
6.2	Adapter KS 60 HD, KS 60 HD EX.....	84
6.3	Adapter main cable KS 135.....	85
6.4	Adapter main cable compact KS 135.....	86
7	Cables and connectors.....	87
7.1	Cable.....	87
7.1.1	Cables in general.....	87
7.1.2	Cable RRC.....	87
7.2	Connectors.....	88
7.2.1	C-connector - general.....	88
7.2.2	C-connector, 20-pole.....	88
7.2.3	Compact plug.....	89
7.2.4	Plug RRC.....	90
8	Accessories.....	91
8.1	Wheels.....	91
8.1.1	Rubber wheels.....	91
8.1.1.1	Rubber wheels and adapter FW 90.....	91
8.1.1.2	Rubber wheels and adapter C 100, L 100 Cross.....	92
8.1.1.3	Rubber wheels and adapter C 135, L 135.....	93
8.1.2	Clay wheels.....	94
8.1.2.1	Clay wheels and adapter FW 90.....	94
8.1.2.2	Clay wheels and adapter C 100, L 100 Cross.....	95
8.1.2.3	Clay wheels and adapter C 135, L 135.....	96
8.1.3	Granulate wheels.....	97
8.1.3.1	Granulate wheels and adapter FW 90.....	97
8.1.3.2	Granulate wheels and adapter C 100, L 100 Cross.....	98
8.1.3.3	Granulate wheels and adapter C 135, L 135.....	99

8.2	Valve adapter.....	100
8.3	Additional lighting.....	101
8.3.1	Additional lighting overview.....	101
8.3.2	Additional lighting - 8° reflector, far range.....	102
8.3.3	Additional lighting - 20° reflector, wide range.....	103
8.4	Location.....	104
8.4.1	Location transmitter foldable plug 512 and 33 kHz.....	104
8.4.2	Location transmitter foldable plug 512 Hz.....	105
8.4.3	Location transmitter foldable plug 33 kHz.....	106
8.5	Deflection pulley.....	107
8.5.1	Deflection pulley DN 100.....	107
8.5.2	Deflection pulley DN 150.....	108
8.6	Pin.....	109
8.6.1	Pin - KS 40.....	109
8.6.2	Pin Set - KS 60 D KS 60 DB KS 60 HD.....	110
8.7	Guide extension.....	111
8.8	Accessories general.....	112

1 Introduction

The present catalog of spare parts has been compiled for **Rausch's customers**.

This spare parts catalog lists products from the current product line.

Spare parts catalogs of previous years (2021, 2019 etc.) are still valid for older models.

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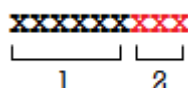
Ordering spare parts

Only **original Rausch parts** may be used **for Rausch products** for reasons of warranty.

When ordering spare parts, please state the **item No.** as well as **article No.**

We also ask for the **serial number** of your device. These are found on the type plate or on the devices.

The serial number consists of nine digits comprising the item number (1) and a consecutive number (2).



1 Article number, 6 digits

2 Consecutive number, 3 digits

The serial number is used for unambiguous identification. It is important for all inquiries, e.g., if you want to order spare parts or request service documents.

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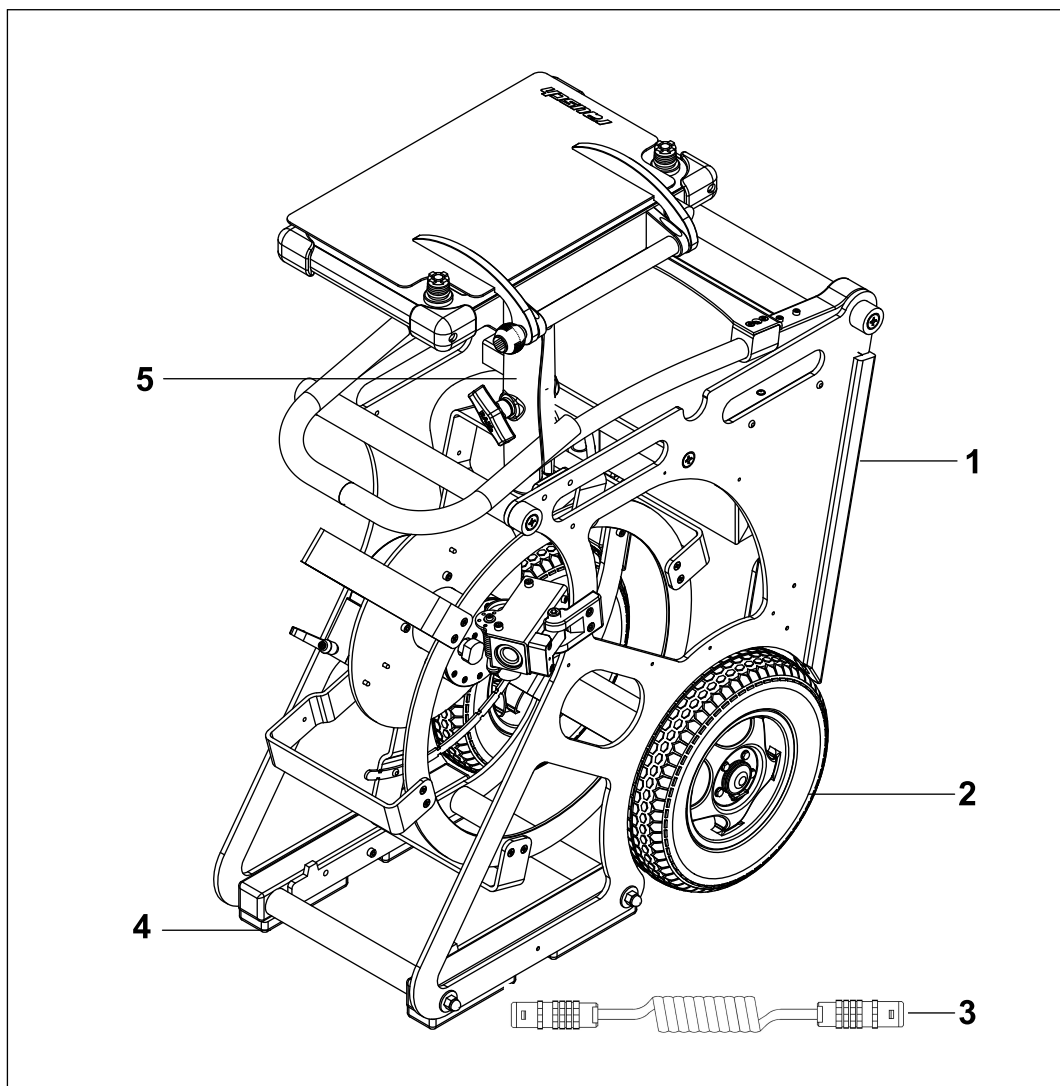
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2 CCTV System/Camera systems

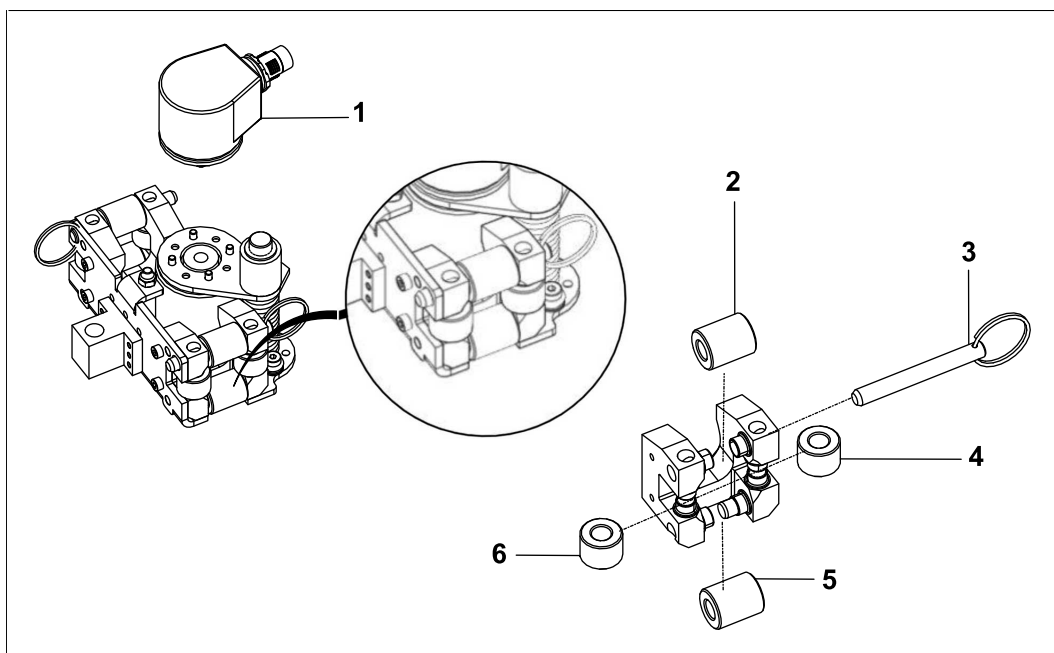
2.1 Omicron

■ S/N: 111500, 111703



Pos.	Art. no.	Designation
1	K14342	Skid
2	K13983	Omicron wheel
3	EB3810	Connection cable Omicron - Rausch-Tab 16pol ODU-connection
4	K14346	Rubber foot
5	BG9018	Monitor mount Omicron for Rausch-Tab

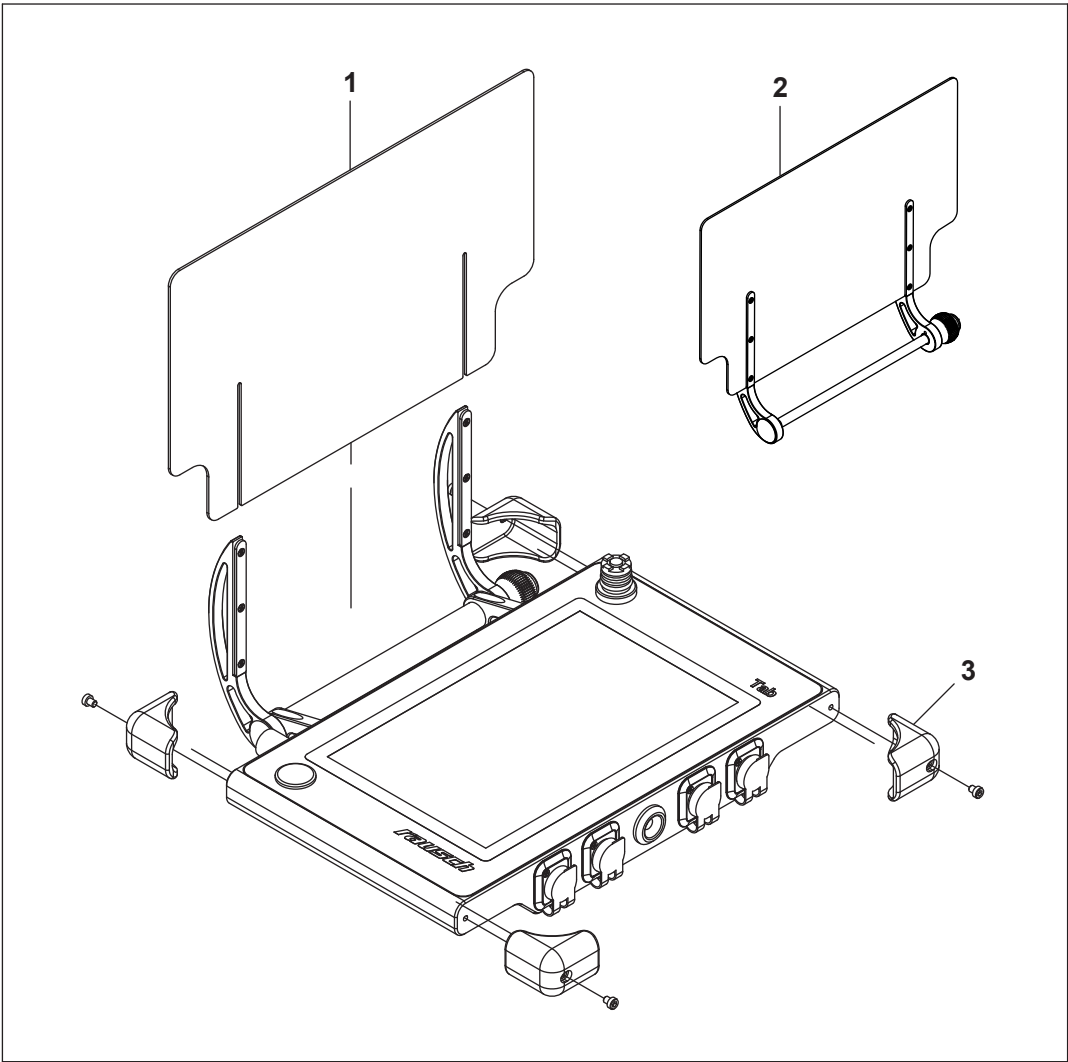
2.1.1 Guide



Pos.	Art. no.	Designation
1	EP1271	Rotary pulse encoder - 125Imp/U M12-connector 125Imp/U M12-connector; 5-30V; IP65
2	PDM00034459	Roller Ø15xØ7x18mm
3	PDM00034462	Locking pin with key ring ø6x40 ø6x40
4	PDM00034458	Roller Ø15xØ7x11mm
5	PDM00034459	Roller Ø15xØ7x18mm
6	PDM00034458	Roller Ø15xØ7x11mm

2.2 Rausch-Tab

■ S/N: 111497, 111700, 111701

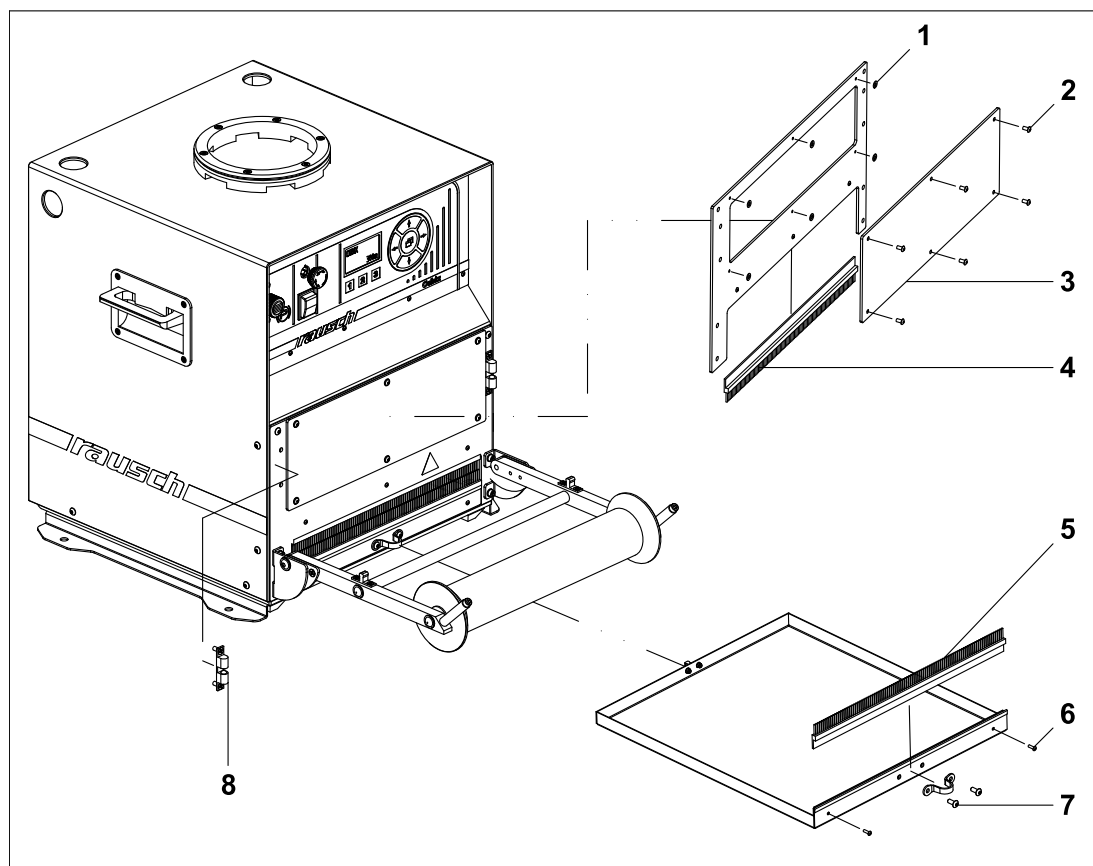


Pos.	Art. no.	Designation
1	K14091	Sun visor
2	111498	Sun visor
3	K14120	Corner protection

3 Cable drum

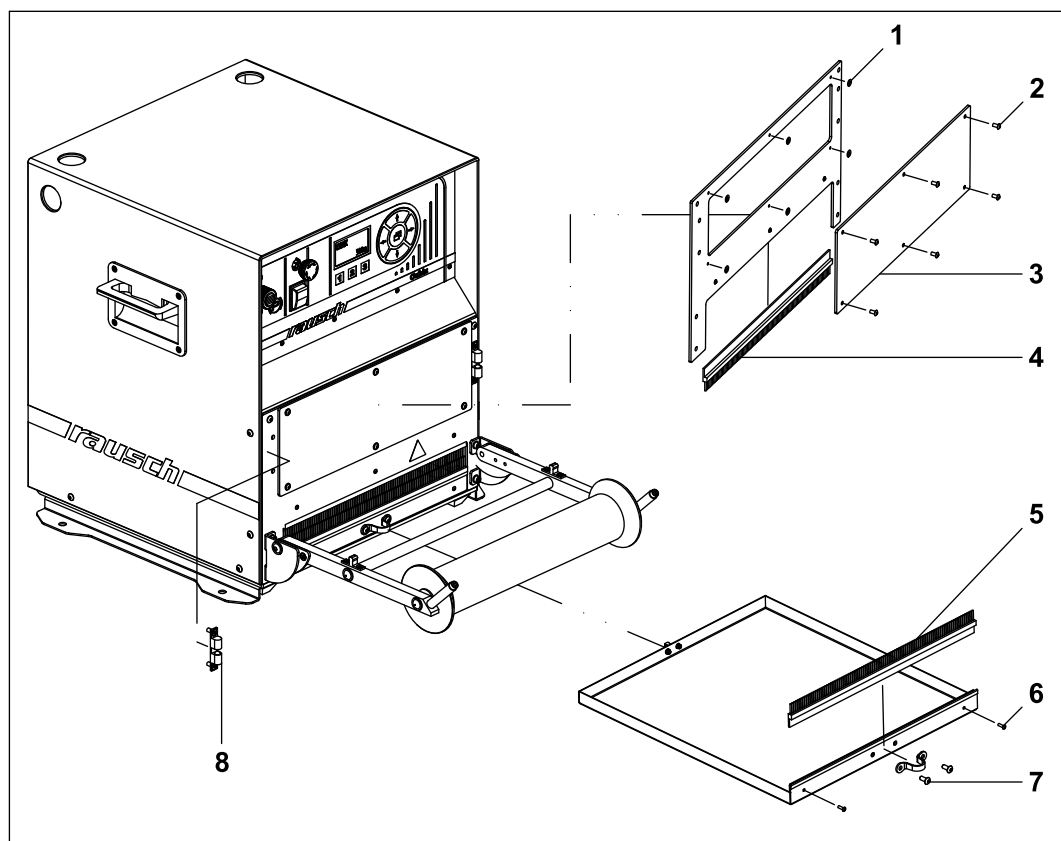
3.1 Cubix 300

■ Art. no.: 111213



Pos.	Art. no.	Designation
1	PDM00011272	Washer ISO7089-M4 PA Typ 6
2	PDM00004463	Oval head screw ISO7380-1 M4x8 A2-70 A2
3	K13011	Screen
4	K13168	Brush
5	K13168	Brush
6	PDM00004431	Oval head screw ISO7380-1 M3x10 A2-70 A2
7	PDM00003749	Oval head screw ISO7380-1 M5x12 A2-70 A2
8	KN1480	Double ball catch K0583.60

■ Art. no.: 111577, 111704, 111734, 111735

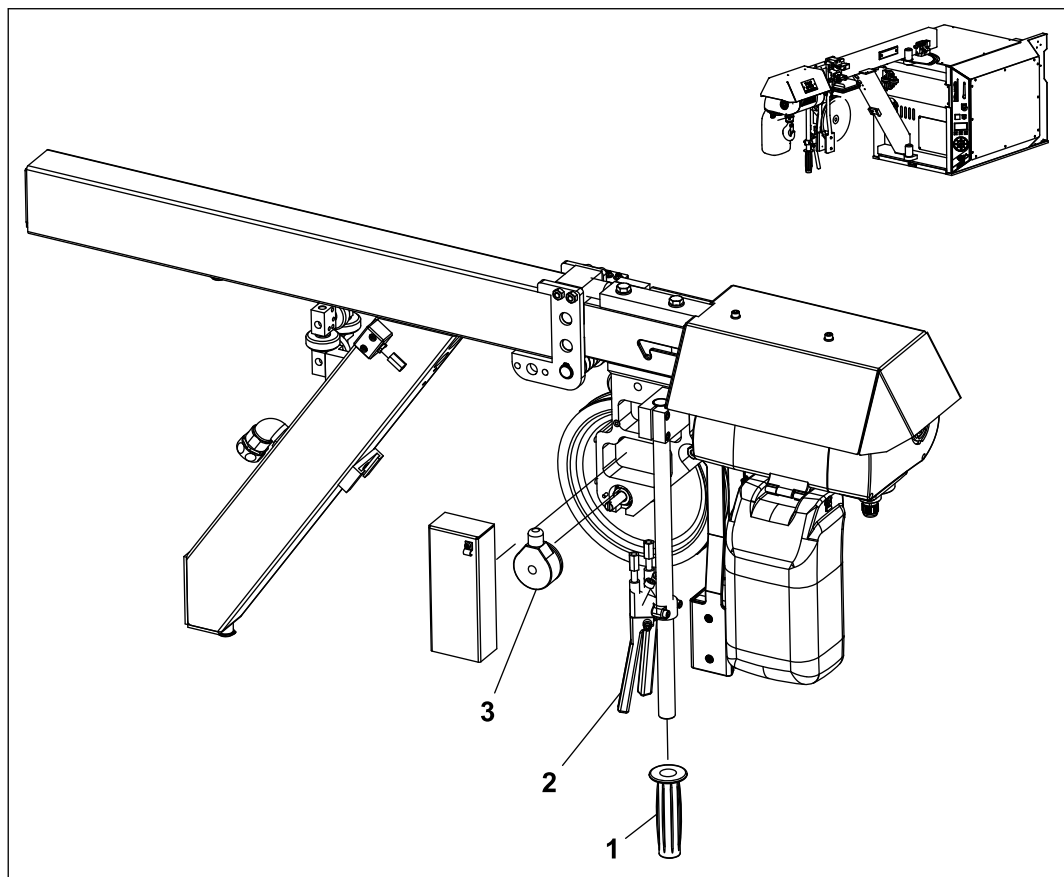


Pos.	Art. no.	Designation
1	PDM00011272	Washer ISO7089-M4 PA Typ 6
2	PDM00004463	Oval head screw ISO7380-1 M4x8 A2-70 A2
3	K13011	Screen
4	K13168	Brush
5	K13168	Brush
6	PDM00004431	Oval head screw ISO7380-1 M3x10 A2-70 A2
7	PDM00003749	Oval head screw ISO7380-1 M5x12 A2-70 A2
8	KN1480	Double ball catch K0583.60

3.2 Elka 600, Elka 600 C, Elka 600 HD

■ Art. no.: 110550, 111435, 111662, 111695, 111699, 111714, 111715

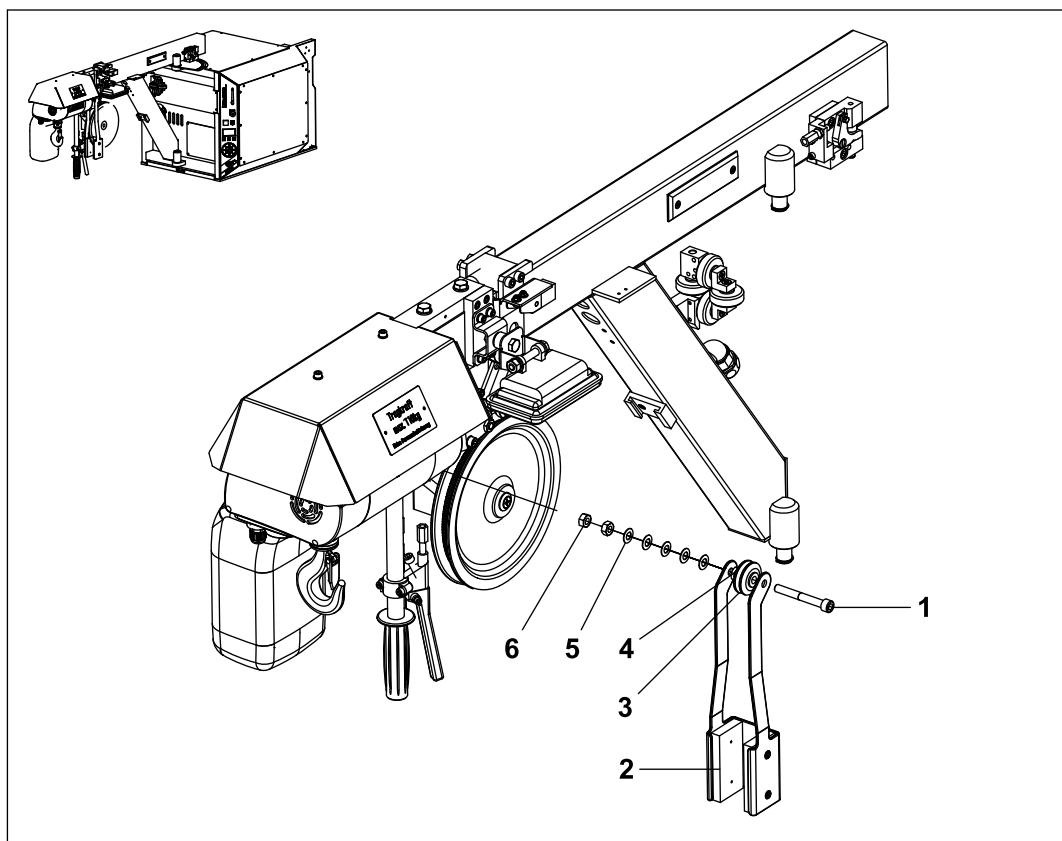
3.2.1 Operating lever/rotary pulse encoder



Pos.	Art. no.	Designation
1	EY2008	Handle Magura for pipes ø22-24 853-10.2 KSZ Form A Black
2	UB7392	Handle assy, ELKA 600 levers
3	EP1154	Sensor, counter encoder ELKA 600
	UB6994	Repair kit - Bowden wire-swivel
	UB7177	Repair kit - Bowden wire-extension
	UB7602	Repair kit - Bowden wire-swivel (retaining tube long)
	UB7643	Repair kit - Bowden wire-extension (retaining tube long)

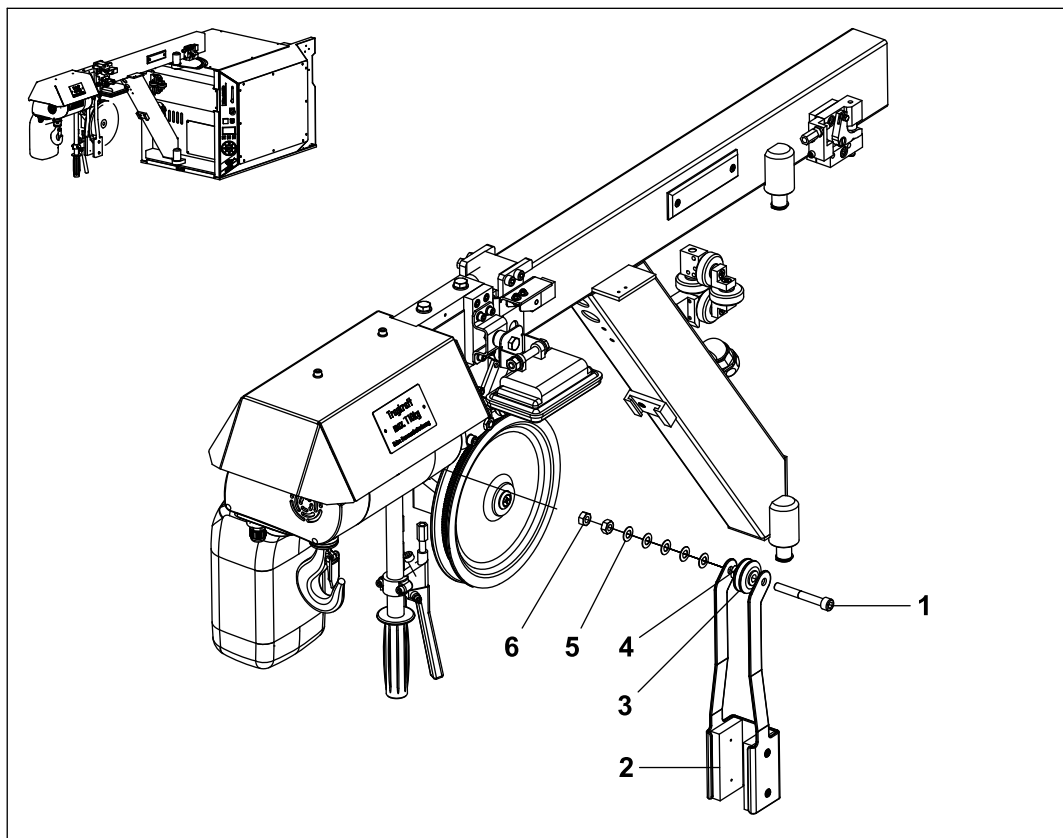
3.2.2 Brush holder

■ Art. no.:111435



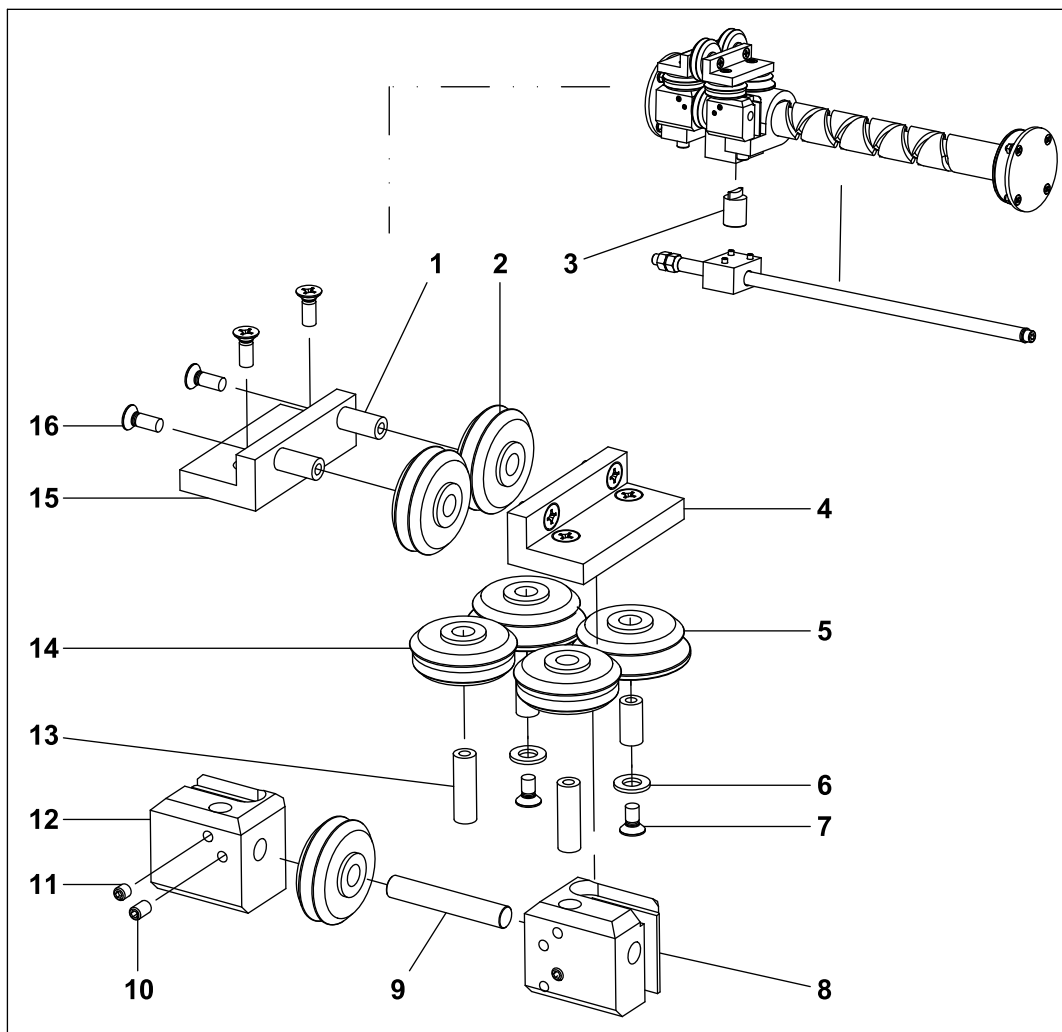
Pos.	Art. no.	Designation
1	KJ7308	Screw, socket cap M 10 X 80 (Special)
2	KJ1899	Brush, cable cleaning
3	KJ7651	Roller, nylon D = 44.93mm W = 22mm
4	PDM00006031	Screw nut DIN 934 M10 A2
5	PDM00005840	Belleville washer DIN EN16983-B 20 A2
6	PDM00000837	Screw nut DIN 934 M10 A2

■ Art. no.: 110550, 111662, 111695, 111699, 111714, 111715



Pos.	Art. no.	Designation
1	KJ7308	Screw, socket cap M 10 X 80 (Special)
2	KJ1899	Brush, cable cleaning
3	K13215	Roller, nylon D = 44.93mm W = 22mm
4	PDM00006031	Screw nut DIN 934 M10 A2
5	PDM00005840	Belleville washer DIN EN16983-B20
6	PDM00000837	Screw nut DIN 934 M10 A2

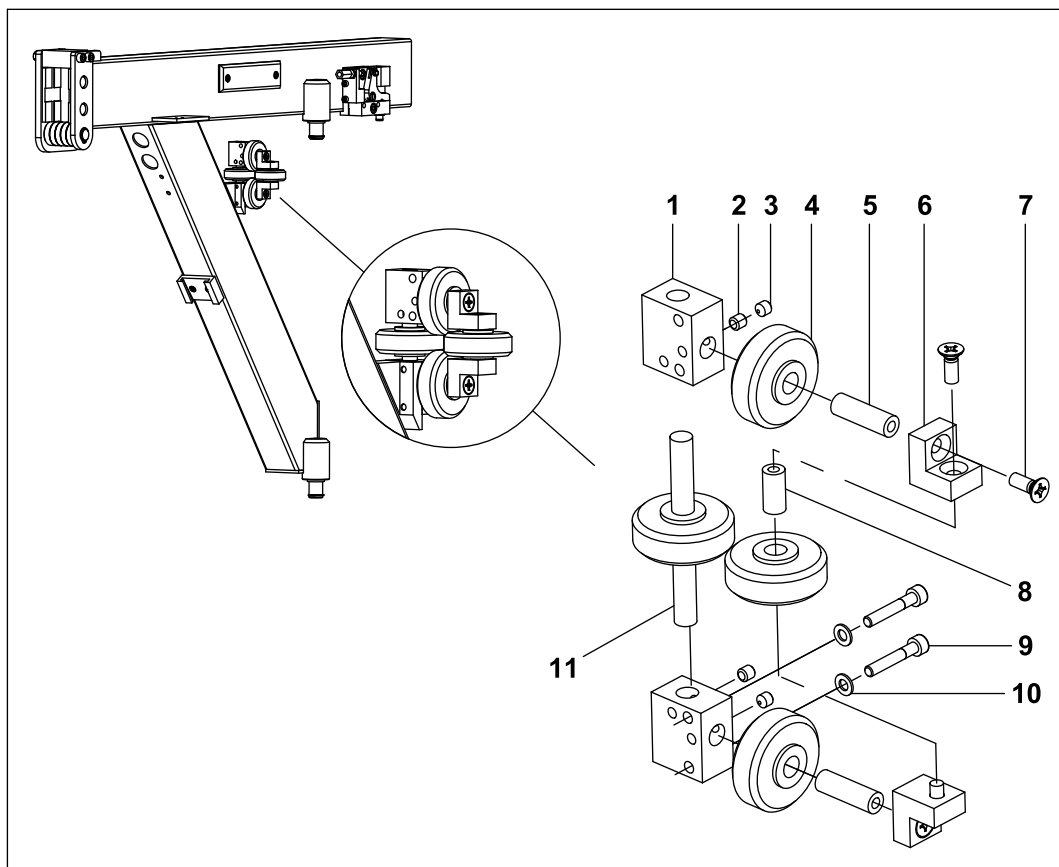
3.2.3 Cable guiding/Cross lead spindle



Pos.	Art. no.	Designation
1	KJ7096	Axis, cable guide, cross lead spindle
2	KJ6966	Guide roller Ø 47,5 Elka 600 crosslead
3	KJ4188	Guide finger ELKA600
4	KJ7220	Axis angle 2
5	KJ7515	Guide roller Ø 53 Roller, nylon D = 55mm W = 19mm
6	PDM00000824	Washer ISO7089-M6 A2
7	PDM00004199	Screw, countersunk ISO7046-1 M6x12 A2-70 A2
8	KJ7095	Axis block, left
9	KJ7140	guide roller axis
10	PDM00000604	Headless pin ISO4026-M6x10 A2-21H A2
11	PDM00005998	Headless pin DIN 914 M6x6 A2
12	KJ6965	Axis block, right

Pos.	Art. no.	Designation
13	KJ7023	Axis
14	KJ7544	Guide roller Ø 47,5 (Guide block) Elka 600 crosslead
15	KJ7219	Axis angle 1
16	PDM00004201	Countersunk screw ISO7046-1 M6x16 A2-70 A2

3.2.4 Cable guiding swivel arm

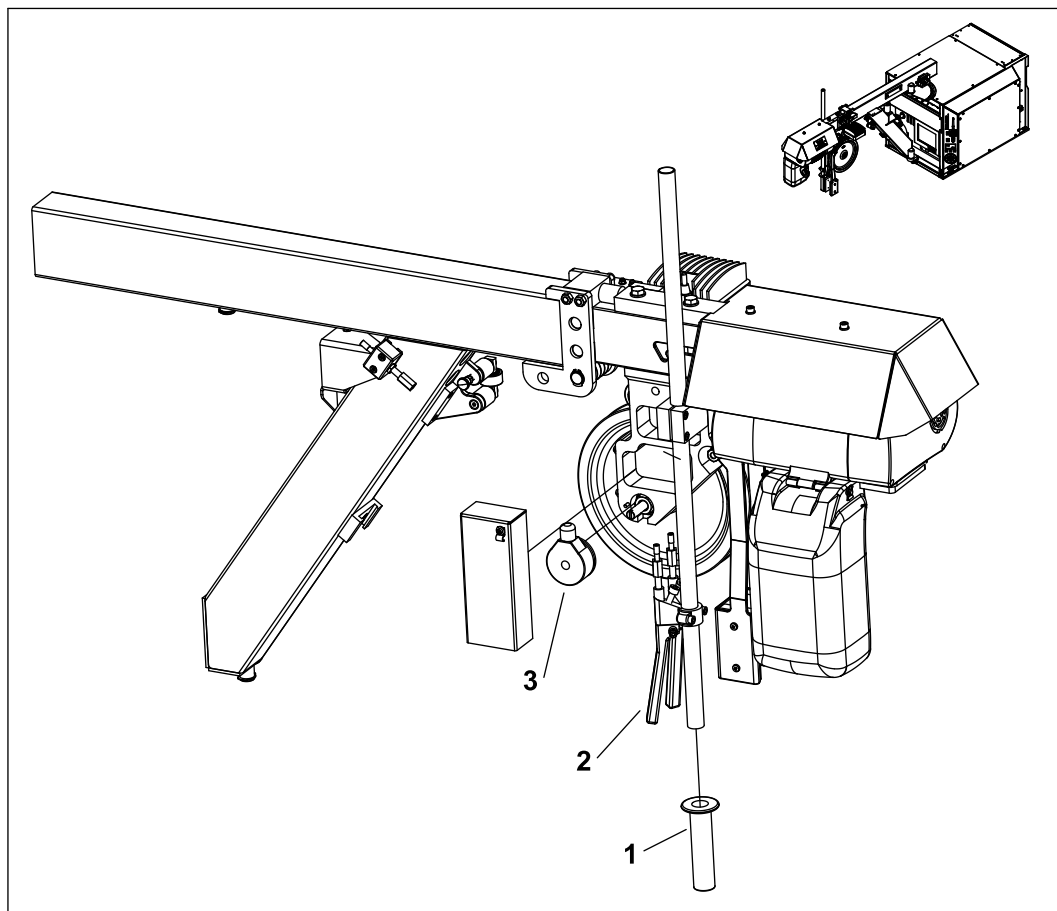


Pos.	Art. no.	Designation
1	KJ7021	Block
2	PDM00000602	Headless pin ISO4026-M6x6 A2-21H A2
3	PDM00005998	Headless pin DIN 914 M6x6 A2
4	KJ8192	Guide roller nylon
5	KJ7023	Axis
6	KJ7022	Axis angle
7	PDM00004201	Countersunk screw ISO7046-1 M6x16 A2-70 A2
8	KJ7096	Axis, cable guide, cross lead spindle
9	PDM00003353	Screw, socket cap ISO4762-M5x30 A2-70 A2
10	PDM00000823	Washer ISO7089-M5 A2
11	KJ7020	Axis

3.3 Elka 600 RRC

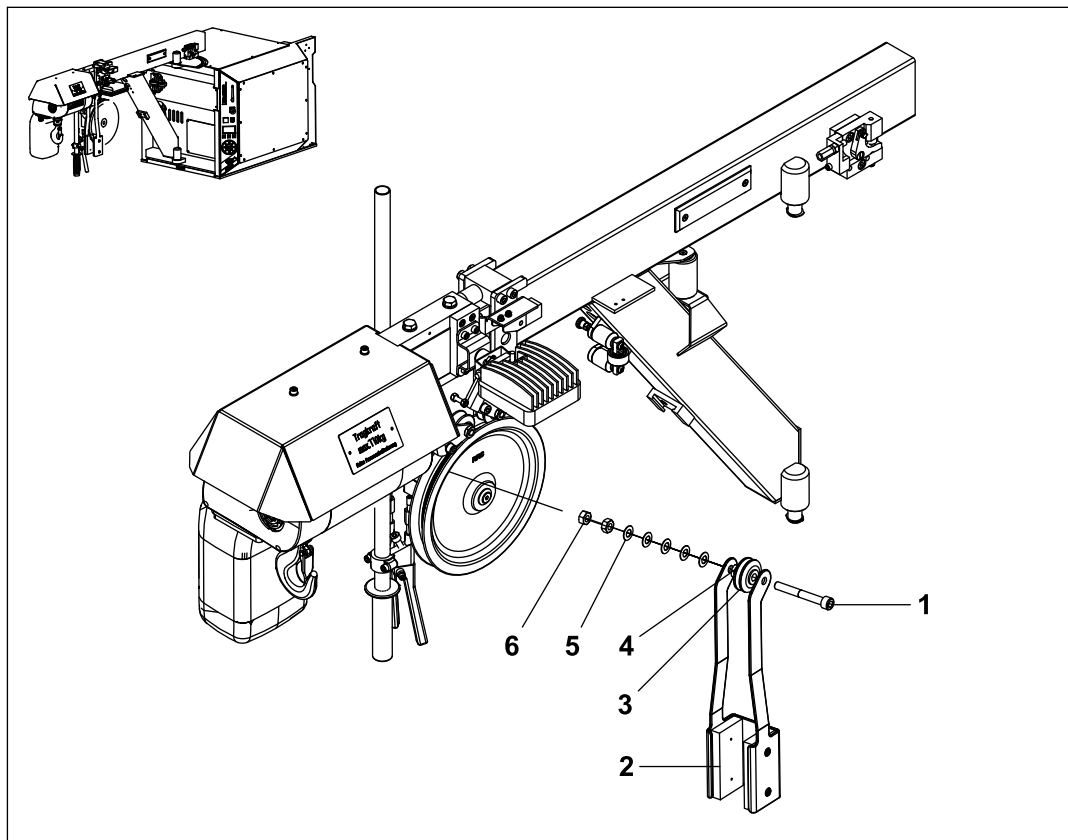
■ Art. no.: 111600, 111709, 111716

3.3.1 Operating lever/rotary pulse encoder



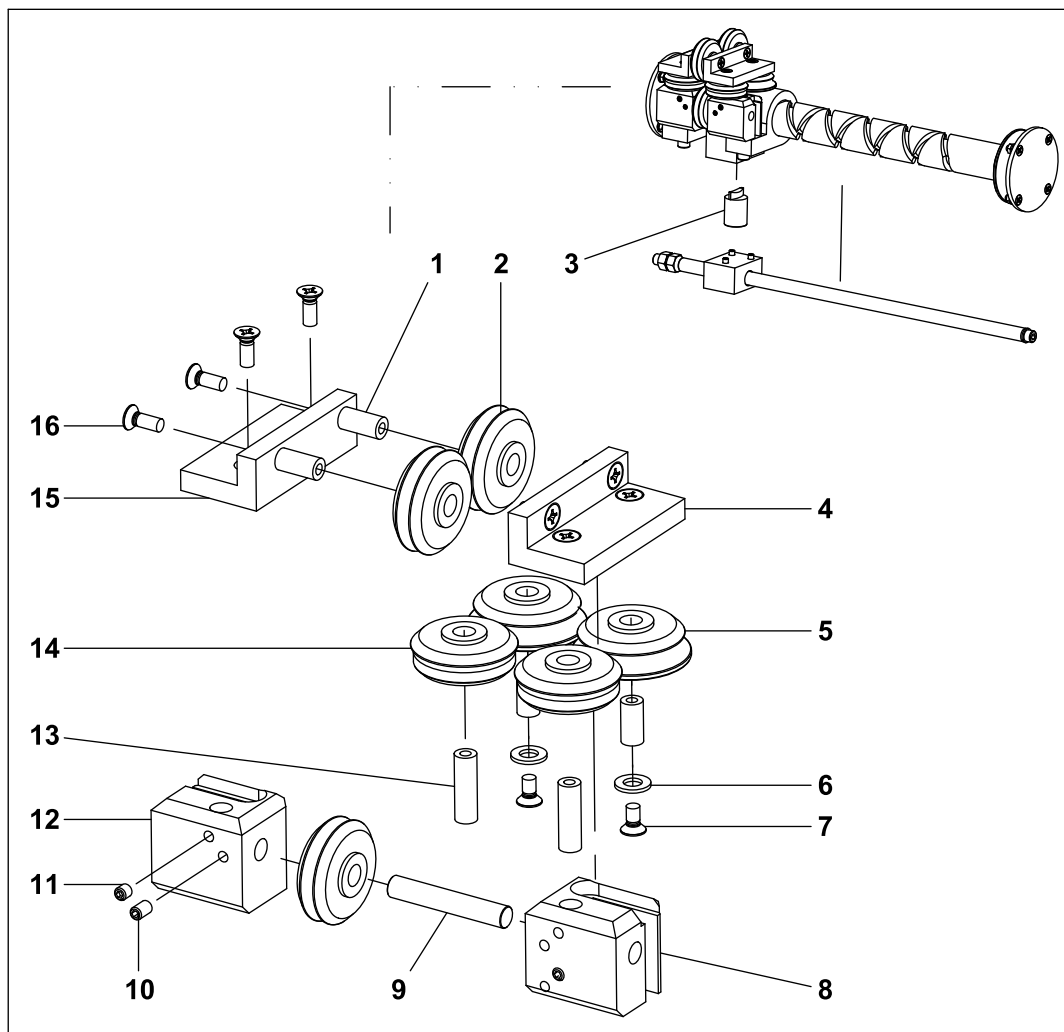
Pos.	Art. no.	Designation
1	EY2008	Handle Magura for pipes ø22-24 853-10.2 KSZ Form A Black
2	UB7392	Handle assy, ELKA 600 levers
3	EP1154	Sensor, counter encoder ELKA 600
	UB6994	Repair kit - Bowden wire-swivel
	UB7177	Repair kit - Bowden wire-extension
	UB7602	Repair kit - Bowden wire-swivel (retaining tube long)
	UB7643	Repair kit - Bowden wire-extension (retaining tube long)

3.3.2 Brush holder



Pos.	Art. no.	Designation
1	KJ7308	Screw, socket cap M 10 X 80 (Special)
2	KJ1899	Brush, cable cleaning
3	PDM00014508	Guide roller
4	PDM00006031	Screw nut DIN 934 M10 A2
5	PDM00005840	Belleville washer DIN EN16983-B20
6	PDM00000837	Screw nut DIN 934 M10 A2

3.3.3 Cable guiding/Cross lead spindle

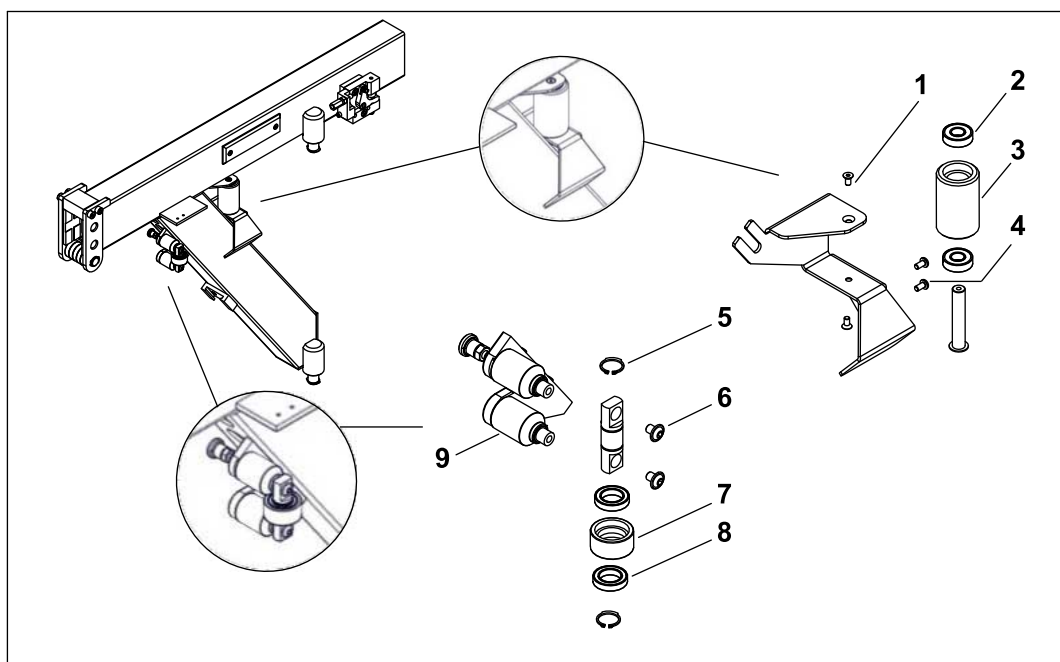


Pos.	Art. no.	Designation
1	KJ7096	Axis, cable guide, cross lead spindle
2	PDM00008489	Guide roller
3	KJ4188	Guide finger ELKA600
4	KJ7220	Axis angle 2
5	PDM00008490	Guide roller
6	PDM00000824	Washer DIN 125 A6.4 (M6) A2
7	PDM000004199	Screw, countersunk ISO7046-1 M6x12 A2-70 A2
8	KJ7095	Axis block, left
9	KJ7140	guide roller axis
10	PDM00000604	Headless pin ISO4026-M6x10 A2-21H A2
11	PDM00000602	Headless pin ISO4026-M6x6 A2-21H A2
12	KJ6965	Axis block, right

Pos.	Art. no.	Designation
13	KJ7023	Axis
14	PDM00006970	Guide roller
15	KJ7219	Axis angle 1
16	PDM00004201	Countersunk screw ISO7046-1 M6x16 A2-70 A2

3.3.4 Cable guiding swivel arm

■ Art. no.: PDM00006961

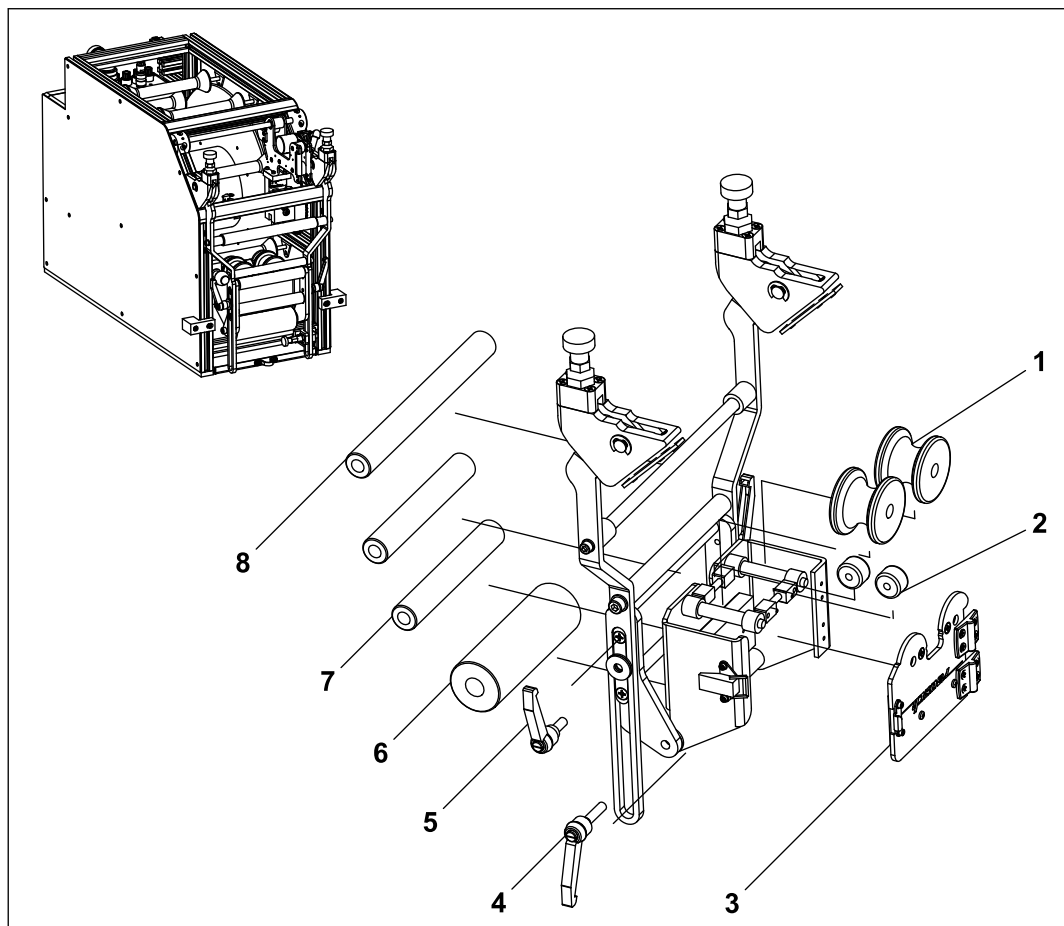


Pos.	Art. no.	Designation
1	PDM00001517	Countersunk screw ISO10642-M5x10 A2-70 A2
2	KK1002	6001-2RS1 Deep groove ball bearing
3	PDM00025145	Roller Roller guide swivel arm rear Elka 600
4	PDM00003748	Oval head screw ISO7380-1 M5x10 A2-70 A2
5	PDM00007389	Circlip DIN471-15x1 A2
6	PDM00006770	Oval head screw ISO7380-2 M6x8 A2-70 A2
7	PDM00025155	Roller Roller guide swivel arm front Elka 600
8	KK1085	61802-2RS1 Deep groove ball bearing
9	PDM00024982	Roller Roller guide swivel arm front Elka 600

3.4 Quadro SAT C, Quadro SAT HD

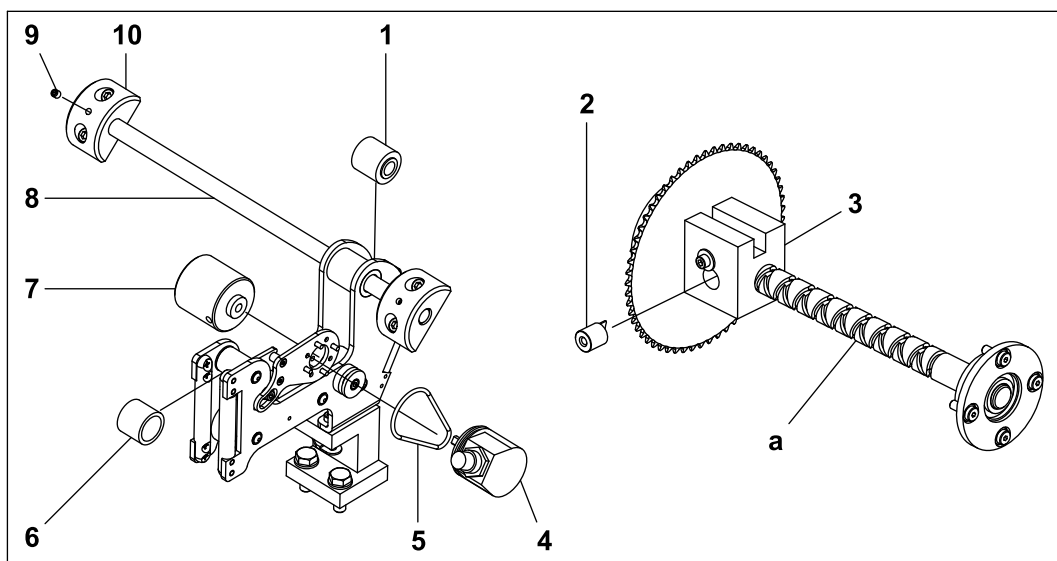
■ Art. no.: 111437, 111593, 111702, 111707

3.4.1 Cable guiding extension arm



Pos.	Art. no.	Designation
	EF1188	Fuse 6,3x32 500mA/träge
	EF1190	Fuse 6,3x32 2A/carrier für EF1187
	EF1187	Fuse Holder R3-63 with LED 12 - 28V Typ 560PCB
1	K11655	Roll 1
2	KJ9138	Roll 2
3	KJ1899	Brush, cable cleaning
4	KJ9239	Handle, quadro 300/SAT brush assy M8x30 QUADTRO-300/ QUADTRO-SAT
5	KT1042	Clamping lever
6	KJ9148	Roll QUADTRO-300/QUADTRO-SAT
7	KJ9146	Roller, pullout QUADTRO-300/QUADTRO-SAT
8	KJ9212	Rollor

3.4.2 Electronic path length measuring device

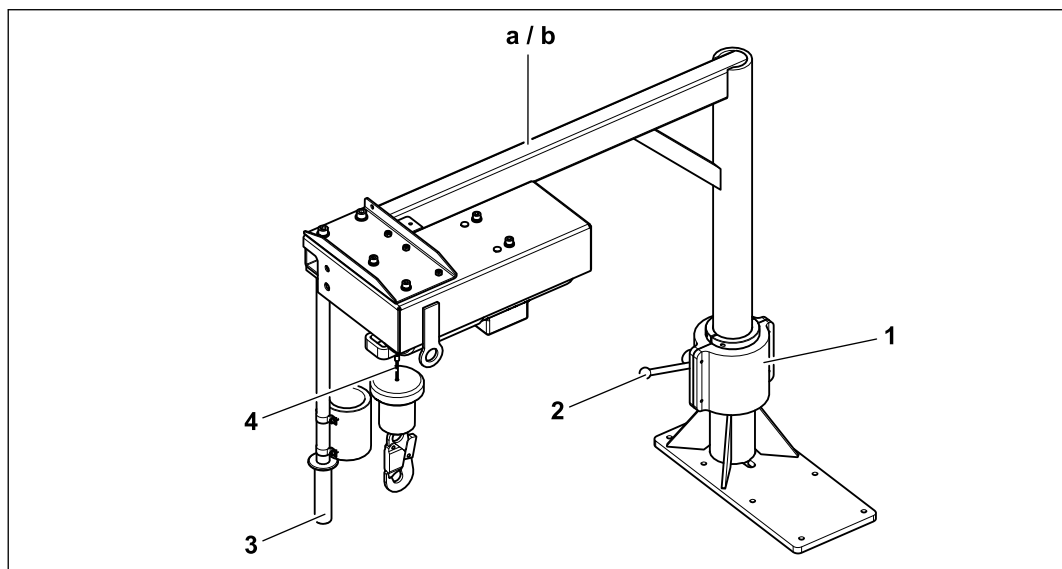


Pos.	Art. no.	Designation
a	UB6973	Recoil mechanism
1	KJ8893	Roll QUADTRO-300/QUADTRO-SAT
2	K12805	Guide finger for Quadtro300
3	KT1215	Bracket accy, crosslead spindle guide Quadtro
4	EP1271	Sensor, counter encoder Quadtro 300/SAT
5	K11028	Spring for counter, machined - L=158 mm
6	KJ8829	Roll QUADTRO-300/QUADTRO-SAT
7	KJ9940	Wheel, counter knurled for pluggable Quadtro 300 / Sat
8	KJ8832	Guiding rod
9	PDM00000592	Headless pin DIN 913 M5x5 A2
10	KJ9205	Guiding block

3.5 Crane system

3.5.1 Crane - cable winch

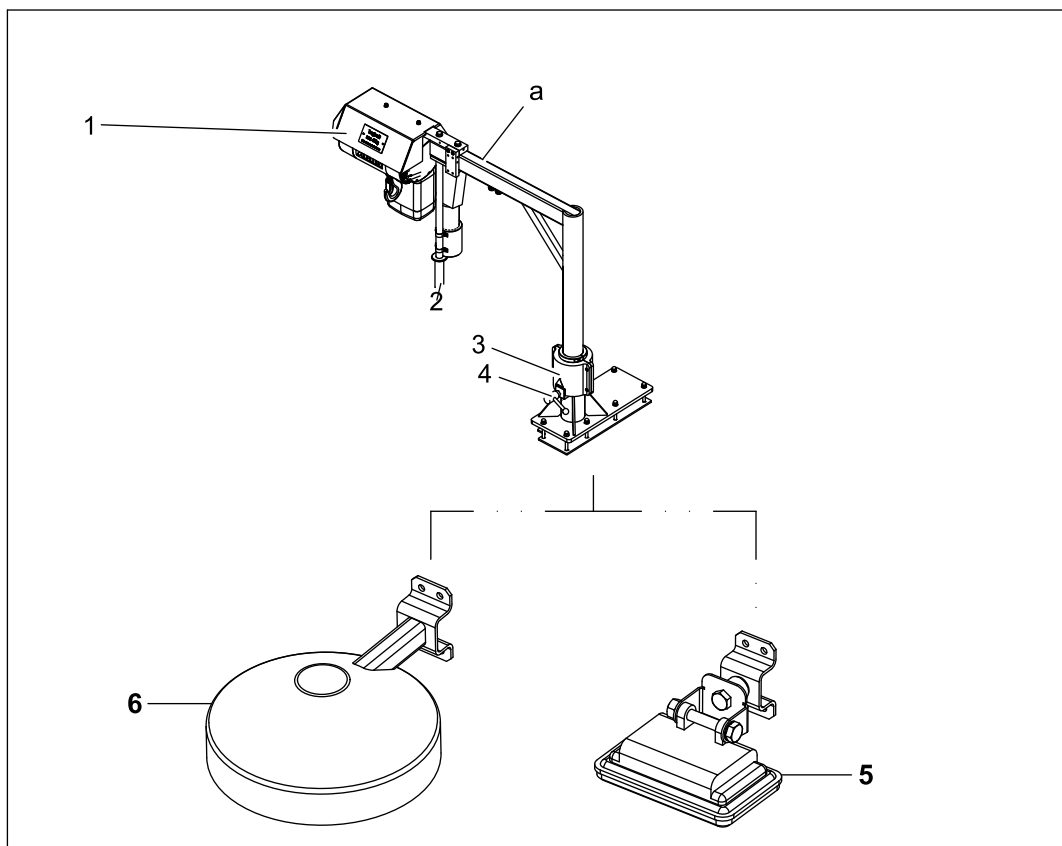
■ Art. no.: 110052, 110502



Pos.	Art. no.	Designation
a	110052	Crane tiltable for Quadtro 220 V rear room
b	110502	Crane tiltable for Quadtro/ Cubix 220 V pallet system
1	UB8948	Anti-trap device
2	KJ7164	Clamping lever, machined
3	EY2008	Handle Magura for pipes ø22-24 853-10.2 KSZ Form A Black
4	VG1088	Winch ELKA 600 with steelrope and mounting parts new

3.5.2 Crane - chain winch

■ Art. no.: 111179

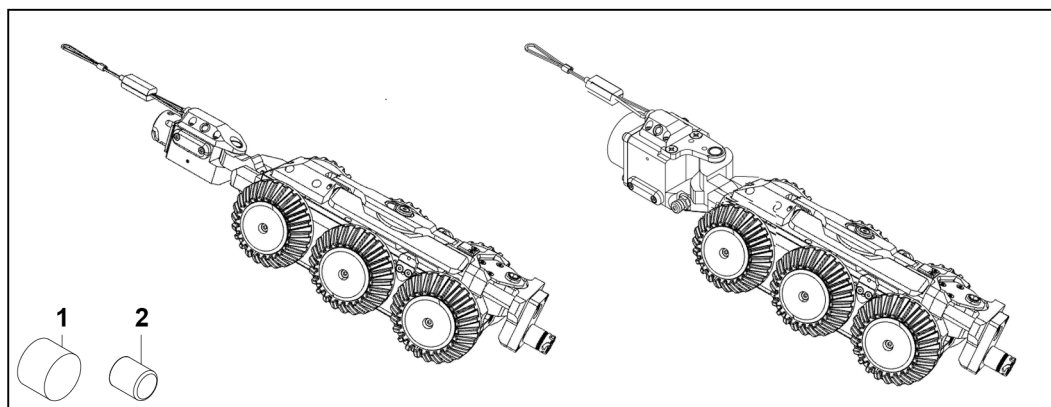


Pos.	Art. no.	Designation
a	111179	Crane tiltable with chain winch for Quadtro - 220V - rear room
1	KT1312	Electric chain winch 230V 100kg, 20 m chain
2	EY2008	Handle Magura for pipes ø22-24 853-10.2 KSZ Form A Black
3	UB8948	Anti-trap device
4	KJ7164	Clamping lever, machined
5	AE1216	Search spotlight 12V 55W
6	AE1555	Search spotlight 12V 55W
	KT1331	SL fuse for suspension bracket
	KT1330	Bolt for suspension bracket

4 Crawler

4.1 FW 90, FW 90 EX

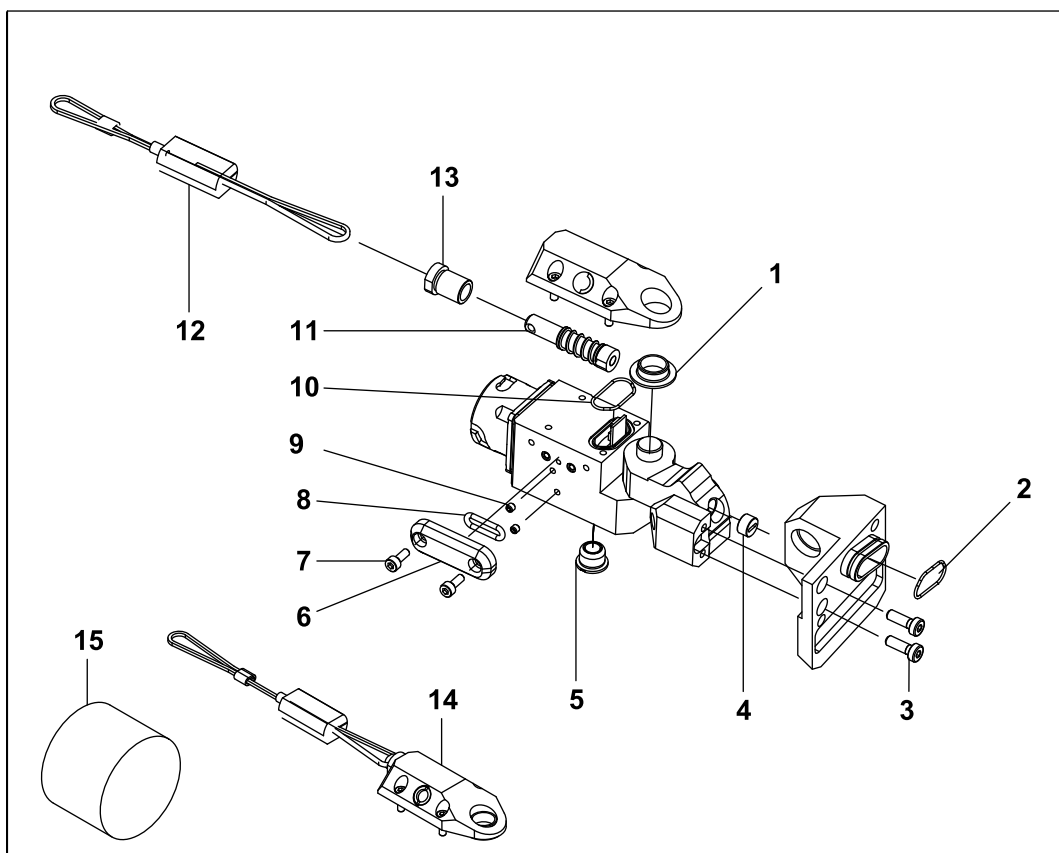
■ Art.-Nr.: 111616, 111617, 111618



Pos.	Art. no.	Designation
1	EX2863	Protecting cap for CA socket
2	KN1483	Protective sleeve flexible, yellow

4.1.1 Foldable plug

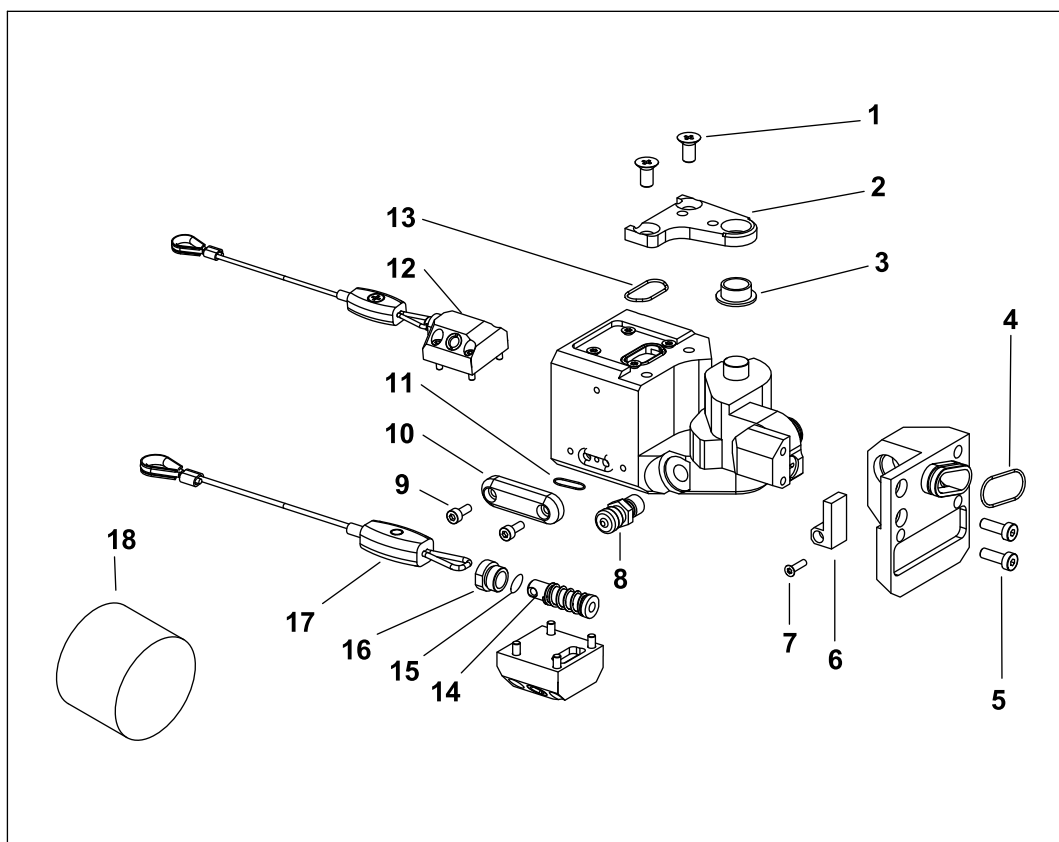
4.1.1.1 Foldable plug C 90, C 90 EX



Pos.	Art. no.	Designation
1	KK1280	Bearing
2	PDM00006855	O-ring 18,00x1,00-70SH NBR
3	PDM00001483	Screw, Scket Cap DIN 7984-M4x12 A2-70
4	K10056	Headless pin - M8x0,5
5	UB7047	Valve, nitrogen filling M - Series
6	K12290	Cover plate
7	PDM00000901	Cheese head screw M3x8 DIN 912 A2
8	PDM00023078	O-ring 10,5x2,00; NBR; 70SH
9	PDM00002384	Headless pin ISO4026-M3x3 A2-21H
10	PDM00001705	O-ring 16.0m X 1.0mm
11	K12294	Pull rod
12	UB7963	Cable assy, reverse sensor complete
13	K12293	Guiding sleeve
14	UB8226	Reverse travel sensor kpl.

Pos.	Art. no.	Designation
15	KN1483	Protective sleeve flexible, yellow

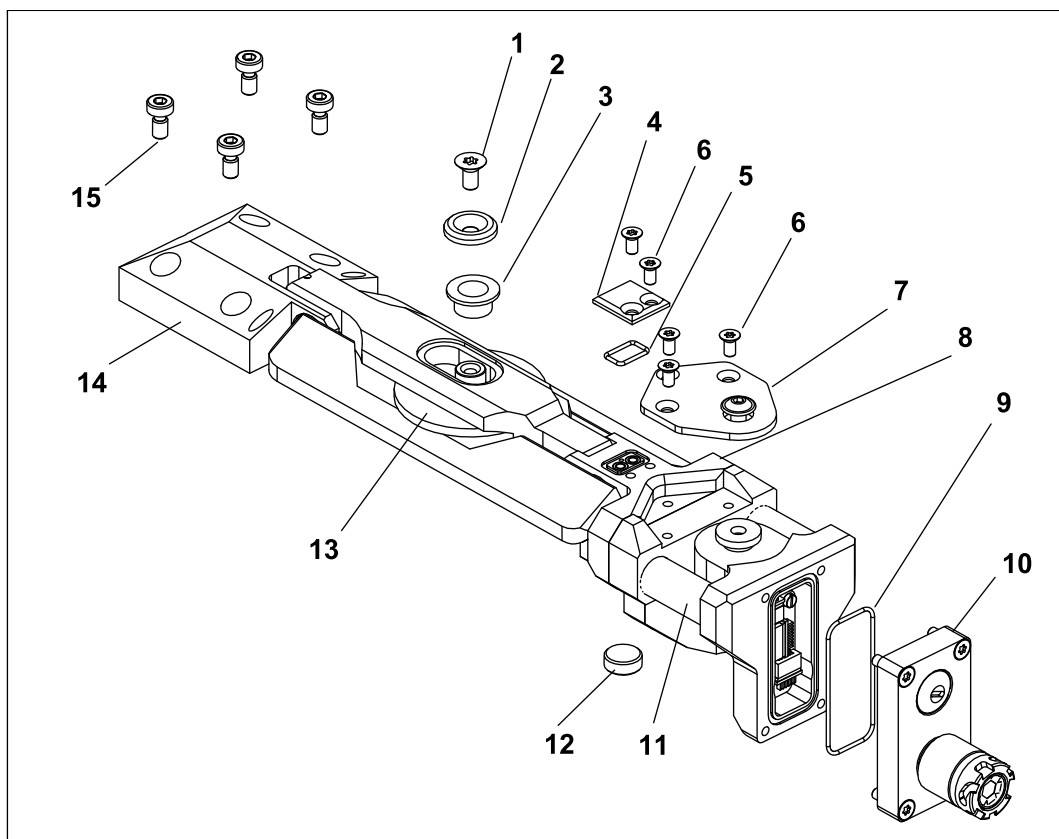
4.1.1.2 Foldable plug L 90



Pos.	Art. no.	Designation
1	PDM00004169	Countersunk screw M5x10 DIN 965 A2
2	K11761	Plate, mtg top cardonic plug
3	KK1132	Bushing, shoulder M10 ID X 6 nylon
4	PDM00006855	O-ring 18,00x1,00-70SH NBR
5	PDM00001483	Cylinder screw M4x12-Zinc DIN 7984-M4x12 A2-70
6	K13532	Stop
7	PDM00004336	Screw Soket Cap M5x14 DIN 7984 A2
8	KV1001	Valve, nitrogen fill
9	PDM00000901	Cheese head screw M3x8 DIN 912 A2
10	KJ9830	Cover, locating sensor cardonic plug
11	PDM00023188	O-ring 9,5x2
12	UB8688	Sensor, reverse upper side complete
13	PDM00001705	O-ring 16,00x1,00-70SH NBR
14	K12402	Pull rod
15	PDM00023118	O-ring 8 x 1 EPDM

Pos.	Art. no.	Designation
16	K11189	Guiding sleeve
17	UB7963	Cable assy, reverse sensor complete
18	EX2863	Protecting cap for CA socket

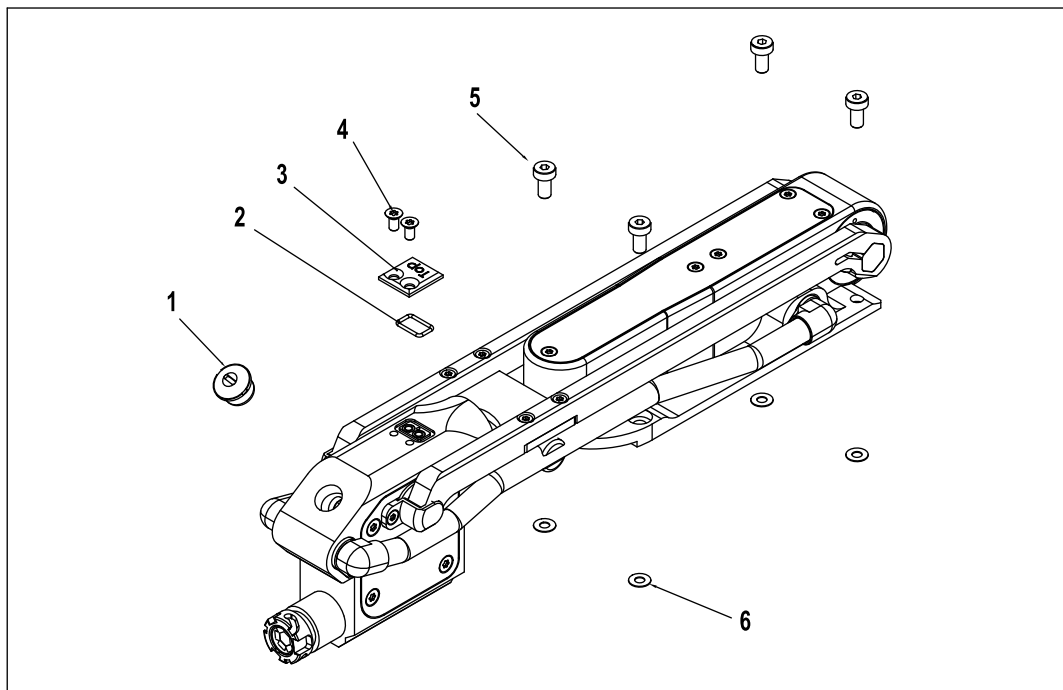
4.1.2 Height adjustment mechanical FW 90, FW 90 EX



Pos.	Art. no.	Designation
1	PDM00004398	Countersunk screw M4x8 TX20 ISO14581-M4x8 TX A2-70
2	K12386	Lock washer
3	KK1240	Bearing, Iglidur GFM-081014-06
4	K10069	Plate 2
5	PDM00023138	O-ring 9,00x1,00-70SH NBR
6	PDM00004358	Countersunk screw ISO14581 M3x6 TX A2-70 A2
7	PDM00033066	Plate
8	PDM00007782	Holder
9	PDM00005264	O-Ring 33,00x1,00-70SH NBR
10	UB9010	Connector 6pol. Camera connection C 90/KS60 DB
11	KF1060	Pressure spring
12	K10049	Headless pin - M10x0,5
13	K12384	Hand wheel
14	PDM00008008	Connection plate
15	K13661	Thin shaft screw M4x8

4.1.3 Hight adjustment electrical FW 90, FW 90 EX

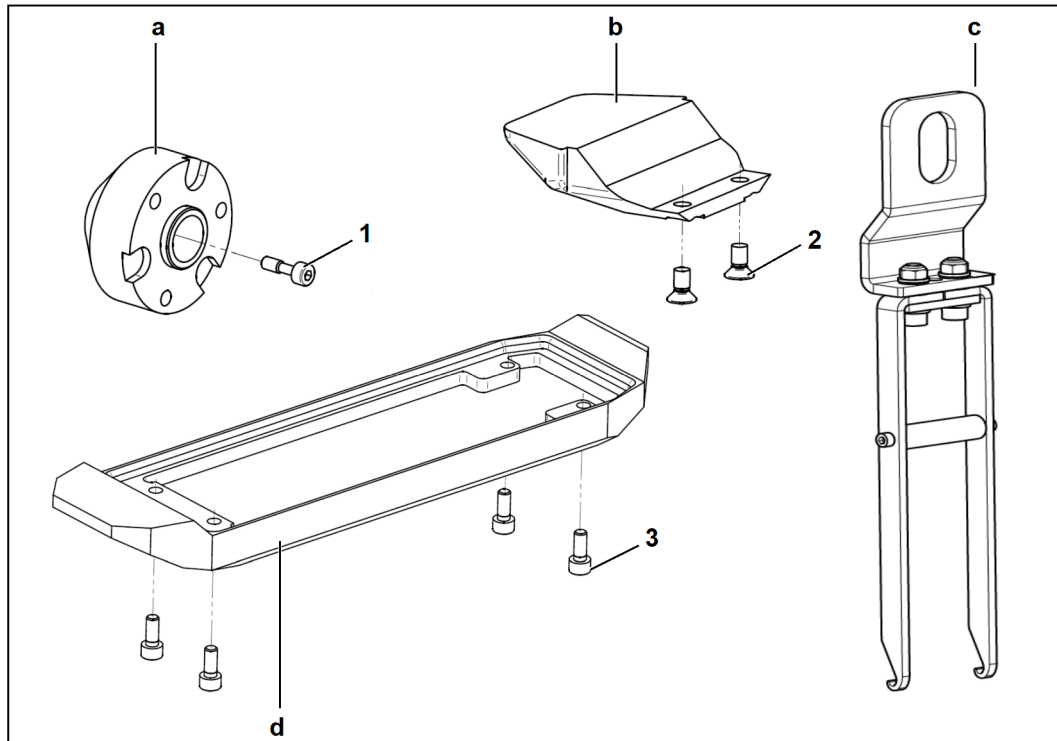
■ S/N: 111623, 111624



Pos.	Art. no.	Designation
1	UB7947	Sealing plug for KS 60 D
2	PDM00023138	O-ring 9,00x1,00-70SH NBR
3	K10069	Plate 2
4	PDM00004358	Countersunk screw ISO14581 M3x6 TX A2-70 A2
5	PDM00004358	Screw, Scket Cap M4 X 8 DIN 7984-M4x8 A2-70
6	PDM00011271	Wascher ISO7089-M3 PA Typ 6

4.1.4 Accessories

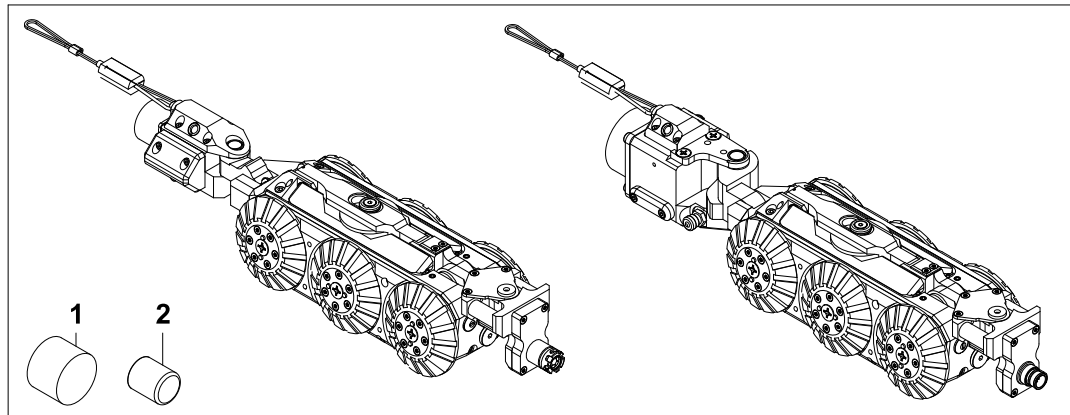
4.1.4.1 Wheel adapter, bumper, lowering/lifting hook, additional weight



Pos.	Art. no.	Designation
a	UB8906	Wheel adapter 1, L 90/C 90
b	UB8905	Bumper cpl., L 90/C 90
c	PDM00030024	Lowering / lifting hook L 90/C 90
d	UB8908	Additional weight 2kg, L 90/C 90
1	DN2794	Cheese head screw M4x14 similar DIN 912 A2
2	PDM00004169	Countersunk screw M5x10 DIN 965 A2
3	PDM00003349	Cheese head screw M5x12

4.2 C 100, C 100 EX, L 100 Cross, L 100 Cross EX

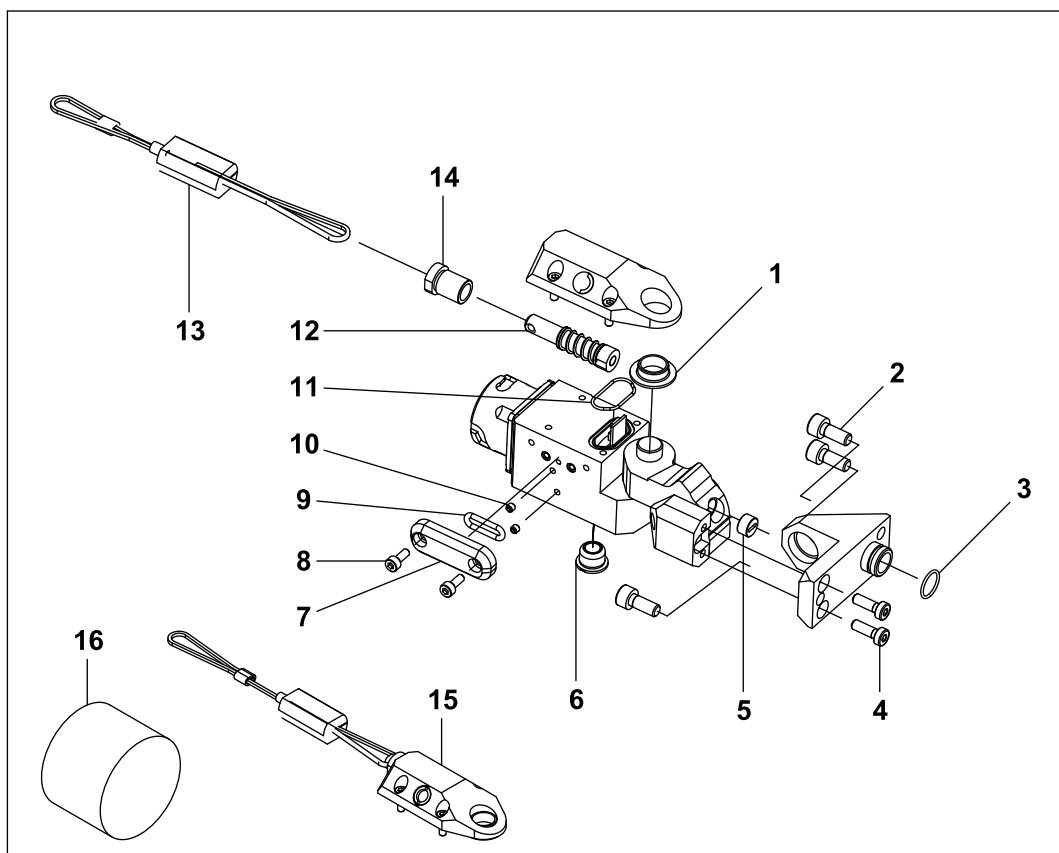
■ Art. no.: 110643, 110693, 110978, 111058, 111120, 111146, 111393



Pos.	Art. no.	Designation
1	KN1483	Protective sleeve flexible, yellow
2	EX1030	Cover black

4.2.1 Foldable plug

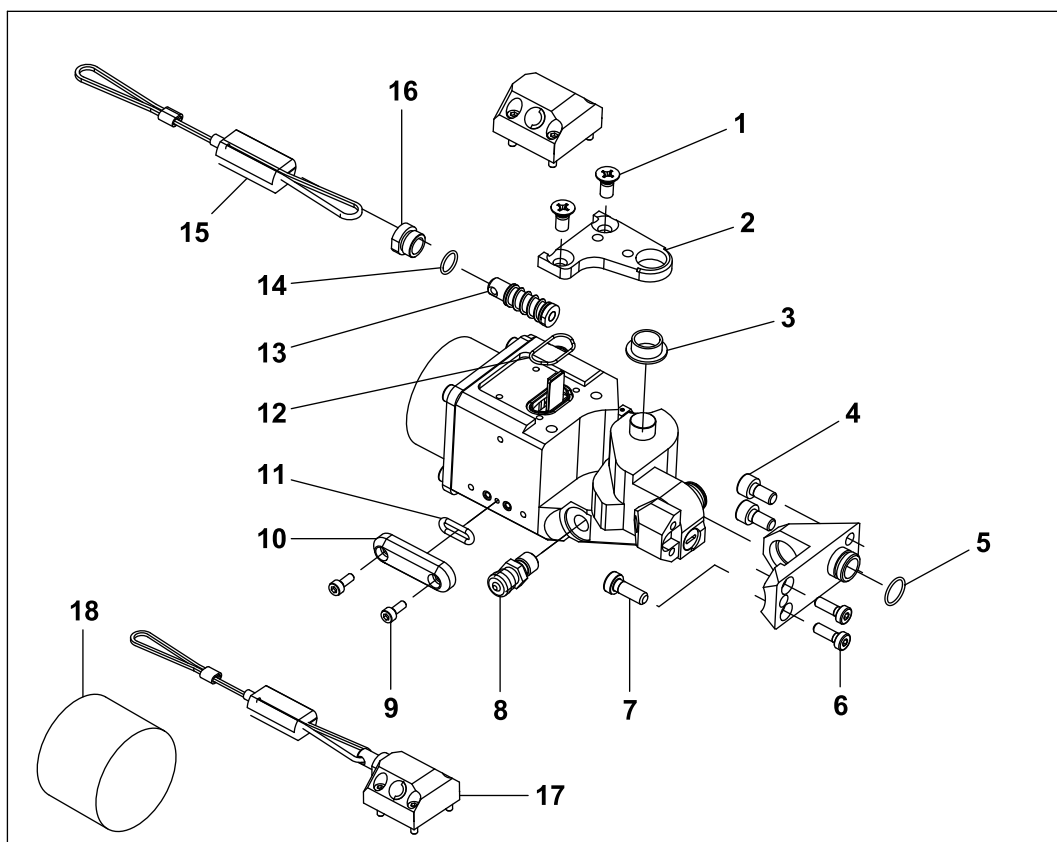
4.2.1.1 Foldable plug C 100, C 100 EX



Pos.	Art. no.	Designation
1	KK1280	Bearing
2	PDM00003349	Cheese head screw M5x12 A2-70
3	PDM00006861	O-ring 3,00x1,00; NBR; 70SH
4	PDM00001483	Screw, Scket Cap DIN7984-M4x12 A2-70
5	K10056	Headless pin - M8x0,5
6	UB7047	Valve, nitrogen filling M - Series
7	K12290	Cover plate
8	PDM00000901	Cheese head screw ISO4762-M3x8 A2-70
9	PDM00023078	O-ring 10,5x2,00; NBR; 70 SH
10	PDM00002384	Headless pin ISO4026-M3x3 A2 21H
11	PDM00001705	O-ring 16,00x1,00; NBR; 70SH
12	K12294	Pull rod
13	UB7963	Cable assy, reverse sensor complete
14	K12293	Guiding sleeve

Pos.	Art. no.	Designation
15	UB8226	Reverse travel sensor kpl.
16	KN1483	Protective sleeve flexible, yellow

4.2.1.2 Foldable plug L 100 Cross, L 100 Cross EX



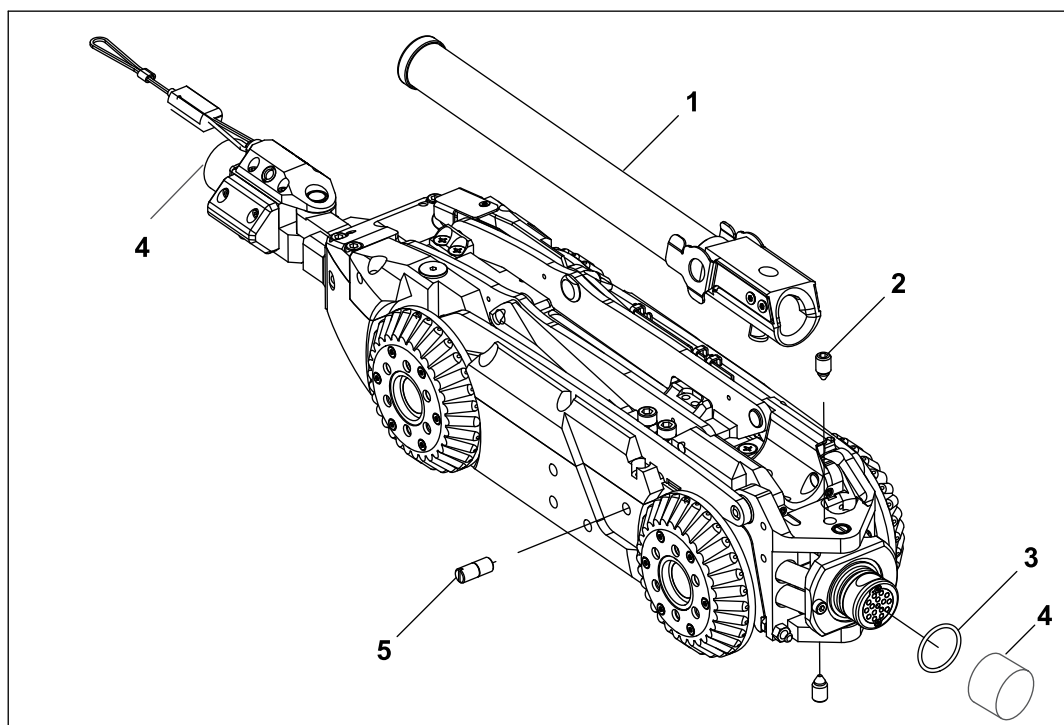
Pos.	Art. no.	Designation
1	PDM00004169	Countersunk screw ISO7046-1 M5x10 A2-70
2	K11761	Plate, mtg top cardonic plug
3	KK1132	Bushing, shoulder M10 ID X 6 nylon
4	PDM00003348	Cheese head screw ISO4762-M5x10 A2-70
5	PDM00006890	O-ring 10,00x1,00; NBR; 70SH
6	PDM00001483	Screw, Scket Cap DIN7984-M4x12 A2-70
7	PDM00001415	Screw Scket Cap DIN7984-M5x12 A2-70
8	KV1001	Valve, nitrogen fill
9	PDM00000901	Cheese head screw ISO4762-M3x8 A2-70
10	KJ9830	Cover, locating sensor cardonic plug
11	PDM00023188	O-Ring 9,50x2,00; NBR; 70SH
12	PDM00001705	O-ring 16,00x1,00; NBR; 70SH
13	K12402	Pull rod
14	PDM00023118	O-ring 8,00x1,00; NBR; 70SH
15	UB7963	Cable assy, reverse sensor complete

Pos.	Art. no.	Designation
16	K11189	Guiding sleeve
17	UB8688	Sensor, reverse upper side complete
18	KN1483	Protective sleeve flexible, yellow

4.3 C 135, C 135 EX, L 135, L 135 EX

4.3.1 C 135, C 135 EX

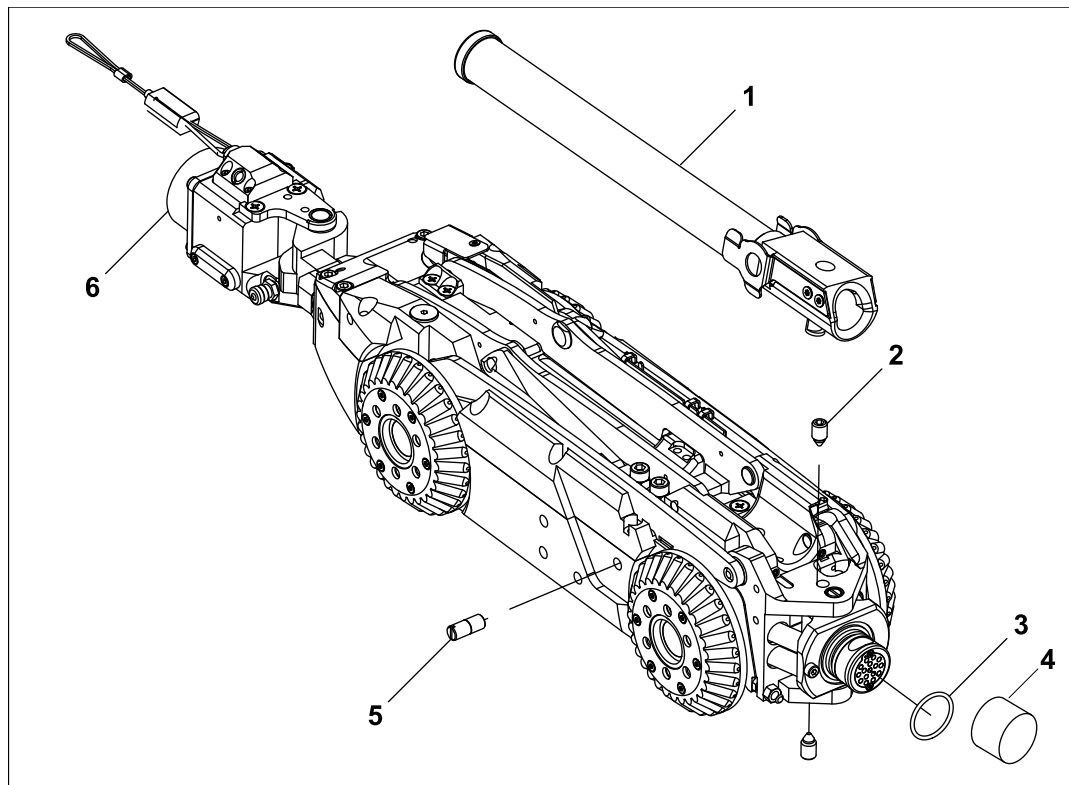
■ Art. no.: 111145, 111395



Pos.	Art. no.	Designation
1	UB7504	Hose accy, guide rear L 135 complete for push cable M-series
2	K11559	Locking screw
3	PDM00003416	O-Ring 24,0x2,0; NBR; 70SH
4	KN1483	Protective sleeve flexible, yellow
5	PDM00003925	Set screw ISO2342-M8x20 A1 A1

4.3.2 L 135, L 135 EX

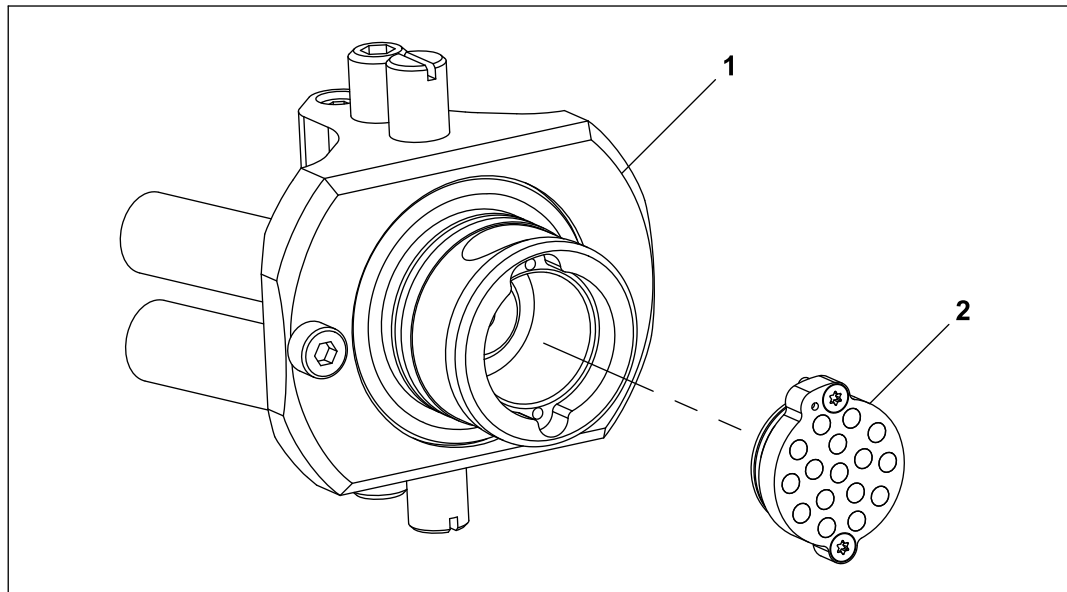
■ Art. no.: 111127, 111128



Pos.	Art. no.	Designation
1	UB7504	Hose accy, guide rear L 135 complete for push cable M-series
2	K11559	Locking screw
3	PDM00003416	O-Ring 24,0x2,0; NBR; 70SH
4	KN1483	Protective sleeve flexible, yellow
5	PDM00003925	Set screw ISO2342-M8x20 A1 A1
6	EX2863	Protecting cap for CA socket

4.3.3 Holder C 135, C 135 EX, L 135, L 135 EX

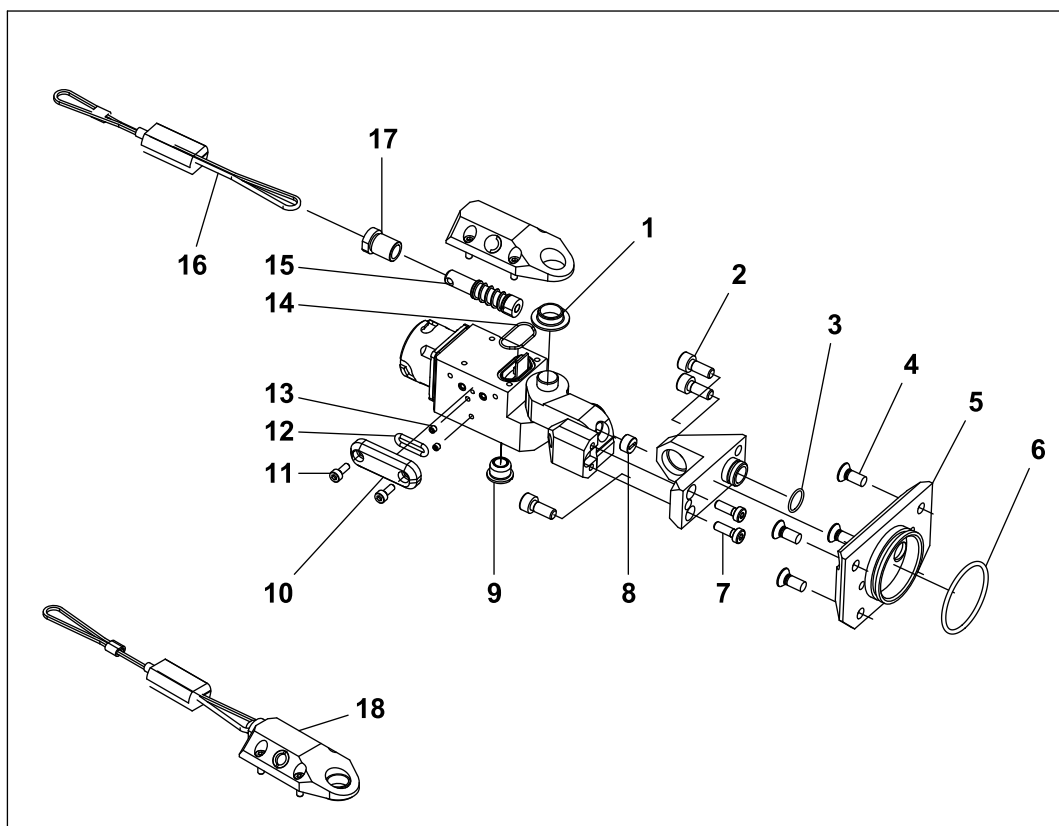
■ Art. no.: 111127, 111128, 111145, 111395



Pos.	Art. no.	Designation
1	PDM00026964	Repair set central holder L135 mech. Components
2	PDM00026965	Repair set central holder L135

4.3.4 Foldable plug

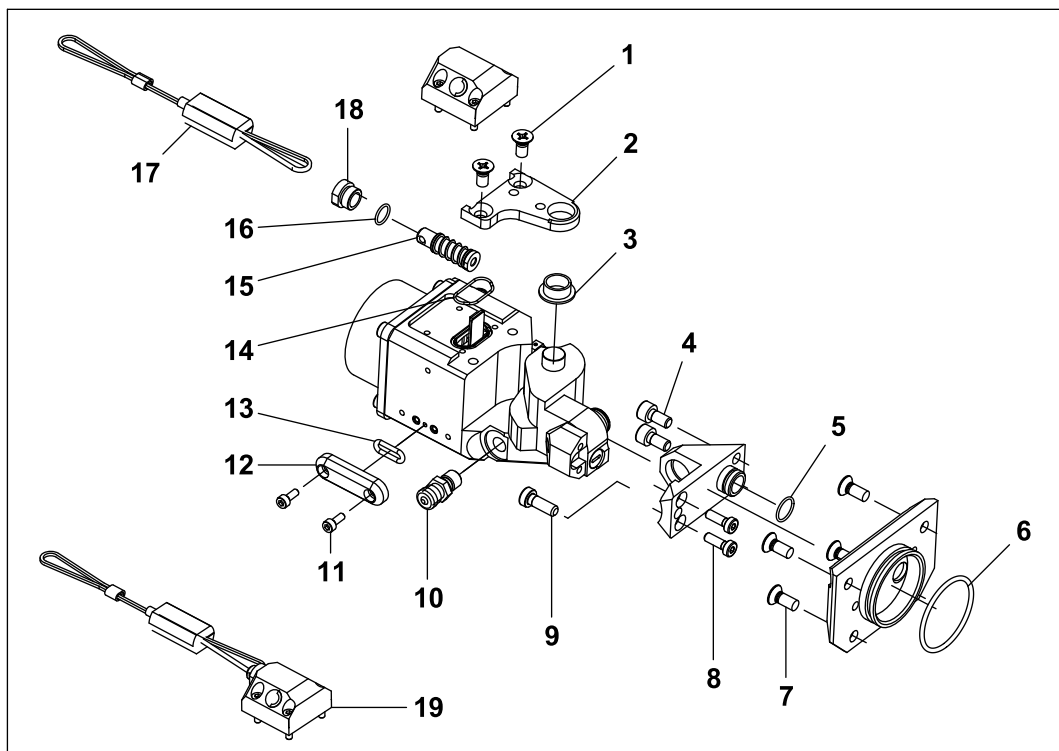
4.3.4.1 Foldable plug C 135, C 135 EX



Pos.	Art. no.	Designation
1	KK1280	Bearing
2	PDM00003349	Cheese head screw ISO4762-M5x12 A2-70 A2
3	PDM00006890	O-ring 10,00x1,00-70SH NBR
4	PDM00004170	Countersunk screw M5x12 DIN 965 A2
5	K10219	Plate, Rear L135 Connector
6	PDM00023193	O-Ring 33,0x2,0; NBR; 70SH
7	PDM00001483	Screw, Scket Cap DIN7984-M4x12 A2-70 A2
8	K10056	Headless pin - M8x0,5
9	UB7047	Valve, nitrogen filling M - Series
10	K12290	Cover plate
11	PDM00000901	Cheese head screw ISO4762-M3x8 A2-70 A2
12	PDM00023078	O-ring 10,5x2; NBR; 70SH
13	PDM00002384	Headless pin ISO4026-M3x3 A2-21H A2
14	PDM00001705	O-ring 16,00x1,00-70SH NBR

Pos.	Art. no.	Designation
15	K12294	Pull rod
16	UB7963	Cable assy, reverse sensor complete
17	K12293	Guiding sleeve
18	UB8226	Reverse travel sensor kpl.

4.3.4.2 Foldable plug L 135, L 135 EX

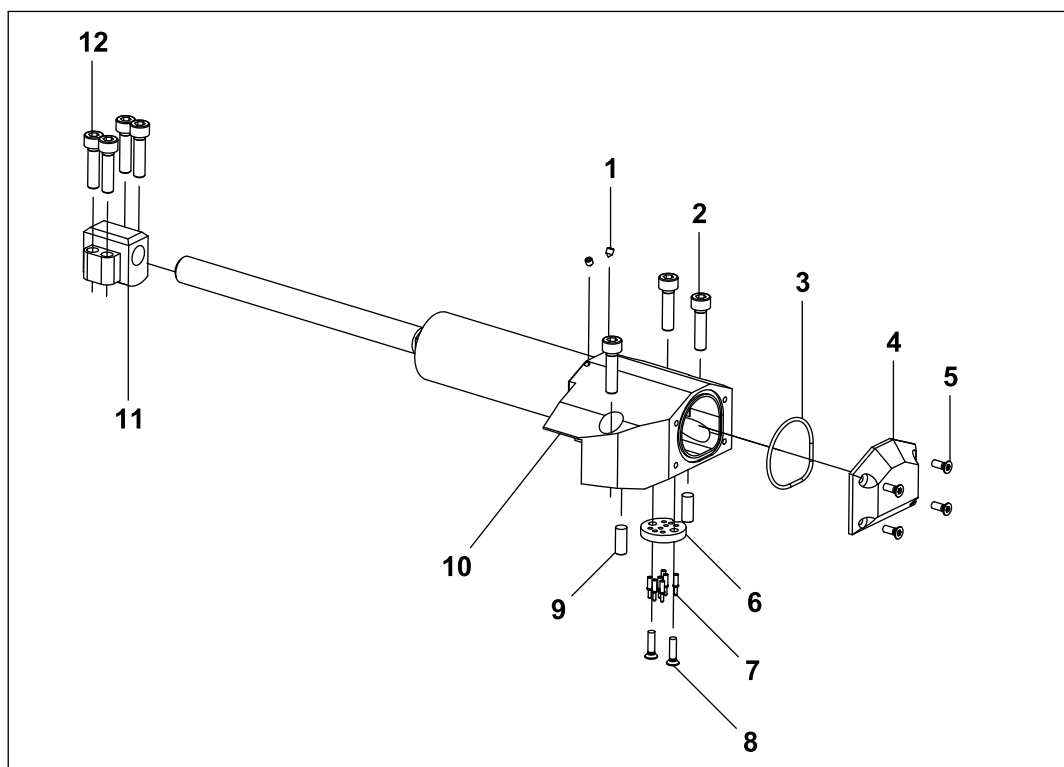


Pos.	Art. no.	Designation
1	PDM00004169	Countersunk screw M5x10 DIN 965 A2
2	K11761	Plate, mtg top cardonic plug
3	KK1132	Bushing, shoulder M10 ID X 6 nylon
4	PDM00003348	Cheese head screw M5x10 DIN 912 A2
5	PDM00006890	O-ring 10,00x1,00-70SH NBR
6	PDM00023193	O-ring 33,0x2,0; NBR; 70SH
7	PDM00004170	Countersunk screw M5x12
8	PDM00001483	Screw Scket Cap DIN7981-M4x12 A2-70
9	PDM00016204	Screw Scket Cap M5x14 ISO4762;5x14 A2-70
10	KV1001	Valve, nitrogen fill
11	PDM00000901	Cheese head screw M3x8 DIN 912 A2
12	KJ9830	Cover, locating sensor cardonic plug
13	PDM00023188	O-ring 9,50x2,00; NBR; 70SH
14	PDM00001705	O-ring 16,00x1,00-70SH NBR
15	K12402	Pull rod
16	PDM00023118	O-ring 8 x 1 EPDM
17	UB7963	Cable assy, reverse sensor complete

Pos.	Art. no.	Designation
18	K11189	Guiding sleeve
19	UB7968	Sensor, reverse upper side complete

4.3.5 Electric lifting gear

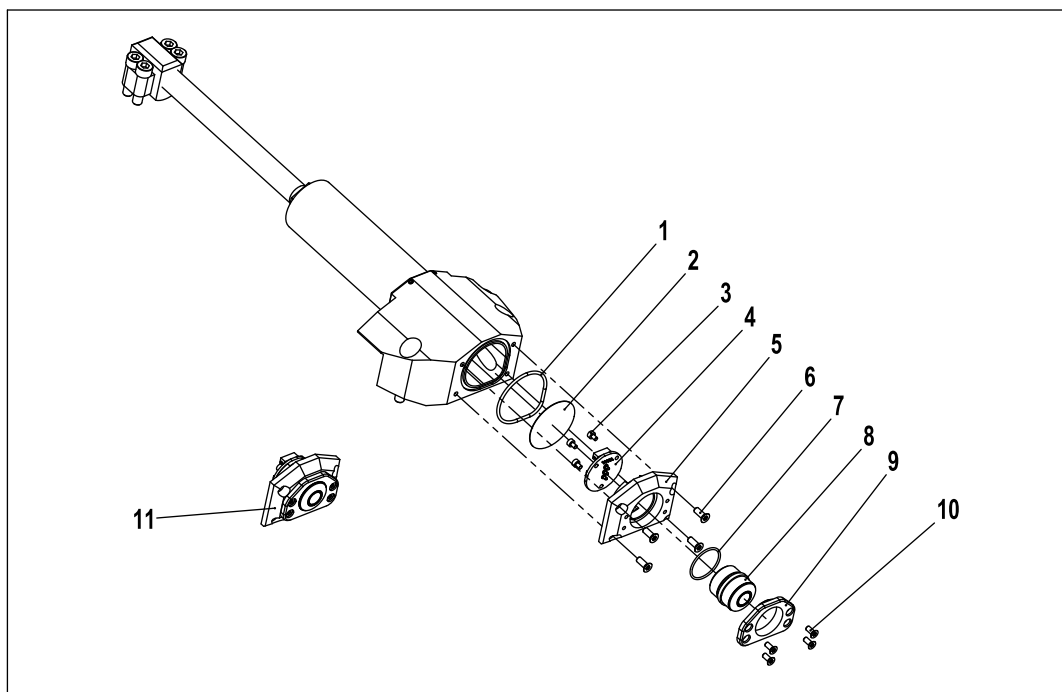
■ Art. no.: 111679



Pos.	Art. no.	Designation
1	PDM00016250	Headless pin DIN 913 M3x4 A2
2	PDM00001189	Screw, socket cap SS M5 X 20 DIN 912 A2
3	PDM00005719	O-ring 30,00x1,50-70SH NBR
4	K10267	Cover plate
5	PDM00004370	Countersunk screw M3X8 TX10 ISO14581-M3x8 TX A2-70
6	EA1576	Board L135_LIFTPLG L135
7	EX2397	Contact, spring pin 1.95mm X 10.65mm
8	PDM00004352	Countersunk screw ISO14581 M3x16 TX A2-70
9	PDM00002622	Cylinder bolt ISO2338 5m6x12-A2
10	K12382	Housing, lift L 135
11	K10409	Spindel, nut L 135
12	PDM00001189	Screw, socket cap SS M5 X 20 DIN 912 A2

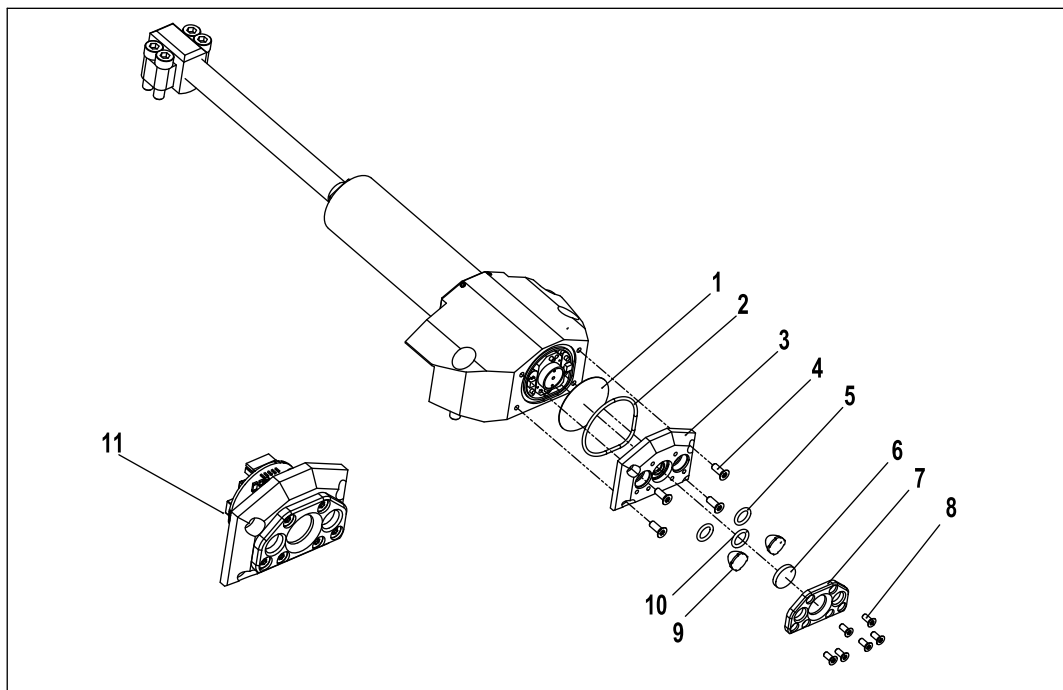
4.3.6 Electric lifting gear with rear view camera

■ Art. no.: 110979 (PAL), 110980 (NTSC)



Pos.	Art. no.	Designation
1	PDM00005719	O-ring 30 x 1,5
2	PDM00027182	Heat conducting foil;30x0,718mm
3	PDM00004746	Cylinder head screw ISO14579-M2x3 TX A2-70 A2
4	EB3968	Board L135BEYE20 Connection camera KK18 crawler FW 135
5	PDM00031944	Cover plate
6	PDM00004370	Countersunk screw M3X8 TX10 ISO14581-M3x8 TX A2-70
7	PDM00006855	O-Ring 18,00x1,00-70SH NBR
8	PDM00023487	Camera KK18 PAL
	PDM00023491	Camera KK18 NTSC
9	PDM00031962	Front plate, holder for KK18
10	PDM00004345	Countersunk screw M2,5x6 TX8 ISO14581-M2,5x6 TX A2-70
11	PDM00031942	Rear view camera E-Lift-PAL
	PDM00033829	Rear view camera E-Lift-NTSC

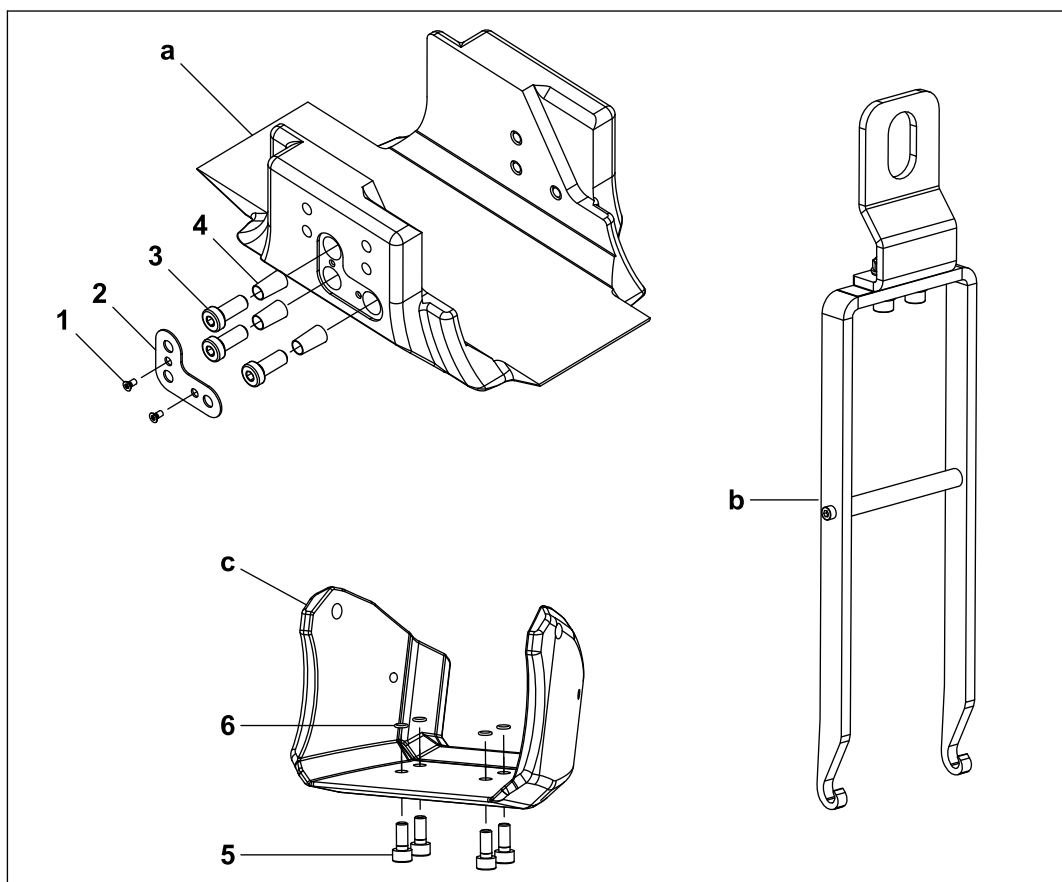
■ Art. no.: 111130



Pos.	Art. no.	Designation
1	PDM00027182	Heat conducting foil;30x0,718mm
2	PDM00005719	O-ring 30 x 1,5
3	K12743	Cover plate
4	PDM00004370	Countersunk screw M3X8 TX10 ISO14581-M3x8 TX A2-70
5	PDM00023164	O-ring 6,5 x 1,5
6	KG1053	Clear glass Ý 12.0mm 3mm thick
7	K11519	Cover plate
8	PDM00004345	Countersunk screw M2,5x6 TX8 ISO14581-M2,5x6 TX A2-70
9	EH1289	Lens 8° for CREE-LED FA10996_LISA2-M-PIN-XP
10	PDM00023169	O-ring 7 x 1,5
11	UB8497	Rear view camera - PAL

4.3.7 Accessories

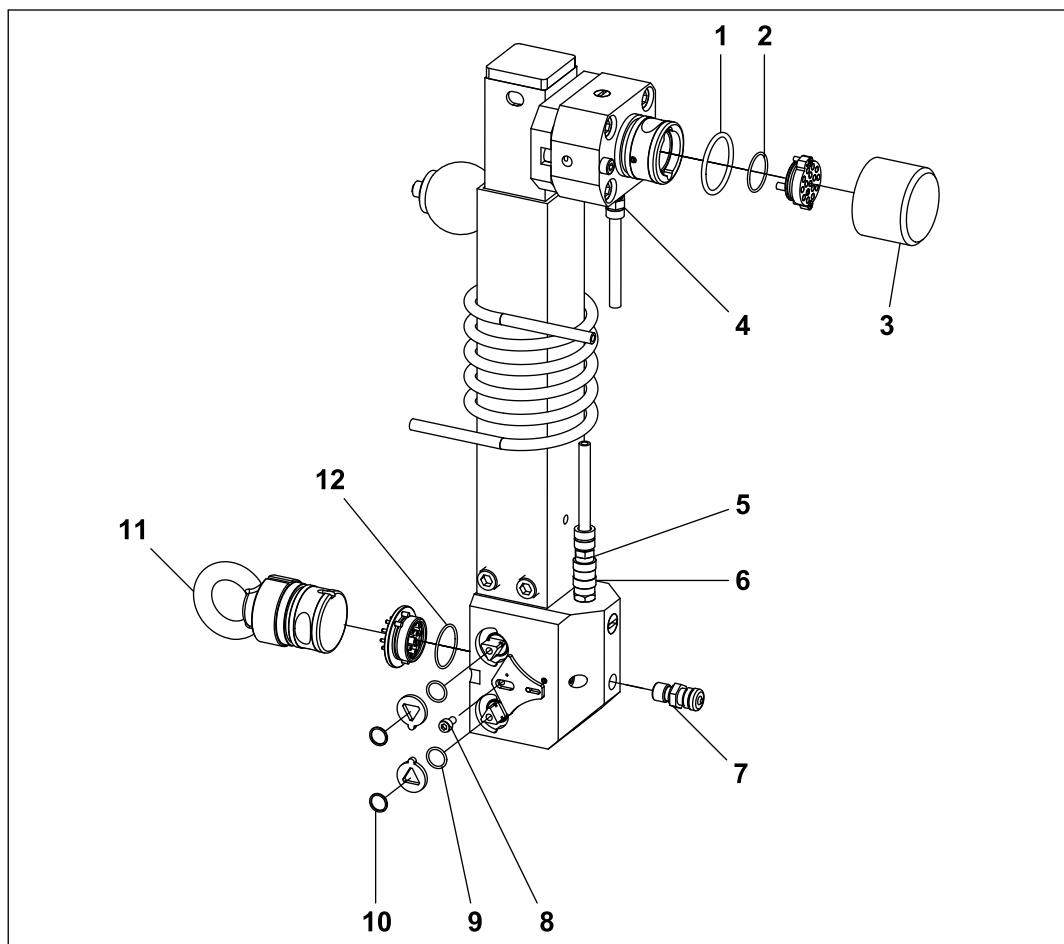
4.3.7.1 Additional weight, lowering/lifting hook



Pos.	Art. no.	Designation
a	110783	Additional weight L 135/ C 135 bottom from 250 mm - 6,6 kg
b	110708	lowering / lifting hook L 135 / C 135
c	110784	Additional weight L 135/ C 135 rear from 150 mm - 1,5kg
1	PDM00004358	Screw, flat torx M3.0 X 6 SS DIN 965 18 - 8 A2
2	K10638	Stop plate
3	PDM00002158	Cheese head screw DIN7984-M8x20 A2-70 A2
4	KF1137	Pressure spring
5	PDM00003349	Cheese head screw M5x12
6	PDM00006860	O-ring 4,00x1,00-70SH NBR

4.3.7.2 Hight extension

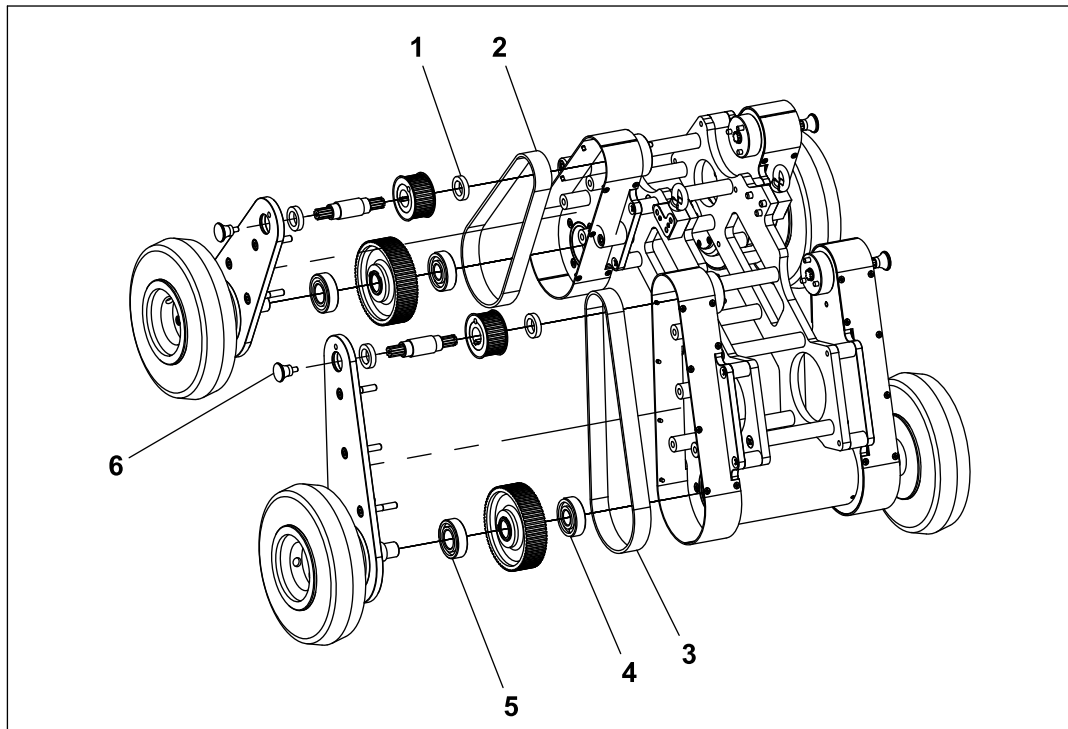
■ Art. no.: 110874, 111411



Pos.	Art. no.	Designation
1	PDM00003416	O-Ring 24,0x2,0; NBR; 70SH
2	PDM00001705	O-ring 16,00x1,00-70SH NBR
3	KN1483	Protective sleeve flexible, yellow
4	KU1643	Port fitting M5-3x5
5	KU1641	Push in nipple DN2,7 - hose 3x5 brass
6	KU1297	Hose coupling DN 2,7, M5 outside brass
7	KV1001	Valve, nitrogen fill
8	PDM00000900	Screw, socket cap M3 X 6 SS DIN 912 A2
9	PDM00023118	O-ring 8 x 1 EPDM
10	KN1385	Ring, retaining cam lock Smalley WSM-31 S02
11	KN1505	Sealing plug yellow
12	PDM00006855	O-ring 18,00x1,00-70SH NBR

4.3.7.3 Crawler extension for large profiles

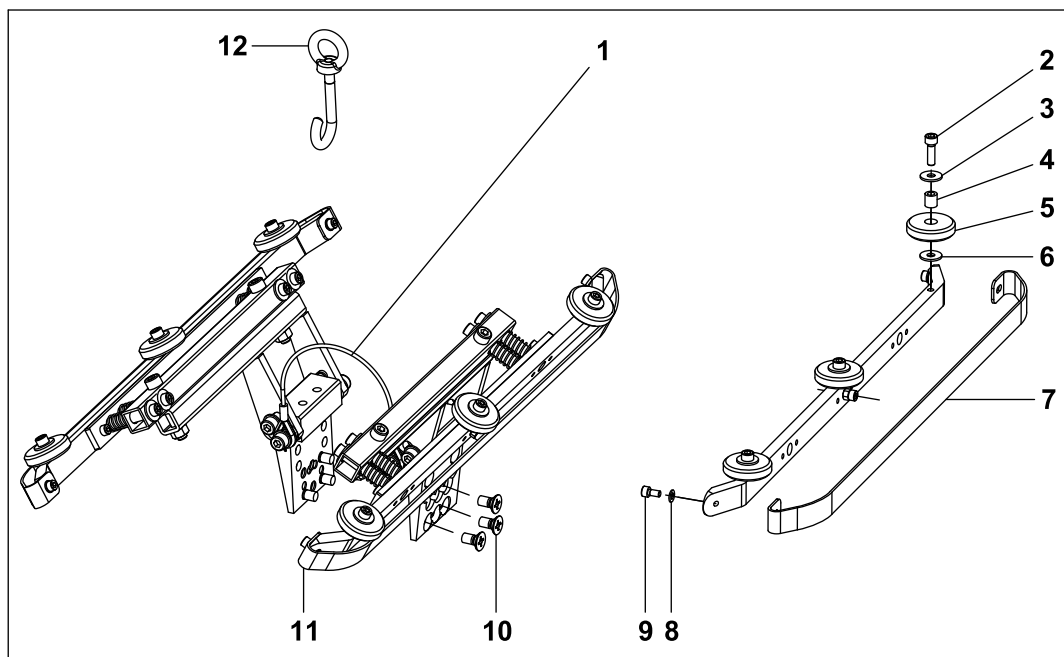
■ Art. no.: 111006



Pos.	Art. no.	Designation
1	KK1245	61804-2RS1 Deep groove ball bearing Nirosta Stainless steel
2	KA1455	PowerGrip GT3 5MGT toothed belt 650-5M-25 Z=130
3	KA1456	PowerGrip GT3 5MGT toothed belt 800-5M-25 Z=160
4	KK1262	6304-2RS1 Deep groove ball bearing Nirosta Stainless steel
5	KK1263	6205-2RS1 Deep groove ball bearing Nirosta Stainless steel
6	KN1406	Mushroom shaped knob

4.3.7.4 Attachment for egg shaped profile

■ Art. no.: 110776

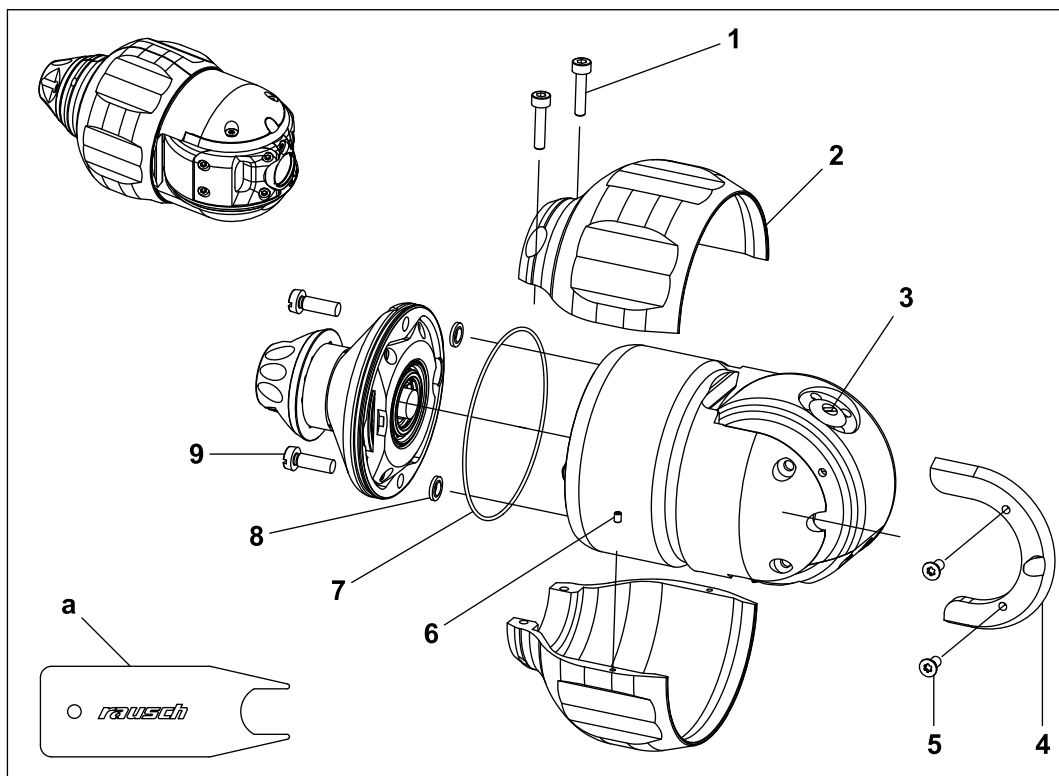


Pos.	Art. no.	Designation
1	UB8439	Lowering device - Wire rope loop
2	PDM00001145	Cheese head ISO4762-M6x20 A2-70 A2
3	PDM00006503	Washer ISO7093-M6 A2
4	KJ7344	Socket
5	KJ7345	Roll
6	PDM00006503	Washer ISO7093-M6 A2
7	KJ7369	Skid stainless steel spring steel X12CrNi177 2,0x20
8	PDM00000823	Washer ISO7093-M6 A2
9	PDM00003348	Cheese head screw ISO4762-M5x10 A2-70
10	PDM00004228	Countersunk screw ISO7046-1 M8x16 A2-70 A2
11	UB6354	Skid with castor
12	UB7692	Hook for lowering device

5 Camera

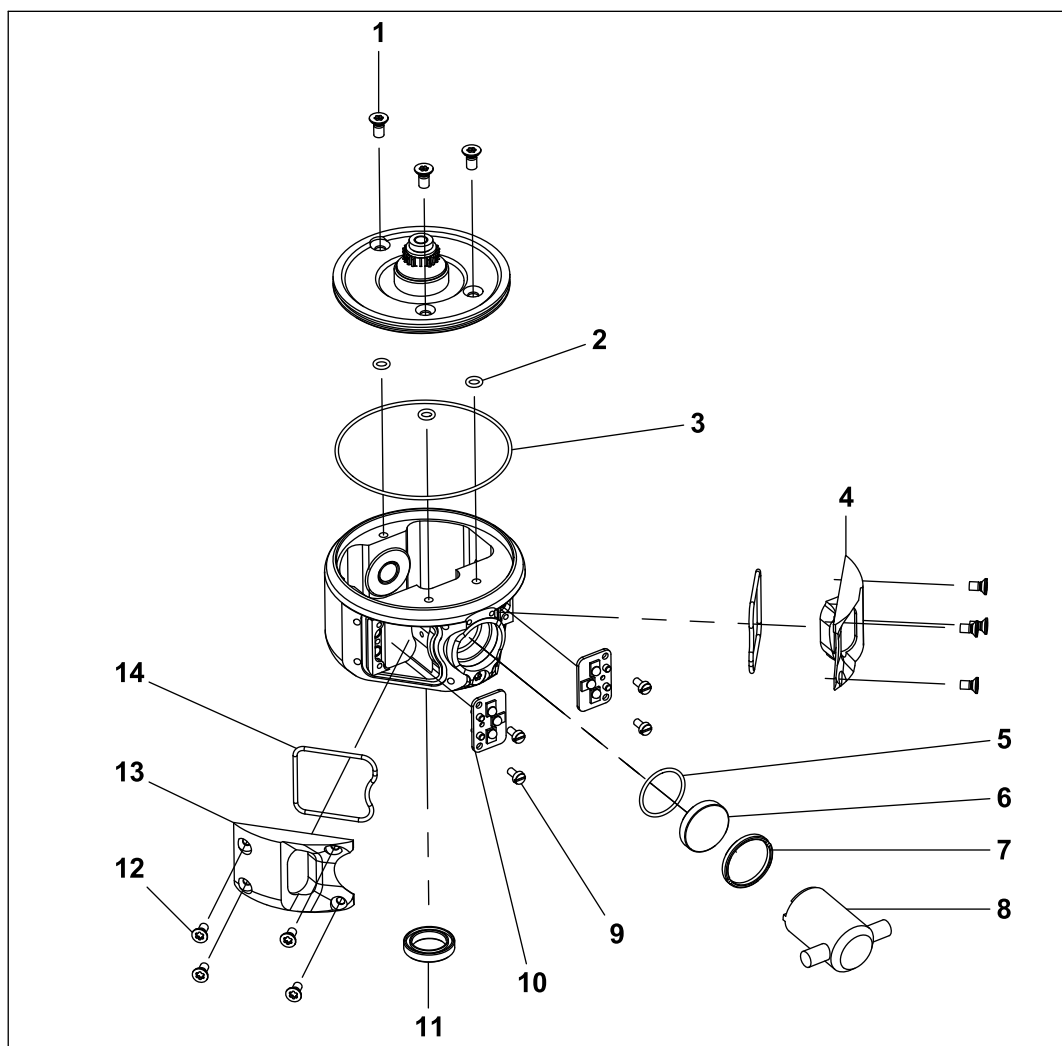
5.1 KS 60 CL

■ Art. no.: 110947, 110949, 111010, 111011, 111012



Pos.	Art. no.	Designation
a	K11271	Mounting tool
1	DN1235	Cheese head screw DIN 912 M3x14 A2
2	UB7320	Cover, KS60 protective bell DN100
3	UB8214	Cap, vent - fill M - series
4	K11301	Bracket, KS 60 CL horseshoe KS60 new
5	DN2473	Screw, flat torx M3.0 X 6 SS DIN 965 18 - 8 A2
6	DN1255	Headless pin M2X3 A2
7	KD1074	O - ring, 54.0mm X 1.0mm
8	KD1085	Washer, sealing KS 60 lid U-Seal D4 4.1 x 7.2 x 1
9	DN1284	Cheese-head screw DIN 84 M4x12 A2

5.1.1 Change of lighting

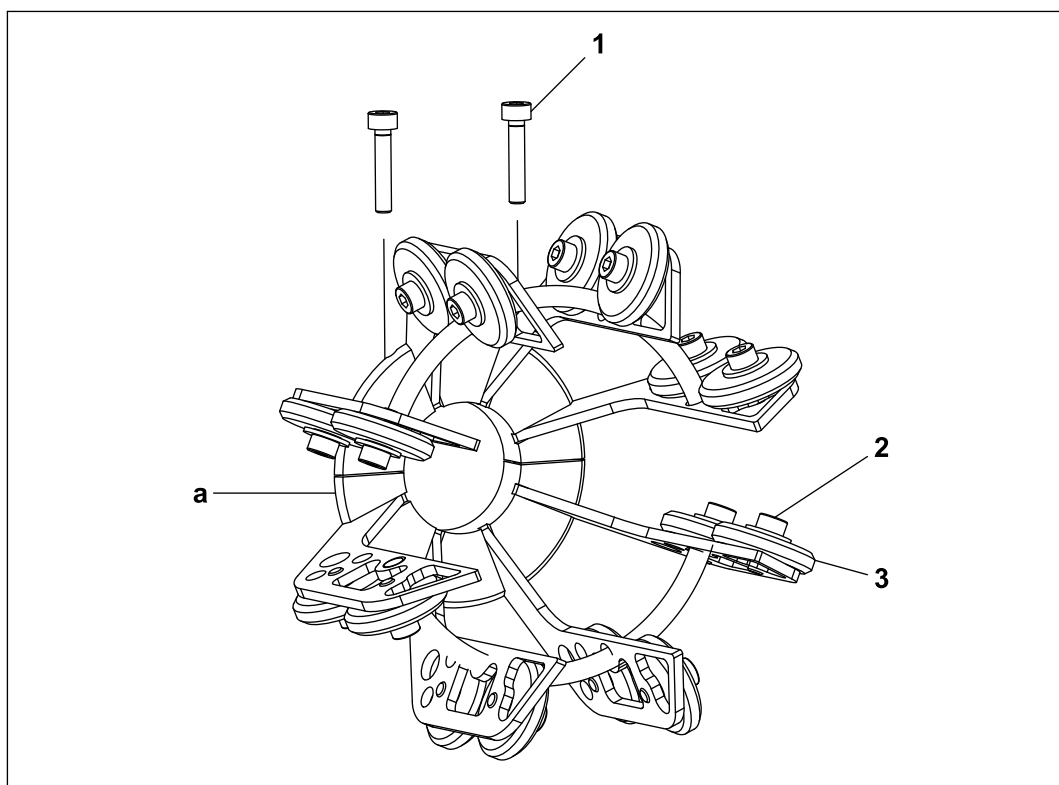


Pos.	Art. no.	Designation
1	DN2473	Screw, flat torx M3.0 X 6 SS DIN 965 18 - 8 A2
2	KD1001	O-ring 3.0mm X 1.0mm
3	KD1009	O-Ring 50x1 NBR 70 Shore
4	UB7293	Lens, illumination right KS 60 CL
5	KD1395	O-ring 14x1,0
6	KG1041	Lens, glass 15.7mm X 3mm KS60
7	KJ8513	Ring, lens retaining M17 X 1 KS 60 CL
8	UB6821	Tool, KS60 Lens Retraining Ring M17x1
9	DN1378	Cheese head screw DIN 84 M2x4 A2
10	EB2655	Board, illumination KS 60 CL Belpla14_3* KS60
11	KK1138	Bearing, KS60 lower panning
12	DN2459	Screw, flat torx M2.5 X 5 SS DIN 965 A2 TORX

Pos.	Art. no.	Designation
13	UB7294	Lens, illumination left KS60 CL
14	KD1456	O-ring, 26.0mm X 1.2mm NBR - 50Shore

5.1.2 Camera centering

■ Art. no.: 110701

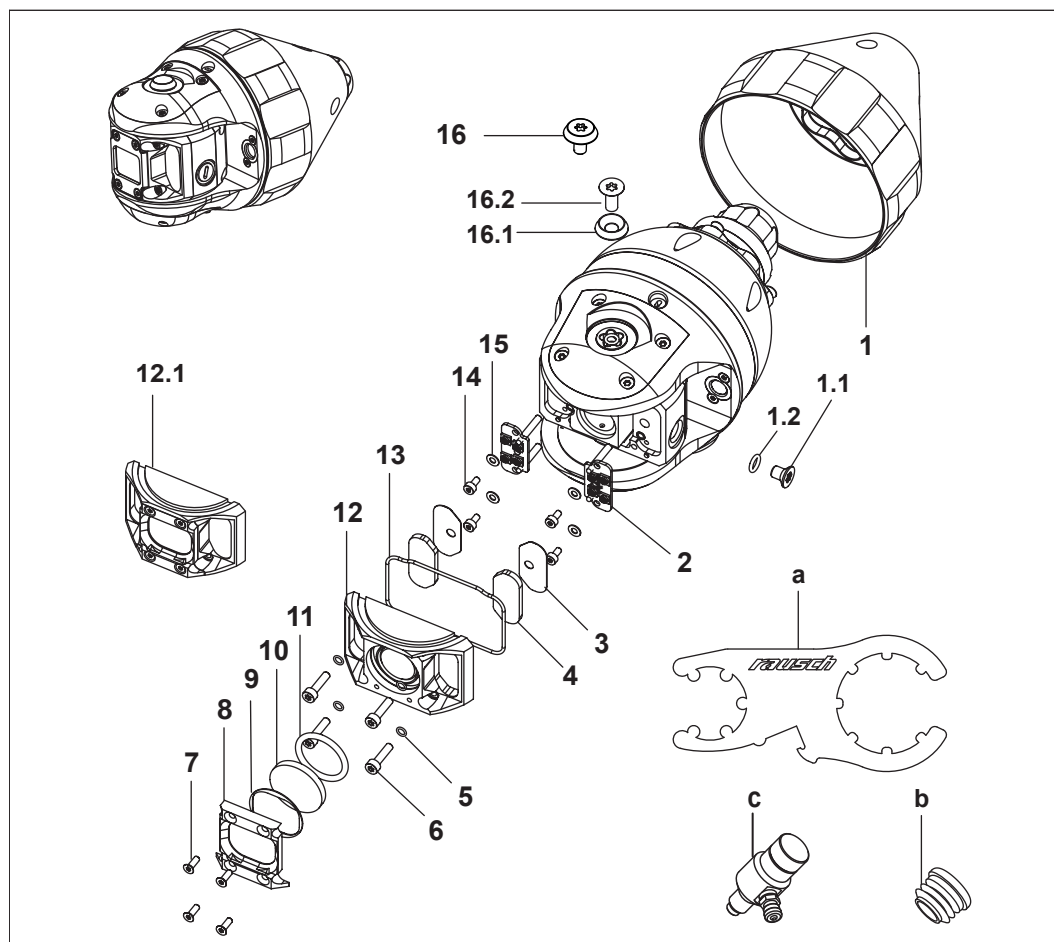


Pos.	Art. no.	Designation
a	110701	Camera centering KS 60 CL from 125mm/4.1inch for push cable
1	DN1253	Cheese head DIN 912 M3x16 A2
2	DN1002	Cheese head screw M3x8 DIN 912 A2
3	KJ5877	Roll 2

5.2 KS 60 DB, KS 60 DB EX

5.2.1 KS 60 DB

■ Art. no.: 111584, 111585

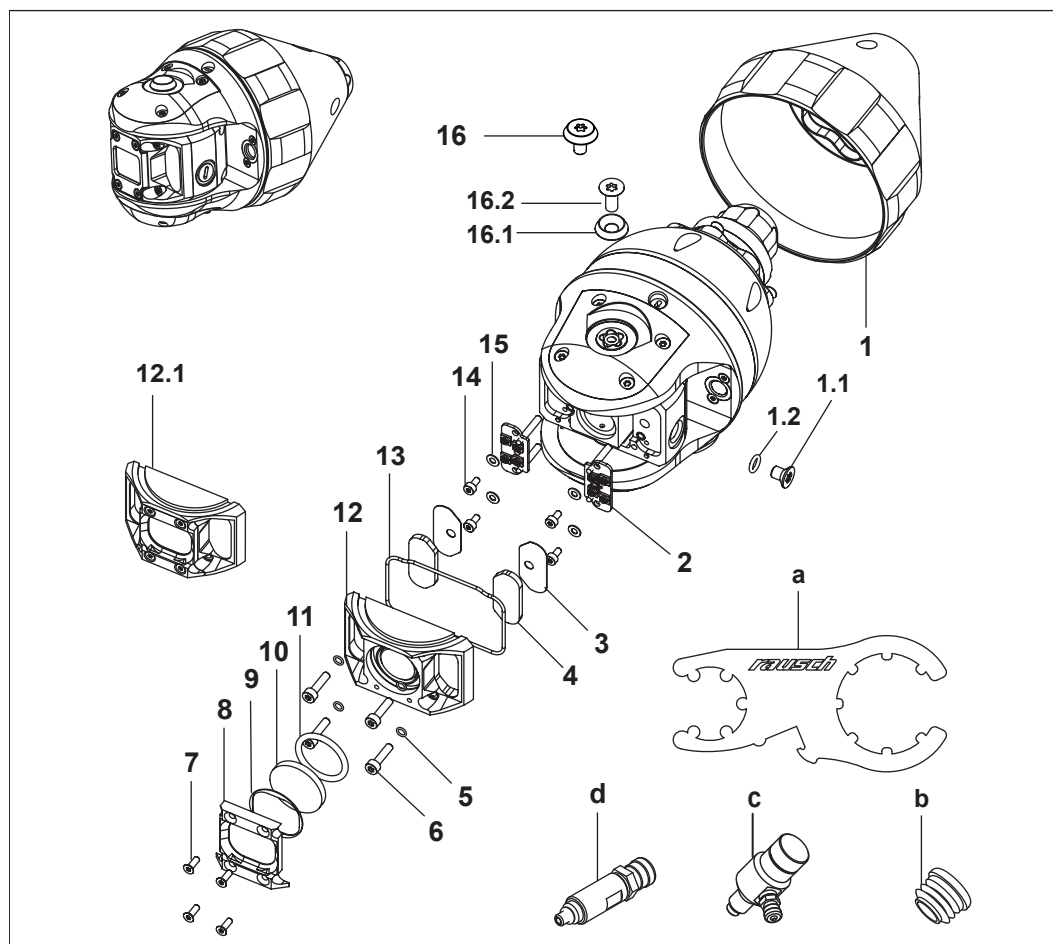


Pos.	Art. no.	Designation
a	K12011	Installation wrench
b	UB8343	Sealing plug bayonet
c	UB7600	Tool, vent fill adaptor KS 60 new style
1	K13605	Protection cover KS 60 DB
1.1	PDM00021836	Countersunk screw similar_ISO14581 M4x6 TX A2-70 m. Pin A2
1.2	PDM00006860	O-ring 4,00x1,00-70SH NBR
2	EB3430	Board KS60DB_BEL21
3	EH1318	Filter foil Polycarbonat STR1 0,2mm
4	KG1064	Lighting glass borosilicate glass hardened
5	PDM00023110	O-ring 2,50x0,62-70SH NBR

Pos.	Art. no.	Designation
6	PDM00004765	Cylinder head screw M2,5x10 TX8 ISO 14579-M2,5X10 TX A2-70
7	PDM00004260	Countersunk screw M2x6 TX6 ISO14581-M2x6 TX A2-70
8	K12958	Sight glass holder
9	K12968	Sealing compound jacket
10	KG1063	Viewing glass 2,5 thick Sapphire glass
11	KD1284	O-ring 16 x 2
12	UB8431	Front group
12.1	UB8432	Front frame pre-assembled
13	PDM00023125	O-ring 43,00x1,00-70SH NBR
14	PDM00004747	Cylinder head screw ISO14579-M2x4 TX A2-70 A2
15	PDM00011268	Washer ISO7089-M2 PA Typ 6
16	UB7907	Closure
16.1	DN2614	Rosette d1 = 11 WS9255 A4
16.2	PDM00004373	Countersunk screw ISO14581 M4x10 TX A2-70 A2

5.2.2 KS 60 DB EX

■ Art. no.: 111586

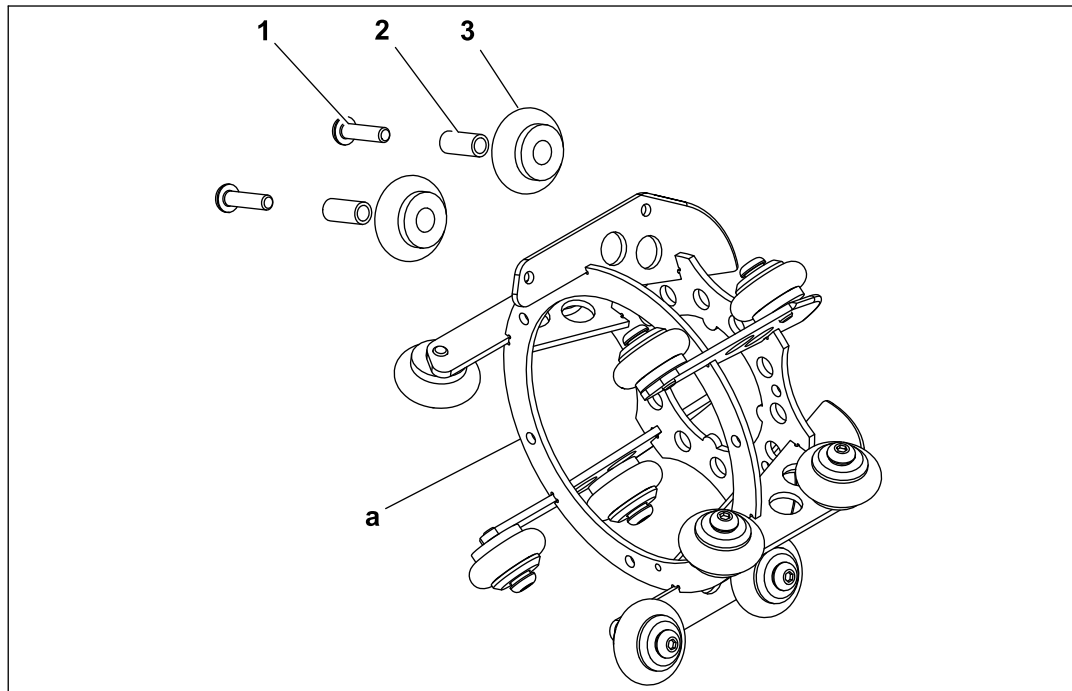


Pos.	Art. no.	Designation
a	K12011	Installation wrench
b	UB8343	Sealing plug bayonet
c	UB7600	Valve adapter KS 60 new style
d	UB8422	Valve adapter KS60 DB-EX flushing connection for flow meter
1	K13605	Protection cover KS 60 DB
1.1	PDM00021836	Countersunk screw similar_ISO14581 M4x6 TX A2-70 m. Pin A2
1.2	PDM00006860	O-ring 4,00x1,00-70SH NBR
2	EB3254	Board KS60DB_BEL20
3	EH1318	Filter foil Polycarbonat STR1 0,2mm
4	KG1064	Lighting glass borosilicate glass hardened
5	PDM00023110	O-ring 2,50x0,62-70SH NBR

Pos.	Art. no.	Designation
6	PDM00004765	Cylinder head screw M2,5x10 TX8 ISO 14579-M2,5X10 TX A2-70
7	PDM00004260	Countersunk screw M2x6 TX6 ISO14581-M2x6 TX A2-70
8	K12959	Sight glass holder Ex
9	K12968	Sealing compound jacket
10	KG1063	Viewing glass 2,5 thick Sapphire glass
11	KD1284	O-ring 16 x 2
12	UB8431	Front group
12.1	UB8570	Front frame Ex pre-assembled
13	PDM00023125	O-ring 43,00x1,00-70SH NBR
14	PDM00004747	Cylinder head screw M2x4 TX6 ISO 14581 M2x4 TX A2-70
15	PDM00011268	Washer M2 ISO7089-M2 PA6
16	UB7907	Closure
16.1	DN2614	Rosette d1 = 11 WS9255 A4
16.2	PDM00004373	Countersunk screw ISO14581 M4x10 TX A2-70 A2

5.2.3 Camera centering

■ Art. no.: 111408

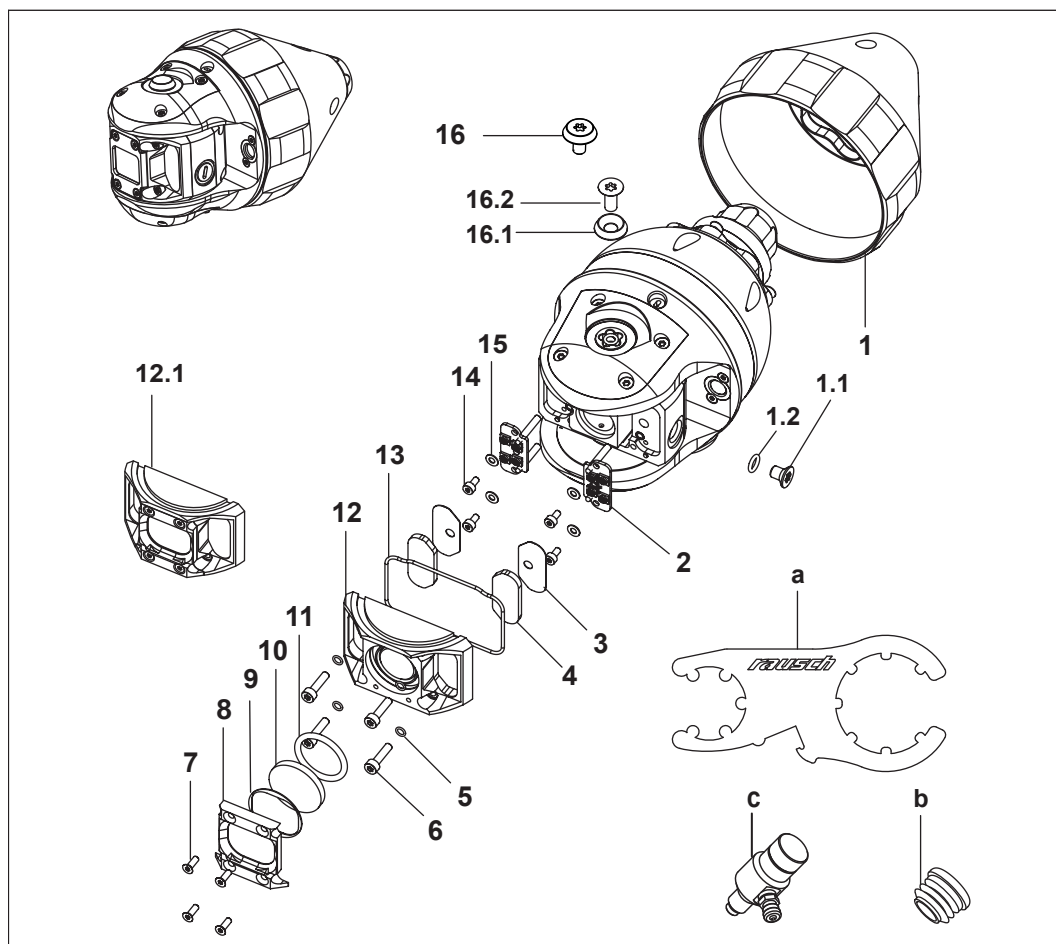


Pos.	Art. no.	Designation
a	111408	Camera centering KS 60 HD/ KS 60 DB
1	PDM00004457	Fillister head screw M4x16 ISO7380-1-M4x16 A2-70 A2
2	DN2603	Spacer sleeve 4.2 x 13.0
3	PDM00034494	Rim with O-ring

5.3 KS 60 HD, KS 60 HD EX

5.3.1 KS 60 HD

■ Art. no.: 111591, 111697

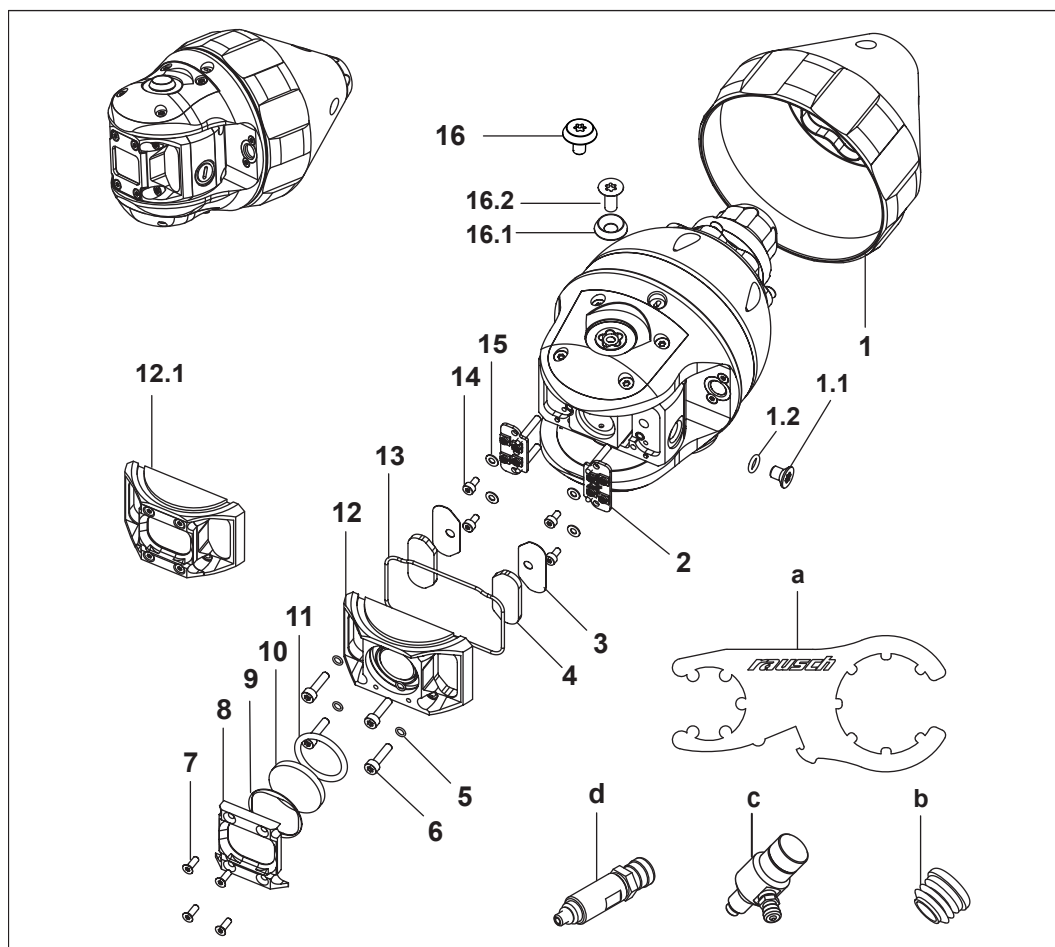


Pos.	Art. no.	Designation
a	K12011	Installation wrench
b	UB8343	Sealing plug bayonet
c	UB7600	Tool, vent fill adaptor KS60 D new style
1	K12966	Protection cover HD
1.1	PDM00021836	Countersunk screw similar_ISO14581 M4x6 TX A2-70 m. Pin A2
1.2	PDM00006860	O-ring 4,00x1,00-70SH NBR
2	EB3430	Board KS60DB_BEL21
3	EH1318	Filter foil Polycarbonat STR1 0,2mm
4	KG1064	Lighting glass borosilicate glass hardened
5	PDM00023110	O-ring 2,50x0,62-70SH NBR
6	PDM00004765	Cylinder head screw ISO14579-M2,5x10 TX A2-70 A2

Pos.	Art. no.	Designation
7	PDM00004260	Countersunk screw ISO14581 M2x6 TX A2-70 A2
8	K12958	Sight glass holder
9	K12968	Sealing compound jacket
10	KG1063	Viewing glass 2,5 thick Sapphire glass
11	KD1284	O-ring 16 x 2
12	UB8431	Front group
12.1	UB8432	Front frame pre-assembled
13	PDM00023125	O-ring 43,00x1,00-70SH NBR
14	PDM00004747	Cylinder head screw ISO14579-M2x4 TX A2-70 A2
15	PDM00011268	Washer ISO7089-M2 PA Typ 6
16	UB7907	Closure
16.1	DN2614	Rosette d1 = 11 WS9255 A4
16.2	PDM00004373	Countersunk screw ISO14581 M4x10 TX A2-70 A2

5.3.2 KS 60 HD EX

■ Art. no.: 111592, 111692, 111721

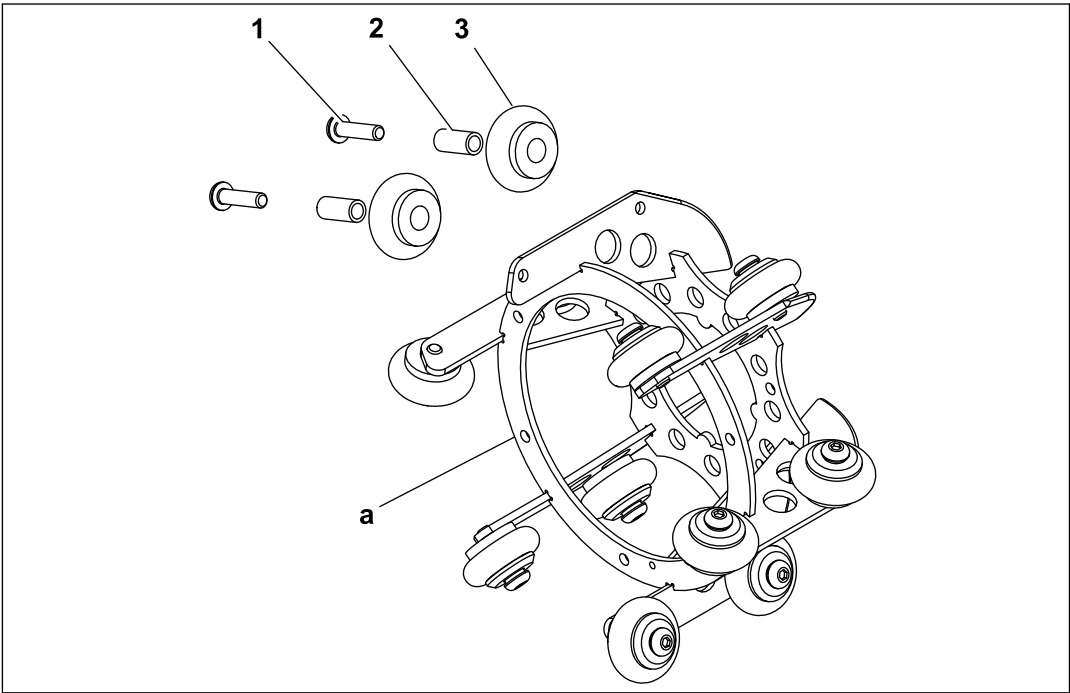


Pos.	Art. no.	Designation
a	K12011	Installation wrench
b	UB8343	Sealing plug bayonet
c	UB7600	Tool, vent fill adaptor KS 60 new style
d	UB8422	Valve adapter KS 60 DB-Ex flushing connection for flow meter
1	K12966	Protection cover HD
1.1	PDM00021836	Countersunk screw similar_ISO14581 M4x6 TX A2-70 m. Pin A2
1.2	PDM00023158	O-ring 4,00x1,20-70SH NBR
2	EB3430	Board KS60DB_BEL21
3	EH1318	Filter foil Polycarbonat STR1 0,2mm
4	KG1064	Lighting glass borosilicate glass hardened
5	PDM00023110	O-ring 2,50x0,62-70SH NBR

Pos.	Art. no.	Designation
6	PDM00004765	Cylinder head screw M2,5x10 TX8 ISO 14579-M2,5X10 TX A2-70
7	PDM00004260	Countersunk screw M2x6 TX6 ISO14581-M2x6 TX A2-70
8	K12959	Sight glass holder Ex
9	K12968	Sealing compound jacket
10	KG1063	Viewing glass 2,5 thick Sapphire glass
11	PDM00023185	O-ring 16 x 2
12	UB8431	Front group
12.1	UB8570	Front frame Ex pre-assembled
13	PDM00023125	O-ring 43,00x1,00-70SH NBR
14	PDM00004747	Cylinder head screw M2x4 TX6 ISO 14581 M2x4 TX A2-70
15	PDM00011268	Washer M2 ISO7089-M2 PA6
16	UB7907	Closure
16.1	DN2614	Rosette d1 = 11 WS9255 A4
16.2	PDM00004373	Countersunk screw ISO14581 M4x10 TX A2-70 A2

5.3.3 Camera centering

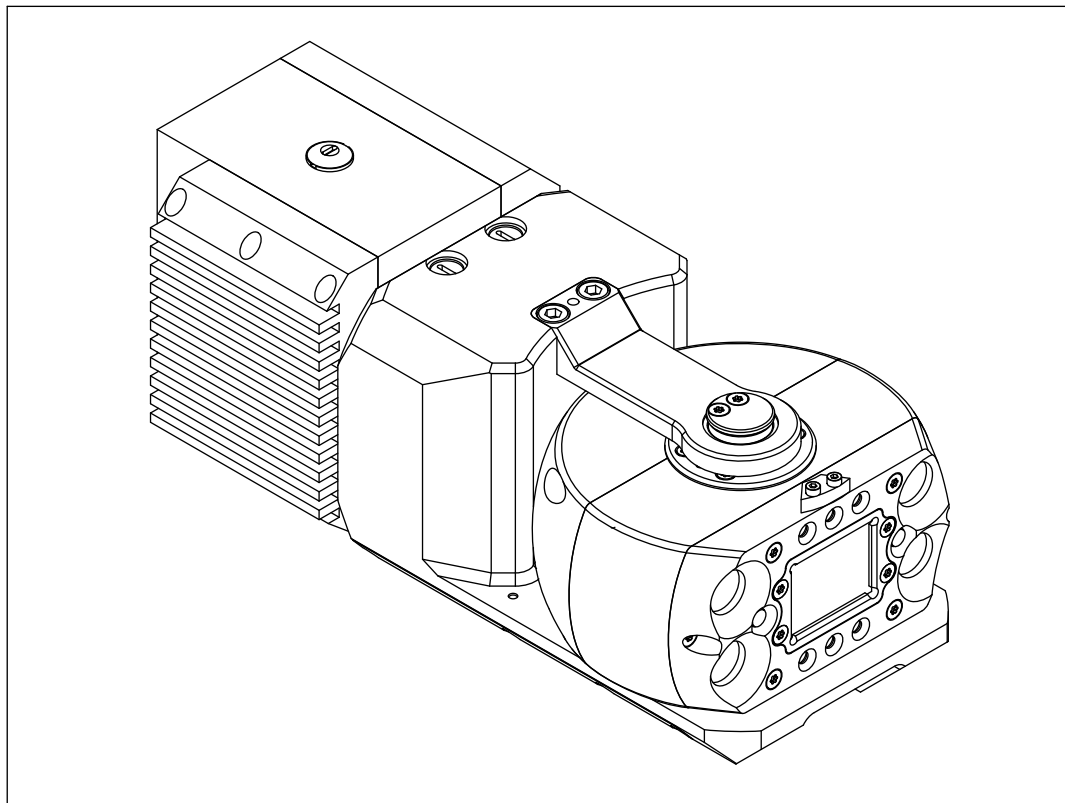
■ Art. no.: 111408



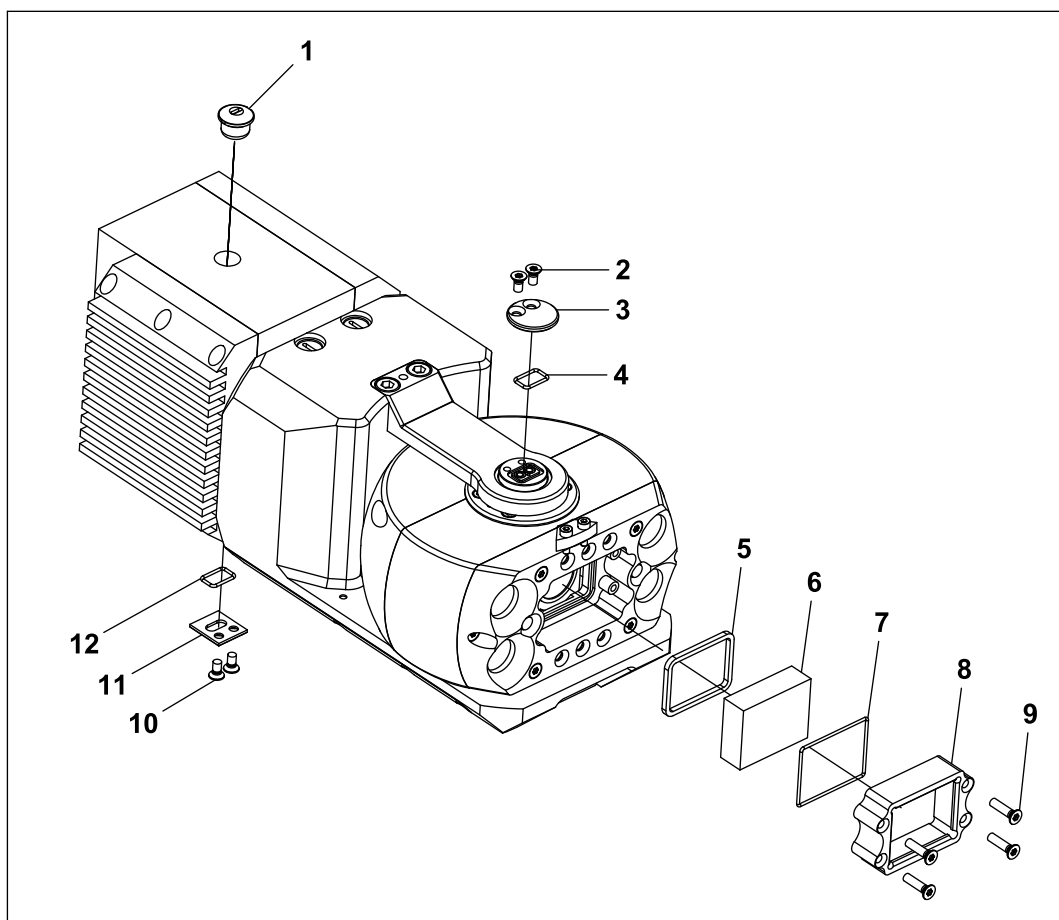
Pos.	Art. no.	Designation
a	111408	Camera centering KS 60 HD/ KS 60 DB
1	PDM00004457	Fillister head screw M4x16 ISO7380-1-M4x16 A2-70 A2
2	DN2603	Spacer sleeve 4.2 x 13.0
3	PDM00034494	Rim with O-ring

5.4 KS 135

- Art. no.: 110761, 110863, 111111, 111147, 111233, 111255, 111278, 111396, 111696, 111722

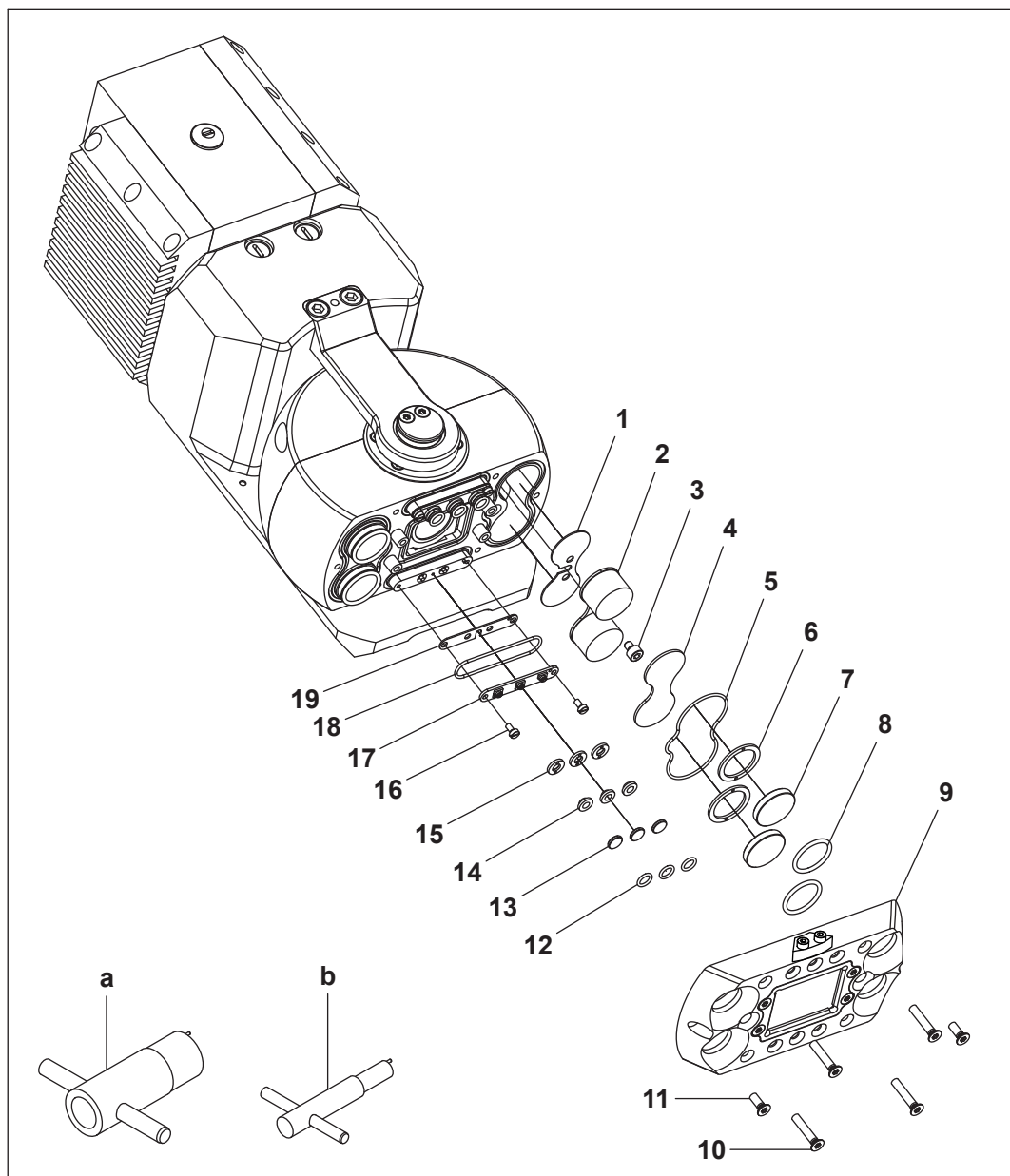


5.4.1 Lens glass



Pos.	Art. no.	Designation
1	UB7047	Filling valve
2	PDM00004358	Countersunk screw ISO14581 M3x6 TX A2-70 A2
3	K10502	Cover
4	PDM00023138	O-ring 9,00x1,00; NBR; 70SH
5	K10833	Gasket
6	KG1046	Lens, glass 32 x 25 x 10 dick
7	PDM00005264	O-ring 33,00x1,00-70SH NBR
8	K10464	Fastener - objektiv glass
9	PDM00004350	Countersunk screw ISO14581 M3x12 TX A2-70 A2
10	PDM00004358	Countersunk screw ISO14581 M3x6 TX A2-70 A2
11	K10069	Plate 2
12	PDM00023138	O-ring 9,00x1,00; NBR; 70SH

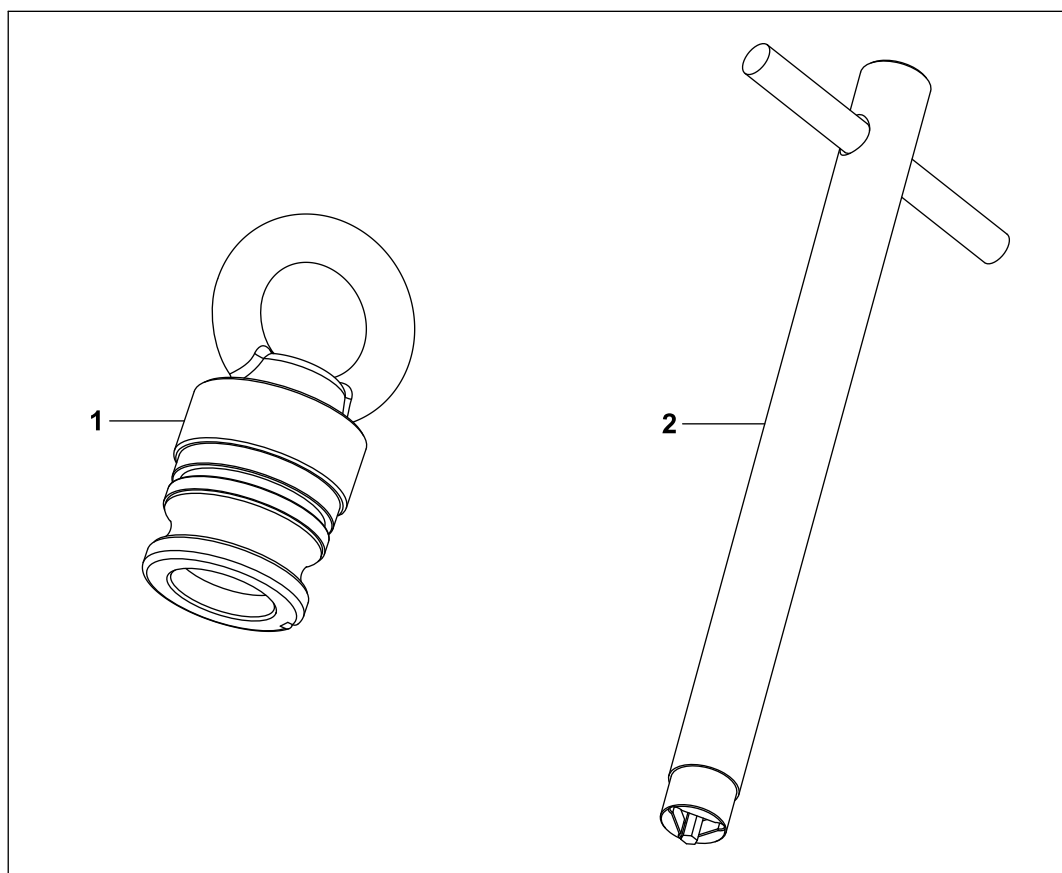
5.4.2 Lighting



Pos.	Art. no.	Designation
a	UB7388	Installation wrench for screw nut M18
b	UB7387	Installation wrench for screw nut M7
1	K12671	Thermal pad for lighting LEDTELE135 Silicone film Type: WS
2	EB3165	Board, illumination KS135_LEDTELE 5000k 30°
3	PDM00004689	Cheese head screw ISO4762-M3x4 A2-70 A2
4	K10600	Plate, illumination filter KS135 TTV-LUXACRYL-Opal1130
5	PDM00022901	O-ring 36,50x1,00-70SH NBR
6	K10460	Screw nut M18

Pos.	Art. no.	Designation
7	KG1048	Illumination glass ø17 x 2,75 +/-0,2
8	PDM00003449	O-ring 14,00x1,50-70SH NBR
9	K12913	Front frame
10	PDM00004352	Countersunk screw ISO14581 M3x16 TX A2-70 A2
11	PDM00004370	Countersunk screw ISO14581 M3x8 TX A2-70 A2
12	PDM00023031	O-ring 4,50x1,00-70SH NBR
13	KG1045	Lens, glass D=6,0 x 1,1
14	DN2262	Insulating bush IB6 1x2,2x3,1x3,5x6 (M3)
15	K10459	Screw nut M7
16	PDM00004922	Cheese head screw ISO1207-M2x4 A2-70 A2
17	EB3164	Board, illumination KS 135_LEDWIDE Top - bottom 5000k
18	PDM00015296	O-ring 26,00x1,00-70SH NBR
19	K12672	Thermal pad for lighting LEDWIDE135 Silicone film Type: WS

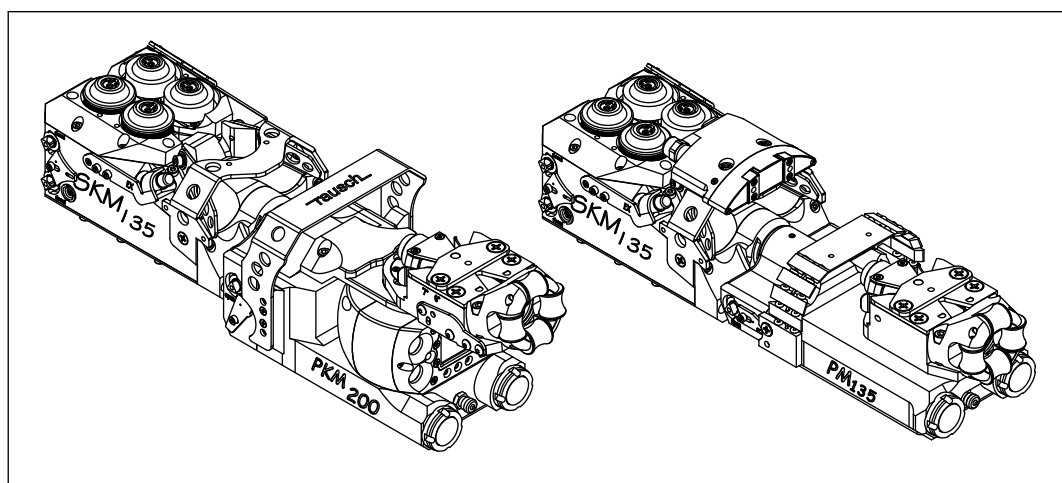
5.4.3 Accessories diverse



Pos.	Art. no.	Designation
1	KN1505	Sealing plug yellow
2	UB7363	Tool, quick release M-series SKM135/PM135/PKM135/ KS135Scan/KS150D

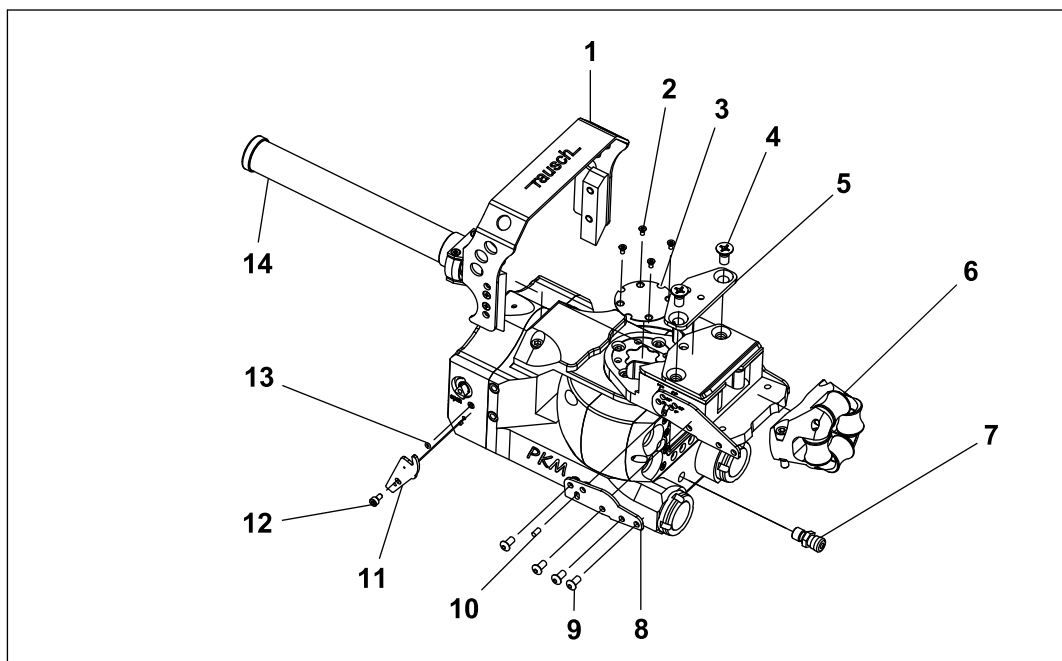
5.5 M-series

5.5.1 SKM 135, PKM 200, ZKM 135, PM 135



5.5.2 PKM 200, PKM 200 EX, PKM 200 HD, PKM 200 HD EX

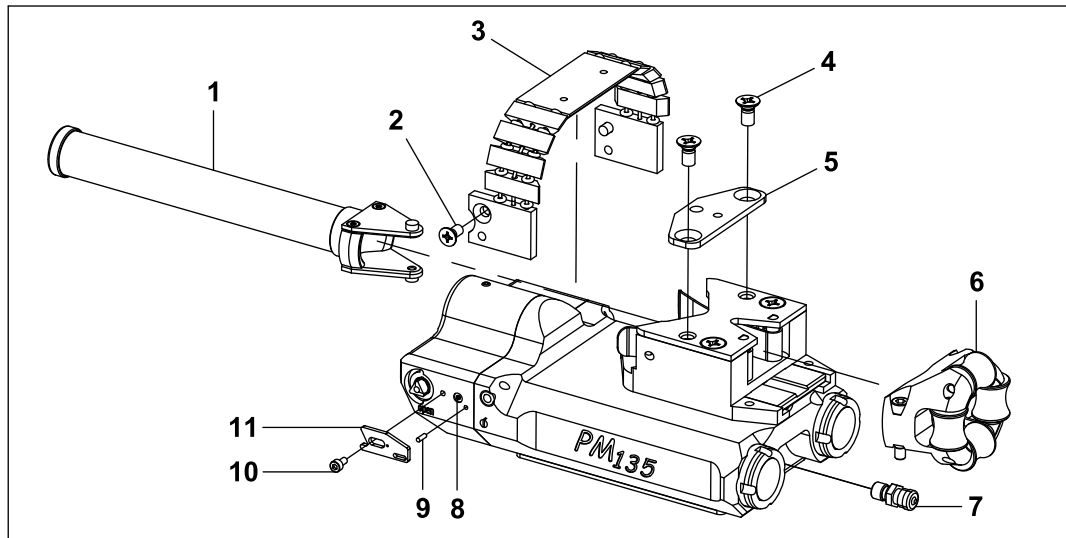
■ Art. no.: 110900, 110901, 110902, 111382, 111698



Pos.	Art. no.	Designation
1	UB7400	Safety bar complete
2	PDM00004344	Screw, flat torx ISO14581 M2,5x5 TX A2-70
3	K10942	Cover
4	PDM00021062	Screw, countersunk ISO14581 M6x12 TX A2-70
5	K13569	Guiding
6	UB7792	Bracket assy, docking for KS60 w / o internal rollers PM135
7	KV1001	Valve, nitrogen fill
8	K10943	Cover plate
9	DN2327	Fillister head screw M4x8 ISO 7380 A2
10	PDM00007236	Cylinder pin ISO2338-3m6x6-A2
11	K10960	Cover
12	PDM00000900	Screw, socket cap ISO4762 M3x6 A2-70
13	PDM00022945	O-ring 2,00x1,00-70SH
14	UB8231	Hose, guide PM 135 complete

5.5.3 PM 135, PM 135 EX

■ Art. no.: 110987, 111027

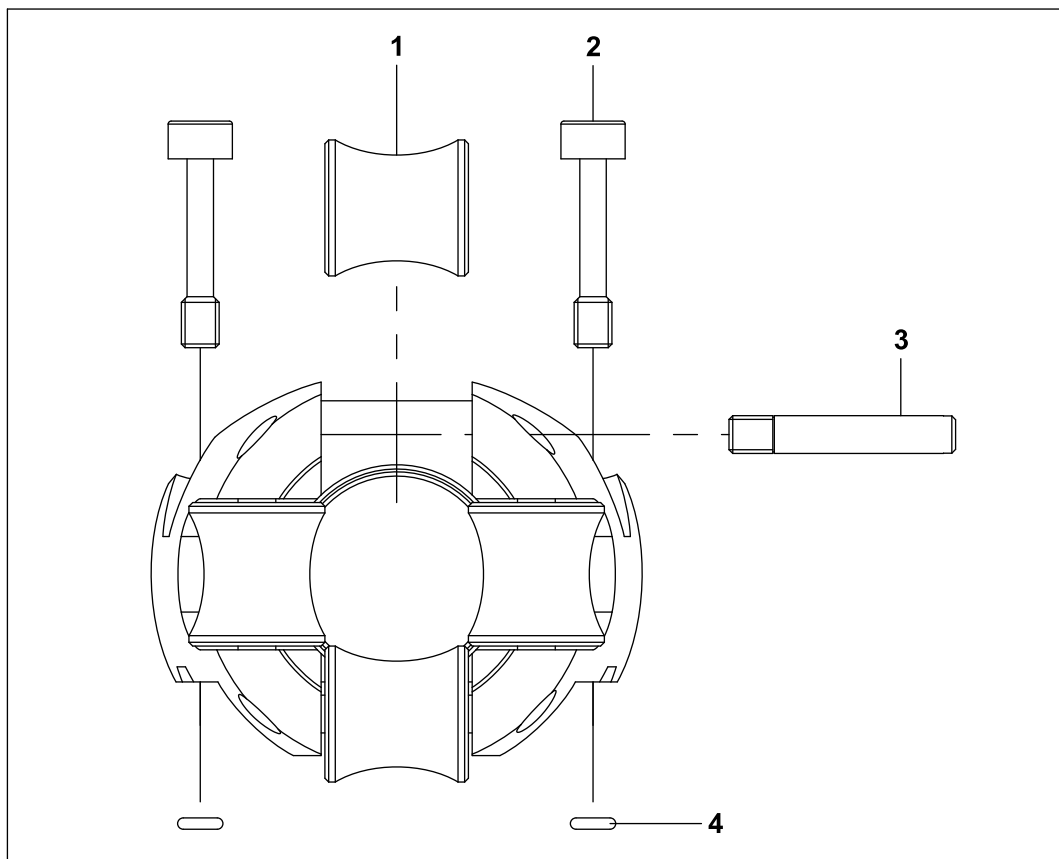


Pos.	Art. no.	Designation
1	UB8231	Hose, guide PM 135 complete
2	PDM00004169	Countersunk screw ISO7046-1 M5x10 A2-70
3	UB7716	Bracket, protection flexible guide hose PM135
4	PDM00004199	Screw, countersunk ISO7046-1 M6x12 A2-70 A2
5	K13569	Guiding
6	UB7792	Bracket assy, docking for KS60 w / o internal rollers PM135
7	KV1001	Valve, nitrogen fill
8	PDM00022945	O-ring 2,00x1,00-70SH NBR
9	PDM00024042	Pin ISO2338-2m6x6-A2
10	PDM00000900	Screw, socket cap ISO4762-M3x6 A2-70
11	K10389	Plate, cam lock PM 135

5.5.4 Guidance PKM 200/PM 135

PKM 200, PKM 200 EX, PKM 200 HD, PKM 200 HD EX, PM 135, PM 135 EX

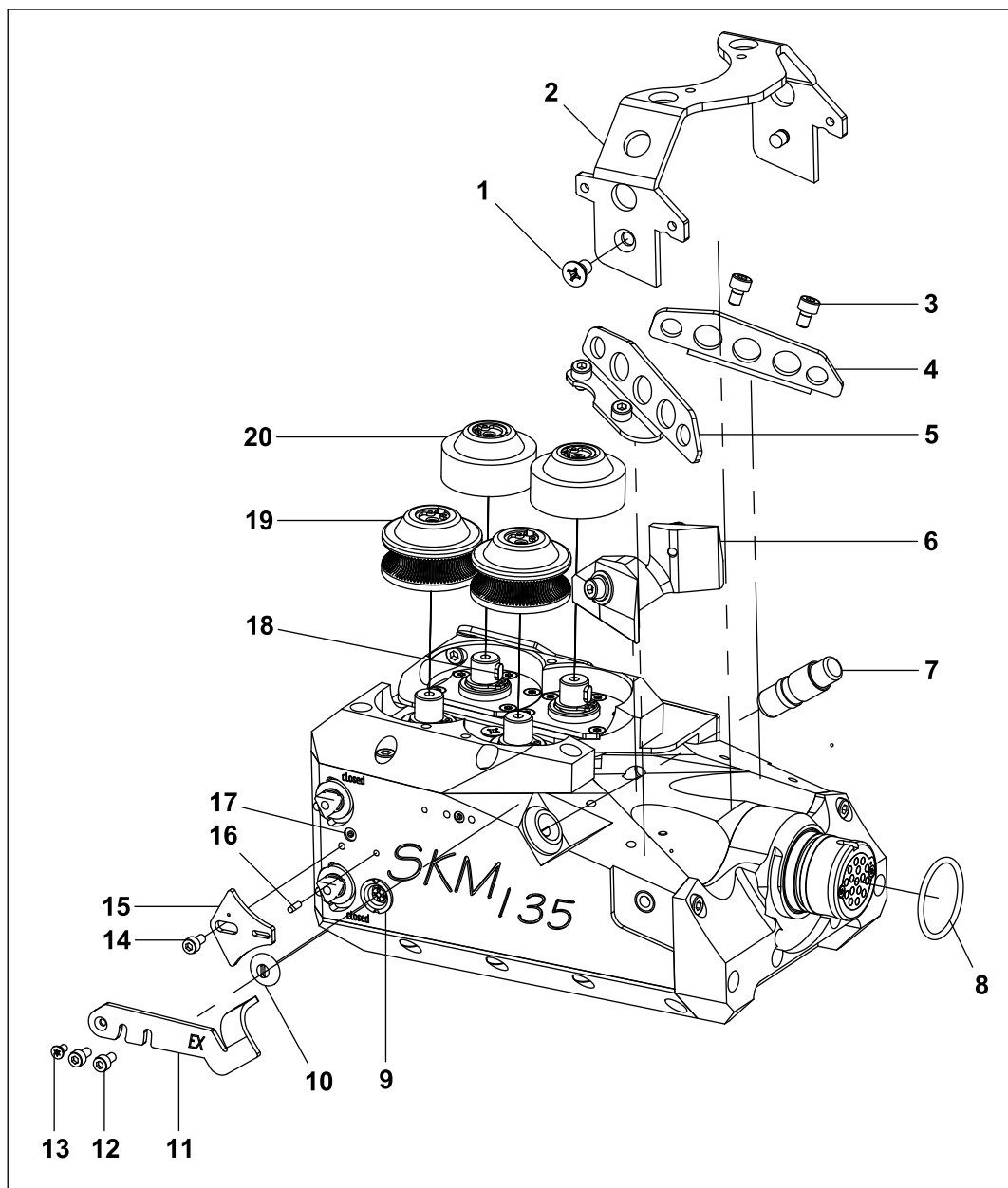
■ Art. no.: UB7792



Pos.	Art. no.	Designation
1	KJ8182	Roller 3, nylon 14mm inner Dia. 18mm out
2	KJ8140	Screw, captive M5 X 25
3	PDM00003907	Screw, shoulder pin ISO2342-M5x30 A1
4	PDM00022894	O-ring 3,00x1,5-70SH

5.5.5 SKM 135 C, SKM 135 C EX

■ Art. no.: 111355, 111397, 111452

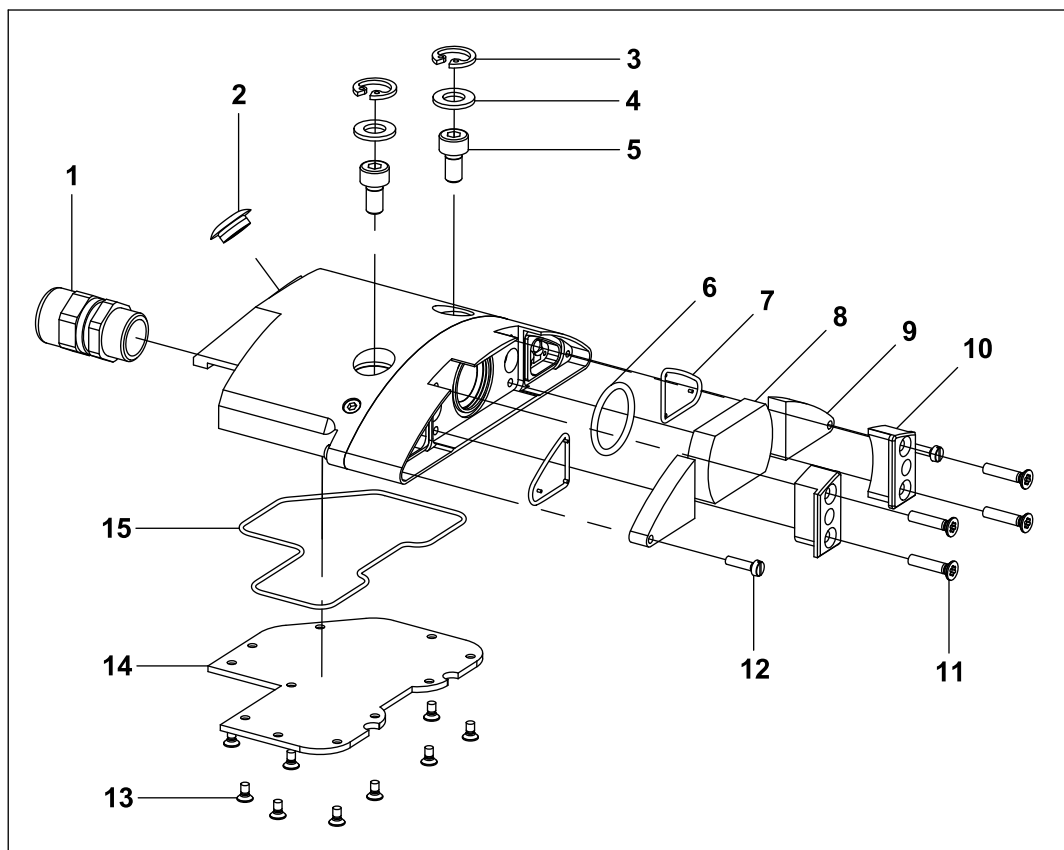


Pos.	Art. no.	Designation
1	PDM00004167	Countersunk screw ISO7046-1 M5x8 A2-70 A2
2	K11455	Safety bar
3	PDM00001449	Screw, socket cap ISO4762-M4x6 A2-70 A2
4	K13094	Guide plate 2
5	K10377	Plate, hose guide left SMK 135
6	UB8122	Push cable - deflection
7	EB2751	Dummy plug 6-pin ZKM135 Connection to SKM135

Pos.	Art. no.	Designation
8	PDM00023236	O-ring 20,00x2,00; NBR; 70SH
9	UB7047	Valve, nitrogen filling M - Series
10	UB8214	Cap, vent - fill M - series
11	K10557	Securing clip, explosion proof ZKM 135
12	PDM00000900	Screw, socket cap ISO4762-M3x6 A2-70 A2
13	PDM00004344	Screw, flat torx ISO14581 M2,5x5 TX A2-70 A2
14	PDM00000900	Screw, socket cap ISO4762-M3x6 A2-70 A2
15	K10153	Plate, locking for cam lock SKM 135
16	PDM00005510	Pin, ISO8734-2x6-C1 C1
17	PDM00022945	O-ring 2,00x1,00-70SH NBR
18	PDM00007383	Key, machine DIN6885 A 3x3x6 A2
19	UB7160	Drive roll SKM, push cable ø8,5
19	UB7420	Drive roll SKM135 - stainless steel, push cable ø9,0
19	UB8363	Drive roll SKM135 - stainless steel, push cable ø8,5
20	UB7161	Roller, drive rubber lat launch SKM 135

5.5.6 ZKM 135, ZKM 135 EX

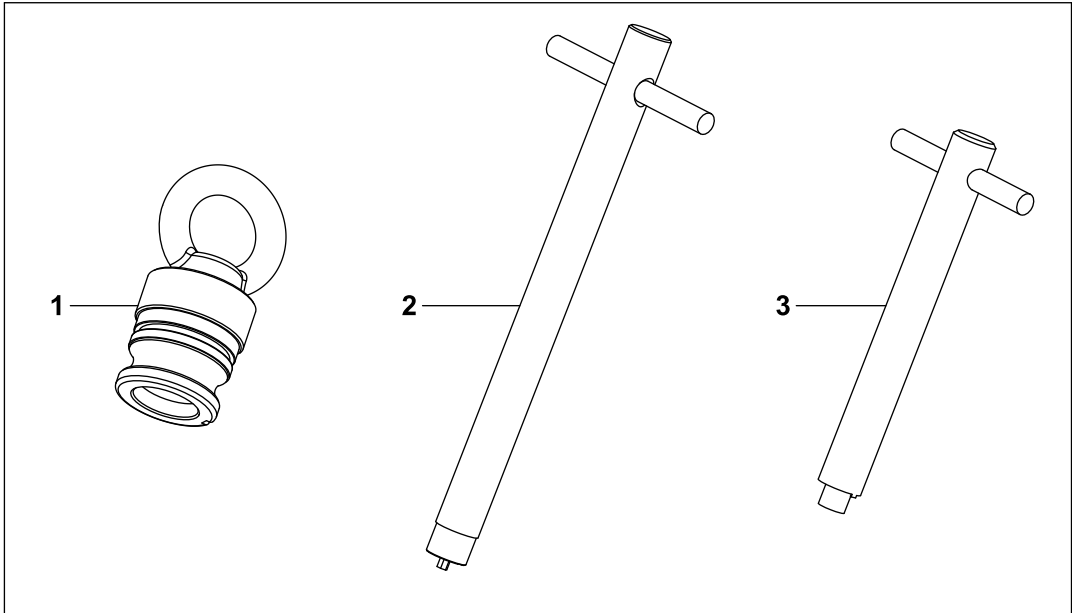
■ Art. no.: 110854, 110855, 110856



Pos.	Art. no.	Designation
1	VG1179	Cable cpl. 6-pin; PCB connector; ZKM 135
2	UB8214	Cap, vent - fill M - series
3	PDM00030428	Retaining ring DIN472-10x1 A2
4	PDM00000823	Washer M5 A2
5	PDM00001450	Cheese head ISO4762-M4x8 A2-70
6	PDM00025078	O-ring 15,00x1,50-70SH NBR
7	PDM00023135	O-ring 15,00x1,00; NBR; 70SH
8	K10845	Lens, Objective ZKM 135
9	K10197	Lens, illumination ZKM 135
10	K13093	Plate, lens retaining left
11	PDM00004337	Countersunk screw ISO14581 M2,5x12 TX A2-70
12	PDM00004925	Cylinder screw ISO1207-M2x8 A2-70
13	PDM00004258	Countersunk screw ISO14581 2x4 TX A2-70
14	K10875	Plate ZKM Bottom

Pos.	Art. no.	Designation
15	PDM00022902	O-ring 63,00x1,00-70SH NBR

5.5.7 Accessories

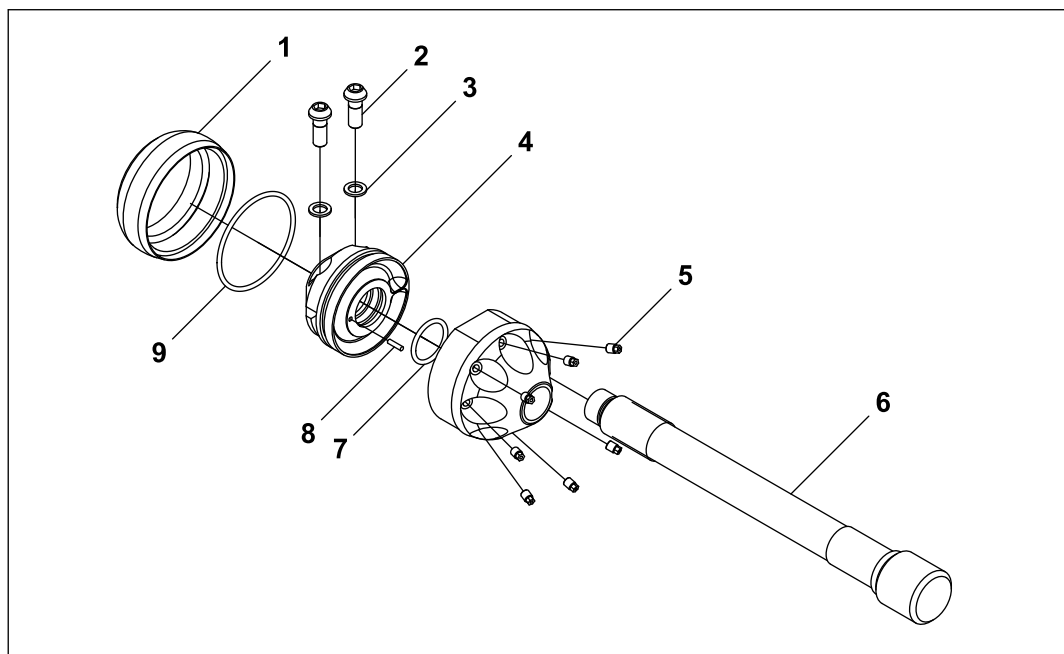


Pos.	Art. no.	Designation
1	KN1505	Sealing plug
2	UB7363	Tool, quick release M - series SKM135/PM135/PKM135/ KS135Scan/KS150D
3	UB8148	Tool, filling valve installation

5.5.8 Flushing System

5.5.8.1 Flushing System KS 60

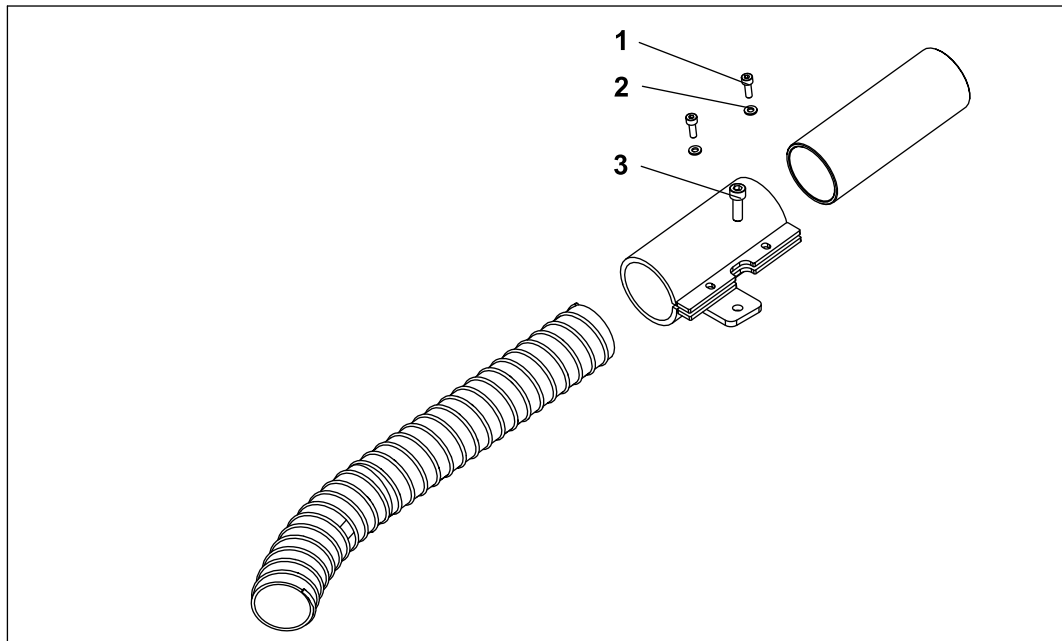
■ Art. no.: 110897



Pos.	Art. no.	Designation
1	K13319	Ring, protection flushing jetter nozzle TSS150 - KS 60 - jetter nozzle
2	K13320	Screw machined Mat.: A2; M6x16;
3	PDM00032640	Washer DIN7603 A6x10x1 copper
4	K13321	Clamp TSS150 - KS60 flushing nozzle
5	AS1622	Nozzle insert M4 ceramic 1.4 mm hexagon head
6	UB7670	Hose, Connecting for Flushing Nozzle
7	PDM00033412	O-ring 18,00x2,00-70SH EPDM
8	PDM00024043	Cylinder bolt ISO2338-2m6x8-A2
9	PDM00023043	O-ring ISO2338-2m6x8-A2

5.5.8.2 Flushing system hose holder

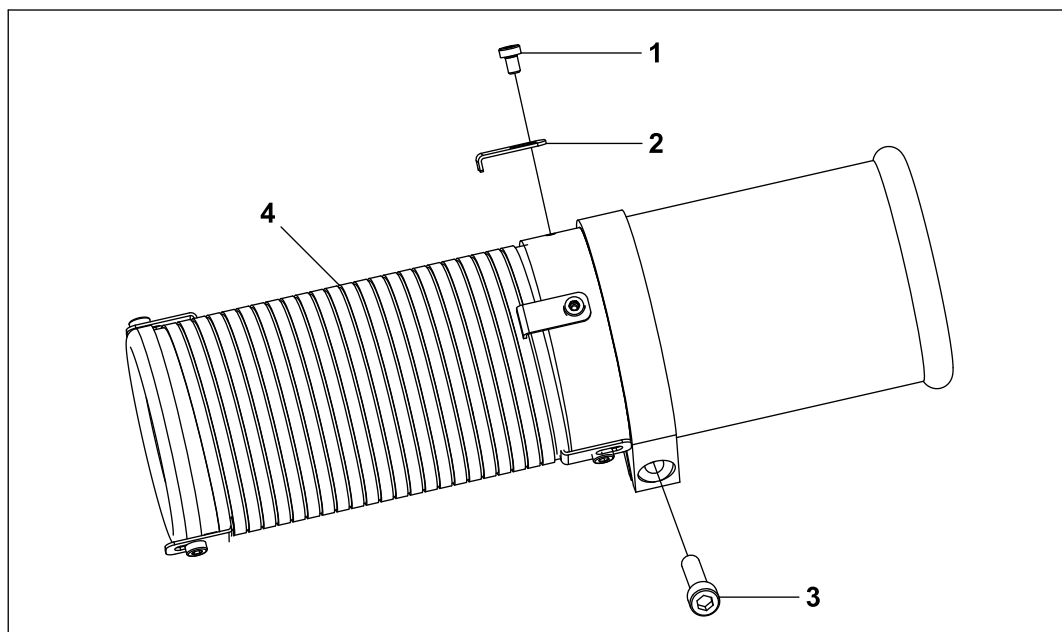
■ Art. no.: 111693



Pos.	Art. no.	Designation
1	PDM00001452	Cheese head screw M4x12 A2-70
2	PDM00032638	Washer DIN7603 A4x8x1 copper
3	PDM00004718	Cheese head screw ISO4762-M6x18 A2-70 A2

5.5.8.3 Flushing System M-series

■ Art. no.: 111225, 111140

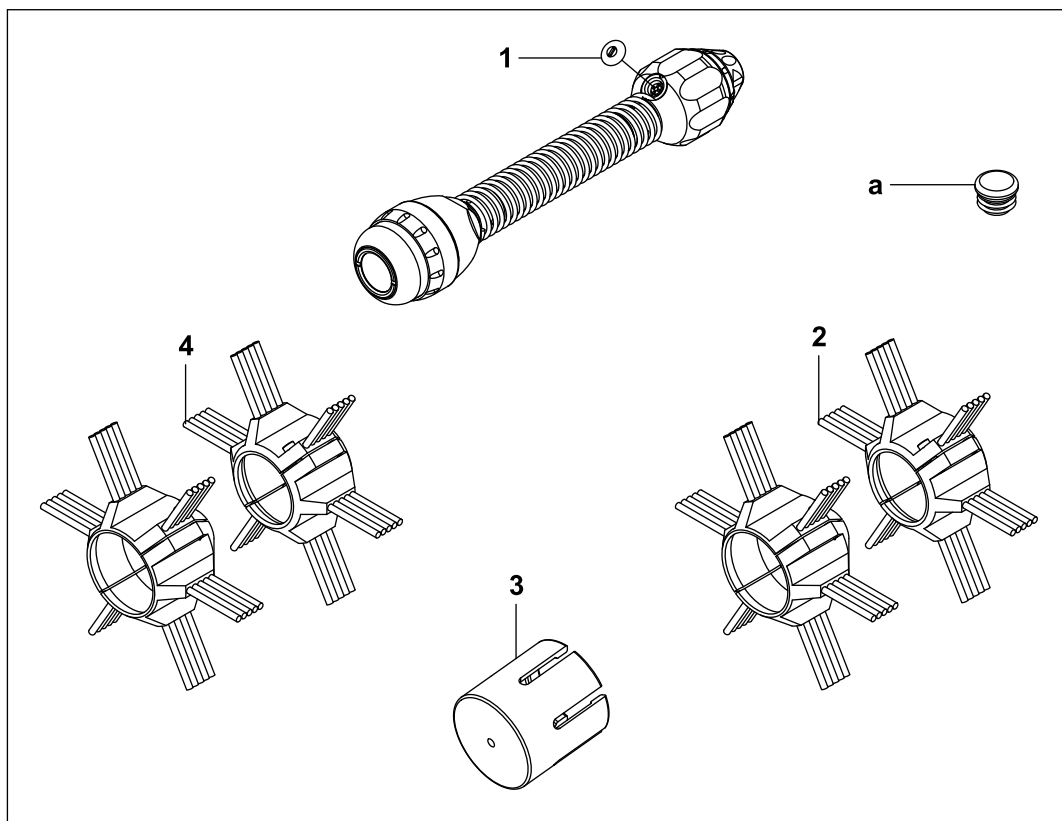


Pos.	Art. no.	Designation
	UB7682	Elastic rope
1	PDM00001449	Cylinder screw ISO4762-M4x6 A2-70 A2
2	K11331	Angle bracket
3	PDM00001146	Cheese head screw ISO4762-M6x25 A2-70 A2
4	K11358	Hose piece long Length = 1280 mm

5.6 SAT

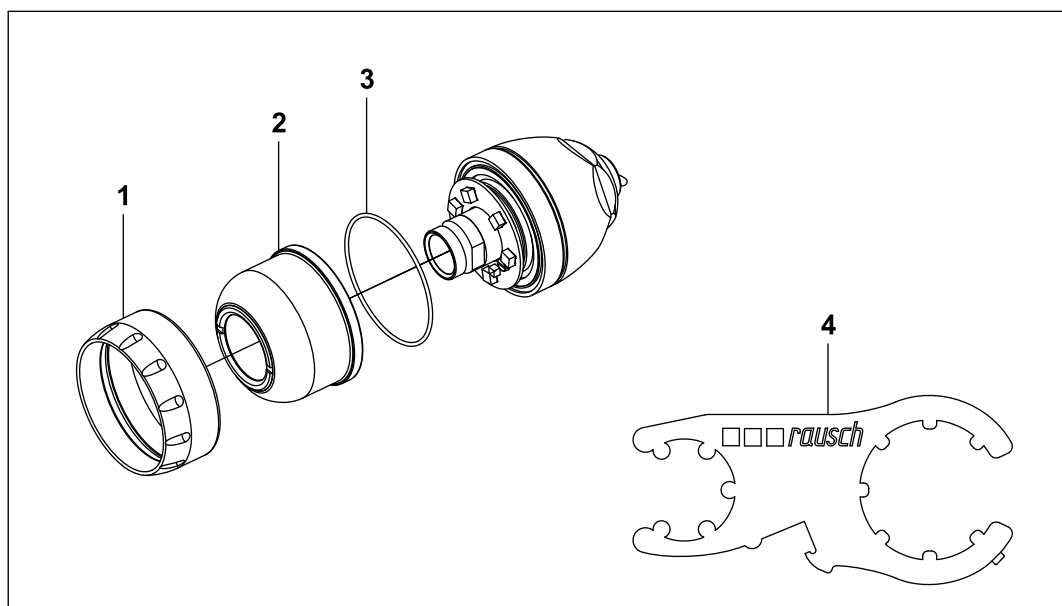
5.6.1 SAT 42 DB

■ Art. no.: 111134



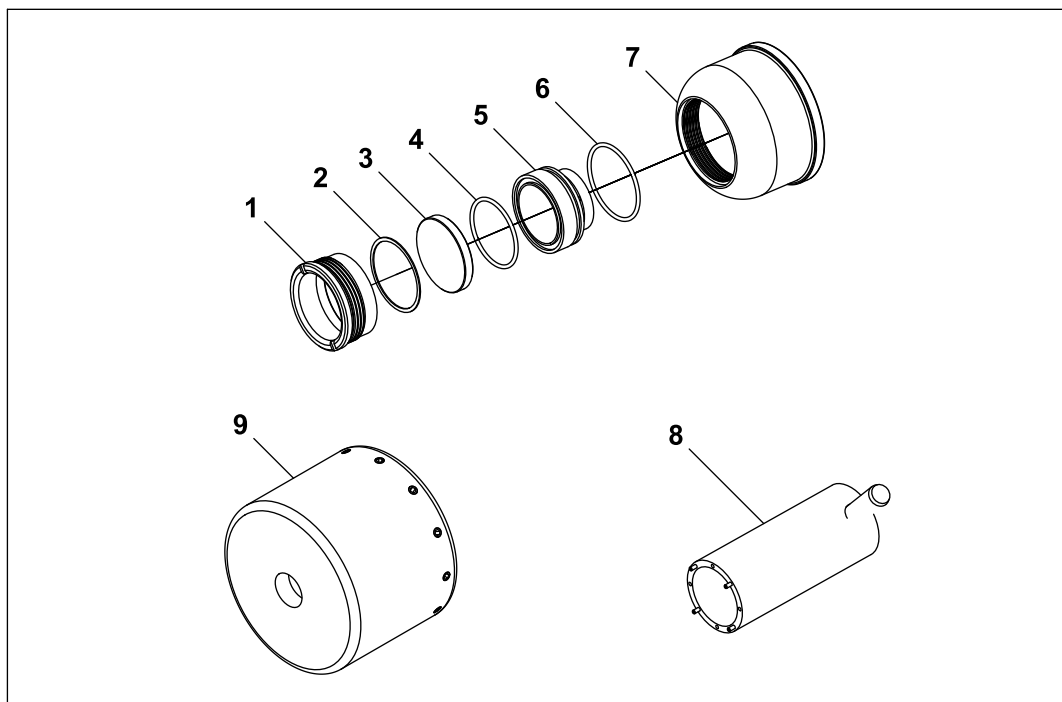
Pos.	Art. no.	Designation
a	UB8343	Sealing plug bayonet
1	UB8214	Cap, vent - fill M - series
2	111150	Camera centuring SAT 42 D/ SAT 42 DB from 150mm
3	K11461	Safety bar for camera SAT 42
4	111149	Camera centering SAT 42 D/ SAT 42 DB from 100mm

5.6.1.1 Front housing



Pos.	Art. no.	Designation
1	KJ8968	Ring nut SAT45
2	UB7582	Housing, frame front complete SAT 42
3	PDM00022955	O-ring 36,00x1,00-70SH NBR
4	K12011	Installation wrench

5.6.1.2 Objective glass

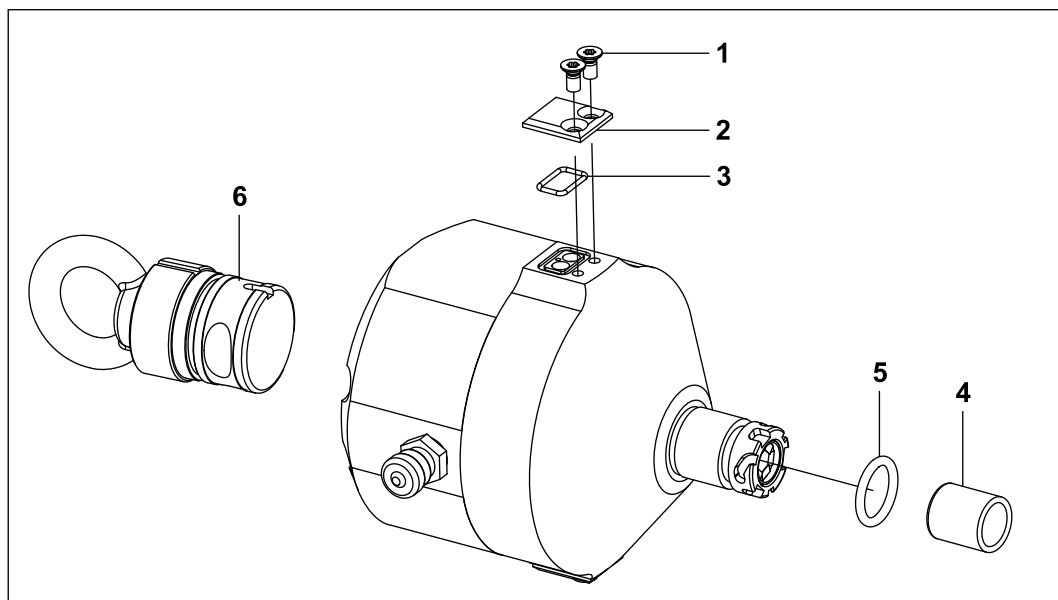


Pos.	Art. no.	Designation
1	K11052	Protective glass ring
2	KJ9233	Window rubber - face-plate SAT45
3	KG1044	Glass D=21,0 x 2,75 thick
4	PDM00006855	O-ring 18,00x1,00-70SH NBR
5	KJ9232	Protective glass nut SAT45
6	PDM00005263	O-ring 20,00x1,00-70SH NBR
7	K11051	Lighting glass
8	UB7013	Tool, spanner wrench KS 60 rear cover
9	UB7008	Illumination assembly device SAT45

6 Adapter

6.1 Adapter KS 60 DB, KS 60 DB EX

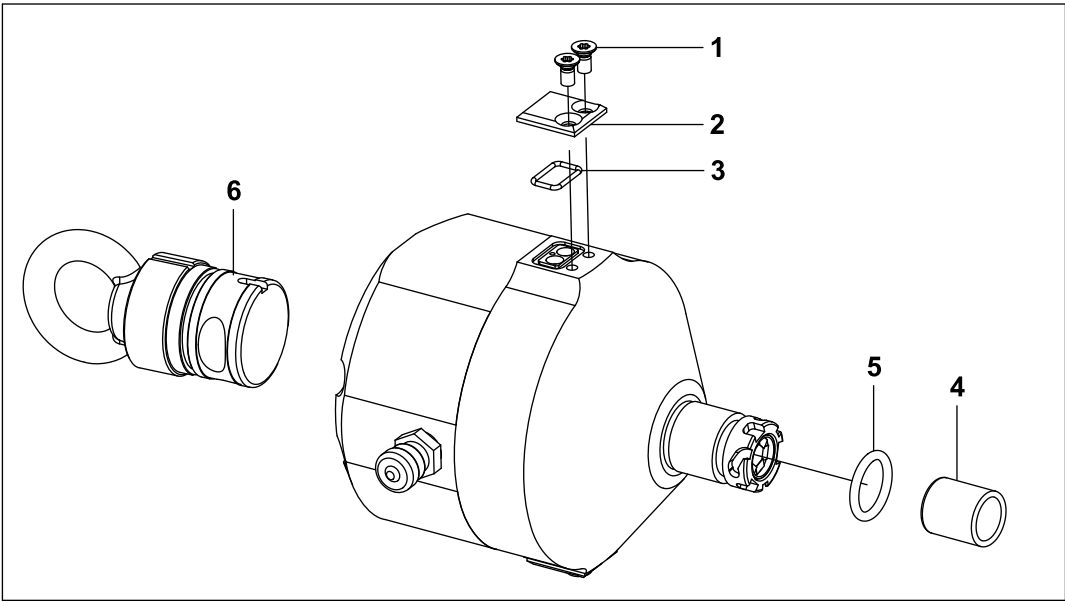
■ Art. no.: 111430, 111606



Pos.	Art. no.	Designation
1	PDM00004358	Countersunk screw ISO14581 M3x6 TX A2-70 A2
2	K10069	Plate 2
3	PDM00023138	O-ring 9,00x1,00; NBR; 70SH
4	EX1030	Cover black
5	PDM00003477	O-Ring 12,00x2,00-70SH NBR
6	KN1505	Sealing plug

6.2 Adapter KS 60 HD, KS 60 HD EX

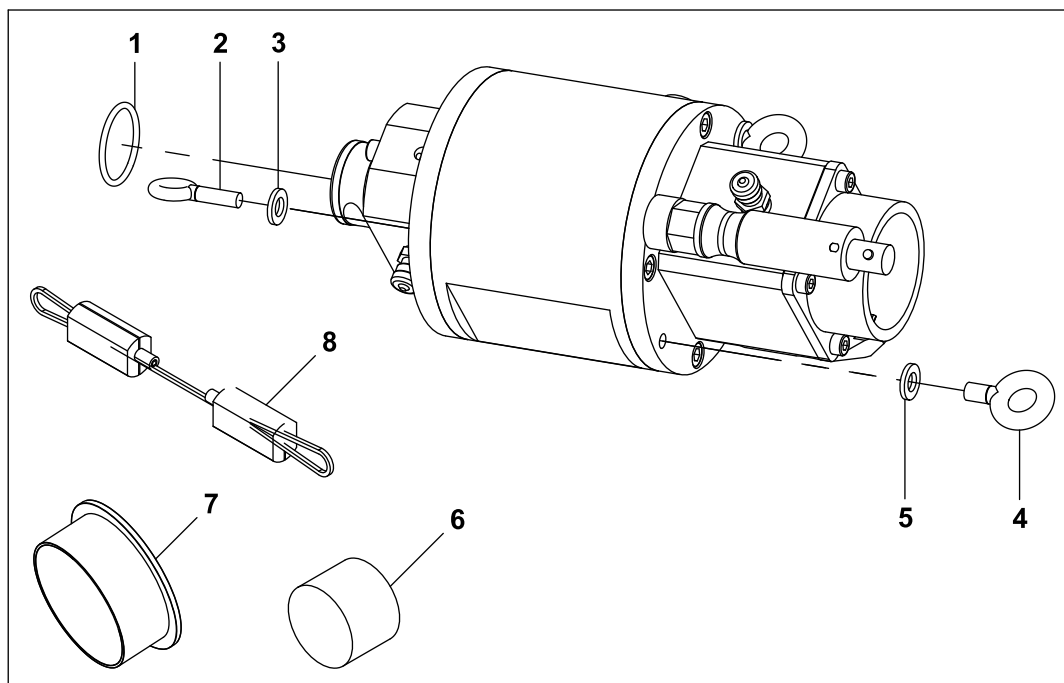
■ Art. no.: 111562, 111431



Pos.	Art. no.	Designation
1	PDM00004358	Countersunk screw ISO14581 M3x6 TX A2-70 A2
2	K10069	Plate 2
3	PDM00023138	O-ring 9,00x1,00; NBR; 70SH
4	EX1030	Cover black
5	PDM00003477	O-Ring 12,00x2,00-70SH NBR
6	KN1505	Sealing plug

6.3 Adapter main cable KS 135

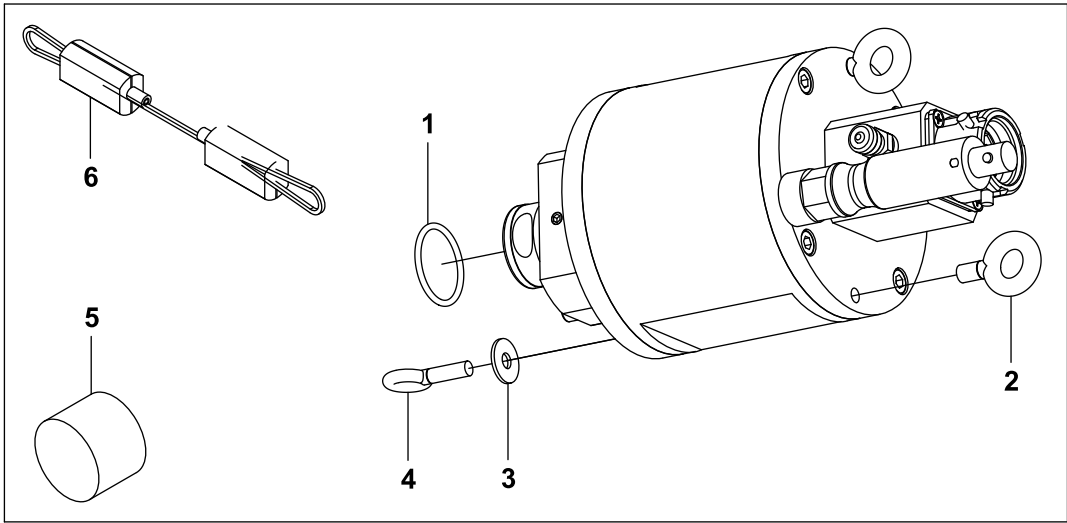
■ Art. no.: 110876, 110924, 111228



Pos.	Art. no.	Designation
1	KD1470	O-Ring 24x2
2	DN1392	Eye bolt M5x15
3	PDM00000824	Washer ISO7089-M6 A2
4	K10821	Eye bolt M6 - machined
5	PDM00000824	Washer ISO7089-M6 A2
6	KN1483	Protective sleeve flexible, yellow
7	EX2863	Protecting cap for CA socket
8	UB8011	Rappelling rope, complete-Adapter M-Series-EX

6.4 Adapter main cable compact KS 135

■ Art. no.: 111370, 111399



Pos.	Art. no.	Designation
1	PDM00003416	O-Ring 24,0x2,0; NBR; 70SH
2	K10821	Eye bolt M6 - machined
3	PDM00006502	Disk ISO7093-M5 A2
4	DN1392	Eye bolt M5x15
5	KN1483	Protective sleeve flexible, yellow
6	UB8011	Rappelling rope, complete-Adapter M-Series-EX

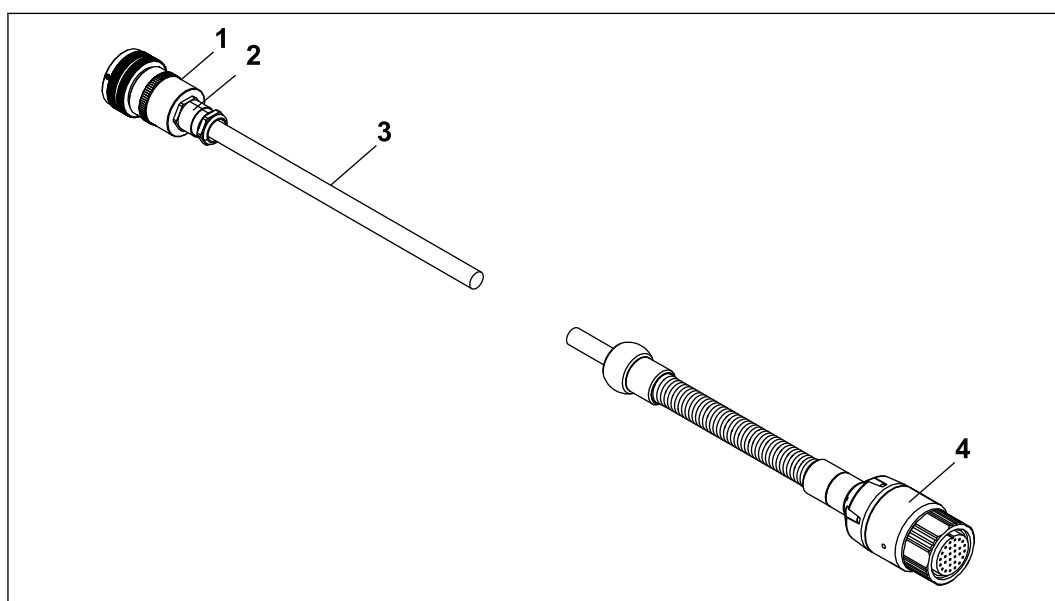
7 Cables and connectors

7.1 Cable

7.1.1 Cables in general

Pos.	Art. no.	Designation
	EW1001	Camera cable RAU7
	EW1016	Spiral cable
	EW1202	Camera cable RAU 11.5 1 x 75 Ohm, 14 x 0,75, 14 x 0,35
	EW1203	Camera cable RAU 9.1 1x75 Ohm, 8x1 4x0,25
	EW1225	Helix cable 12-pole
	EW1243	Spiral cable LiY11Y sw 12x0,14qmm
	EW1244	Helix cable LiY11Y sw 6x0,14qmm WL:80mm E1:350mm E2:100mm
	EW1841	Cameracable RAU 7.7 S 2x0,15+Schirm, 4x0,15, 4x1, 2x0,25
	EW1972	Cameracable RRC 14 Rausch Rehab

7.1.2 Cable RRC



Pos.	Art. no.	Designation
1	EX3131	Cable connector 25-pin PG16 adapter
2	EX3145	Cable gland PG16
3	RR000005	Cable
4	PDM00003443	Plug RRC

7.2 Connectors

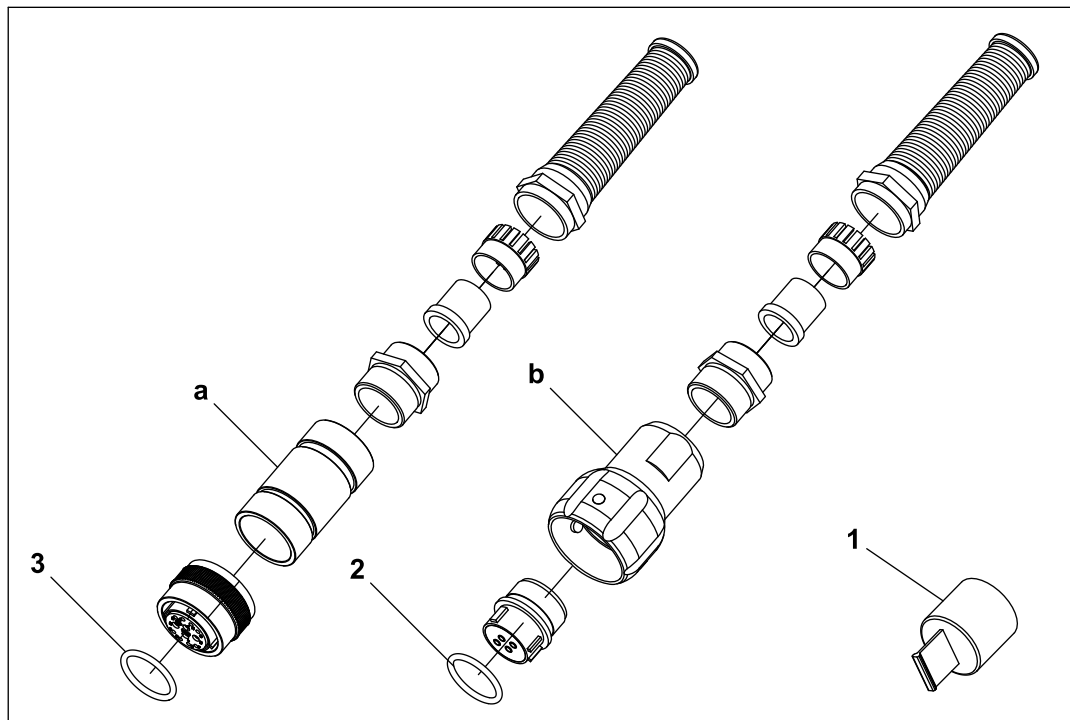
7.2.1 C-connector - general

Pos.	Art. no.	Designation
	EX1003	Protecting cap for CA plug
	EX1353	O-ring C-connector 20 - pin
	EX1390	Seal (angular) for C-socket
	EX2863	Protecting cap for CA socket
	EX2963	Dust cap f. CA plug (crawler cable) Plastic
	PDM00005265	O-ring 42,00x1,50-70SH NBR

7.2.2 C-connector, 20-pole

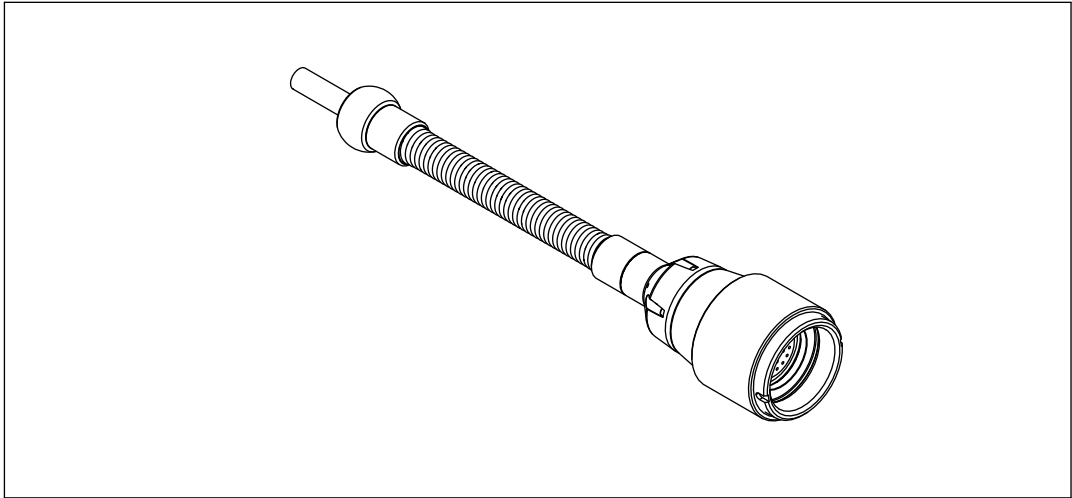
Pos.	Art. no.	Designation
	EB1823	Kit, re - term 20 - pin C - connector

7.2.3 Compact plug



Pos.	Art. no.	Designation
a	VG1317	Compact-plug RAU7.7 12-pol spare part set
b	EB3535	Compact-plug RAU7.7 12-pol kpl. with anti-kink protection spring
1	KN1495	protective cap flexible, yellow
2	PDM00033412	O-ring 18,00x2x00-70SH EPDM
3	PDM00033412	O-ring 18,00x2x00-70SH EPDM

7.2.4 Plug RRC



Pos.	Art. no.	Designation
	PDM00032800	Plug RRC mechanically coupled

8 Accessories

8.1 Wheels

8.1.1 Rubber wheels

8.1.1.1 Rubber wheels and adapter FW 90

Wheels/adapter Inside pipe diameter [mm]	1	2	3	4	5	6
100						
125						
150						
200						
250						
300						
400						
500						

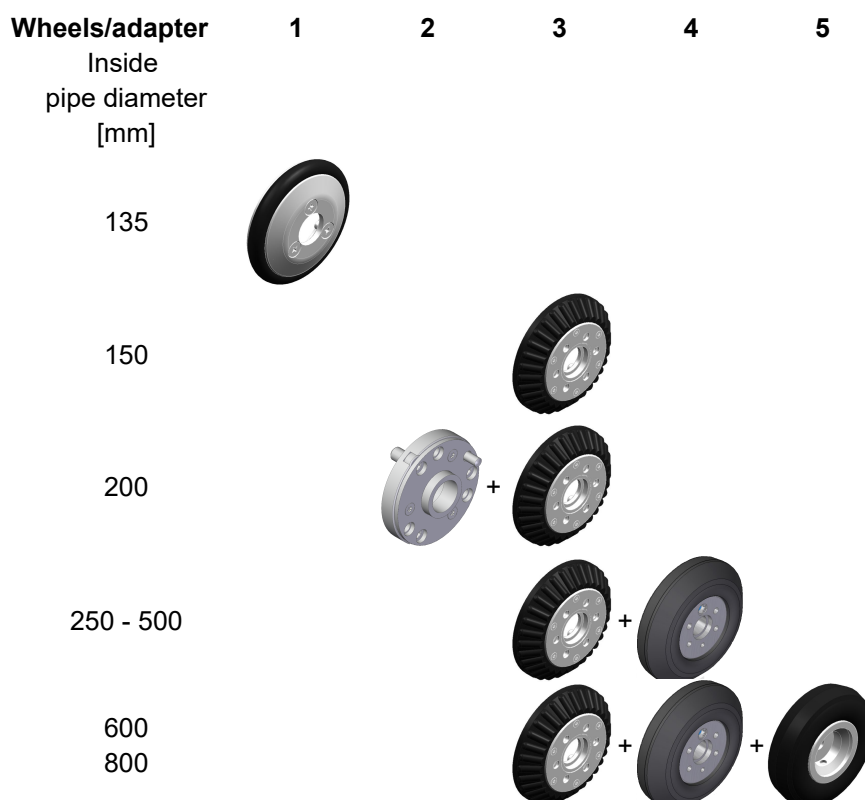
Pos.	Art. no.	Designation
1	111572	Rubber wheel 54x8 for FW 90
	K13658	Tire Ø 54x8 stripe profile
	K13661	Thin shaft screw M4x8
2	111569	Wheel, rubber 6" stackable, FW 90, 73 mm x 20 mm
	K14104	Tire Ø 73x19 stripe profile
	DN2794	Cheese head screw M4x14
3	UB8905	Bumper cpl., L90/C90
	PDM00004169	Countersunk screw ISO7046-1 M5x10 A2-70 A2
4	UB8906	wheel adapter 1, L90 / C90
	DN2794	Cheese head screw M4x14
5	110706	Rubber wheel 93x17 for L 135 / C 135
	K12201	Tire, rubber Ø93x17xØ56
	PDM00001500	Cheese head screw DIN7984-M6x10 A2-70 A2
6	HG9425	Wheel, rubber 10" stackable 125 mm x 37,5 mm
	KJ4904	Tire, rubber 125 x 37.5 (4.1 X 1.2" mm)
	PDM00001147	Cheese head ISO4762-M6x30 A2-70 A2

8.1.1.2 Rubber wheels and adapter C 100, L 100 Cross

Wheels/adapter Inside pipe diameter [mm]	1	2	3	4	5
100 135					
150	 + 				
200	 +  + 				
250 300 400 from 500	 +  + 				

Pos.	Art. no.	Designation
1	110670	Rubber wheel 65x9 for L 100 Cross/C 100
	K10200	Tire - 65x9
	K10077	Countersunk screw
2	UB8450	Wheel adapter - 93x17 L 100 Cross
	PDM00003931	Cheese head screw DIN7984-M6x14 A2-70 A2
3	UB8438	Wheel adapter - 93x17
	PDM00001500	Cheese head screw DIN7984-M6x10 A2-70 A2
4	110706	Rubber wheel 93x17 for L 135 / C 135
	K12201	Tire, rubber Ø93x17xØ56
	PDM00001500	Cheese head screw DIN7984-M6x10 A2-70 A2
5	HG9425	Rubber wheel 125x37,5 , stackable
	KJ4904	Tire, rubber 125 x 37.5 (4.1 x 1.2")
	PDM00001147	Cheese head screw ISO4762-M6x30 A2-70 A2

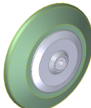
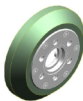
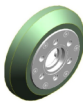
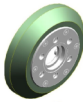
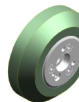
8.1.1.3 Rubber wheels and adapter C 135, L 135



Pos.	Art. no.	Designation
1	110707	Rubber wheel for pipe 5,5" L 135/ C 135 48x10
	PDM00022848	O-ring 48,00x10,00-70SH NBR
	PDM00004167	Countersunk screw ISO7046-1 M5x8 A2-70 A2
2	UB8438	Wheel adapter – 93x17
	PDM00001500	Cheese head screw DIN7984-M6x10 A2-70 A2
3	110706	Wheel, rubber 6" 93 mm X 17 mm L 135/ C 135
	K12201	Tire, rubber Ø93x17xØ56
	PDM00001500	Cheese head screw DIN7984-M6x10 A2-70 A2
4	HG9425	Wheel, rubber 10" stackable 125 mm x 37,5 mm
	KJ4904	Tire, rubber 125 x 37.5 (4.1 X 1.2" mm)
	PDM00001147	Cheese head ISO4762-M6x30 A2-70 A2
5	HG9437	Wheel, inflatable 210 x 65
	KR1022	Tire, 2.50-4/4 Nato profile black with tube
	PDM00001147	Cheese head ISO4762-M6x30 A2-70 A2

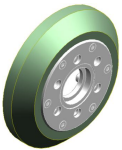
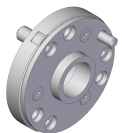
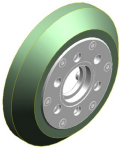
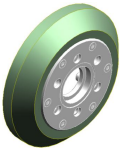
8.1.2 Clay wheels

8.1.2.1 Clay wheels and adapter FW 90

Wheels/adapter	1	2	3	4	5	6	
Inside pipe diameter [mm]							
100							
125							
150			+		+		
200				+		+	
250				+			
300				+		+	
400							
500							

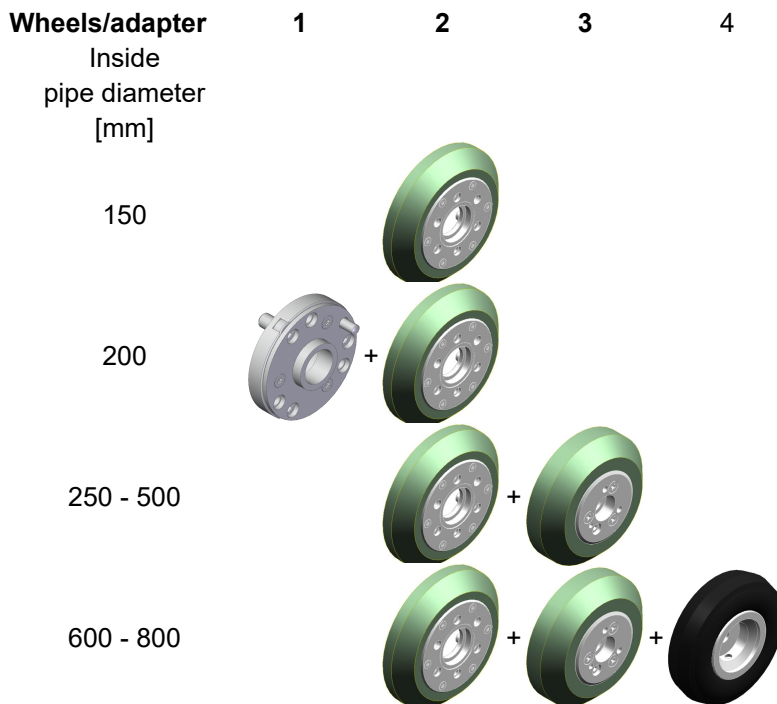
Pos.	Art. no.	Designation
1	111570	Wheel 56 X 6,5 for claypipes, L 90 / C 90
	K13465	Tire, stone 56x6,5
	K13661	Thin shaft screw M4x8
2	UB8907	Wheel adapter 2, L90/C90
	DN2794	Cheese head screw M4x14 similar DIN 912 A2
3	UB8906	wheel adapter 1, L90 / C90
	DN2794	Cheese head screw M4x14 similar DIN 912 A2
4	110705	Wheel 93 x 17 for claypipes 6" L 135 / C 135
	KJ6703	Tire, stone Ø 93 X 17 X 57
	PDM00001500	Cheese head screw DIN7984-M6x10 A2-70 A2
5	UB8905	Bumper cpl., L90/C90
	PDM00004169	Countersunk screw ISO7046-1 M5x10 A2-70 A2
6	HG9427	Wheel, stone 10" stackable 5" X 1 - 1/4", 125mm X 32mm
	KJ5245	Tyre Ø125x32xØ55 clay
	PDM00004201	Countersunk screw ISO7046-1 M6x16 A2-70 A2

8.1.2.2 Clay wheels and adapter C 100, L 100 Cross

Wheels/adapter Inside pipe diameter [mm]	1	2	3	4	5
100 135					
150	 + 				
200	 +  + 				
250 300 400 from 500	 +  + 				

Pos.	Art. no.	Designation
1	110671	Wheel 65x9 for claypipes L 100 Cross/C 100
	K10039	Tire, stone 4" L 100 C 2-1/2"x1/2"
	K10077	Countersunk screw
2	UB8450	Wheel adapter - 93x17 L 100 Cross
	PDM00003931	Cheese head screw DIN7984-M6x14 A2-70 A2
3	UB8438	Wheel adapter – 93x17
	PDM00001500	Cheese head screw DIN7984-M6x10 A2-70 A2
4	110705	Wheel 93 x 17 for claypipes 6" L 135 / C 135
	KJ6703	Tire, stone Ø 93 X 17 X 57
	PDM00001500	Cheese head screw DIN7984-M6x10 A2-70 A2
5	HG9427	Wheel, stone 10" stackable 5" X 1 - 1/4" 125 mm X 32 mm
	KJ5245	Tire Ø125x32xØ55 clay
	PDM00004722	Cheese head screw ISO4762-M6x40 A2-70 A2

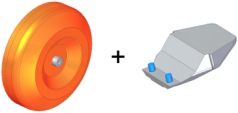
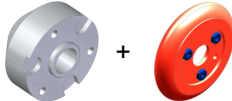
8.1.2.3 Clay wheels and adapter C 135, L 135



Pos.	Art. no.	Designation
1	UB8438	Wheel adapter – 93x17
	PDM00001500	Cheese head screw DIN7984-M6x10 A2-70 A2
2	110705	Wheel 93x17 for claypipes 6" L 135 / C 135
	KJ6703	Tire, stone Ø 93 X 17 X 57
	PDM00001500	Cheese head screw DIN7984-M6x10 A2-70 A2
3	HG9427	Wheel, stone 10" stackable 5" X 1 - 1/4" 125 mm X 32 mm
	KJ5245	Tire Ø125x32xØ55 clay
	PDM00004722	Cheese head screw ISO4762-M6x40 A2-70 A2
4	HG9437	Wheel, inflatable 210 x 65
	KR1022	Tire 2.50-4/4 Nato profile black with tube
	PDM00001147	Cheese head screw ISO4762-M6x30 A2-70 A2

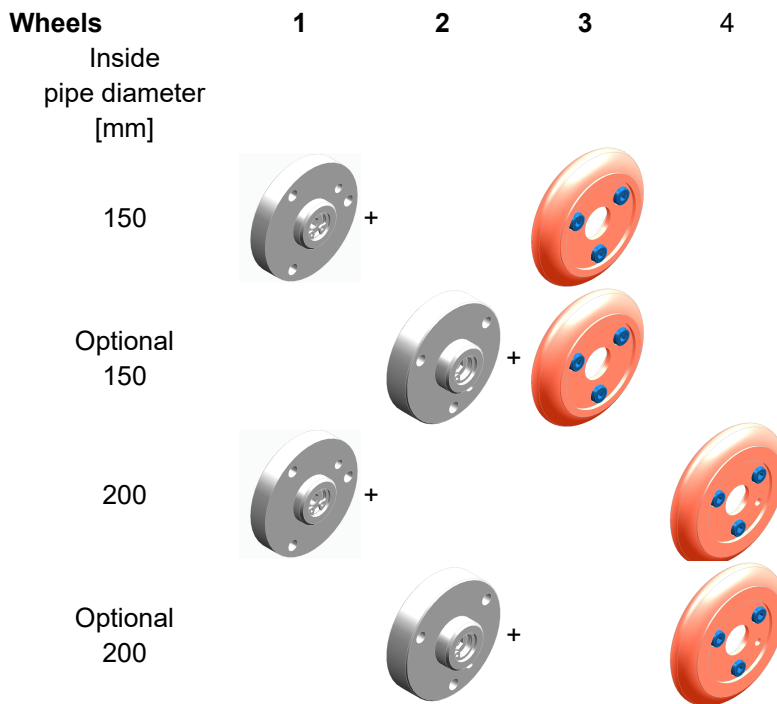
8.1.3 Granulate wheels

8.1.3.1 Granulate wheels and adapter FW 90

Wheels/adapter	1	2	3	4
Inside pipe diameter [mm]				
150				
200				
250				
300				

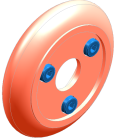
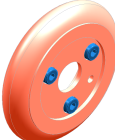
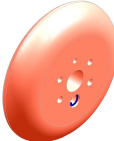
Pos.	Art. no.	Designation
1	111568	Wheel, aggressive traction 74X21, FW 90
	DN2794	Cheese head screw M4x14
2	UB8905	Bumper cpl., L90/C90
	PDM00004169	Countersunk screw ISO7046-1 M5x10 A2-70 A2
3	UB8906	Wheel adapter 1, L90/C90
	DN2794	Cheese head screw M4x14
4	111180	Wheel, aggressive traction 8" 95 X 17
	PDM00001500	Cheese head screw DIN7984-M6x10 A2-70 A2

8.1.3.2 Granulate wheels and adapter C 100, L 100 Cross



Pos.	Art. no.	Designation
1	UB8450	Wheel adapter - 93x17 L 100 Cross
	PDM00003931	Cheese head screw DIN7984-M6x14 A2-70 A2
2	UB8437	Wheel adapter - 95x17
	PDM00001144	Cheese head screw M6x16 A2-70
3	111181	Wheel, aggressive traction 6" 85 X 17
	PDM00001500	Cheese head screw DIN7984-M6x10 A2-70 A2
4	111180	Wheel, aggressive traction 8" 95 X 17
	PDM00001500	Cheese head screw DIN7984-M6x10 A2-70 A2

8.1.3.3 Granulate wheels and adapter C 135, L 135

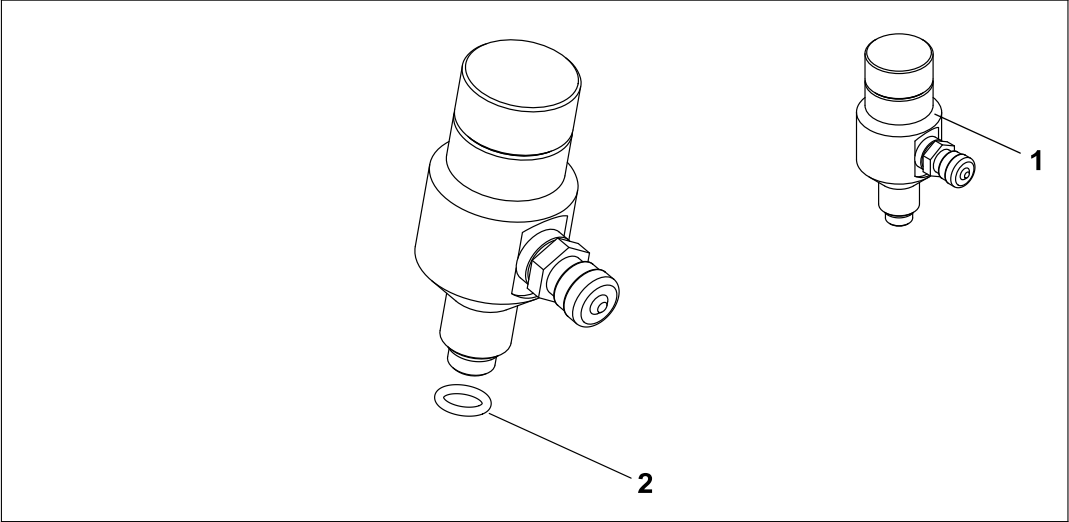
Wheels/adapter	1	2	3	4
Inside pipe diameter [mm]				
150				
200				
250		+		
300				
400				

Pos.	Art. no.	Designation
1	UB8438	Wheel adapter – 93x17
	PDM00001500	Cheese head screw DIN7984-M6x10 A2-70 A2
2	111181	Wheel, aggressive traction 6" 85 X 17
	PDM00001500	Cheese head screw DIN7984-M6x10 A2-70 A2
3	111180	Wheel, aggressive traction 8" 95 X 17
	PDM00001500	Cheese head screw DIN7984-M6x10 A2-70 A2
4	111028	Traction wheel 125x32
	PDM00001147	Cheese head screw ISO4762-M6x30 A2-70 A2

8.2 Valve adapter

Valve adapter: nitrogen filling

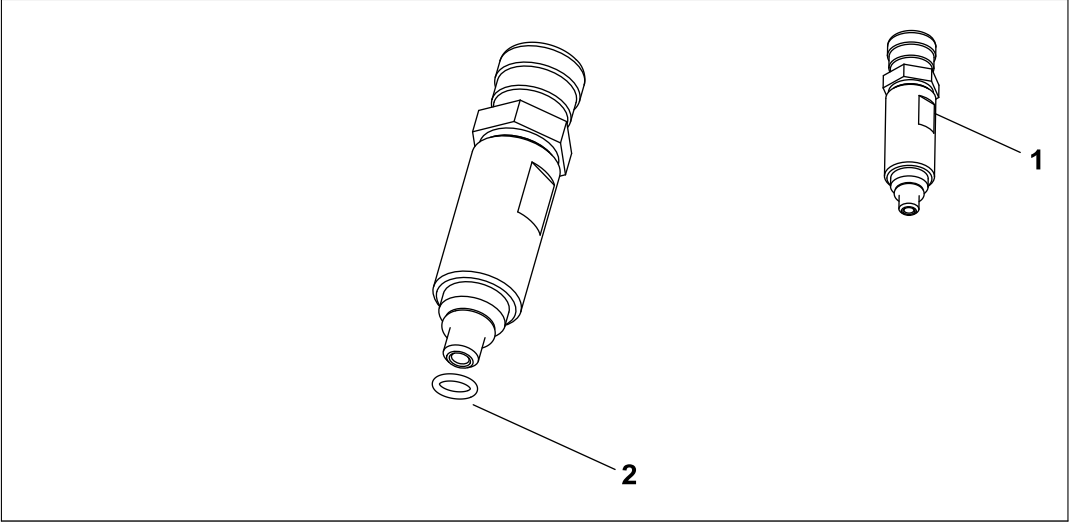
■ Art. no.: UB7600



Pos.	Art. no.	Designation
1	UB7600	Valve adapter
2	PDM00023164	O-ring 6,5 x 1,5

Valve adapter: flushing connection flow meter

■ Art.-Nr.: UB8422



Pos.	Art.-Nr.	Bezeichnung
1	UB8422	Valve adapter, flushing connection for flow meter
2	PDM00022894	O-ring 3,00x1,50-70SH NBR

8.3 Additional lighting

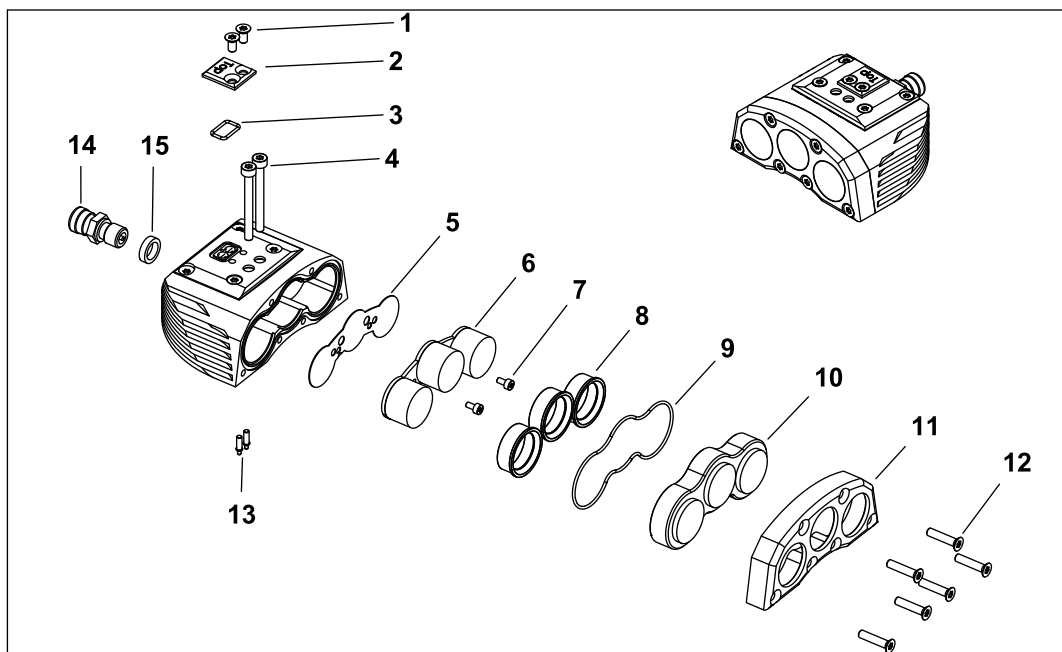
8.3.1 Additional lighting overview

■ Art. no.: 110711, 111189, 111676, 111677

Pos.	Art. no.	Designation
		Additional lighting - 8° reflector, far range
	111676	Additional lights LED ZBEL 8
	110711	Additional lights LED Ex ZBEL 8
		Additional lighting - 20° reflector, wide range
	111677	Additional lights LED ZBEL 20
	111189	Additional lights LED Ex ZBEL 20

8.3.2 Additional lighting - 8° reflector, far range

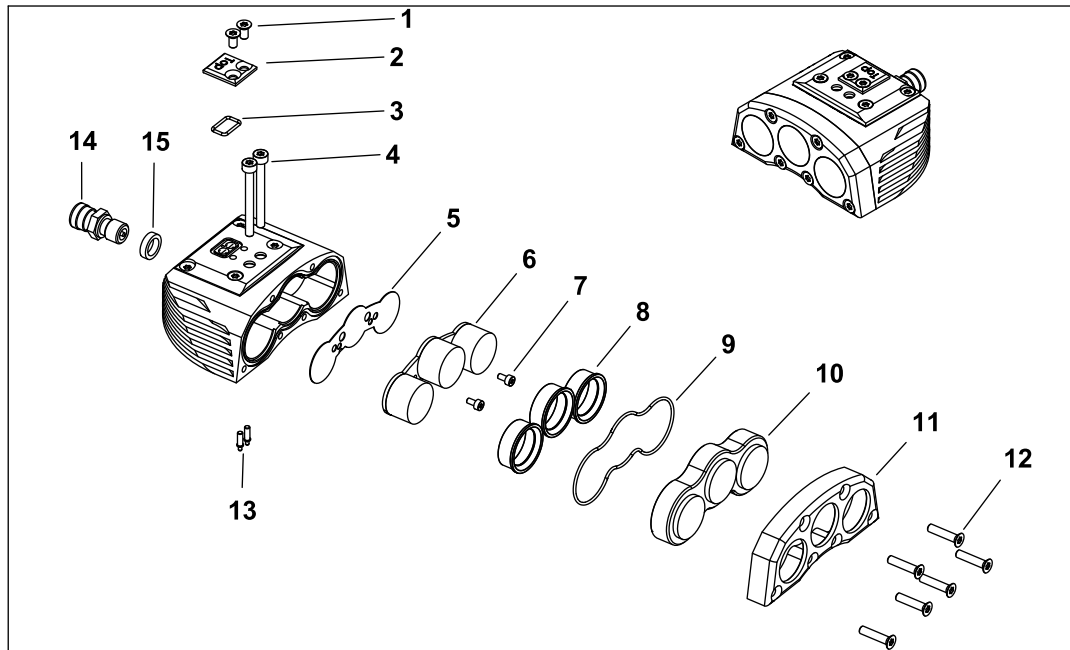
■ Art. no.: 110711, 111676



Pos.	Art. no.	Designation
1	PDM00004358	Countersunk screw ISO14581 M3x6 TX A2-70 A2
2	K10069	Plate 2
3	PDM00023138	O-ring 9,00x1,00; NBR; 70SH
4	PDM00004815	Cylinder screw ISO14579-M3x30 TX A2-70 A2
5	PDM00025718	Heat conducting foil ZUBEL; Thermal-Pad; Type: WS; t=0,3
6	EB4093	Circuit board additional lighting 200
7	PDM00004747	Cylinder screw ISO14579-M2x4 TX A2-70 A2
8	K15659	Centering socket Additional lighting
9	PDM00022797	O-Ring 50,00x1,00-70SH NBR
10	K10067	Sight glass
11	K10066	Front frame
12	PDM00004351	Countersunk screw ISO14581 M3x14 TX A2-70 A2
13	EX2655	Pin, spring contact Typ: F672
14	KV1001	Valve, nitrogen fill
15	K10524	Distance

8.3.3 Additional lighting - 20° reflector, wide range

■ Art. no.: 111189, 111677

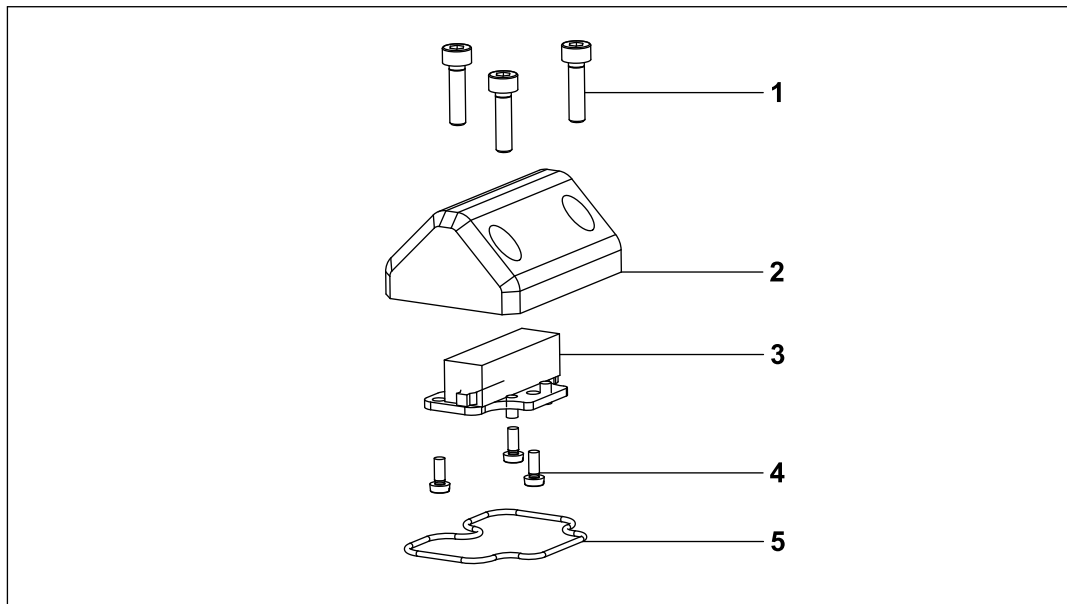


Pos.	Art. no.	Designation
1	PDM00004358	Countersunk screw ISO14581 M3x6 TX A2-70 A2
2	K10069	Plate 2
3	PDM00023138	O-ring 9,00x1,00; NBR; 70SH
4	PDM00004815	Cylinder screw ISO14579-M3x30 TX A2-70 A2
5	PDM00025718	Heat conducting foil ZUBEL; Thermal-Pad; Type: WS; t=0,3
6	EB4092	Circuit board ZUBEL L100 cross - 20° beam angle
7	PDM00004747	Cylinder screw ISO14579-M2x4 TX A2-70 A2
8	K15659	Centering socket Additional lighting
9	PDM00022797	O-Ring 50,00x1,00-70SH NBR
10	K10067	Sight glass
11	K10066	Front frame
12	PDM00004351	Countersunk screw ISO14581 M3x14 TX A2-70 A2
13	EX2655	Pin, spring contact Typ: F672
14	KV1001	Valve, nitrogen fill
15	K10524	Distance

8.4 Location

8.4.1 Location transmitter foldable plug 512 and 33 kHz

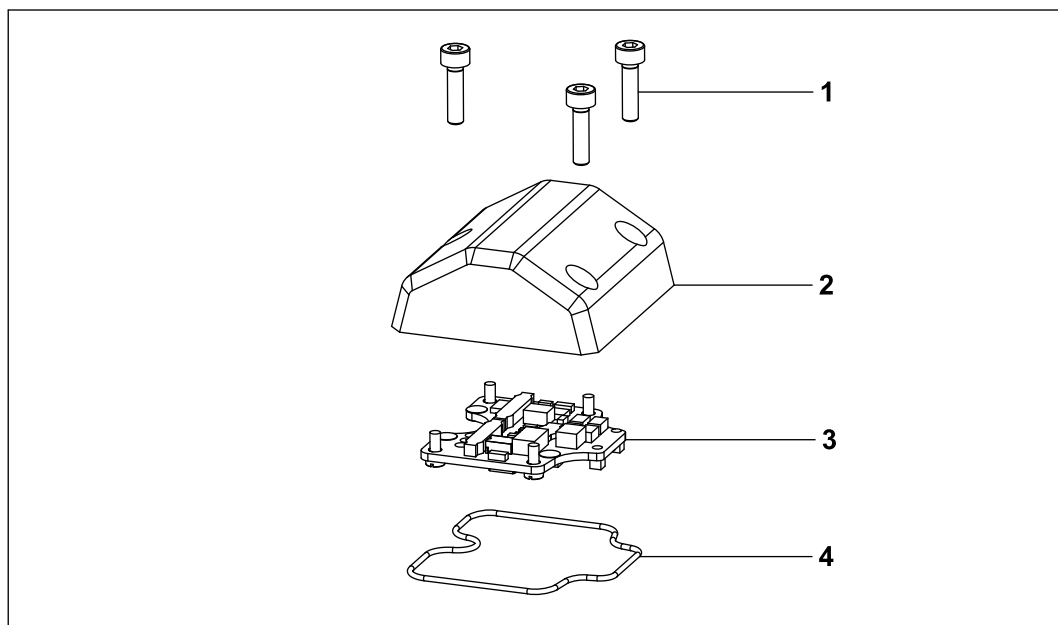
■ Art. no.: 111306



Pos.	Art. no.	Designation
1	PDM00000903	Cheese head screw ISO4762-M3x12 A2-70 A2
2	K12279	Housing - Crawler locating - Compact
3	EB3154	Board FWORT_compact Crawler locating compact
4	PDM00004923	Cheese head screw ISO1207-M2x5 A2-70 A2
5	PDM00022955	O-ring 36,00x1,00-70SH NBR

8.4.2 Location transmitter foldable plug 512 Hz

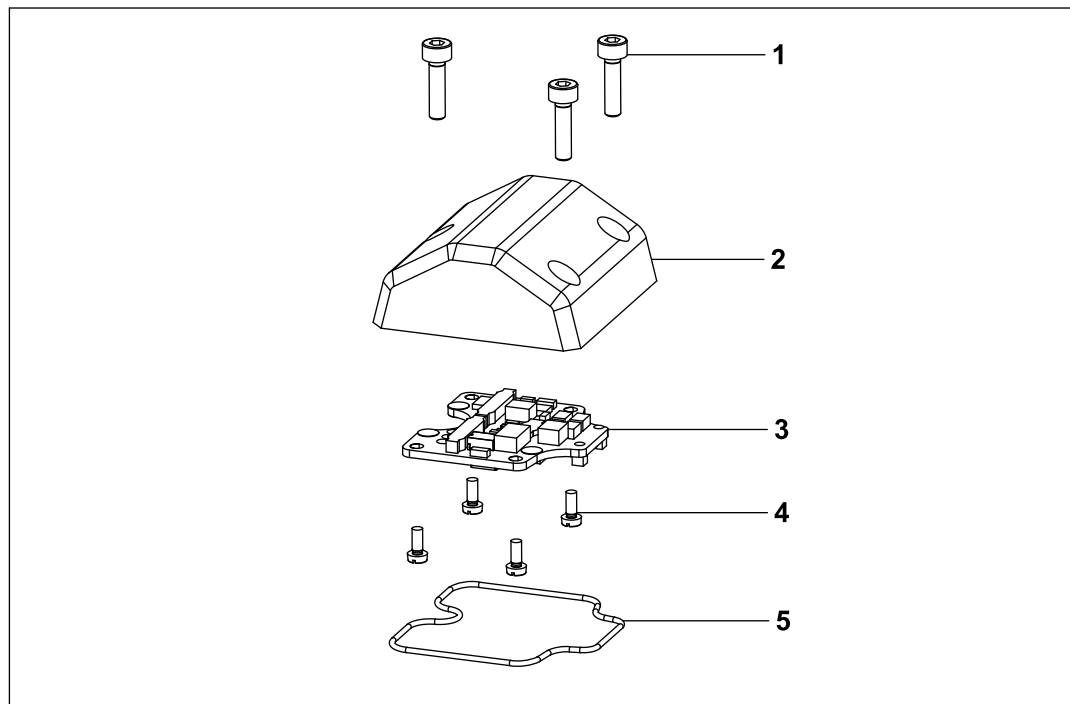
■ Art. no.: 111208



Pos.	Art. no.	Designation
1	PDM00000903	Cheese head screw ISO4762-M3x12 A2-70 A2
2	K12111	Housing - Crawler locating
3	EB3115	Board (wiring diagram) FWORT_13 512Hz Crawler locating
4	PDM00023154	O-Ring 45,00x1,00-70SH NBR

8.4.3 Location transmitter foldable plug 33 kHz

■ Art. no.: 111129, 111207

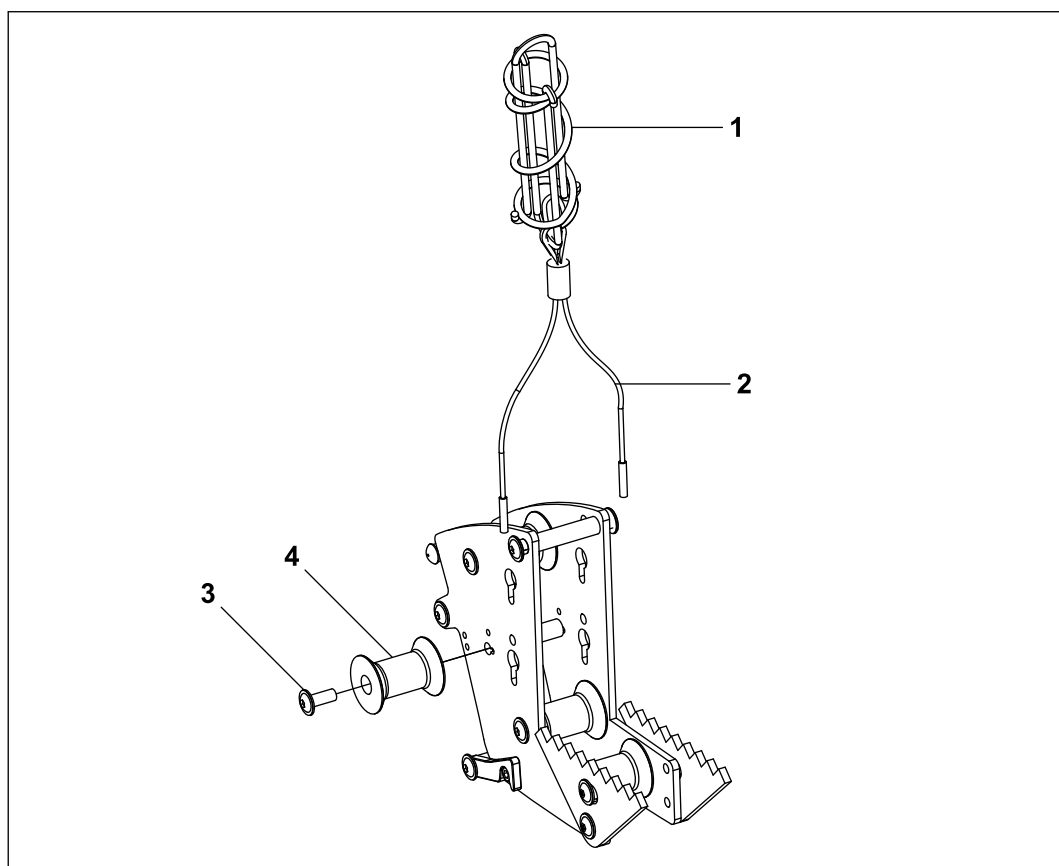


Pos.	Art. no.	Designation
1	PDM00000903	Cylinder screw ISO4762-M3x12 A2-70 A2
2	K12111	Housing - Crawler locating
3	EB3122	Board FWORT_13 - 32,768 kHz Crawler locating
4	PDM00004923	Cylinder screw ISO1207-M2x5 A2-70 A2
5	PDM00023154	O-Ring 45,00x1,00-70SH NBR

8.5 Deflection pulley

8.5.1 Deflection pulley DN 100

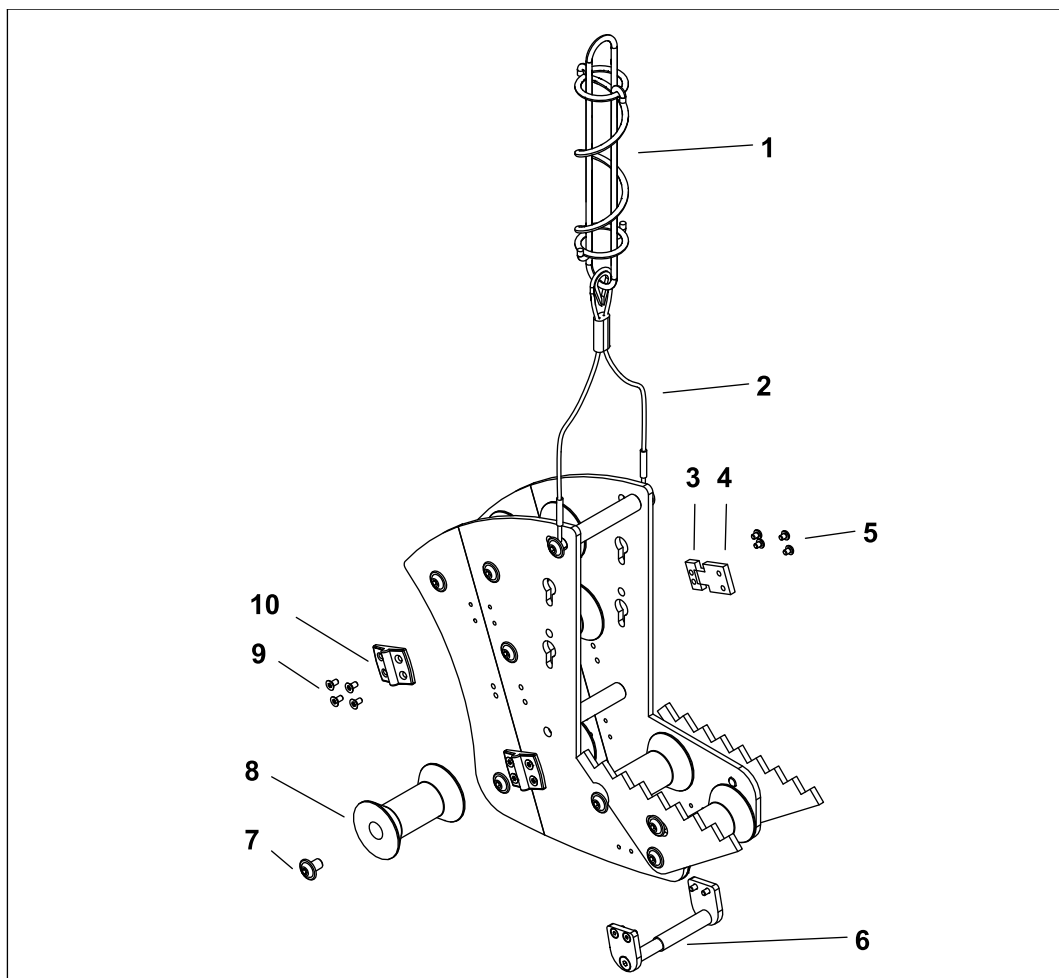
■ Art. no.: 111003



Pos.	Art. no.	Designation
1	KF1083	Mooring spring
2	VG1327	Objectiv (EH1191) KS60SPHT-PIN/SAT35 KS60 CL
3	PDM00004567	Oval-head screw ISO7380-2 M8x20 A2-70
4	K11532	Safety bar

8.5.2 Deflection pulley DN 150

■ Art. no.: 111004

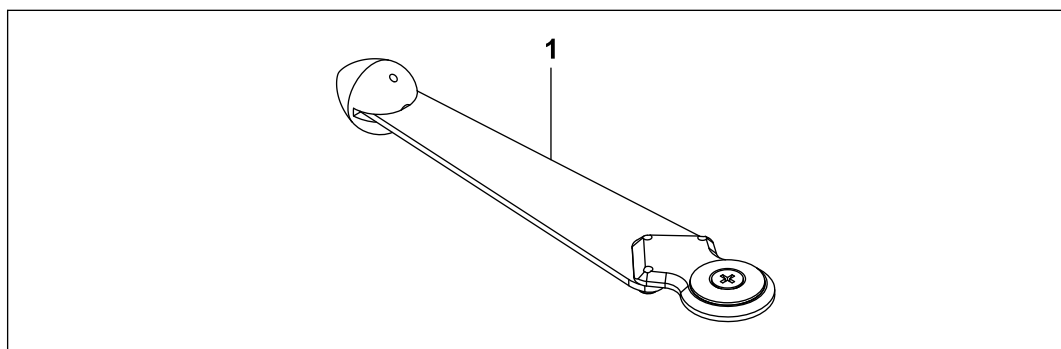


Pos.	Art. no.	Designation
1	KF1083	Mooring spring
2	VG1327	Objectiv (EH1191) KS60SPHT-PIN/SAT35 KS60 CL
3	KT1137	Clamp CAMLOC
4	KN1413	Fastener stainless bright
5	PDM00014543	Oval head screw ISO7380-1 M4x5 A2-70 A2
6	UB8895	Support roller retrofit kit - deflection pulley
7	PDM00004565	Oval head screw ISO7380-2 M8x12 A2-70 A2
8	K11531	Roller, Nylon Black 74mm L Def Pulley
9	PDM00004398	Counter-sunk screw ISO14581 M4x8 TX A2-70 A2
10	KN1036	Hinges for bruhs assembly ELKA 250

8.6 Pin

8.6.1 Pin - KS 40

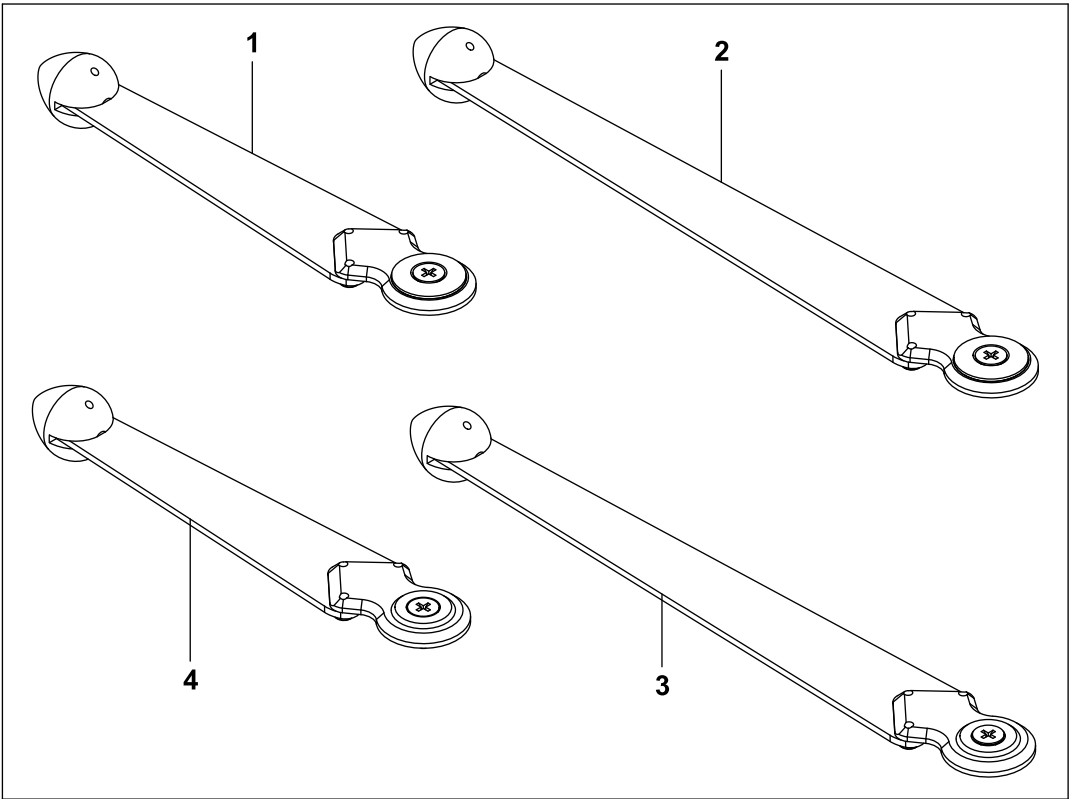
■ Art. no.: UB8894



Pos.	Art. no.	Designation
		Pin for KS 40
	WZ1789	Torx-elektronic-screw driver TX20
1	UB8894	Pin short fixed

8.6.2 Pin Set - KS 60 D | KS 60 DB | KS 60 HD

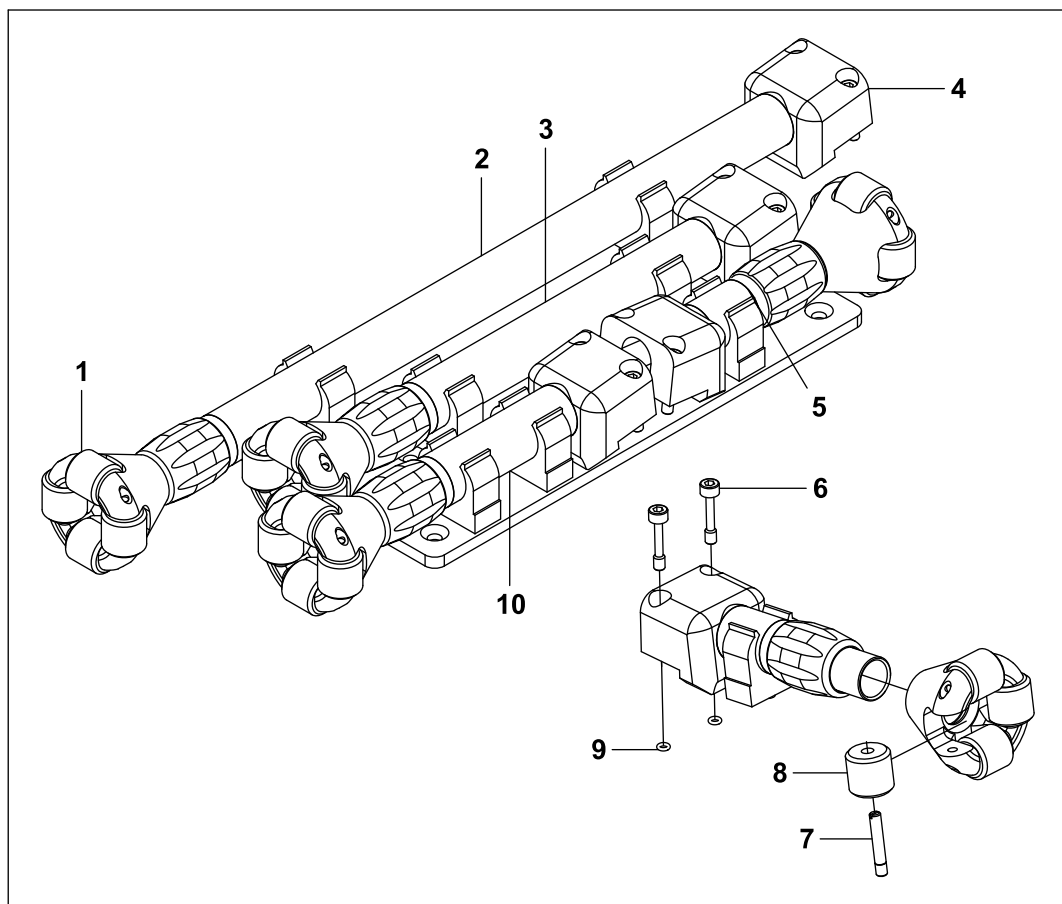
■ Art. no.: 110996



Pos.	Art. no.	Designation
		Pin with swivel guide for KS 60 D/ DB/ HD
	WZ1789	Torx-elektronic-screw driver TX20
1	UB7635	Pin short loose
2	UB7636	Pin long loose
3	UB7934	Pin long fixed
4	UB7933	Pin short fixed

8.7 Guide extension

■ Art. no.: 110860



Pos.	Art. no.	Designation
1	UB6401	Bracket assy, docking head for KS 60 Telescopic pole
2	UB6406	Telescopic extension 4 KS60 - pluggable
3	UB6405	Pole, telescopic extension #3 KS60 - pluggable 250mm / 420mm
4	UB7309	Bracket assy, mounting telescopic pole PM 135
5	UB6403	Telescopic extension #1 KS60 - pluggable 100mm / 150mm
6	KJ8140	Screw, captive M5 X 25
7	PDM00003907	Screw, shoulder pin ISO2342-M5x30 A1
8	K11872	Roller 1
9	PDM00022894	O-ring 3,00x1,50-70SH NBR
10	UB6404	Pole, telescopic #2 (150mm/250mm) KS60 - pluggable

8.8 Accessories general

Pos.	Art. no.	Designation
	EB2881	Radio remote control FB2010
	EX2638	Charging outlet
	KB1019	Locker for drawer in the rear room
	PDM00007291	Locking bolt fanlight beak
	KC1014	Chain spray 400 ml
	KC1017	Autol top 2000 lipid 100ml (grease)
	KC1040	Contact spray WL 400ml
	KC1132	Lacquer middle hard, 20 ml Weicon AN302-43
	KC1203	CorrosionX 400ml spray can
	KC1231	Compound, potting C - connector
	KC1518	Interflon assembly paste HT1200 tube 150ml
	KU1940	Stainless rope, ø=3mm 20 m long,
	UB6020	Lanyard, reverse sensor for main cable RAU 9
	UB8342	Lanyard, reverse sensor for main cable RAU 7.7
	KC1096	Double cartridge 2K-Epoxy sealing (50 ml / 4 g)
	WZ1272	Combining nozzle pistol Epoxid

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