



Plug & Work Portfolio for Doosan Robotics

2020-02-09 | Product Sales Training

2021-02-08 | Plug & Work Portfolio Doosan

Superior Clamping and Gripping



Agenda

1. Cobot Manufacturer Focus 2021 and Doosan Robotics
2. Introduction into the Plug & Work Portfolio for Doosan Robotics
3. Target market and applications
4. Prices, distribution sales model, discounts
5. Comparison of competitors
6. Scope of delivery and accessories
7. Availability
8. Service and commissioning
9. Next steps

1. Cobot Manufacturer Focus 2021 and Doosan Robotics

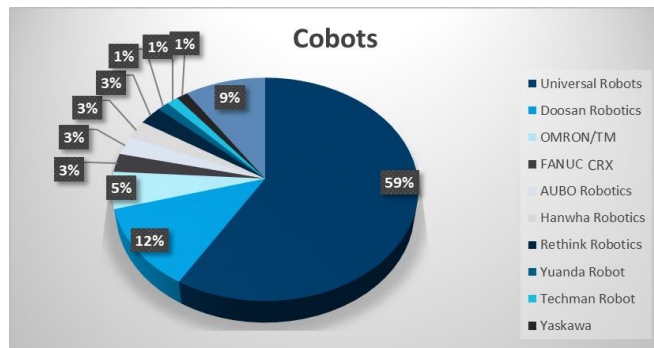
Cobot Manufacturer Focus 2021

Cobot-OEM	Models	SCHUNK Strategy
Universal Robots	UR3, UR5, UR10, UR16 (eSeries)  UNIVERSAL ROBOTS 	For each major cobot brand work towards: Introduce standard portfolio consisting of Plug & Work and standard product bundles. Software applications for easy implementation of products. Adopt sales and marketing activities fitting to the present and future sales channels.
FANUC	CRX-10iA, CRX 10iA/L  	
Techman Robot	TM5-700, TM5-900, TM5X-700, TM5X-900, TM12, TM12X, TM14, TM14X  	
OMRON TM	TM5-700, TM5-900, TM5X-700, TM5X-900, TM12, TM12X, TM14, TM14X  	
Doosan Robotics	M0609, M0617, M1013, M1509, A0509, A0509s, A0912, A0912s, H2017, H2515  	
ABB Robotics	Madeira (CRB15000), Milan (CRB1100)  	

Doosan Robotics



- Manufacturer of Collaborative Robots (Cobots)
- Headquarter in South Korea
- Beside UR one of the top Cobot brands
- In total three cobot series with different sizes available:
A-Series (A0509, A0509s, A0912, A0912s), **H-Series** (H2017, H2515),
M-Series (M0609, M0617, M1013, M1509)
- Features: A-Serie = Speed, H-Serie = Heavy Duty, M-Serie = Forcecontrol
- No direct sales, only via partner network
 - Doosan is also a manufacturer of machine tools
 - Doosan cobots are often used together with machine tools
 - Partners are often selling machine tools and cobots, sometimes also as complete solutions



Source: Evaluation of Skadi NOSCO Channel „Applications“



2. Introduction into the Plug & Work Portfolio for Doosan Robotics

Plug & Work Portfolio

Platform for our Cobot Program

- Solutions for specific robot types and applications
- Smart gripping solutions with Co-act EGP-C and EGH as door-opener
- Using our industrial grippers and gripping solutions for real applications with the proven SCHUNK grippers (Bsp. PGN-plus-P)
- Good overview for the customer into the different product type areas (Pneumatic Gripping, Electric Gripping, Collaborative Gripping, Changing)
- Focus in 2021 on the top 6 cobot manufacturers
- Global Sales model with focus on distribution. But also for end customers and Integrators



Product message

Adapt and start!

Plug & Work is currently focusing on Cobots!

- ✓ They offer the interfaces to adapt components „Plug & Work“
- ✓ They offer the possibility to develop and install software modules/plugins
- ✓ Applications can be implemented without much effort

Product message – Adapt and start!

- ✓ Our product supports the customer in the realization of applications through a low integration effort
- ✓ All interfaces are considered (mechanical, electrical, software)
- ✓ Examples are our EGL 90 or EGH 80



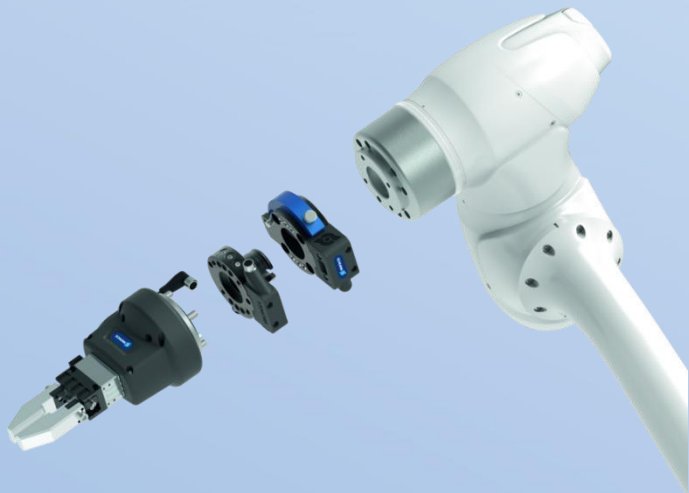
Modular System

Plug & Work Portfolio Doosan Robotics

The Plug & Work portfolio consists of electrically and pneumatically actuated grippers, as well as quick-change modules that are specifically adapted to robot arms from Doosan Robotics.

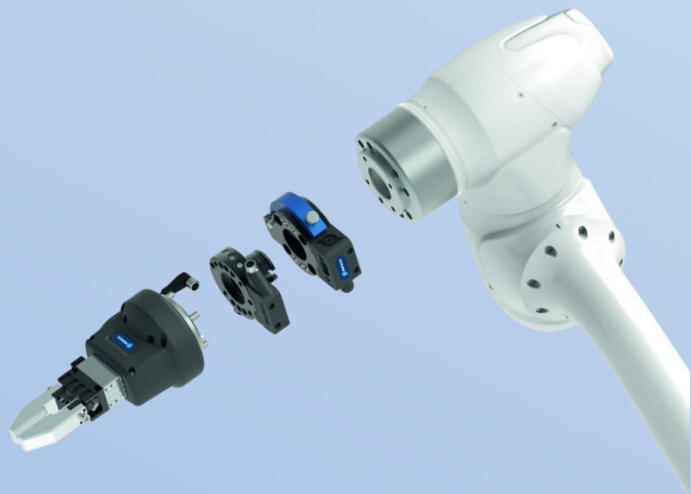
The most comprehensive product portfolio for all Doosan Robotics models on the market.

10 products are directly attachable



Modular. Flexible. Easy.

Plug & Work Portfolio Doosan Robotics



- + Adapted interface for cobots from Doosan Robotics
- + For collaborative operation or conventional automation
- + Change system for applications with high requirements as to flexibility
- + Different SCHUNK grippers for a variety of applications
- + Different components can be combined with each other

Principle of function

Plug & Work Portfolio Doosan Robotics



Functional description

All Plug & Work components are ready for use for mechanical and electrical direct connection to all sizes of Doosan robots. Depending on the requirements, various grippers and end-of-arm components can be selected. The pneumatic gripping units are additionally equipped with micro valves, meaning no external valves are required.

- ① Co-act Gripper
- ② Electric gripper
- ③ Pneumatic grippers
- ④ Change systems

Advantages – Your benefits

Plug & Work Portfolio Doosan Robotics

- **Comprehensive portfolio consisting of various components and grippers for different applications** for fast and easy entry into automation
- **Pre-assembled gripping unit with robot interface** therefore no mounting kits or external valves required
- **Plug & Work** with the interfaces suitable for all robots from Doosan Robotics
- **Certified SCHUNK Co-act grippers** For quick and easy entry into the world of collaborative applications
- **The gripping force of the electric gripper can be adjusted in four stages** for flexible workpiece handling
- **Pneumatic grippers** For a high power density and simple integration
- **Installation modules for robot control are included in the scope of delivery** for fast and easy commissioning

Technical data

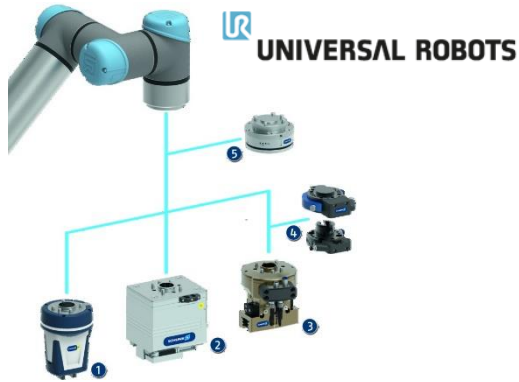
Plug & Work Portfolio Doosan Robotics

Technical data overview

Description	Stroke per jaw	Max. gripping force	Weight	Recommended workpiece weight
	[mm]	[N]	[kg]	[kg]
Co-act EGP-C 40-N-N-M1013	6	140	0.6	0.7
EOA-DRM-EGP 40	6	140	0.8	0.7
EOA-DRM-KGG 100-80	40	175	1.28	0.9
EOA-DRM-PSH 22-1	28	320	1.73	1.6
EOA-DRM-JGP 80-1	8	415	1.33	2.1
EOA-DRM-JGP 100-1	10	660	1.72	3.3
EOA-DRM-PGN-plus-P 80-1	8	550	1.38	2.75
EOA-DRM-PGN-plus-P 100-1	10	870	1.84	4.35
EOA-DRM-PZN-plus 64-1	6	580	1.22	2.9
EOA-DRM-SHK-050-E08-000			0.35	11
EOA-DRM-SHA-050-E08-000			0.14	11

Plug & Work Portfolio for Doosan Robotics

Comparison of the current portfolio



- ✓ 20 Components
- ✓ 5 Categories
- ✓ UR+ Showroom
- ✓ Plugins for all actuators
- ✓ Dealer package



- ✓ 13 Components
- ✓ 4 Categories
- ✓ TM flow component plugin
- ✓ TM Plug & Play Showroom
- ✓ Dealer package
- ✗ Specific OMRON/TM Portfolio



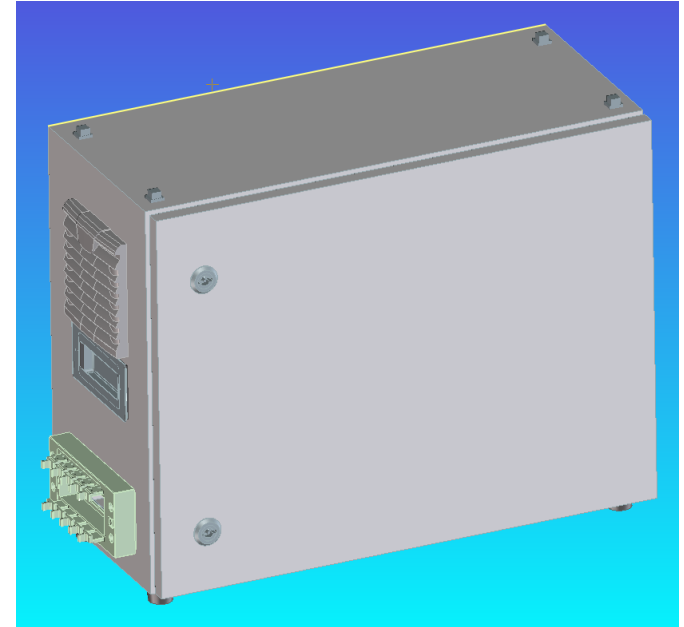
- ✓ 11 Components
- ✓ 4 Categories
- ✓ Doosan Work Cell Item (WCI) plugin
- ✓ Doosan Mate Showroom
- ✓ Dealer package

Plug & Work Portfolio for Doosan Robotics

Technical differences to our UR portfolio

What is the technical difference to our UR portfolio?

- Digital outputs and inputs on the cobot are switching PNP type only
- Instead of a M8 plug (male) at the tool IO, Doosan is using a M8 plug (female)
- Electrical cabinet similar to UR is available



3. Zielmarkt und Applikationen

Plug & Work Portfolio for Doosan Robotics

Zielmarkt und Applikationen

- **Focus on flexible manufacturing automation with Cobots**
- **Markets:** Widely applicable in a variety of sectors (machine tools, electronics industry, intralogistics, automotive)
- **Applications:** General production automation (Pick & Place), Machine loading and unloading, Assembly tasks
- **User focus:** Automation beginners, HRC starters, integrators, endcustomers (DYI-automation)



[Link YouTube](#)

3. Prices, distribution sales model, discounts

Plug & Work Portfolio for Doosan Robotics

Prices and discounts

ID	Description	Description	List price in €
Changing			
1399576	EOA-DRM-SHK-050-E08-000	Manual tool changer (robot side)	920,00 €
1399581	EOA-DRM-SHA-050-E08-000	Manual tool changer (tool side)	550,00 €
Pneumactical Gripping			
1399591	EOA-DRM-PSH22-1	Long stroke gripper pneumatic	1.830,00 €
1399592	EOA-DRM-KGG100-80	Small parts gripper pneumatic	1.690,00 €
1399593	EOA-DRM-PZN-plus64-1	Universal gripper pneumatic	1.700,00 €
1399611	EOA-DRM-PGN-plus-P100-1	Universal gripper pneumatic	1.740,00 €
1399612	EOA-DRM-PGN-plus-P80-1	Universal gripper pneumatic	1.660,00 €
1399613	EOA-DRM-JGP100-1	Universal gripper pneumatic	1.580,00 €
1399614	EOA-DRM-JGP80-1	Universal gripper pneumatic	1.520,00 €
Collaborative Gripping			
1359018	Co-act EGP-C 40-N-N-M1013	Collaborative small parts gripper	1.750,00 €
Electrical Gripping			
1399631	EOA-UR3510-EGP40	Small parts gripper electric	1.300,00 €
Accessories			
1399630*	EOA-DRM-AKO-EGP40	Adapterplate	170,00 €
1401823*	KV BG08 SW08 8P 0,3m	Cable extension	30,00 €

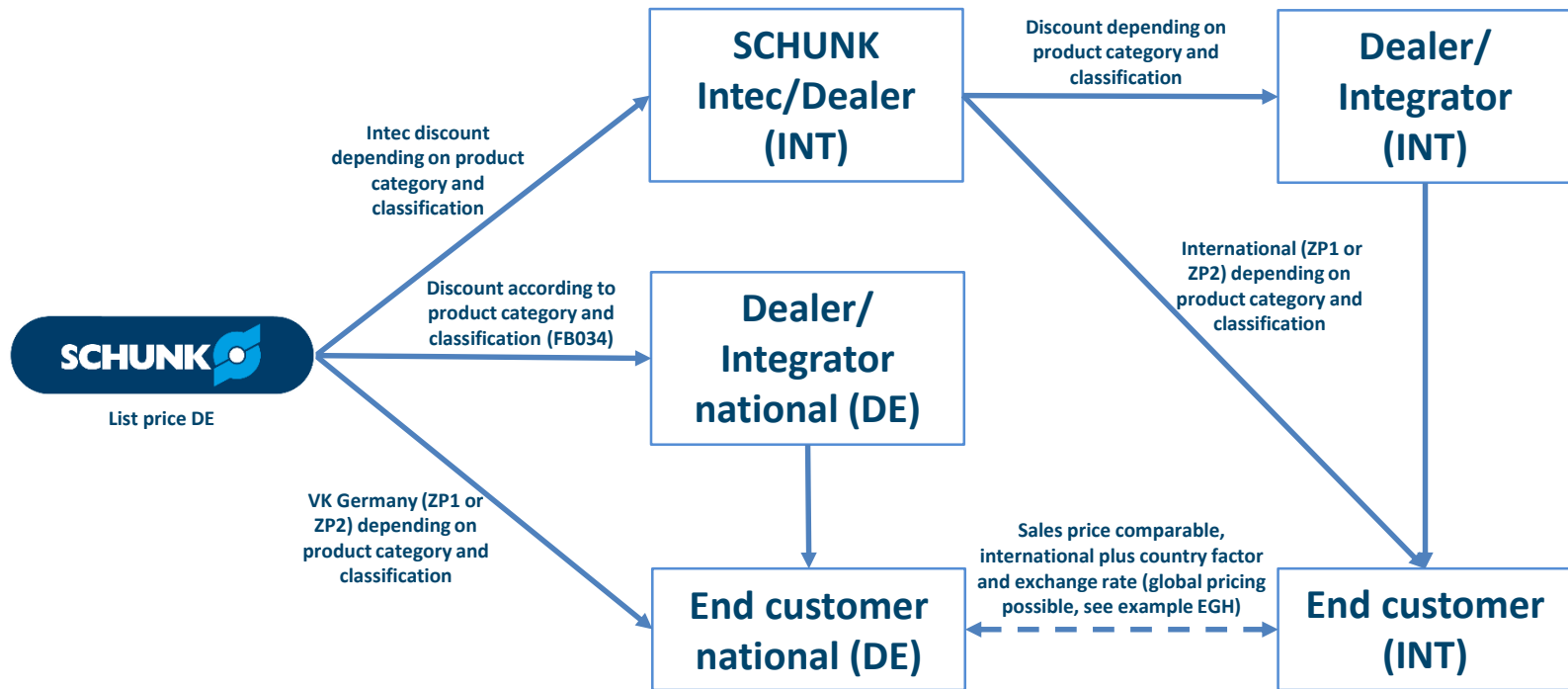


- 1 Collaborative Gripping**
- 2 Electrical Gripping**
- 3 Pneumactical Gripping**
- 4 Changing**

*Not printed in the catalog as they are already included in the scope of delivery of the grippers. Serves only for information and for ordering as a spare part if required.

Global Sales Strategy

Sales Channels



Global Sales Strategie

General conditions

- Sales structure based on the robot manufacturers (e.g. Universal Robots, Techman Robot)
- Focus on dealers (equipped with significantly higher discounts)
- Defined discount range with minimum discount and maximum discount depending on product category
- High market penetration through the existing SCHUNK sales network
- Continued direct sales to integrators and end customers
- Clear Discount structure for all participants
- Discount surcharge for joint marketing activities possible (+4%)

Global Sales Strategie

Discount structure

Discount Plug & Work Portfolio in Categories in %

	Pneumatic Gripping	Collaborative Gripping	EGH	Electric Gripping	Changing	Sensing
HQ to Intec (discount, fix) Comment 2	44	36	50	28	35	30
SCHUNK HQ /Intec to Dealer (discount range from min-max) Comment 3	18(+4) bis 36(+4)	16(+4) bis 28(+4)	Exakt 36(+4)	10(+4) bis 20(+4)	10(+4) bis 24(+4)	12 bis 18
SCHUNK HQ / Intec to Integrator (discount range from min-max) Comment 3 and 4	21(+4) bis 36(+4)	10(+4) bis 28(+4)	8(+4) bis 20(+4)	10(+4) bis 20(+4)	10(+4) bis 24(+4)	12 bis 18
SCHUNK HQ / Intec to Customer (discount range from min-max) Comment 3 and 5	0 bis 18	0 bis 12	0 bis 10	0 bis 10	0 bis 10	0 bis 5

Globale Vertriebsstrategie

Discount structure

1. Existing agreements are excluded from these regulations and will not be modified.
2. Based on the german list price.
3. Based on the local list price.
4. In many countries the integrators have to buy their robots directly from dealers. If the regionally responsible dealer refuses to cooperate with us (or if there is no regional dealer), then the dealer discounts can be provided to the responsible integrator.
5. If both, the regional dealer and the integrator refuse to cooperate with us, then in this case the integrators upper range of discounts can be offered to the end customers directly.

6. Comparison of competitors

Category	SCHUNK			ZIMMER			OnRobot		
	Universal Robots	Techman Robot	Doosan Robotics	Universal Robots	Techman Robot	Doosan Robotics	Universal Robots	Techman Robot	Doosan Robotics
Electric Gripping	EGP40*, EGL90*, EGH80*	EGP40*, EGH80*	EGP40*	GEP2000*, GEH6000*, GEP5000*, GED5000*		GEP2000, GEH6000, GEP5000, GED5000	RG2*, RG6*, RG2FT*, 3FG15*, 2FG7*	RG2*, RG6*, RG2FT*, 3FG15*, 2FG7*	RG2*, RG6*, RG2FT*, 3FG15*, 2FG7*
Pneumatic Gripping	KGG*, PGN+P*, PZN+*, JGP*, PSH*	KGG*, PGN+P*, PZN+*, JGP*, PSH*	KGG*, PGN+P*, PZN+*, JGP*, PSH*	GH6000*, GPP5000*, GPD5000*		GH6000, GPP5000, GPD5000			
Collaborative Gripping	Co-act EGP-C 25-64*	Co-act EGP-C 40*, 64*	Co-act EGP-C 40*	HRC-01*, HRC- 03*, HRC-04*, HRC-05*	HRC-03 TM -kit	HRC-03			
Changing	SHS 50	SHS 50	SHS 50*	HWR2050, WWR50		HWR2050	Quick Changer*, Dual Quick Changer*	Quick Changer*, Dual Quick Changer*	Quick Changer*, Dual Quick Changer*
Sensing	FT-AXIA 80*						HEX FT-Sensor*	HEX FT-Sensor*	HEX FT-Sensor*
Other products				Energiekette, Drehverteiler, Kollisionsschutz, Achsausgleich, Adapterplatten, Winkelflansch			Gecko*, Screwdriver*, Vacuum (VG10 u. VGC10, VGP20)*, Soft Gripper*, Eyes*, Sander*	Gecko*, Screwdriver*, Vacuum (VG10 u. VGC10, VGP20)*, Soft Gripper*, Eyes*, Sander*	Gecko*, Screwdriver*, Vacuum (VG10 u. VGC10, VGP20)*, Soft Gripper*, Eyes*, Sander*
Showroom	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

*Robot software by manufacturer available

Category	Robotiq			Weiss Robotics			PHD		
	Universal Robots	Techman Robot	Doosan Robotics	Universal Robots	Techman Robot	Doosan Robotics	Universal Robots	Techman Robot	Doosan Robotics
Electric Gripping	Hand-E*, 2F-85*, 2F-140*, 3F*	Hand-E*, 2F-85*, 2F-140*	Hand-E*, 2F-85*, 2F-140*, 3F*	GRIPKIT CR EASY*, GRIPKIT-E SERIES*	GRIPKIT CR EASY*	GRIPKIT CR EASY*			
Pneumatic Gripping				GRIPKIT-P SERIES*			GRH*, GRT*, GRA*, GRV*, GRL*		
Collaborative Gripping				CRG 30-050*, CRG 200-085*					
Changing									
Sensing	FT300*	FT300*							
Other products	Camera*, AIRPICK*, EPICK*, Software*, Machine Tending Kit*, Sanding Kit*, Tool Finishing Kit*	Camera*, AIRPICK*, EPICK*		Fingerkit	Fingerkit	Fingerkit	Single Gripper Box*, Double Gripper Adapter with Control Box*		
Showroom	Yes	Yes	Yes	Yes	No	No	Yes	No	No

*Robot software by manufacturer available

6. Lieferumfang und Zubehör

Plug & Work Portfolio

Scope of delivery and accessories

The scope of delivery of the components essentially includes following elements:

- Component (gripper, changing system, ...)
- accessory pack (adapter plates, screws, dowel pin)
- Operating manual (software manual is not part of the scope of delivery, can be downloaded online)
- USB stick with software module (except SHS components)

The accessories of the standard grippers are not included in the catalog chapter. However, it can be used if required, provided that it is still compatible. Examples:

- Compatible: dust covers, finger blanks, BSWS, UZB
- Not compatible: analog sensors, MMS-P, ...



7. Availibility

Plug & Work Portfolio for Doosan Robotics

Availability

ID	Description	Description	List price GER in €	Availability (checked on 04.02.2021)
Changing				
1399576	EOA-DRM-SHK-050-E08-000	Manual tool changer (robot side)	920,00 €	9
1399581	EOA-DRM-SHA-050-E08-000	Manual tool changer (tool side)	550,00 €	18
Pneumatic Gripping				
1399591	EOA-DRM-PSH22-1	Long stroke gripper pneumatic	1.830,00 €	9
1399592	EOA-DRM-KGG100-80	Small parts gripper pneumatic	1.690,00 €	8
1399593	EOA-DRM-PZN-plus64-1	Universal gripper pneumatic	1.700,00 €	8
1399611	EOA-DRM-PGN-plus-P100-1	Universal gripper pneumatic	1.740,00 €	10
1399612	EOA-DRM-PGN-plus-P80-1	Universal gripper pneumatic	1.660,00 €	7
1399613	EOA-DRM-JGP100-1	Universal gripper pneumatic	1.580,00 €	6
1399614	EOA-DRM-JGP80-1	Universal gripper pneumatic	1.520,00 €	8
Collaborative Gripping				
1359018	Co-act EGP-C 40-N-N-M1013	Collaborative small parts gripper	1.750,00 €	8
Electric Gripping				
1399631	EOA-UR3510-EGP40	Small parts gripper electric	1.300,00 €	9
Accessories				
1399630*	EOA-DRM-AKO-EGP40	Adapterplate	170,00 €	0
1401823*	KV BG08 SW08 8P 0,3m	Cable extension	30,00 €	90

8. Service und Inbetriebnahme

Plug & Work Portfolio für Doosan Robotics

Commissioning

Commissioning depends on the selected components in each case. The main steps are always the following:

1. Mechanical connection (according to the operating manual)
2. Electrical connection (according to the operating manual)
3. Installation of the Work Cell Item (WCI) and commissioning (according to the software manual)

Plug & Work Portfolio for Doosan Robotics Commissioning

1. Mechanical connection (similar to Universal Robots)



[Link YouTube](#)



[Link YouTube](#)

Plug & Work Portfolio for Doosan Robotics

Commissioning

1. Installation of the Work Cell Item (WCI) and commissioning (according to the software manual)



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9. Next steps

Next steps

Sales release on 16th of February 2021 (done)

- ✓ Basic scope available (catalogs, manuals, 3D-data, cadenas configurator, ..)

Communication launch on 4th of March 2021

- ✓ Visibility on our website/webshop with slider
- ✓ Visibility in the Doosan Mate showroom
- ✓ Gripping Systems news content on our website
- ✓ Product mailing (later, after communication launch)
- ✓ Postings in social media
- ✓ Dealer package with marketing content
- ✓ Commissioning video (shortly after the communication launch)

Superior Clamping and Gripping



Jens Lehmann, German goalkeeper legend,
SCHUNK brand ambassador since 2012
for safe, precise gripping and holding.
[schunk.com/lehmann](https://www.schunk.com/lehmann)