

# Product manual, spare parts IRB 6620

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**Product manual, spare parts**

**IRB 6620 - 150/2.2**

**IRC5**

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**Revision: C**

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ABB AB  
Robotics Products  
Se-721 68 Västerås  
Sweden

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# Overview of this manual

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## About this manual

This manual contains spare parts for:

- IRB 6620 and all its variants.

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## Usage

This manual shall be used as a complement to the product manual for IRB 6620 during:

- maintenance work
- repair work.

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## Who should read this manual?

This manual is intended for:

- maintenance personnel
- repair personnel.

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## 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.

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## Organization of chapters

The manual is organized in the following chapters:

Chapter	Contents
1 Rebuilding robot	Information of rebuilding parts, required when rebuilding the robot to another version.
2 Spare parts and exploded view	Complete spare part list and complete list of robot components shown in exploded views.

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## References

Reference	Document ID
<i>Product manual - IRB 6620</i>	<i>3HAC027151-001</i>
<i>Circuit diagram - IRB 6620</i>	<i>3HAC025090-001</i>

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## Revisions

Revision	Description
-	First edition
A	This edition contains the following changes: <ul style="list-style-type: none"><li>• Spare part numbers for all motors are updated.</li><li>• Spare parts with color Graphite White are added to the spare part lists.</li><li>• Spare part number for Revolution indicator axis 4 changed.</li></ul>

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Revision	Description
B	This edition contains the following changes: <ul style="list-style-type: none"><li>• Retrofit sets Foundry for wrist and upper arm added.</li><li>• Generally modified due to update of BOL.</li><li>• Updated spare parts due to new standard calibration method (Axis Calibration).</li></ul>
C	Published in release R16.2. The following updates are done in this revision: <ul style="list-style-type: none"><li>• Corrections due to updates in SAP terminology.</li><li>• Updated spare parts due to sealing upgrade in the motors:<ul style="list-style-type: none"><li>- Motors</li><li>- Axis 3-4</li><li>- Wrist</li><li>- Axis 6 complete</li></ul></li></ul>



# Product documentation, IRC5

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## Categories for user documentation from ABB Robotics

The user documentation from ABB Robotics is divided into a number of categories. This listing is based on the type of information in the documents, regardless of whether the products are standard or optional.

All documents listed can be ordered from ABB on a DVD. The documents listed are valid for IRC5 robot systems.

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## Product manuals

Manipulators, controllers, DressPack/SpotPack, and most other hardware is delivered with a **Product manual** that generally contains:

- Safety information.
- Installation and commissioning (descriptions of mechanical installation or electrical connections).
- Maintenance (descriptions of all required preventive maintenance procedures including intervals and expected life time of parts).
- Repair (descriptions of all recommended repair procedures including spare parts).
- Calibration.
- Decommissioning.
- Reference information (safety standards, unit conversions, screw joints, lists of tools).
- Spare parts list with exploded views (or references to separate spare parts lists).
- Circuit diagrams (or references to circuit diagrams).

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## Technical reference manuals

The technical reference manuals describe reference information for robotics products.

- *Technical reference manual - Lubrication in gearboxes*: Description of types and volumes of lubrication for the manipulator gearboxes.
- *Technical reference manual - RAPID overview*: An overview of the RAPID programming language.
- *Technical reference manual - RAPID Instructions, Functions and Data types*: Description and syntax for all RAPID instructions, functions, and data types.
- *Technical reference manual - RAPID kernel*: A formal description of the RAPID programming language.
- *Technical reference manual - System parameters*: Description of system parameters and configuration workflows.

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### Application manuals

Specific applications (for example software or hardware options) are described in **Application manuals**. An application manual can describe one or several applications.

An application manual generally contains information about:

- The purpose of the application (what it does and when it is useful).
- What is included (for example cables, I/O boards, RAPID instructions, system parameters, DVD with PC software).
- How to install included or required hardware.
- How to use the application.
- Examples of how to use the application.

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### Operating manuals

The operating manuals describe hands-on handling of the products. The manuals are aimed at those having first-hand operational contact with the product, that is production cell operators, programmers, and trouble shooters.

The group of manuals includes (among others):

- *Operating manual - Emergency safety information*
- *Operating manual - General safety information*
- *Operating manual - Getting started, IRC5 and RobotStudio*
- *Operating manual - IRC5 Integrator's guide*
- *Operating manual - IRC5 with FlexPendant*
- *Operating manual - RobotStudio*
- *Operating manual - Trouble shooting IRC5*

# **1 Spare parts**

## **1.1 Introduction**

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**Definitions**

This chapter specifies all spare parts and replacement articles of the robot.

## 1 Spare parts

### 1.2 Spare parts - cable harness

### 1.2 Spare parts - cable harness

#### Part list IRB6620

Description	Item	Qty.	Spare part number
Material set, Cable harness			
Manipulator harness axes 1-6	501	1	3HAC025054-001
Gasket	-		3HAC033489-001
Foundry Plus, Cable guard (option 908-1)	-	1	3HAC035933-001
Connection plate	502	1	3HAC025079-001
Frame bracket, conn.plate	503	2	3HAC025080-001
Top cover, conn.box	504	1	3HAC025081-001
Screw	505	33	9ADA618-56
Screw	506	2	9ADA618-57
Screw	507	2	9ADA618-59
Screw	508	12	9ADA629-56
Adapter unit	509	1	3HAC11774-3
Cover	510	1	3HAC13416-1
Cable guide	511	1	3HAC024286-001
SMB/BU box	513	1	3HAC024063-001
Push button guard	514	1	3HAC6499-1
Cover, push button guard	515	1	3HAC4813-1
Screw	516	10	9ADA618-44
DSQC 563 Brake release board	517	1	3HAC16035-1
Serial measurement unit	518	1	3HAC046277-001 Contains serial measurement board 3HAC044168-001 and battery unit 3HAC044075-001 (3-pole battery contact).
Serial measurement board, RMU 101	518	1	3HAC044168-001
SMB replacement set	-	1	3HAC046686-001
Nut	519	4	9ADA290-1
Battery pack (2-pole battery contact)	521	1	3HAC16831-1 Lithium Does not fit 3HAC044168-001.
Battery unit (3-pole battery contact)	521	1	3HAC044075-001 Lithium RMU Can only be used with SMB board 3HAC044168-001.
Strap, Velcro	522	1	3HAC12625-1

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## 1 Spare parts

### 1.2 Spare parts - cable harness

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Description	Item	Qty.	Spare part number
Screw	523	4	9ADA120-405
Cable, FB7-SMB 1.7	525	1	3HAC15619-1
Protection screw	526	1	3HAC14024-1
Washer	527	1	3HAC17423-1
Nut	528	1	9ADA269-4
Clip lock	531	1	5217520-11
Cover plate	532	2	3HAC12129-1
Screw M6x16	533	8	9ADA618-56

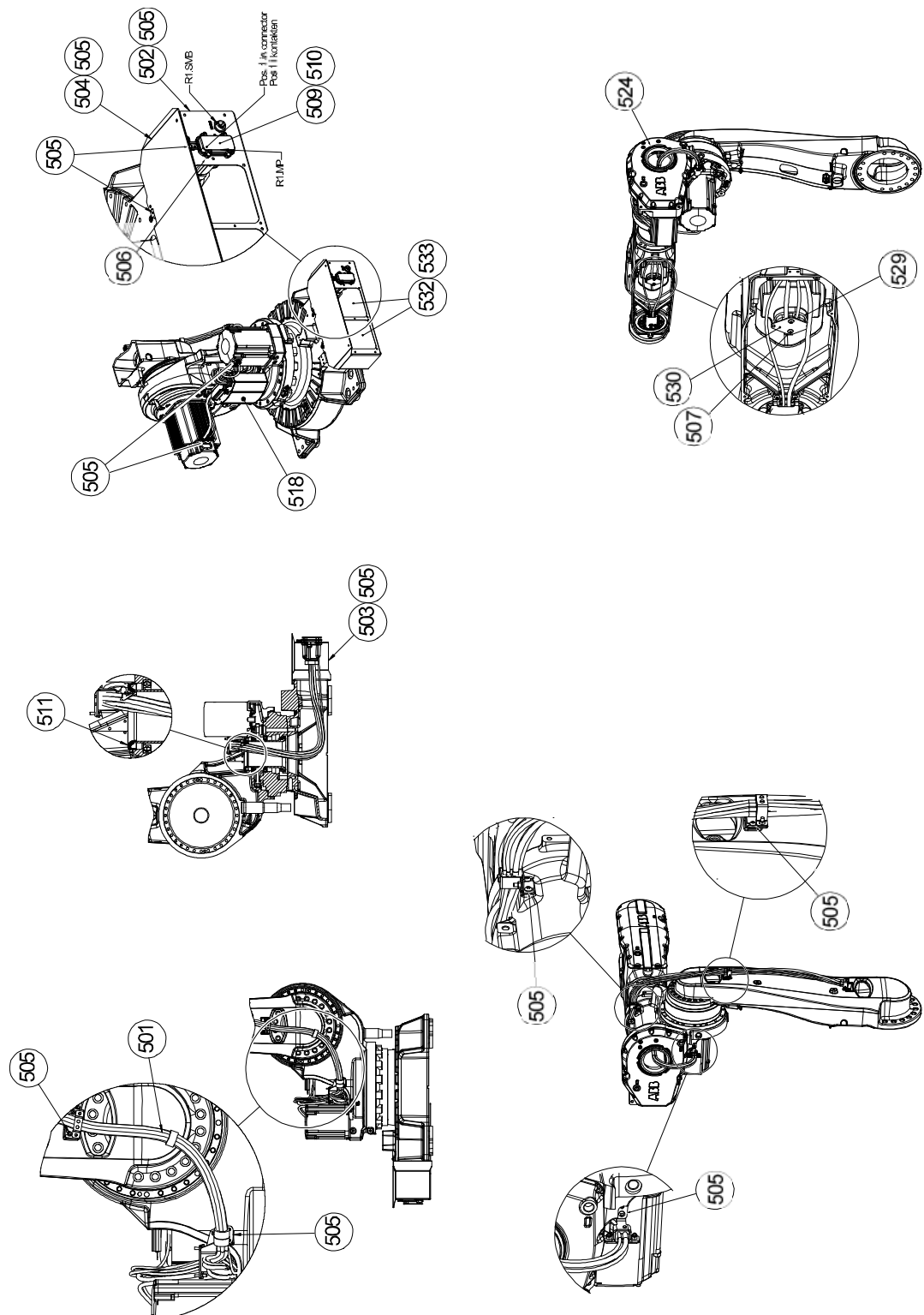
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# 1 Spare parts

## 1.2 Spare parts - cable harness

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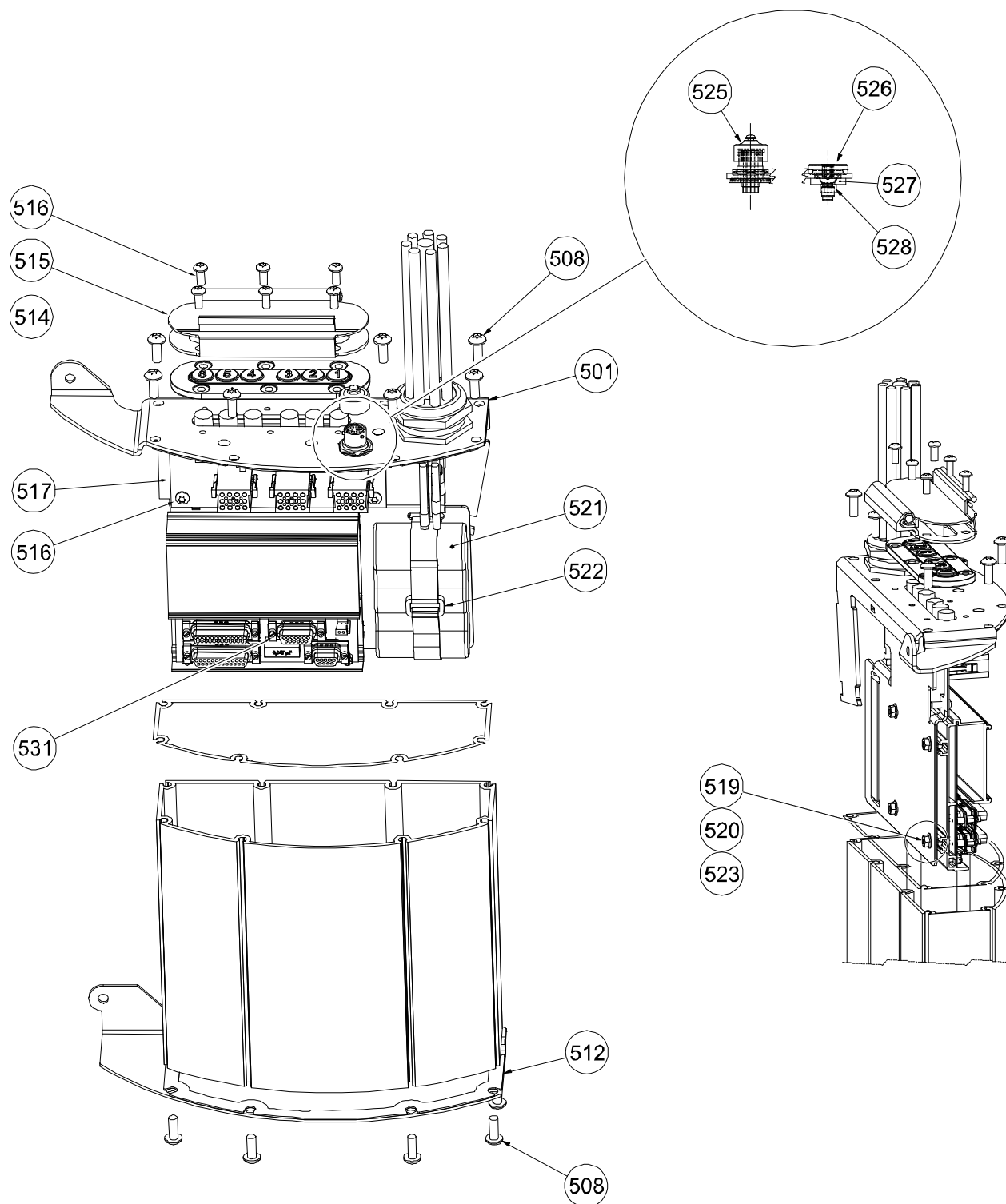
Illustration upper and lower arm IRB6620/6620LX, Base IRB6620.



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Illustration, SMB box IRB6620/6620LX



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# 1 Spare parts

## 1.3 Spare parts - frame and base

### 1.3 Spare parts - frame and base

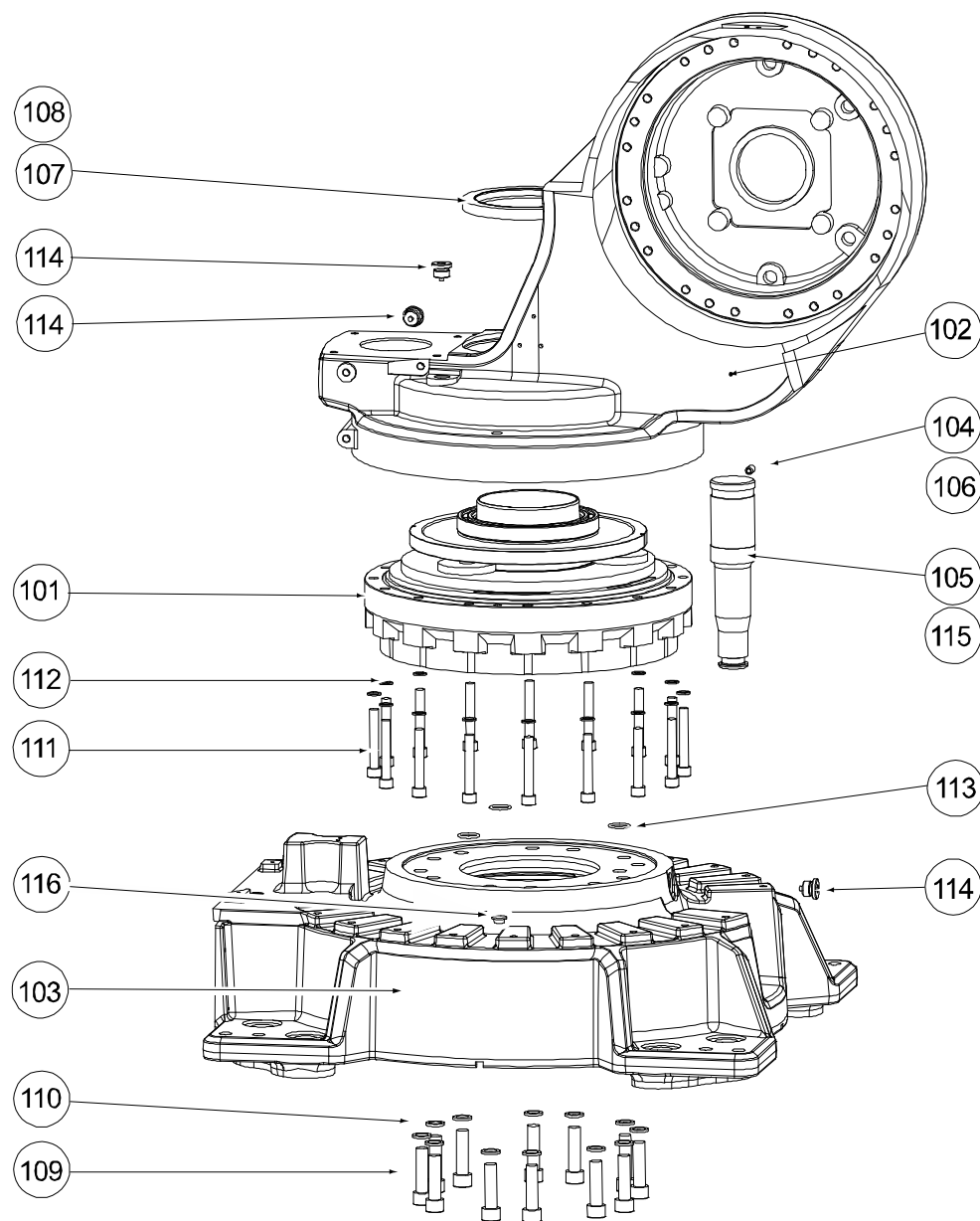
#### Parts list

Description	Item	Qty.	Part number	Color
Gearbox RV 320C-191,35	101	1	3HAC026114-004	Grey
			3HAC026114-005	ABB Orange
			3HAC026114-006	White
			3HAC026114-007	Graphite White
Frame	102	1	3HAC026178-005	Graphite White
			3HAC026178-006	ABB Orange
Base	103	1	3HAC026771-008	Graphite White
			3HAC026771-009	ABB Orange
Screw	104	1	9ADA205-75	
Stop pin	105	1	3HAC024014-001	
Loctite 243	106	2 ml	3HAC7181-1	
Oil seal	107	1	3HAC11581-4	
Bearing grease	108	10	3HAC042536-001	
Screw	109	12	3HAB3409-86	
Washer	110	12	3HAA1001-186	
Screw	111	16	3HAB3409-74	
Serrated lock washer	112	16	3HAC026169-001	
O-ring	113	3	3HAB3772-97	
Magnetic plug	114	3	3HAC16721-1	
Bearing grease	115	10	3HAC042536-001	
Protection plug	116	2	3HAC4836-1	

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### Illustration



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## 1 Spare parts

### 1.4 Spare parts - wrist

### 1.4 Spare parts - wrist

#### Parts list

Description	Item	Qty.	Spare part number	Color
Wrist	300	1	3HAC058725-002	ABB Orange
		1	3HAC058725-001	Graphite White
Wrist insulated	300	1	3HAC024540-012	ABB Orange
		1	3HAC024540-013	Graphite White
Rotational AC motor incl. Pinion	1.301	1	3HAC057979-003	ABB Orange
			3HAC057979-004	Graphite White
Gear unit Z2-3/5	1.302	1	3HAC024746-003	
Middle gear unit Z4-5/5	1.303	1	3HAC024715-003	
Gear wheel unit Z6/5	1.304	1	3HAC024719-003	
Support shaft inc. Bearing	1.306	1	3HAC026318-001	
Screw	1.310	4	9ADA183-37	
Plain washer	1.311	4	9ADA312-7	
Screw	1.314	3	9ADA624-56	
Screw	1.314	5	9ADA624-56	
Screw	1.316	6	9ADA183-39	
Screw	1.317	6	3HAB7700-65	
Washer	1.318	6	3HAA1001-632	
Sealing	1.319	1	3HAC024865-001	
Cover right, with gasket	1.320	1	3HAC024841-003	ABB Orange
			3HAC024841-004	Graphite White
Screw	1.321	20	9ADA618-56	
Magnetic plug	1.322	2	3HAC16721-1	
Lubrication oil	1.323	-	For oil type and amount, see <i>Technical reference manual - Lubrication in gearboxes.</i>	
Cover left	1.324	1	3HAC024672-004	ABB Orange
			3HAC024672-005	Graphite White
Damper axis 5	1.325	1	3HAC024541-001	
Screw	1.326	2	9ADA618-56	
VK-cover	1.327	1	3HAA2166-23	
Screw	1.329	6	3HAB3409-86	

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# 1 Spare parts

## 1.4 Spare parts - wrist

*Continued*

Description	Item	Qty.	Spare part number	Color
Axis 6 complete	305	1	3HAC058726-001	ABB Orange
		1	3HAC058726-002	Graphite White
Turning disk	305.1	1	3HAC055334-002	
RV 40E-81	305.2	1	3HAC037835-001	
Rotational AC motor incl. Pinion	305.4	1	3HAC057980-003	ABB Orange
			3HAC057980-004	Graphite White
Gasket (protection Standard)	-	1	3HAC048560-001	
Gasket (protection Foundry Plus)	-	1	3HAC033489-001	
Washer	305.7	8	3HAA1001-172	
Magnetic plug	305.8	2	2522122-1	
Lubricating oil	305.9	-	For oil type and amount, see <i>Technical reference manual - Lubrication in gearboxes.</i>	
Screw	305.15	8	3HAB7700-55	
RV 40E-81	350.1.2	1	3HAC10828-10	
Magnetic plug	350.1.13	2	3HAC037925-001	
Lubricating oil Kyodo Yushi TMO 150	350.5	-	For oil type and amount, see <i>Technical reference manual - Lubrication in gearboxes.</i>	
Sync plate	350.7	1	3HAC025565-001	
Screw M4x8	350.8	2	9ADA618-32	
Cover	350.9	1	3HAC14263-1	

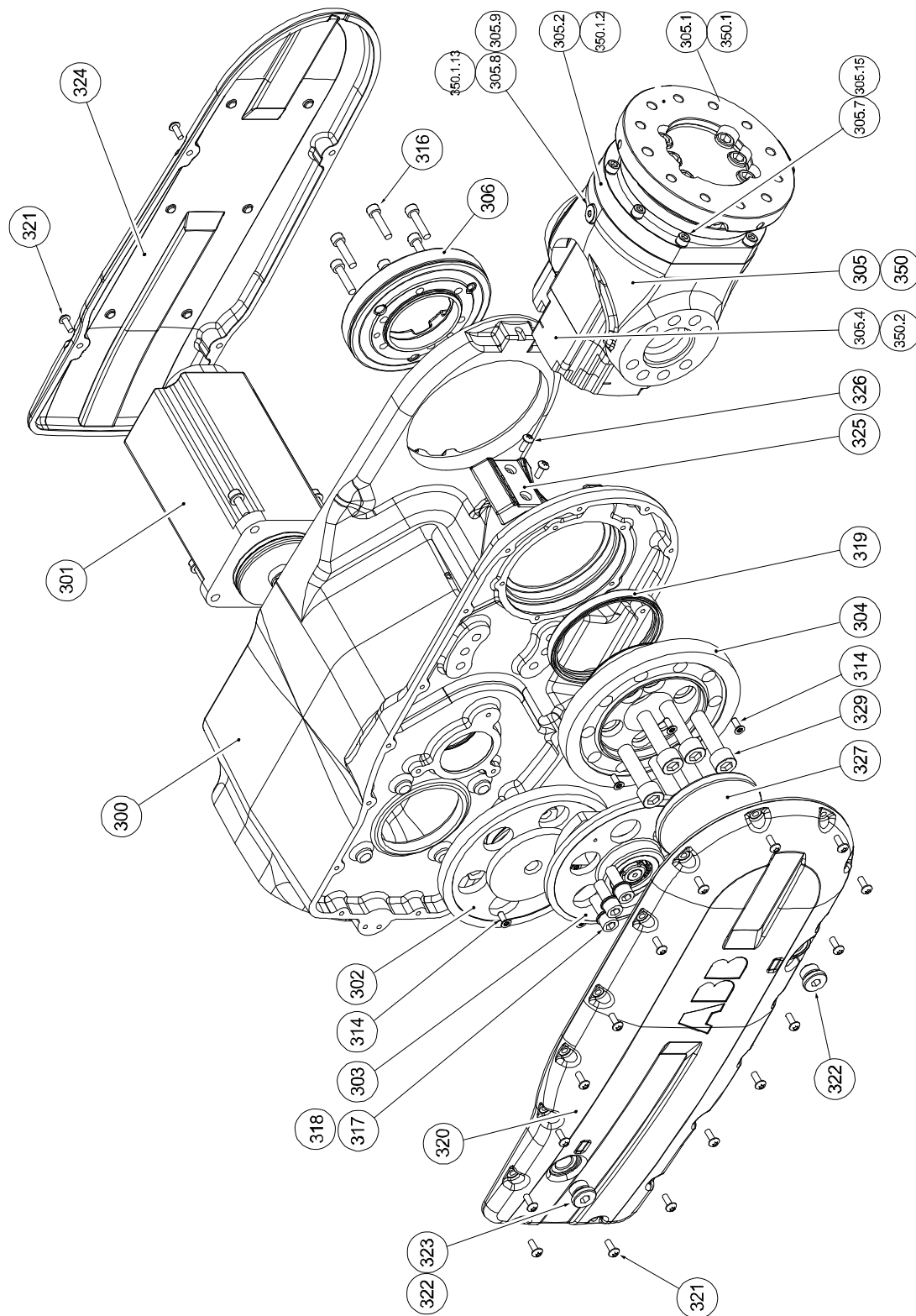
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# 1 Spare parts

## 1.4 Spare parts - wrist

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### Illustration



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### Retrofit set foundry, wrist



#### Note

It is not possible to order separate parts of the retrofit set. Only the complete retrofit set, can be ordered.

Equipment	Art. no.	Note
Retrofit set foundry, wrist	3HAC052364-001	Assembly instructions included
<i>The set contains:</i>		
Gasket	-	
Washer (8 pcs)	-	
Gasket dowel	-	
Gasket	-	
Cover holder	-	
Cover	-	
Torx pan head screw M6x12 (2 pcs)	-	
Torx pan head screw M6x16 (4 pcs)	-	
Locking liquid	-	Loctite 243
Sealant	-	Loctite 577
Assembly instructions, Foundry sealings	-	

## 1 Spare parts

### 1.5 Spare parts - upper arm

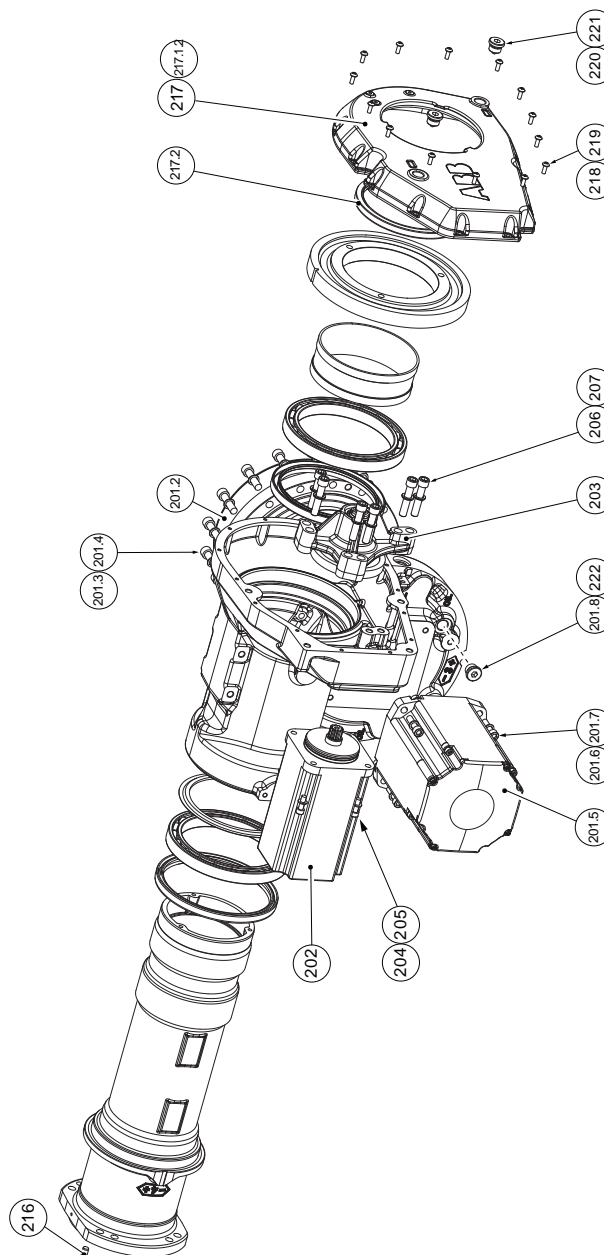
### 1.5 Spare parts - upper arm

#### Parts list

Description	Item	Qty.	Spare part number	Color
Axis 3-4	200	1	3HAC058724-002	ABB Orange
			3HAC058724-001	Graphite White
Reduction gear RV-320E i=201	201.2	1	3HAC025007-004	ABB Orange
			3HAC025007-005	Graphite White
Screw	201.3	16	3HAB3409-69	
Washer	201.4	16	3HAA1001-134	
Rot AC motor incl. Pinion	201.5	1	3HAC057981-003	ABB Orange
			3HAC057981-004	Graphite White
Screw	201.6	4	3HAB3409-50	
Washer	201.7	4	3HAB4233-1	
Magnetic plug	201.8	3	3HAC16721-1	
Rot AC motor incl. Pinion	202	1	3HAC057979-003	ABB Orange
			3HAC057979-004	Graphite White
Wheel unit axis 4	203	1	3HAC024563-003	
Screw	204	4	9ADA183-37	
Plain washer	205	4	9ADA312-7	
Screw	206	6	3HAB3409-71	
Washer	207	6	3HAA1001-632	
Parallel pin	216	1	9ABA107-56	
Cover axis 4 with sealing	217	1	3HAC025196-002	
Gasket	217.1.2	1	3HAC025154-001	
Sealing	217.2	1	3HAA1001-628	
Screw	218	14	9ADA618-56	
Loctite 243	219	14 ml	3HAC7181-1	
Magnetic plug	220	2	3HAC16721-1	
Lubrcating oil	221	-	For oil type and amount, see <i>Technical reference manual - Lubrication in gearboxes.</i>	
Lubricating oil (Kyodo Yushi TMO 150)	222	-	For oil type and amount, see <i>Technical reference manual - Lubrication in gearboxes.</i>	

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### Illustration



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### Retrofit set foundry, upper arm axis 4



#### Note

It is not possible to order separate parts of the retrofit set. Only the complete retrofit set, can be ordered.

Equipment	Art. no.	Note
Retrofit set foundry, upper arm axis 4	3HAC052366-001	Assembly instructions included

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## 1 Spare parts

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### 1.5 Spare parts - upper arm

*Continued*

Equipment	Art. no.	Note
<i>The set contains:</i>		
Gasket	-	
Adapter ring	-	
Gasket	-	
Cover	-	
Cover insert	-	
Metal strap (2 pcs)	-	
Cable protection leather	-	
Weatherstrip	-	
Torx pan head screw M5x6 (2 pcs)	-	
Torx pan head screw M6x16 (3 pcs)	-	
Torx pan head screw M6x30	-	
Torx pan head screw M6x16 (2 pcs)	-	
Locking liquid	-	Loctite 243
Flange sealant	-	Loctite 574
Assembly instructions, Foundry sealings	-	



## 1.6 Spare parts - complete robot

## Parts list

Description	Item	Qty.	Spare part number	Color
Revolution indicator ax. 4	6	1	3HAC026087-004	
Rotational AC motor incl. pinion, axis 2	11	1	3HAC057977-003	ABB Orange
			3HAC057977-004	Graphite White
Rotational AC motor incl. pinion, axis 1	12	1	3HAC057545-005	ABB Orange
			3HAC057545-004	Graphite White
Screw	13	8	3HAB3409-50	
Washer	14		3HAB4233-1	
Reduction gear RV-550E i=242,73	15	1	3HAC024316-004	Grey
			3HAC024316-005	ABB Orange
			3HAC024316-006	White
			3HAC024316-008	Graphite White
O-ring	15.2	1	3HAB3772-91	
Screw	16	24	3HAB3409-71	
Washer	17	24	3HAA1001-134	
Lubricating oil	18	6100	3HAC043226-001	
Lubricating oil	19	4100	3HAC043226-001	
Magnetic plug	20	4	3HAC16721-1	
Screw	21	4	9ADA618-56	
Screw	22	20	3HAB3409-69	
Washer	23	20	3HAA1001-134	
Damper ax.3	24	4	3HAC12320-1	
Spring washer, conical	26	4	9ADA334-7	
Screw	27	16	3HAB3409-84	
Washer	28	16	3HAA1001-186	
Sync plate	31	2	3HAC024859-001	
Washer	32	8	3HAA1001-134	
Screw	33	8	3HAB3409-69	
Lower arm	34	1	3HAC023618-009	ABB Orange
			3HAC023618-008	Graphite White
Label Calibration Pendulum	-	1	3HAC055559-001	
Label Axis Calibration	-	1	3HAC055558-001	

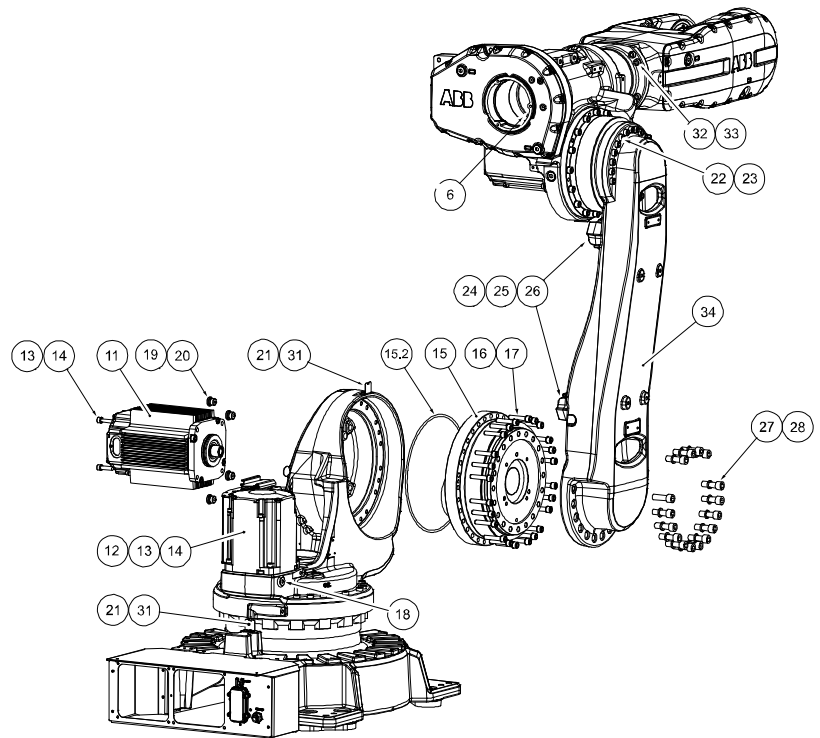
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# 1 Spare parts

## 1.6 Spare parts - complete robot

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### Illustration



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# Contact us

## **ABB AB**

**Discrete Automation and Motion  
Robotics**

S-721 68 VÄSTERÅS, Sweden  
Telephone +46 (0) 21 344 400

## **ABB AS, Robotics**

**Discrete Automation and Motion**  
Nordlysvegen 7, N-4340 BRYNE, Norway  
Box 265, N-4349 BRYNE, Norway  
Telephone: +47 51489000

## **ABB Engineering (Shanghai) Ltd.**

No. 4528 Kangxin Highway  
PuDong District  
SHANGHAI 201319, China  
Telephone: +86 21 6105 6666

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