

ROBOTICS

# Product manual, spare parts

## IRB 930



Trace back information:  
Workspace 23D version a15  
Checked in 2023-12-14  
Skribenta version 5.5.019

**Product manual, spare parts**

**IRB 930-12/0.85**

**IRB 930-12/1.05**

**IRB 930-22/1.05**

OmniCore

Document ID: 3HAC086010-001

Revision: B

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# Table of contents

Overview of this manual .....	7
<b>1 Spare parts and exploded views</b> .....	<b>9</b>
1.1 Spare parts - electrical parts .....	10
1.1.1 Main harness parts .....	10
1.1.2 Process hub parts .....	11
1.1.3 SMB parts .....	12
1.1.4 Bracket parts .....	13
1.1.5 Manipulator cable harness parts .....	14
1.2 Spare parts - base .....	15
1.2.1 Base parts .....	15
1.3 Spare parts - inner arm .....	18
1.3.1 Inner arm .....	18
1.3.2 Inner arm parts .....	19
1.4 Spare parts - cable arm .....	22
1.4.1 Cable arm .....	22
1.4.2 Cable arm parts .....	23
1.5 Spare parts - outer arm .....	24
1.5.1 Outer arm .....	24
1.5.2 Outer arm parts .....	25
1.5.3 Ball screw .....	26
1.6 Spare parts - motors .....	28
1.6.1 Axis-1 motor sub-assembly .....	28
1.6.2 Axis-2 motor sub-assembly .....	29
1.6.3 Axis-3 motor sub-assembly .....	30
1.6.4 Axis-4 motor sub-assembly .....	31
1.7 Spare parts - gearboxes .....	32
1.7.1 Axis-1 gearbox .....	32
1.7.2 Axis-2 gearbox .....	34
1.8 Spare parts - Accessories .....	35
1.8.1 Screws and nuts .....	35
1.8.2 Axis Calibration items .....	36
1.8.3 Special tools .....	38
1.9 Consumables and wear parts .....	40
1.9.1 Wear parts .....	40

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# Overview of this manual

## About this manual

This manual contains spare parts for:

- IRB 930 and all its variants.

## Usage

This manual shall be used as a complement to the product manual for IRB 930 during:

- maintenance work
- repair work.

## Who should read this manual?

This manual is intended for:

- maintenance personnel
- repair personnel.

## Prerequisites

Maintenance/repair/installation personnel working with an ABB Robot must:

- be trained by ABB and have the required knowledge of mechanical and electrical installation/repair/maintenance work.

## Organization of chapters

The manual is organized in the following chapters:

Chapter	Contents
1 Spare parts and exploded view	Complete spare part list and complete list of robot components shown in exploded views.

## References

Reference	Document ID
<i>Product manual - IRB 930</i>	<i>3HAC086009-001</i>
<i>Product specification - IRB 930</i>	<i>3HAC086011-001</i>
<i>Circuit diagram - IRB 930</i>	<i>3HAC081880-003</i>

## Revisions

Revision	Description
A	First edition.
B	Published in release 23D. The following updates are done in this revision: <ul style="list-style-type: none"> <li>• Added sealing and ring on axis 2.</li> </ul>

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# 1 Spare parts and exploded views

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### Spare part level

ABB spare parts are categorized into two levels, L1 and L2. Always check the part level before conducting a service work on a spare part.

- L1 spare parts

The L1 parts can be replaced in the field. The maintenance and replacement instructions given in the related product manuals must be strictly followed. If there are any problems, contact your local ABB for support.

- L2 spare parts

To replace the L2 parts require specialized training and might need special tools. Only ABB field service personnel or qualified personnel trained by ABB can replace L2 parts.

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# 1 Spare parts and exploded views

## 1.1.1 Main harness parts

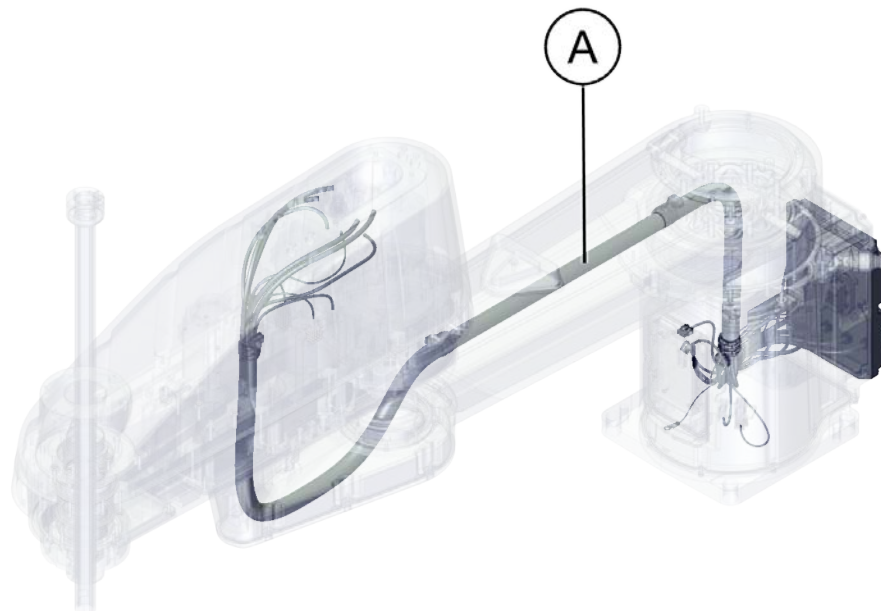
## 1.1 Spare parts - electrical parts

### 1.1.1 Main harness parts

#### Spare part list and illustration - IP30

	Spare part number	Description	Standard, IP30 <sup>i</sup>						Spare part level
			12/0.85_0.3	12/1.05_0.3	22/1.05_0.3	12/0.85_0.45	12/1.05_0.45	22/1.05_0.45	
A	3HAC087320-001	Main harness S, Basic	X			X			L2
	3HAC087321-001	Main harness S, Basic+C1+Air	X			X			L2
	3HAC087322-001	Main harness S, Basic+C1+C2+Air	X			X			L2
	3HAC087323-001	Main harness L, Basic		X	X		X	X	L2
	3HAC087324-001	Main harness L, Basic+C1+Air		X	X		X	X	L2
	3HAC087325-001	Main harness L, Basic+C1+C2+Air		X	X		X	X	L2

<sup>i</sup> The protection class of the ballscrew area is IP20. For more information, please contact ABB.



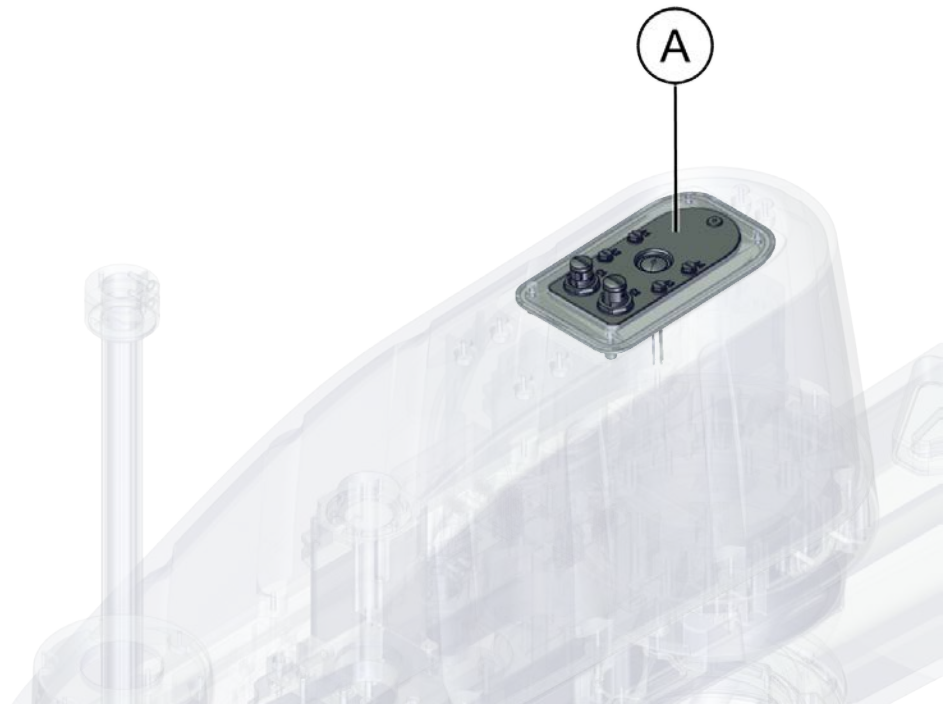
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### 1.1.2 Process hub parts

#### Spare part list and illustration - IP30

	Spare part number	Description	Standard, IP30 <sup>i</sup>						Spare part level
			12/0.85_0.3	12/1.05_0.3	22/1.05_0.3	12/0.85_0.45	12/1.05_0.45	22/1.05_0.45	
A	3HAC087326-001	Process hub, Basic	X	X	X	X	X	X	L2
	3HAC087327-001	Process hub, Basic+C1+A	X	X	X	X	X	X	L2
	3HAC087328-001	Process hub, Basic+C1+C2+A	X	X	X	X	X	X	L2

<sup>i</sup> The protection class of the ballscrew area is IP20. For more information, please contact ABB.




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# 1 Spare parts and exploded views

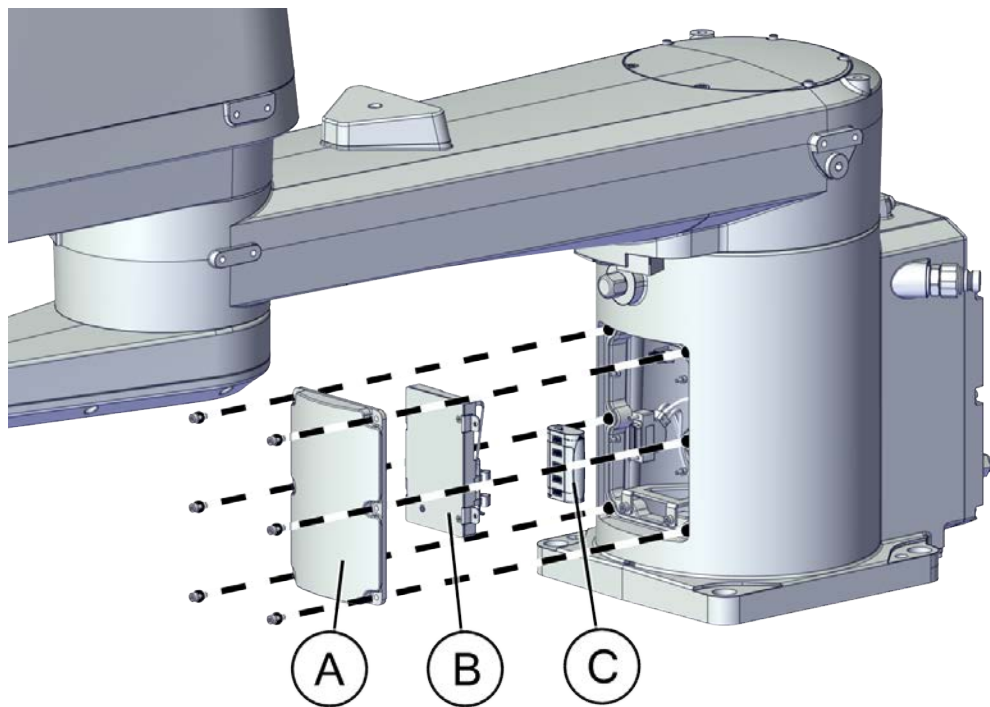
## 1.1.3 SMB parts

### 1.1.3 SMB parts

#### Spare part list and illustration - IP30

	Spare part number	Description	Standard, IP30 <sup>i</sup>						Spare part level
			12/0.85_0.3	12/1.05_0.3	22/1.05_0.3	12/0.85_0.45	12/1.05_0.45	22/1.05_0.45	
A	3HAC087302-001	SMB cover	X	X	X	X	X	X	L2
B	3HAC063968-001	SMB unit	X	X	X	X	X	X	L2
C	3HAC044075-001	Battery unit	X	X	X	X	X	X	L2
		 <b>Note</b> Battery pack is wear part.							

<sup>i</sup> The protection class of the ballscrew area is IP20. For more information, please contact ABB.



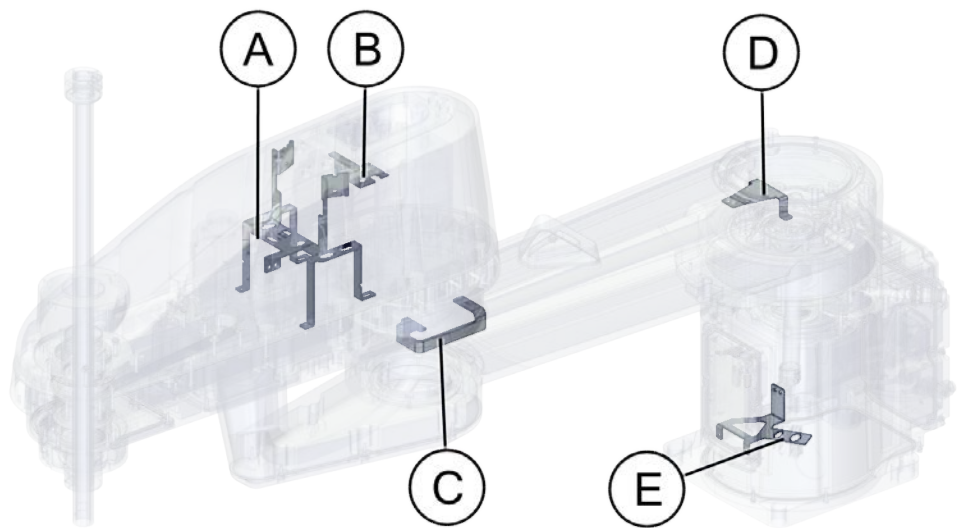
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### 1.1.4 Bracket parts

#### Spare part list and illustration - IP30

	Spare part number	Description	Standard, IP30 <sup>i</sup>						Spare part level
			12/0.85_0.3	12/1.05_0.3	22/1.05_0.3	12/0.85_0.45	12/1.05_0.45	22/1.05_0.45	
A	3HAC081794-001	Outer arm bracket	X	X	X	X	X	X	L2
B	3HAC081795-001	CPCS bracket	X	X	X	X	X	X	L2
C	3HAC081793-001	Cable arm bracket	X	X	X	X	X	X	L2
D	3HAC081792-001	Inner arm bracket	X	X	X	X	X	X	L2
E	3HAC081791-001	Base bracket	X	X	X	X	X	X	L2

<sup>i</sup> The protection class of the ballscrew area is IP20. For more information, please contact ABB.



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# 1 Spare parts and exploded views

## 1.1.5 Manipulator cable harness parts

### 1.1.5 Manipulator cable harness parts

#### Spare part list, Customer cables - CP/CS cable (option)

	Spare part number	Description	Standard, IP30 <sup>i</sup> , IP54 and Clean Room						Spare part level
			12/0.85_0.3	12/1.05_0.3	22/1.05_0.3	12/0.85_0.45	12/1.05_0.45	22/1.05_0.45	
-	3HAC067449-001	3 m	X	X	X	X	X	X	L1
-	3HAC067449-002	7 m	X	X	X	X	X	X	L1
-	3HAC067449-003	15 m	X	X	X	X	X	X	L1

<sup>i</sup> The protection class of the ballscrew area is IP20. For more information, please contact ABB.

#### Spare part list, Customer cables - Ethernet floor cable (option)

	Spare part number	Description	Standard, IP30 <sup>i</sup> , IP54 and Clean Room						Spare part level
			12/0.85_0.3	12/1.05_0.3	22/1.05_0.3	12/0.85_0.45	12/1.05_0.45	22/1.05_0.45	
-	3HAC067447-002	7 m	X	X	X	X	X	X	L1
-	3HAC067447-003	15 m	X	X	X	X	X	X	L1

<sup>i</sup> The protection class of the ballscrew area is IP20. For more information, please contact ABB.

#### Spare part list, Connector kits, outer arm (option)

	Spare part number	Description	Standard, IP30 <sup>i</sup> , IP54 and Clean Room						Spare part level
			12/0.85_0.3	12/1.05_0.3	22/1.05_0.3	12/0.85_0.45	12/1.05_0.45	22/1.05_0.45	
-	3HAC066098-001	M12 CPCS Male straight connector kits	X	X	X	X	X	X	L1
-	3HAC066099-001	M12 CPCS Male angled connector kits	X	X	X	X	X	X	L1
-	3HAC067413-001	M12 Ethernet Cat5e Male straight connector kits	X	X	X	X	X	X	L1
-	3HAC067414-001	M12 Ethernet Cat5e Male angled connector kits	X	X	X	X	X	X	L1

<sup>i</sup> The protection class of the ballscrew area is IP20. For more information, please contact ABB.

## 1.2 Spare parts - base

### 1.2.1 Base parts

#### Spare part list and illustration - IP30

	Spare part number	Description	Standard, IP30 <sup>i</sup>						Spare part level
			12/0.85_0.3	12/1.05_0.3	22/1.05_0.3	12/0.85_0.45	12/1.05_0.45	22/1.05_0.45	
A	3HAC087301-001	Base	X	X	X	X	X	X	L2
B	3HAC087316-001	Airway cover	X	X	X	X	X	X	L1
C	3HAC084080-001	Airway cover gasket	X	X	X	X	X	X	L1
D	3HAC0081803-001	Base plate, rear outlet cable <sup>ii</sup>	X	X	X	X	X	X	L1
E	3HAC074630-001	Quick coupling	X	X	X	X	X	X	L1
F	3HAC071966-001	Plug G1/4	X	X	X	X	X	X	L1
G	3HAC032050-001	Seal bolt	X	X	X	X	X	X	L1
H	3HAC087318-001	Rear plate, underneath outlet cable <sup>iii</sup>	X	X	X	X	X	X	L1
J	3HAC081817-001	Base plate, underneath outlet cable <sup>iv</sup>	X	X	X	X	X	X	L1
-	3HAC084066-001	Cooling cover	X	X	X	X	X	X	L2
-	3HAC032049-001	Air connector	X	X	X	X	X	X	L2

<sup>i</sup> The protection class of the ballscrew area is IP20. For more information, please contact ABB.

<sup>ii</sup> Valid for rear cable version.

<sup>iii</sup> Valid for base cable version.

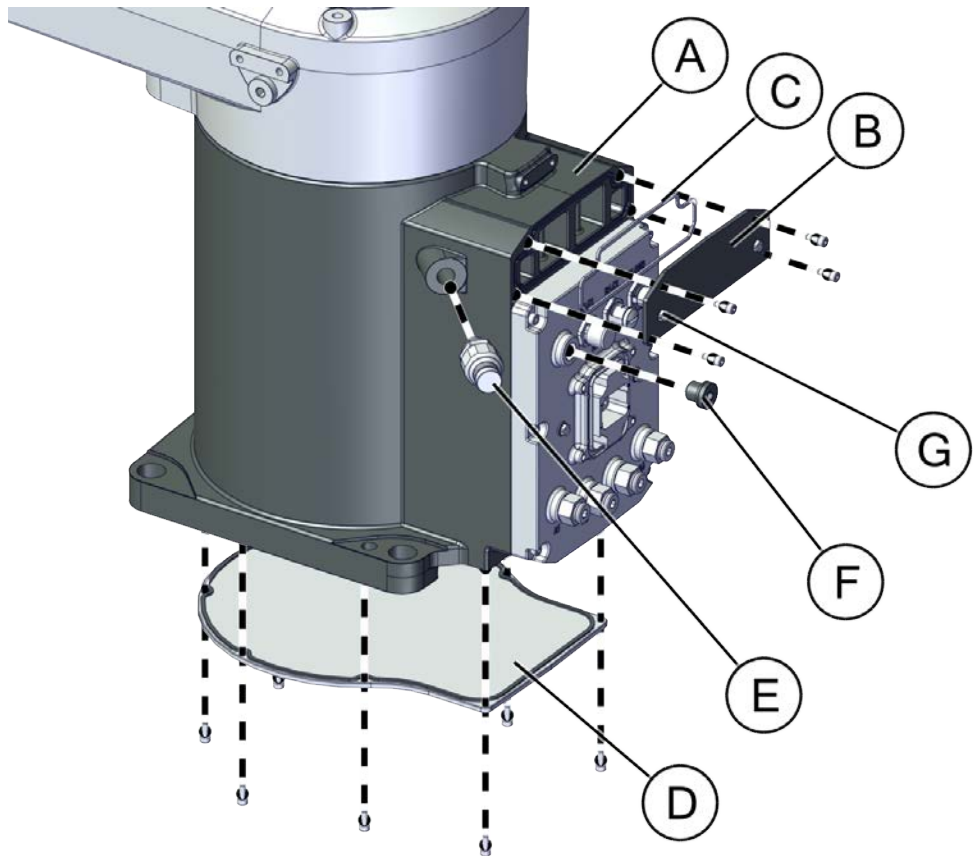
<sup>iv</sup> Valid for base cable version.

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# 1 Spare parts and exploded views

## 1.2.1 Base parts

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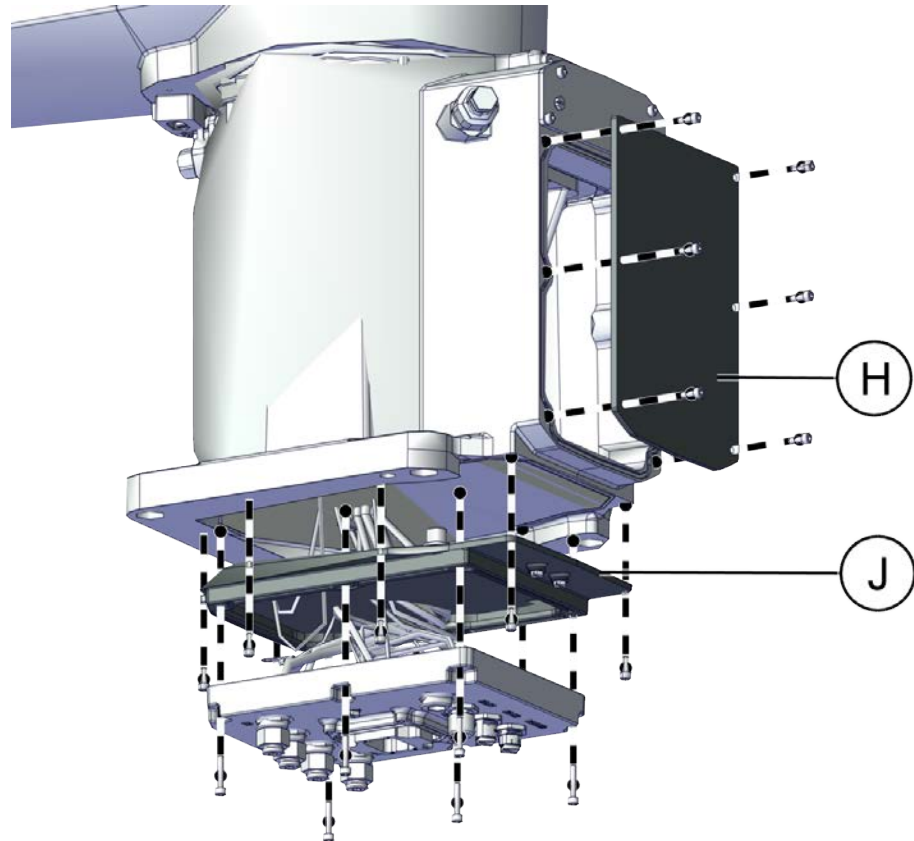
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# 1 Spare parts and exploded views

## 1.2.1 Base parts

*Continued*



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# 1 Spare parts and exploded views

## 1.3.1 Inner arm

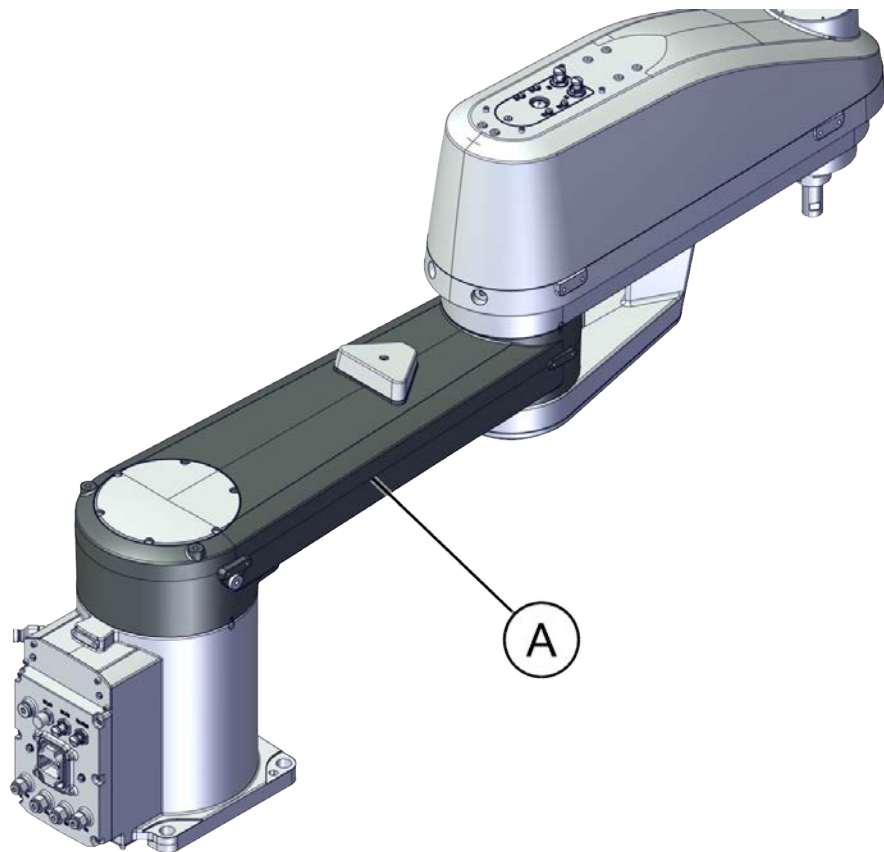
## 1.3 Spare parts - inner arm

### 1.3.1 Inner arm

#### Spare part list and illustration - IP30

	Spare part number	Description	Standard, IP30 <sup>i</sup>						Spare part level
			12/0.85_0.3	12/1.05_0.3	22/1.05_0.3	12/0.85_0.45	12/1.05_0.45	22/1.05_0.45	
A	3HAC087304-001	Inner arm, 850 mm	X			X			L2
	3HAC087305-001	Inner arm, 1,050 mm		X	X		X	X	L2

<sup>i</sup> The protection class of the ballscrew area is IP20. For more information, please contact ABB.



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### 1.3.2 Inner arm parts

#### Spare part list and illustration - IP30

	Spare part number	Description	Standard, IP30 <sup>i</sup>						Spare part level
			12/0.85_0.3	12/1.05_0.3	22/1.05_0.3	12/0.85_0.45	12/1.05_0.45	22/1.05_0.45	
A	3HAC087308-001	Axis 1 Cover	X	X	X	X	X	X	L1
B	3HAC081810-001	Oil tank	X	X	X	X	X	X	L2
-	3HAC081812-001	Oil tank cover	X	X	X	X	X	X	L2
-	3HAC081814-001	Oil tank gasket	X	X	X	X	X	X	L2
-	3HAB3772-138	Oil tank O-ring	X	X	X	X	X	X	L2
C	3HAC037925-001	Magnetic plug, G 1/4"	X	X	X	X	X	X	L1
D	3HAC081815-001	Rubber stop	X	X	X	X	X	X	L1
E	3HAC084073-001	Damper	X	X	X	X	X	X	L1
F	3HAC087306-001	A2 Swing	X	X	X	X	X	X	L1
G	3HAB3702-22	A1 sealing	X	X	X	X	X	X	L2
H	3HAC070148-005	A2 sealing	X	X	X	X	X	X	L2

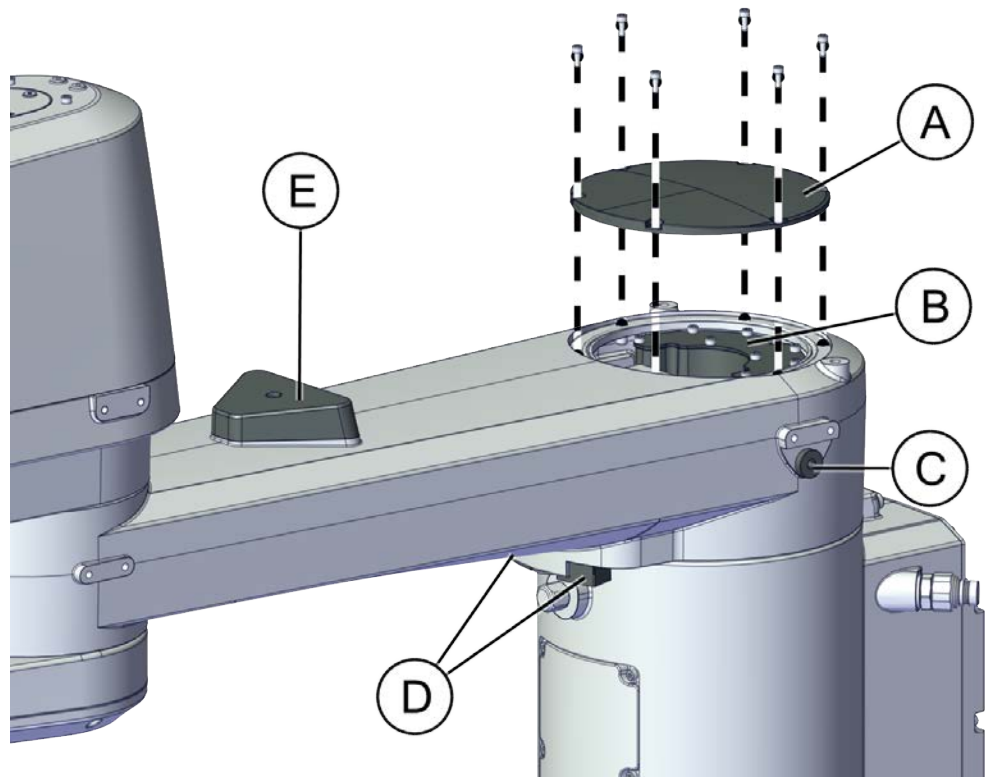
<sup>i</sup> The protection class of the ballscrew area is IP20. For more information, please contact ABB.

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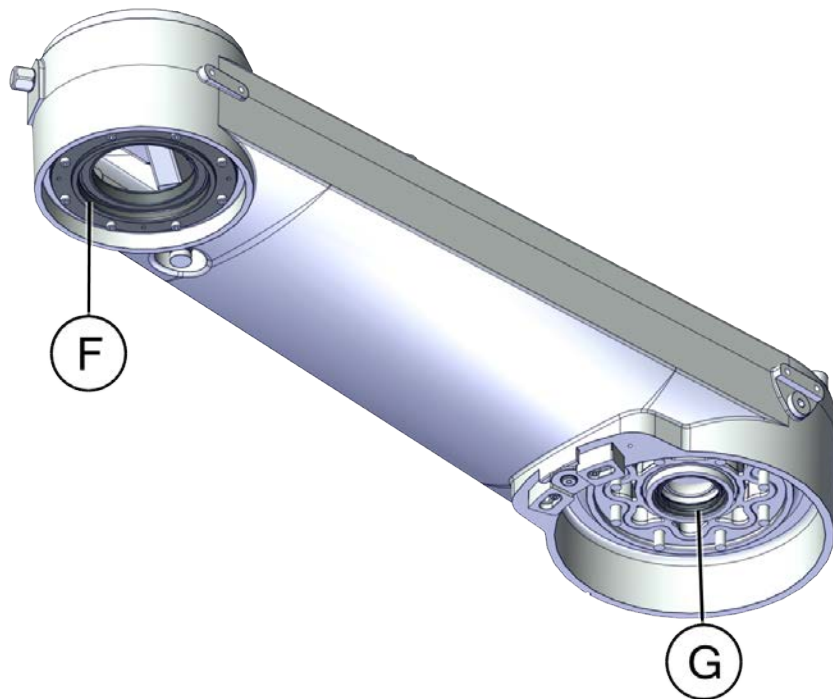
# 1 Spare parts and exploded views

## 1.3.2 Inner arm parts

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# 1 Spare parts and exploded views

## 1.4.1 Cable arm

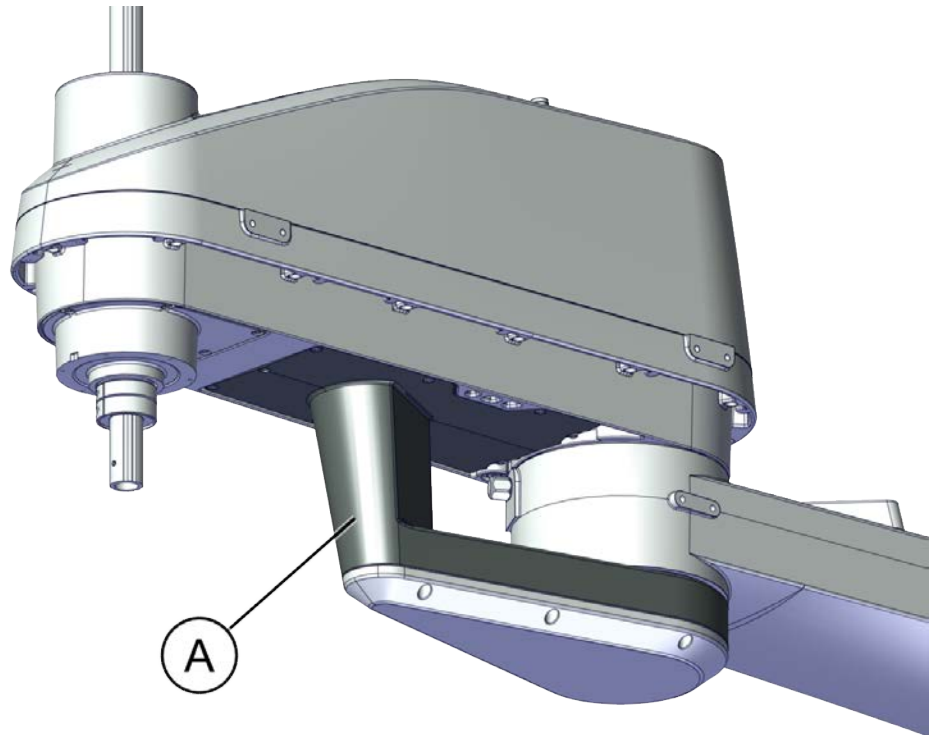
## 1.4 Spare parts - cable arm

### 1.4.1 Cable arm

#### Spare part list and illustration - IP30

	Spare part number	Description	Standard, IP30 <sup>i</sup>						Spare part level
			12/0.85_0.3	12/1.05_0.3	22/1.05_0.3	12/0.85_0.45	12/1.05_0.45	22/1.05_0.45	
A	3HAC087307-001	Cable arm	X	X	X	X	X	X	L2

<sup>i</sup> The protection class of the ballscrew area is IP20. For more information, please contact ABB.



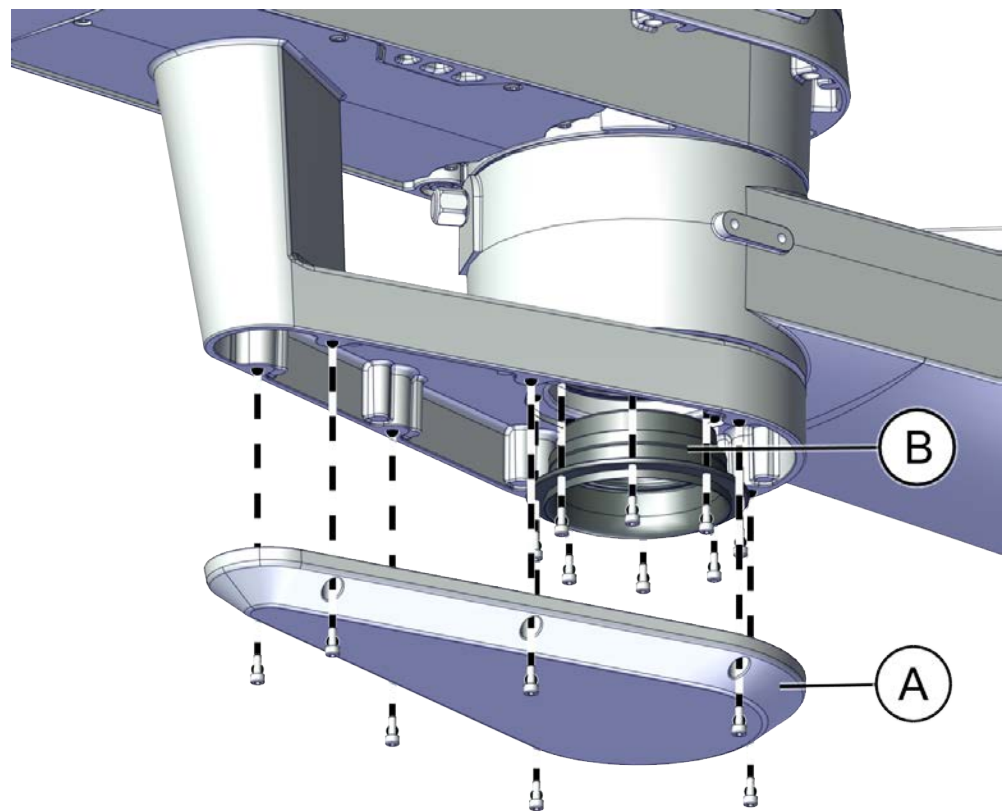
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### 1.4.2 Cable arm parts

#### Spare part list and illustration - IP30

	Spare part number	Description	Standard, IP30 <sup>i</sup>						Spare part level
			12/0.85_0.3	12/1.05_0.3	22/1.05_0.3	12/0.85_0.45	12/1.05_0.45	22/1.05_0.45	
A	3HAC087317-001	Cable arm cover	X	X	X	X	X	X	L1
B	3HAC081802-001	Cable arm sealing ring	X	X	X	X	X	X	L2

<sup>i</sup> The protection class of the ballscrew area is IP20. For more information, please contact ABB.



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# 1 Spare parts and exploded views

## 1.5.1 Outer arm

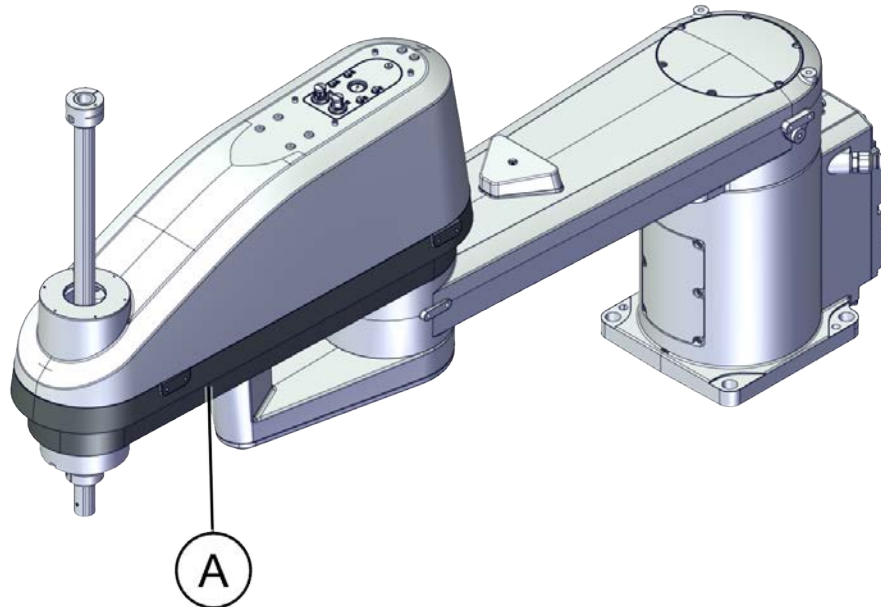
## 1.5 Spare parts - outer arm

### 1.5.1 Outer arm

#### Spare part list and illustration - IP30

	Spare part number	Description	Standard, IP30 <sup>i</sup>						Spare part level
			12/0.85_0.3	12/1.05_0.3	22/1.05_0.3	12/0.85_0.45	12/1.05_0.45	22/1.05_0.45	
A	3HAC087309-001	Outer arm	X	X	X	X	X	X	L2

<sup>i</sup> The protection class of the ballscrew area is IP20. For more information, please contact ABB.



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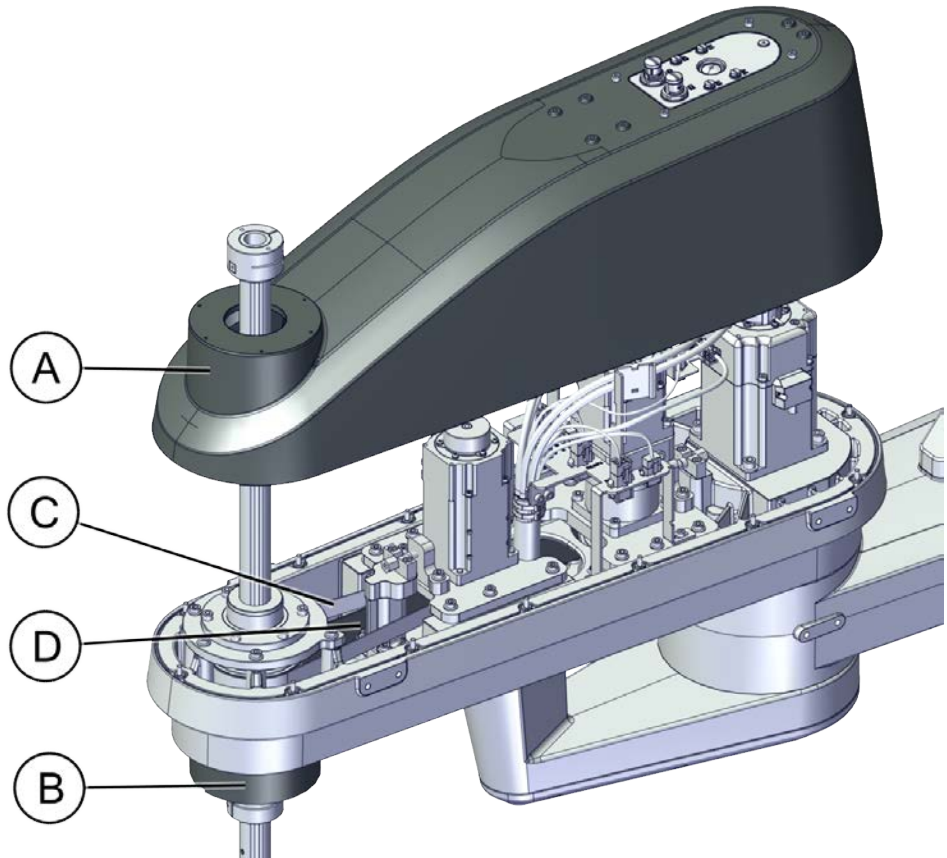


1.5.2 Outer arm parts

Spare part list and illustration - IP30

	Spare part number	Description	Standard, IP30 <sup>i</sup>						Spare part level
			12/0.85_0.3	12/1.05_0.3	22/1.05_0.3	12/0.85_0.45	12/1.05_0.45	22/1.05_0.45	
A	3HAC087313-001	Outer arm cover	X	X	X	X	X	X	L1
B	3HAC087314-001	Outer arm bottom cover	X	X	X	X	X	X	L1
C	3HAC081705-001	Timing belt, A3	X	X	X	X	X	X	L2
D	3HAC081706-001	Timing belt, A4	X	X	X	X	X	X	L2

<sup>i</sup> The protection class of the ballscrew area is IP20. For more information, please contact ABB.



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# 1 Spare parts and exploded views

## 1.5.3 Ball screw

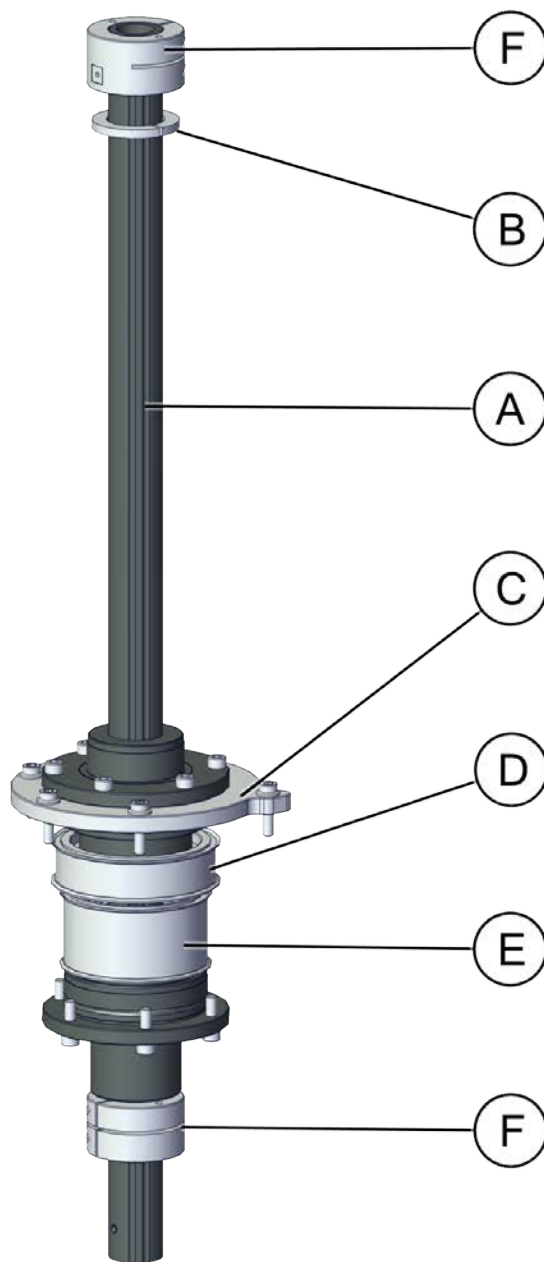
### 1.5.3 Ball screw

#### Spare part list and illustration - IP30

	Spare part number	Description	Standard, IP30 <sup>i</sup> , IP54 and Clean Room						Spare part level
			12/0.85_0.3	12/1.05_0.3	22/1.05_0.3	12/0.85_0.45	12/1.05_0.45	22/1.05_0.45	
A	3HAC081796-001	Ball screw	X	X	X				L2
	3HAC081797-001	Ball screw, long stroke				X	X	X	L2
B	3HAC081787-001	Rubber bumper	X	X	X	X	X	X	L2
C	3HAC081785-001	Ball screw flange	X	X	X	X	X	X	L2
D	3HAC081703-001	Pulley on the ball screw upper position	X	X	X	X	X	X	L2
E	3HAC081704-001	Pulley on the ball screw lower position	X	X	X	X	X	X	L2
F	3HAC081786-001	Mechanical stopper	X	X	X	X	X	X	L2

<sup>i</sup> The protection class of the ballscrew area is IP20. For more information, please contact ABB.

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# 1 Spare parts and exploded views

## 1.6.1 Axis-1 motor sub-assembly

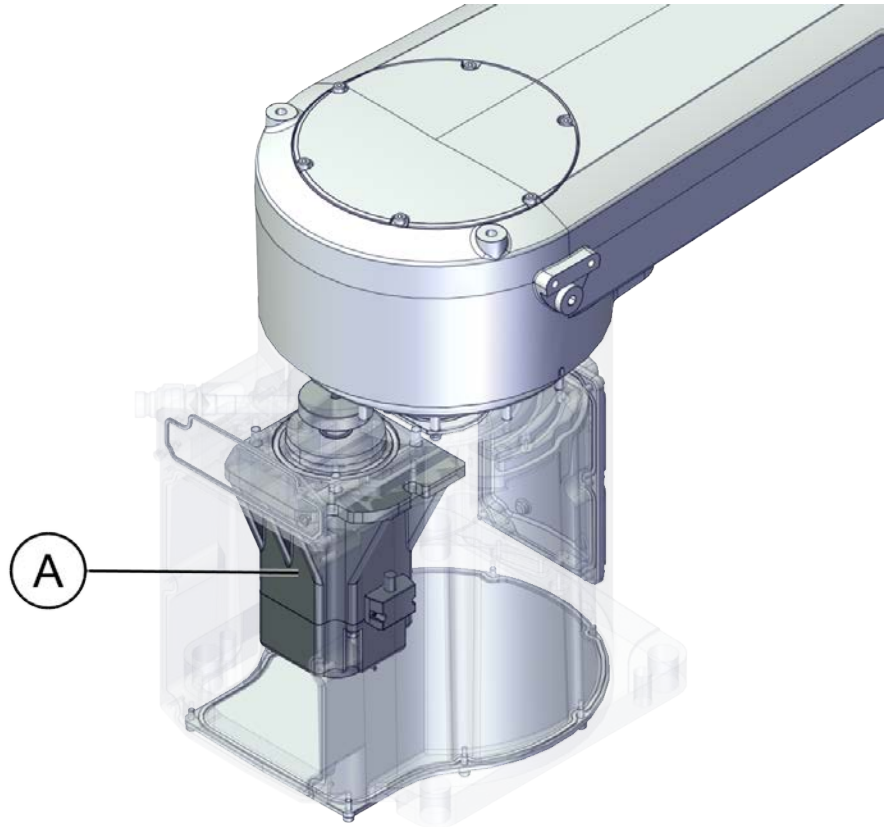
## 1.6 Spare parts - motors

### 1.6.1 Axis-1 motor sub-assembly

#### Spare part list and illustration - IP30

	Spare part number	Description	Standard, IP30 <sup>i</sup> , IP54 and Clean Room						Spare part level
			12/0.85_0.3	12/1.05_0.3	22/1.05_0.3	12/0.85_0.45	12/1.05_0.45	22/1.05_0.45	
A	3HAC087303-001	Axis-1 motor	X	X	X	X	X	X	L2
-	3HAC061327-037	O-ring	X	X	X	X	X	X	L2

<sup>i</sup> The protection class of the ballscrew area is IP20. For more information, please contact ABB.



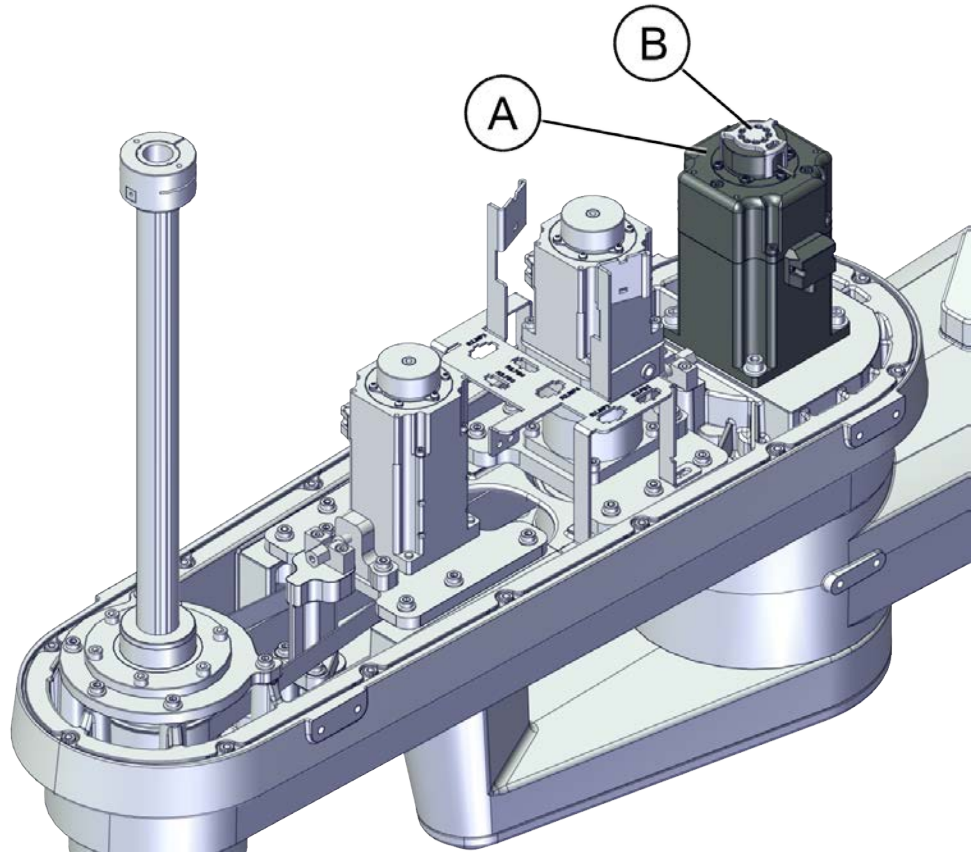
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### 1.6.2 Axis-2 motor sub-assembly

#### Spare part list and illustration - IP30

	Spare part number	Description	Standard, IP30 <sup>i</sup> , IP54 and Clean Room						Spare part level
			12/0.85_0.3	12/1.05_0.3	22/1.05_0.3	12/0.85_0.45	12/1.05_0.45	22/1.05_0.45	
A	3HAC087311-001	Axis-2 motor	X	X	X	X	X	X	L2
-	3HAC061327-037	O-ring	X	X	X	X	X	X	L2
B	3HAC060261-001	Resolver cover	X	X	X	X	X	X	L2

<sup>i</sup> The protection class of the ballscrew area is IP20. For more information, please contact ABB.



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# 1 Spare parts and exploded views

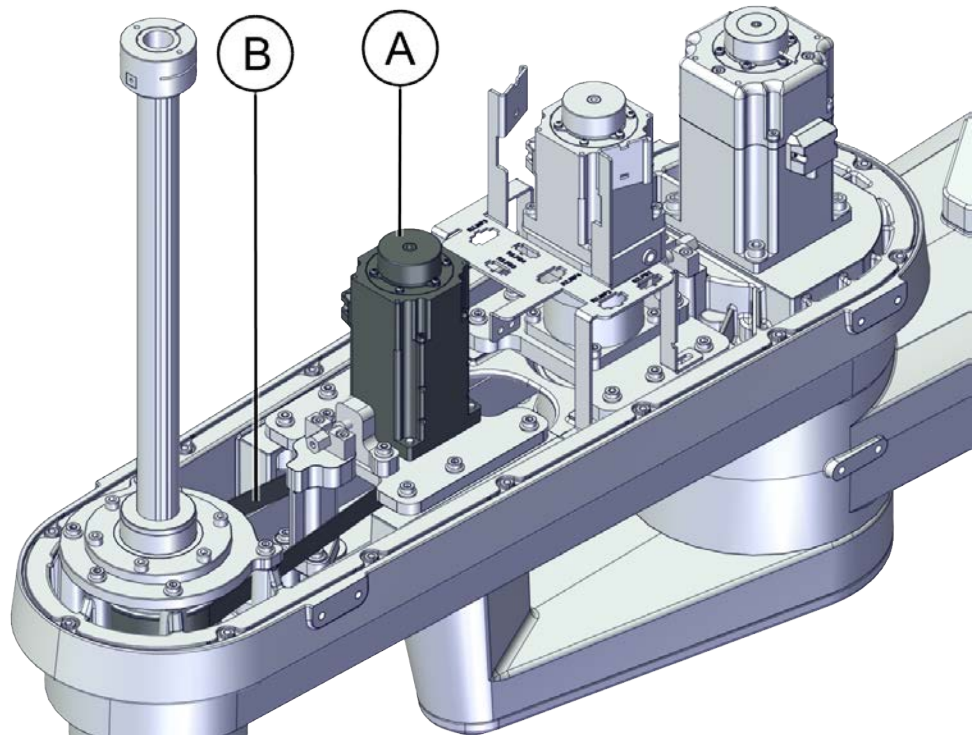
## 1.6.3 Axis-3 motor sub-assembly

### 1.6.3 Axis-3 motor sub-assembly

#### Spare part list and illustration - IP30

	Spare part number	Description	Standard, IP30 <sup>i</sup> , IP54 and Clean Room						Spare part level
			12/0.85_0.3	12/1.05_0.3	22/1.05_0.3	12/0.85_0.45	12/1.05_0.45	22/1.05_0.45	
A	3HAC087312-001	Axis-3 motor with pulley A3	X	X	X	X	X	X	L2
B	3HAC081705-001	Timing belt, A3	X	X	X	X	X	X	L2

<sup>i</sup> The protection class of the ballscrew area is IP20. For more information, please contact ABB.



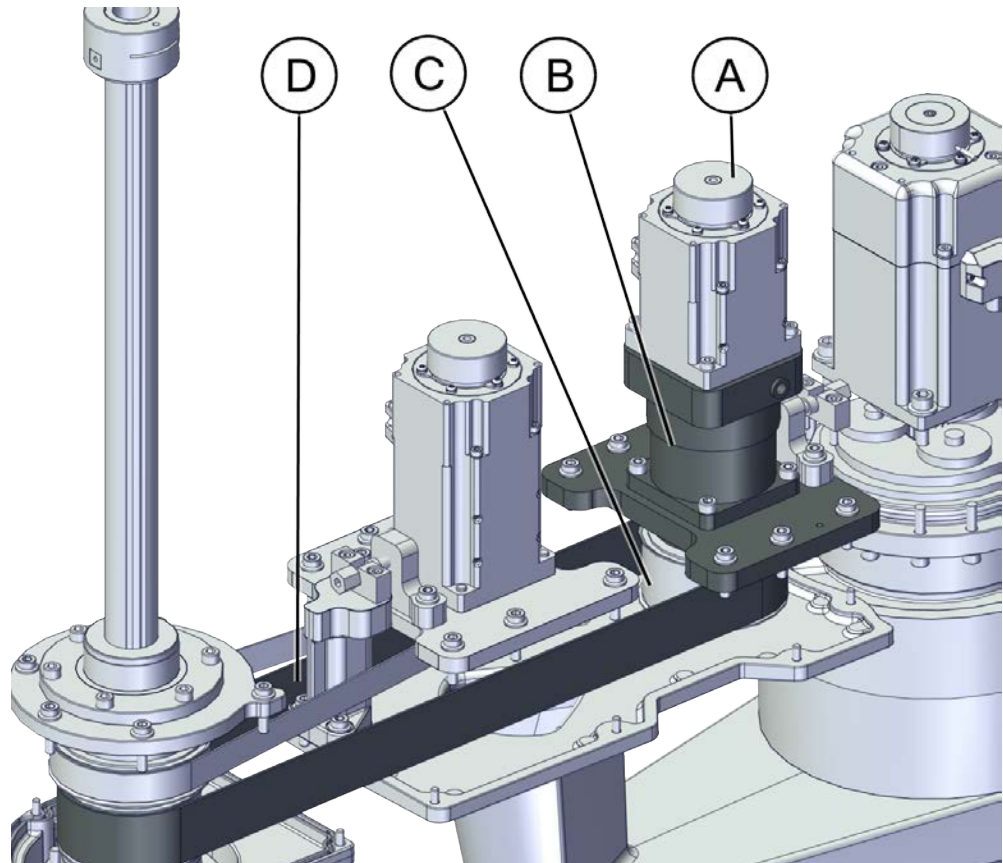
xx2300000459

### 1.6.4 Axis-4 motor sub-assembly

#### Spare part list and illustration - IP30

	Spare part number	Description	Standard, IP30 <sup>i</sup> , IP54 and Clean Room						Spare part level
			12/0.85_0.3	12/1.05_0.3	22/1.05_0.3	12/0.85_0.45	12/1.05_0.45	22/1.05_0.45	
A	3HAC060157-001	Axis-4 motor	X	X	X	X	X	X	L2
B	3HAC087319-001	Axis-4 gearhead with flange	X	X	X	X	X	X	L2
C	3HAC081702-001	Ax4 pulley Z1	X	X	X	X	X	X	L2
D	3HAC081706-001	Timing belt, A4	X	X	X	X	X	X	L2

<sup>i</sup> The protection class of the ballscrew area is IP20. For more information, please contact ABB.



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# 1 Spare parts and exploded views

## 1.7.1 Axis-1 gearbox

## 1.7 Spare parts - gearboxes

### 1.7.1 Axis-1 gearbox

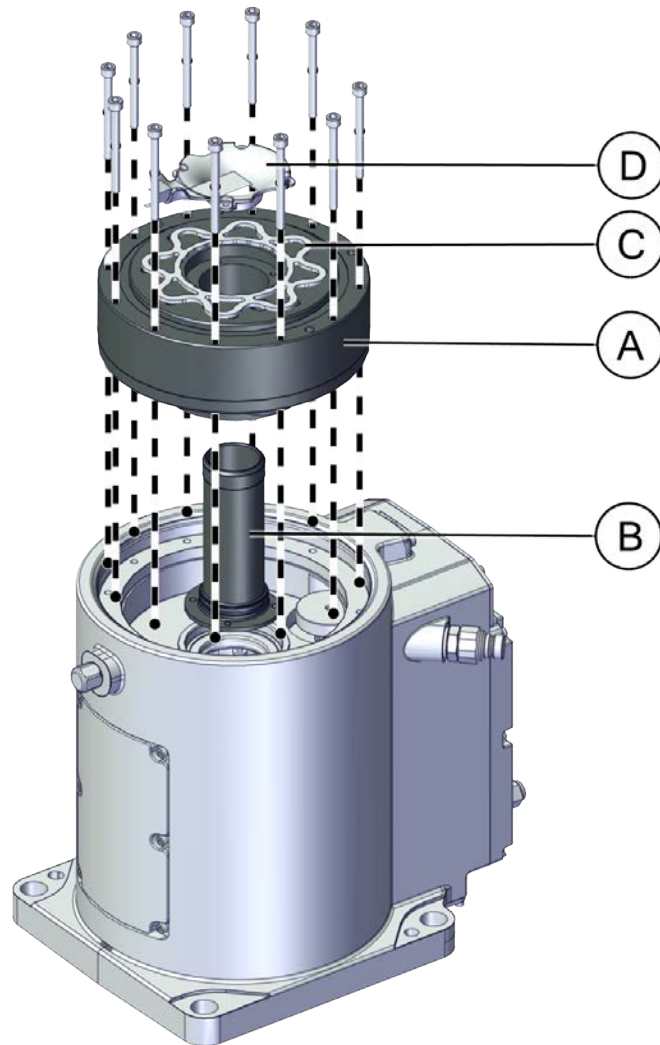
#### Spare part list and illustration - IP30

	Spare part number	Description	Standard, IP30 <sup>i</sup>						Spare part level
			12/0.85_0.3	12/1.05_0.3	22/1.05_0.3	12/0.85_0.45	12/1.05_0.45	22/1.05_0.45	
A	3HAC081648-001	Axis-1 gear unit sub-assembly	X	X	X	X	X	X	L2
-	3HAC081648-005	O-ring	X	X	X	X	X	X	L2
B	3HAC081648-004	Center pipe	X	X	X	X	X	X	L2
-	3HAB3772-143	Center pipe O-ring	X	X	X	X	X	X	L2
C	3HAC067626-001	BassSwing_Gasket	X	X	X	X	X	X	L2
D	3HAC081809-001	Protection tube	X	X	X	X	X	X	L2

<sup>i</sup> The protection class of the ballscrew area is IP20. For more information, please contact ABB.

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# 1 Spare parts and exploded views

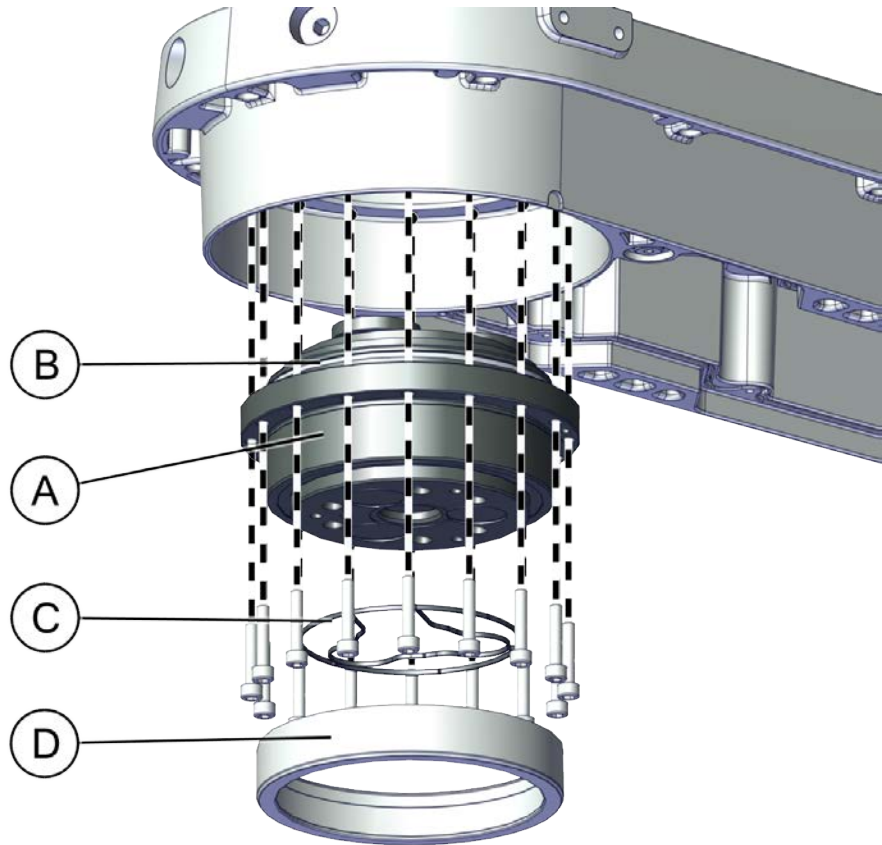
## 1.7.2 Axis-2 gearbox

### 1.7.2 Axis-2 gearbox

#### Spare part list and illustration - IP30

	Spare part number	Description	Standard, IP30 <sup>i</sup>						Spare part level
			12/0.85_0.3	12/1.05_0.3	22/1.05_0.3	12/0.85_0.45	12/1.05_0.45	22/1.05_0.45	
A	3HAC081649-001	Axis-2 gear unit sub-assembly	X	X	X	X	X	X	L2
B	3HAC081649-004	O-ring	X	X	X	X	X	X	L2
C	3HAC081816-001	Axis-2 gear gasket	X	X	X	X	X	X	L2
D	3HAC089333-001	A2 Ring	X	X	X	X	X	X	L2

<sup>i</sup> The protection class of the ballscrew area is IP20. For more information, please contact ABB.



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### 1.8 Spare parts - Accessories

#### 1.8.1 Screws and nuts

##### Spare part list and illustration - IP30

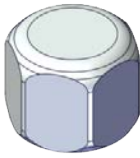



Spare part number	Description	Note	Spare part level
3HAB3412-416	Hex socket head cap flange screw	Used for axis-1 mechanical stop.	L2
3HAB3412-412	Hex socket head cap flange	Used for axis-2 mechanical stop.	L2
3HAB3412-520	Hex socket head cap flange	Used for axis-3/axis-4 motor flange and adjusting block/screw nut adaptor.	L2
3HAB3412-435	Hex socket head cap flange	Used for axis-4 pulley.	L2
3HAC065801-001	Washer	Used for inner arm and axis-2 gear.	L2
9ADA334-7	Spring washer, conical	Used for inner arm and axis-1 gear.	L2

# 1 Spare parts and exploded views

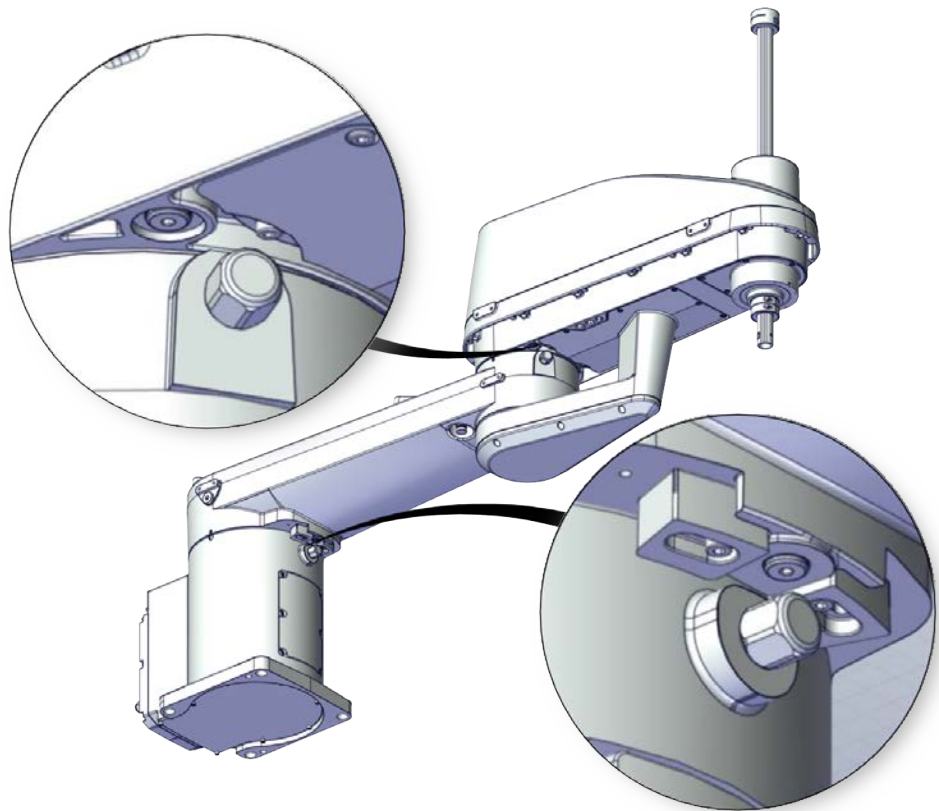
## 1.8.2 Axis Calibration items

### 1.8.2 Axis Calibration items

#### Spare part list and illustration - IP30

Spare part number	Description	Illustration	Spare part level
3HAC056253-002	Calibration pin cover	 xx190000090	L1
3HAC053237-002	Protective plug for bushing	 xx2300000582	L1
3HAC061327-011	O-ring	 xx190000091	L1
3HAB3772-193	O-ring	 xx190000091	L1

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# 1 Spare parts and exploded views

## 1.8.3 Special tools

### 1.8.3 Special tools

#### Spare part list


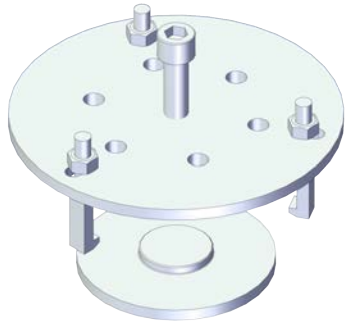
Spare part number	Description	Illustration
3HAC087847-001	IRB 930 auxiliary shaft	 xx2000001141
3HAC087848-001	A1 Sealing press tool	 xx2300001939
3HAC090313-001	A2 Sealing press tool	 xx2300001938

*Continues on next page*

# 1 Spare parts and exploded views

## 1.8.3 Special tools

*Continued*

Spare part number	Description	Illustration
3HAC090314-001	A2 Sealing ring assembling tool	 xx2300001936
3HAC090315-001	A2 Sealing ring disassembling tool	 xx2300001937

# 1 Spare parts and exploded views

## 1.9.1 Wear parts

## 1.9 Consumables and wear parts

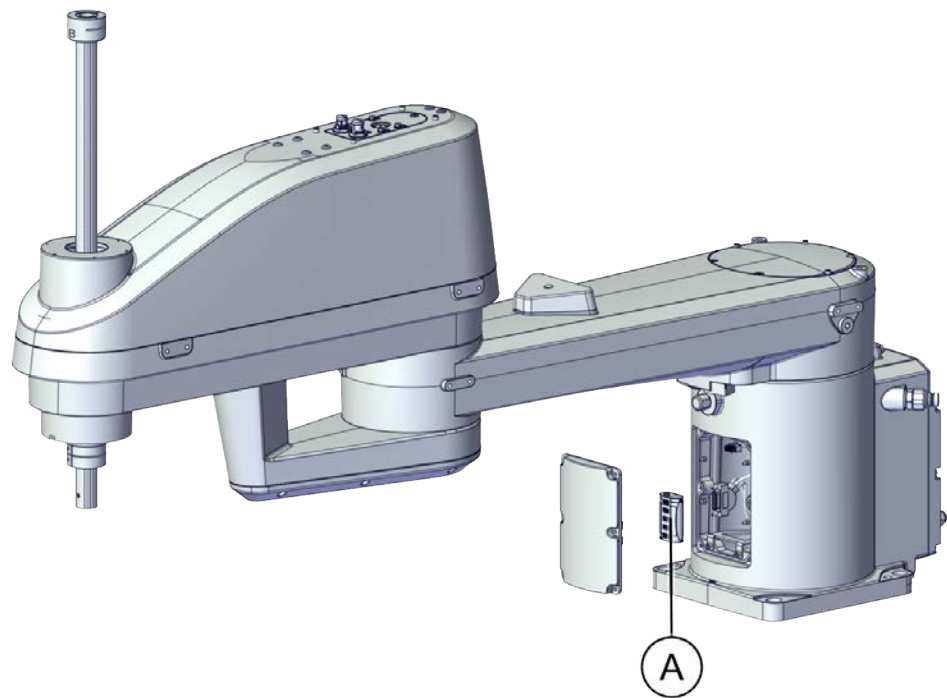
### 1.9.1 Wear parts

#### Wear part list

Expected component life for following wear parts are specified in *Product manual - Product.ProductName*.

	Description	Article part number	IP30	Spare part level
A	Battery unit Battery includes protection circuits. Only replace with a specified spare part or an ABB-approved equivalent.	3HAC044075-001	X	L2

#### Wear part illustration



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**ABB AB**

**Robotics & Discrete Automation**

S-721 68 VÄSTERÅS, Sweden

Telephone +46 10-732 50 00

**ABB AS**

**Robotics & Discrete Automation**

Nordlysvegen 7, N-4340 BRYNE, Norway

Box 265, N-4349 BRYNE, Norway

Telephone: +47 22 87 2000

**ABB Engineering (Shanghai) Ltd.**

Robotics & Discrete Automation

No. 4528 Kangxin Highway

PuDong New District

SHANGHAI 201319, China

Telephone: +86 21 6105 6666

**ABB Inc.**

**Robotics & Discrete Automation**

1250 Brown Road

Auburn Hills, MI 48326

USA

Telephone: +1 248 391 9000

**[abb.com/robotics](http://abb.com/robotics)**