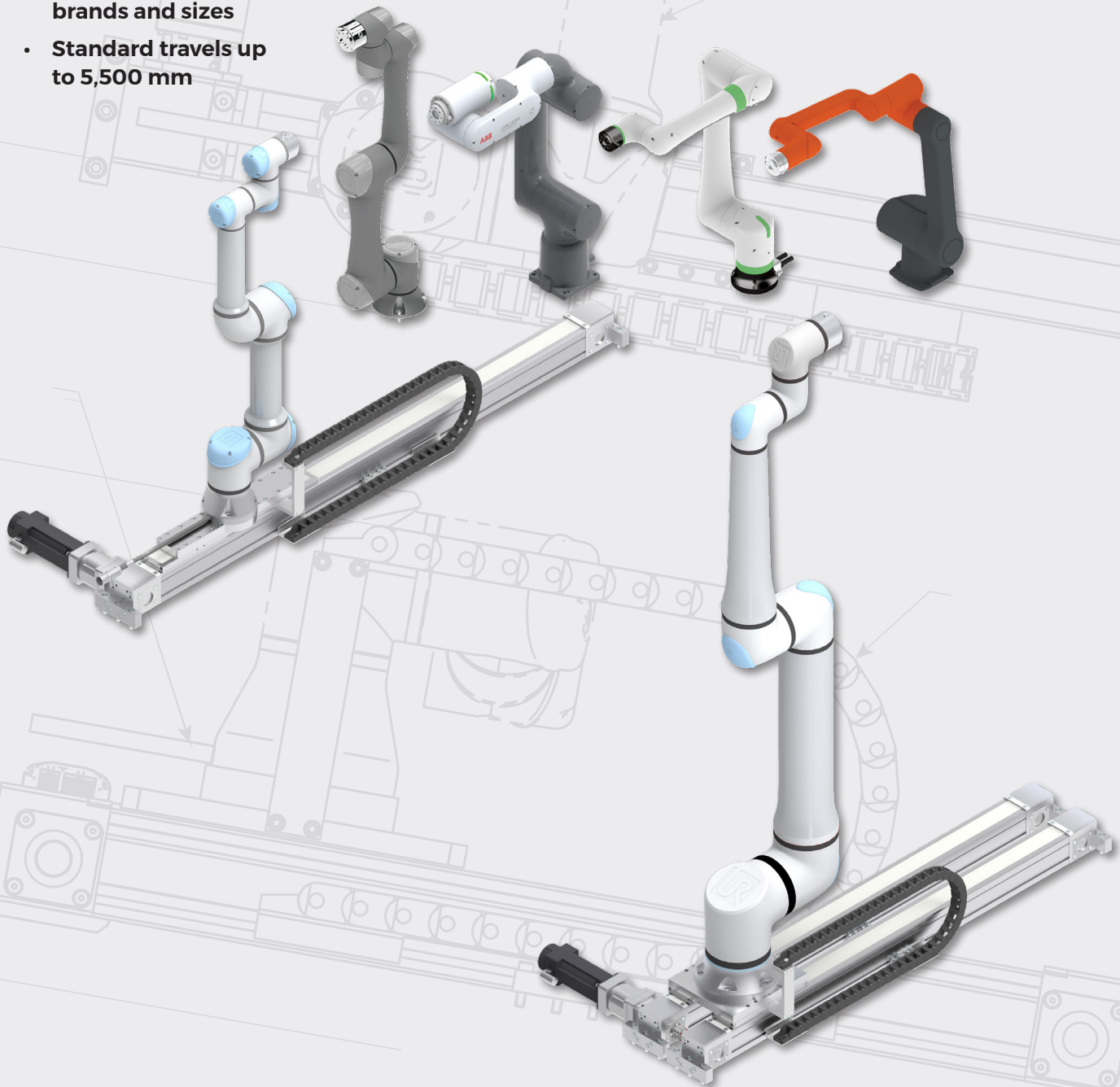


# 7TH AXIS SOLUTIONS

## Robot Transfer Units for Cobots

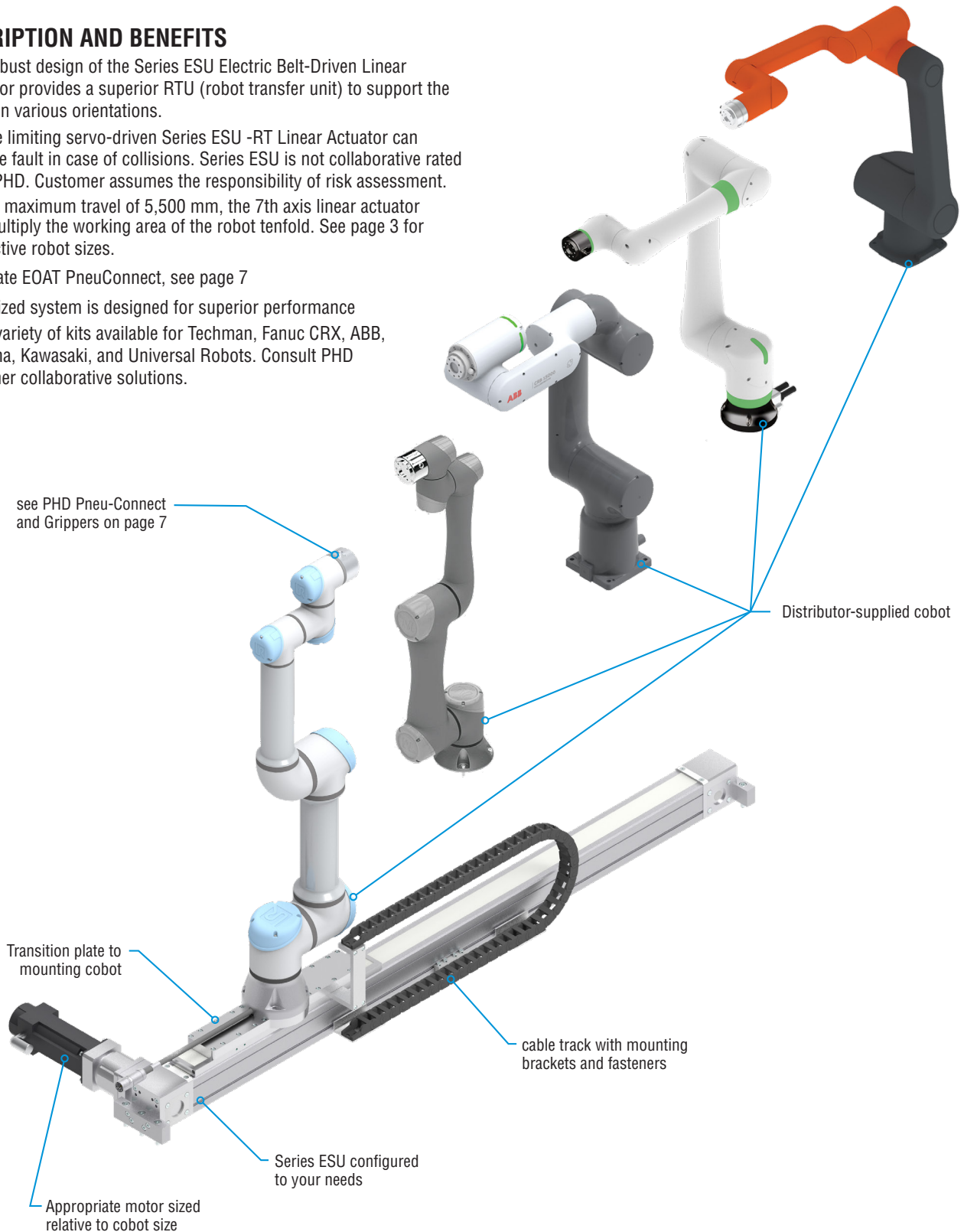
- Increases work area of robot productivity
- Solutions for wide range of cobot brands and sizes
- Standard travels up to 5,500 mm



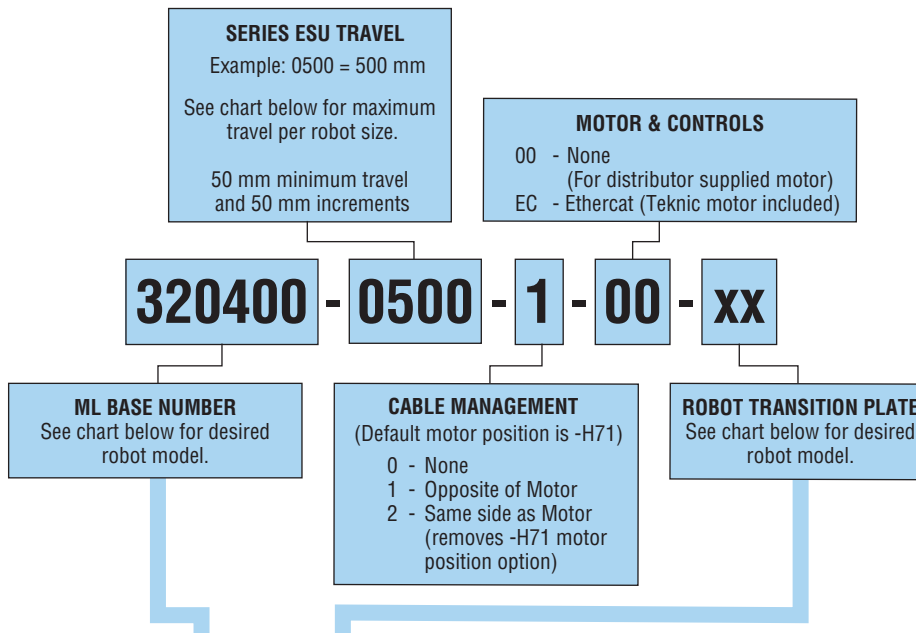
## Robot Transfer Units for Cobots

### DESCRIPTION AND BENEFITS

- The robust design of the Series ESU Electric Belt-Driven Linear Actuator provides a superior RTU (robot transfer unit) to support the robot in various orientations.
- Torque limiting servo-driven Series ESU -RT Linear Actuator can provide fault in case of collisions. Series ESU is not collaborative rated from PHD. Customer assumes the responsibility of risk assessment.
- With a maximum travel of 5,500 mm, the 7th axis linear actuator can multiply the working area of the robot tenfold. See page 3 for respective robot sizes.
- Integrate EOAT PneuConnect, see page 7
- Optimized system is designed for superior performance
- Wide variety of kits available for Techman, Fanuc CRX, ABB, Hanwha, Kawasaki, and Universal Robots. Consult PHD for other collaborative solutions.



# ORDERING DATA: 7th Axis Solutions

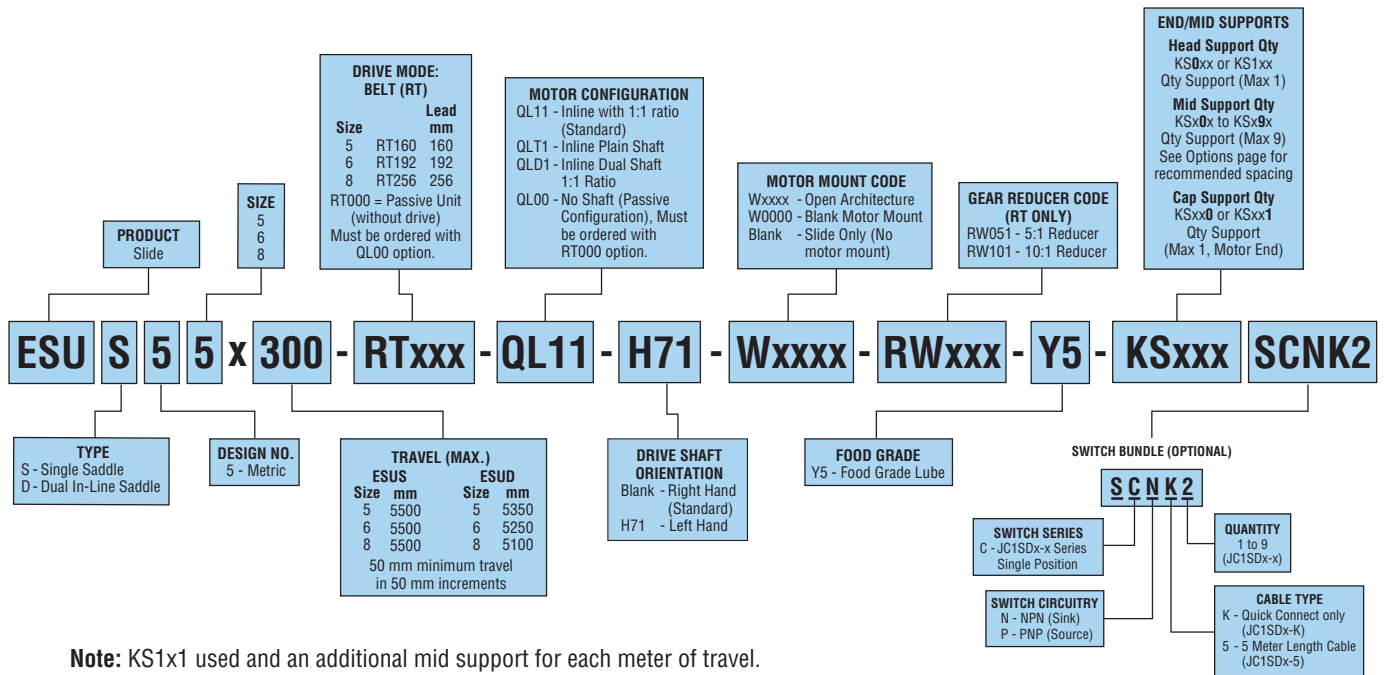


ROBOT	ROBOT SIZE	ML BASE NUMBER	ROBOT TRANSITION PLATE DASH NUMBER	ROBOT MAX PAYLOAD (kg)	ROBOT REACH (mm)	ROBOT WEIGHT (kg)	RECOMMENDED SERIES ESU 7TH AXIS**	MAX TRAVEL (mm)	PLATE WEIGHT (kg)	
TECHMAN	TM5 - 700	ML320401	-01	6	700	22.1	ESUD56	5250	4	
	TM5 - 900			4	900	22.6				
	TM12	ML320402	-02	12	1300	33.3	ESUD58	5100	5	
	TM14			14	1100	32.6				
	TM16			16	917	32				
TM20	ML320403	-04	20	1300	32.8	Dual ESUS56	5250	10		
FANUC CRX	CRX-5i A	ML320401	-05	5	994	25	ESUD56	5250	4	
	CRX-10i A	ML320402	-06	10	1249	39	ESUD58	5100	5	
	CRX-10i A/L				1418					
	CRX-20i A/L	ML320403	-07	20	25	1889	135	Dual ESUS56	5250	10
	CRX-25i A									
	CRX-30i A									
ABB	GoFa 5	ML320401	-10	5	950	28	ESUD56	5250	4	
	GoFa 12	ML320403	-11	12	1270	48	Dual ESUS56		10	
	GoFa 10			10	1520	51				
HANWHA	HCR-3	ML320400	-12	3	630	13	ESUS55	5500	1	
	HCR-5	ML320401	-13	5	915	21	ESUD56	5350	3	
	HCR-12	ML320402	-14	12	1300	53	ESUD58	5100	5	
	HCR-14			14	1420	42				
KAWASAKI	CL103N	ML320400	-16	3	590	17	ESUS55	5500	1	
	CL105N	ML320401	-17	5	800	26	ESUD56	5250	4	
	CL108N	ML320402	-18	8	1300	48	ESUD58	5100	5	
	CL110N			10	1000	42				
UNIVERSAL ROBOTS	UR3	ML320400	-19	3	500	11	ESUS55	5500	1	
	UR5	ML320401	-20	4	850	18.4	ESUD56	5250	3	
	UR10	ML320402	-21	10	1300	28.9	ESUD58	5100	5	
	UR16			16	900	33.1				
	UR20	ML320403	-22	20	1750	64	Dual ESUS56	5250	10	
	UR30			30	1300	63.5				

**NOTES:**

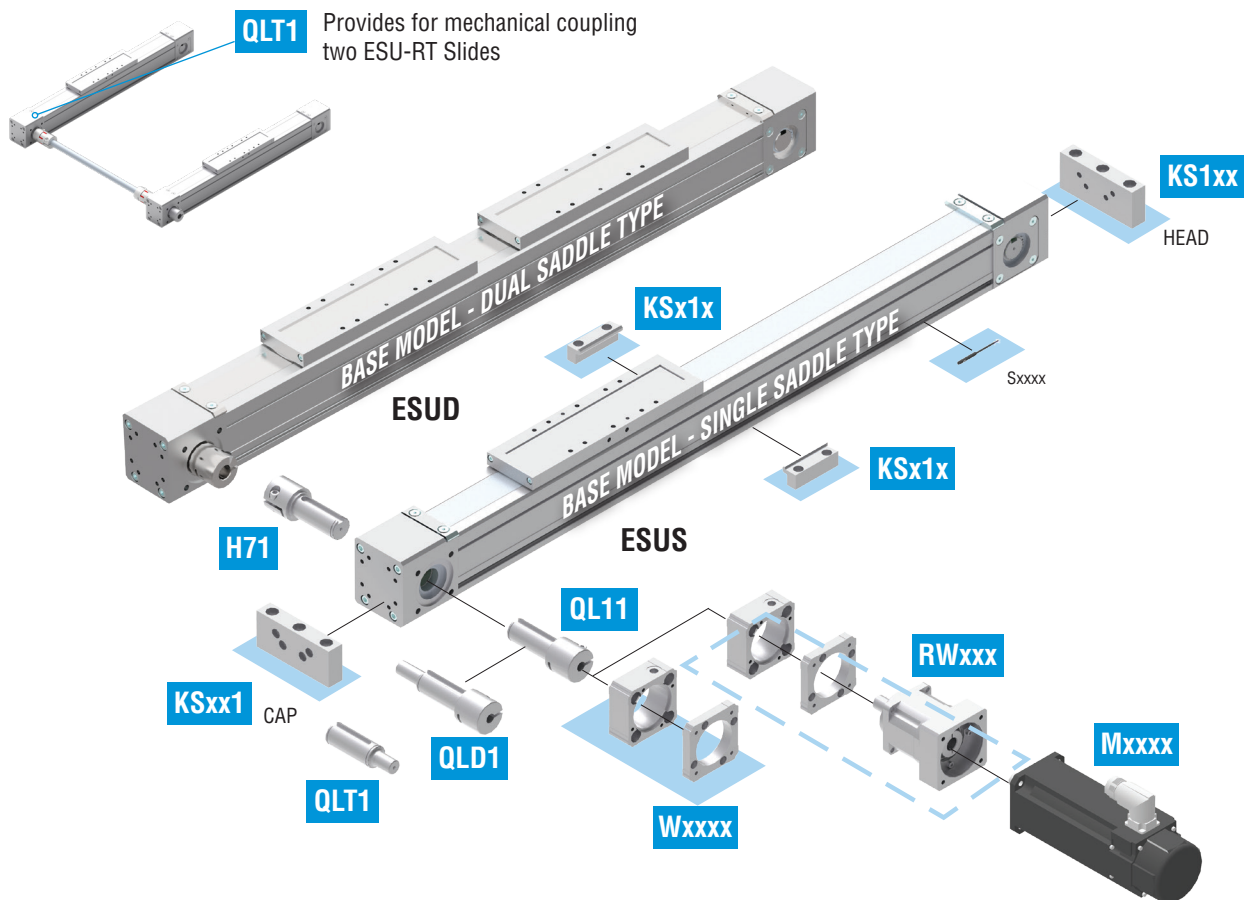
- 1) Cap available for UR Cobot combinations when combined with Kollmorgen.
- 2) \*\*Recommended linear actuator selected for maximum payload and reach of robot. Sizing is based on robot center of gravity to be less than 1/3 of robot reach during dynamic moves. Contact PHD Applications Engineering for other combinations.
- 3) RTU (robot transfer unit) sized for maximum velocity of 300 mm/sec.

# SERIES ESU -RT CONFIGURATION REFERENCE

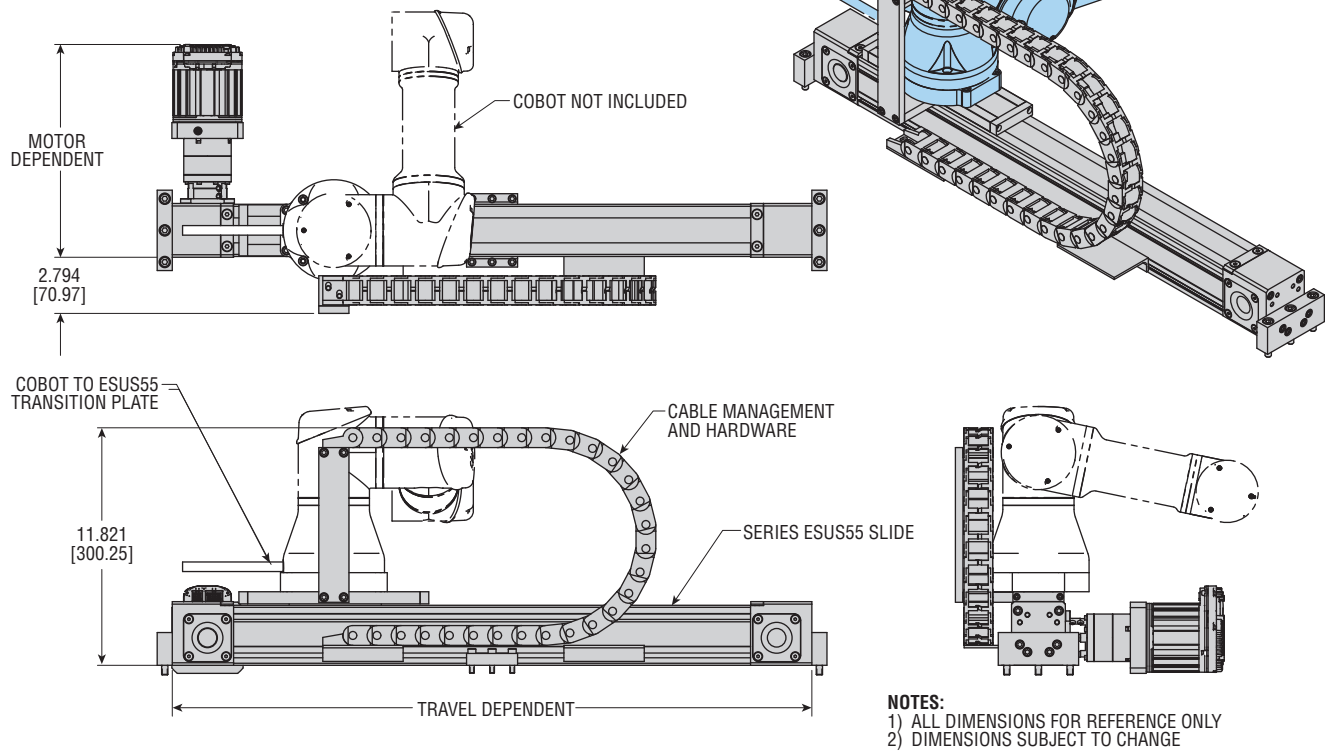


Note: KS1x1 used and an additional mid support for each meter of travel.

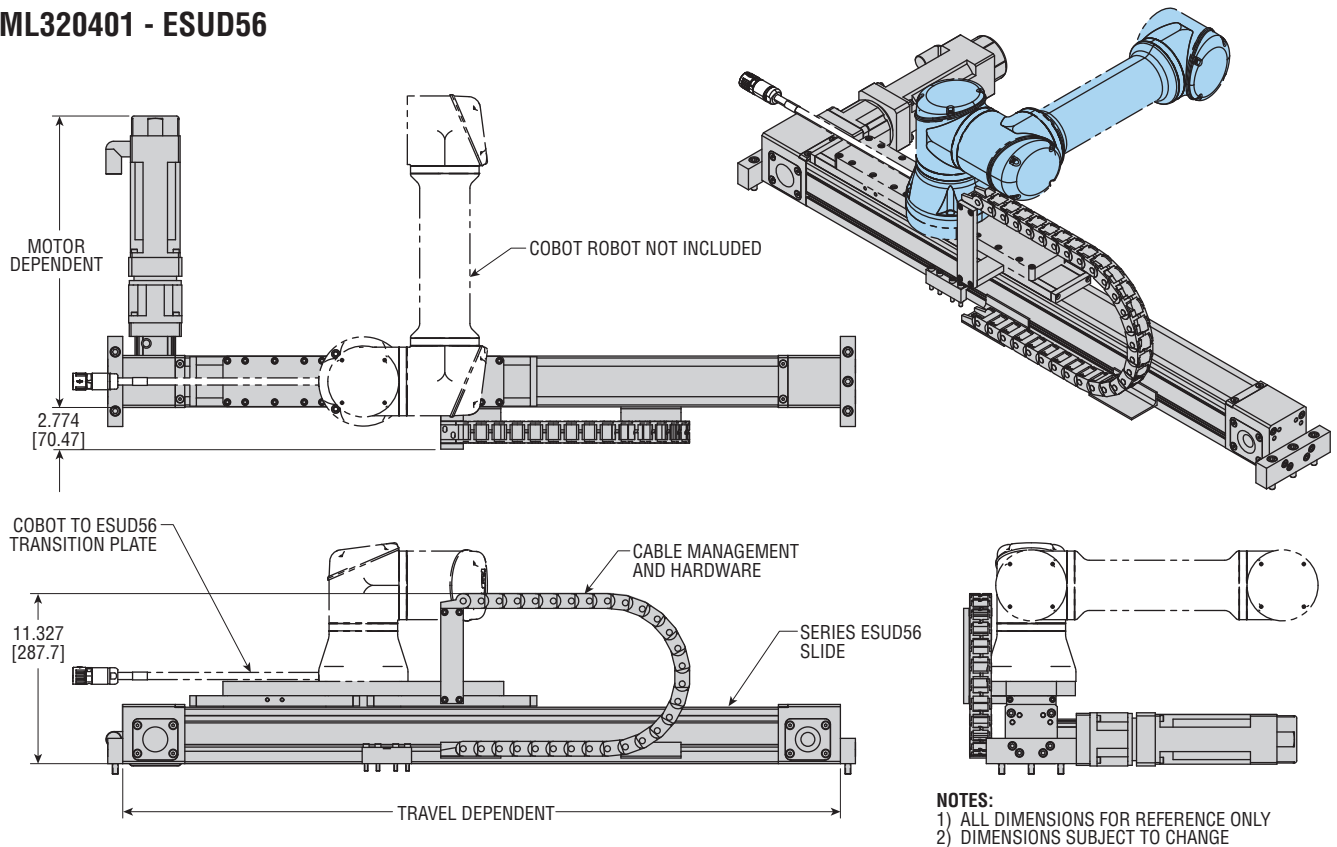
## MOUNTING OPTIONS



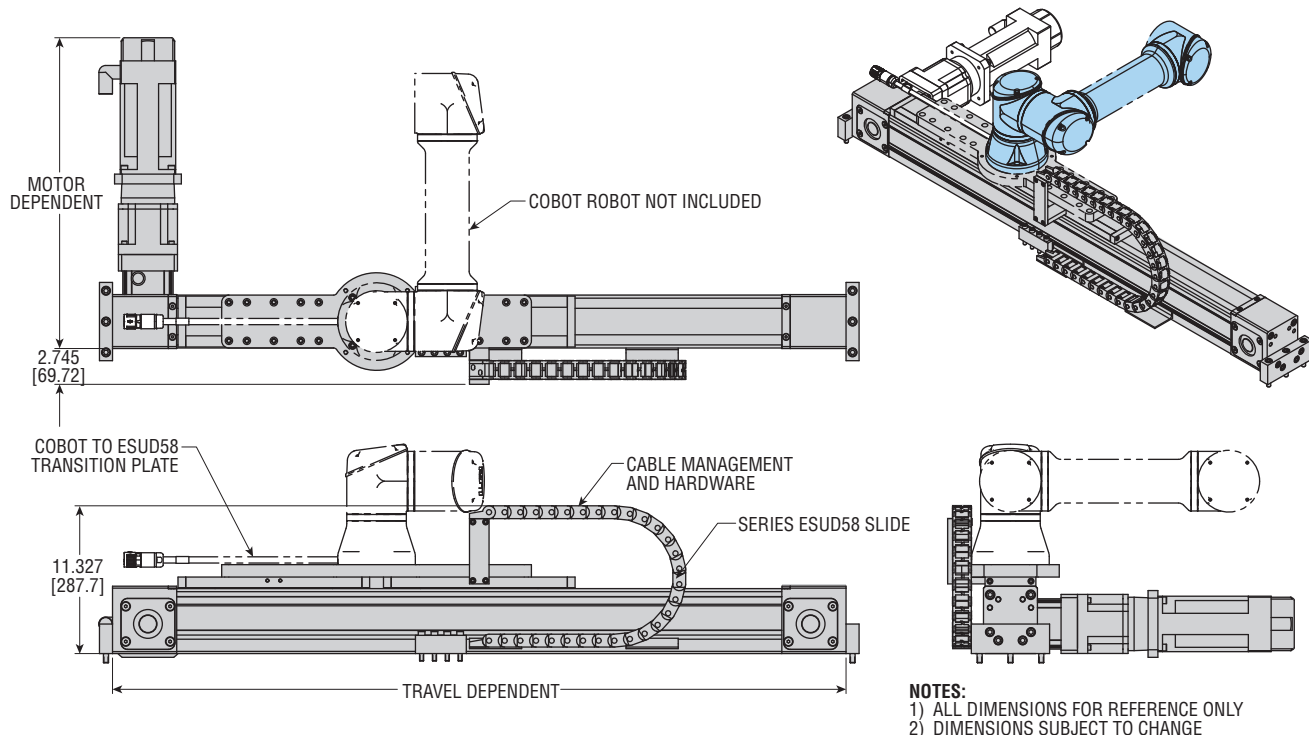
## ML320400 - ESUS55



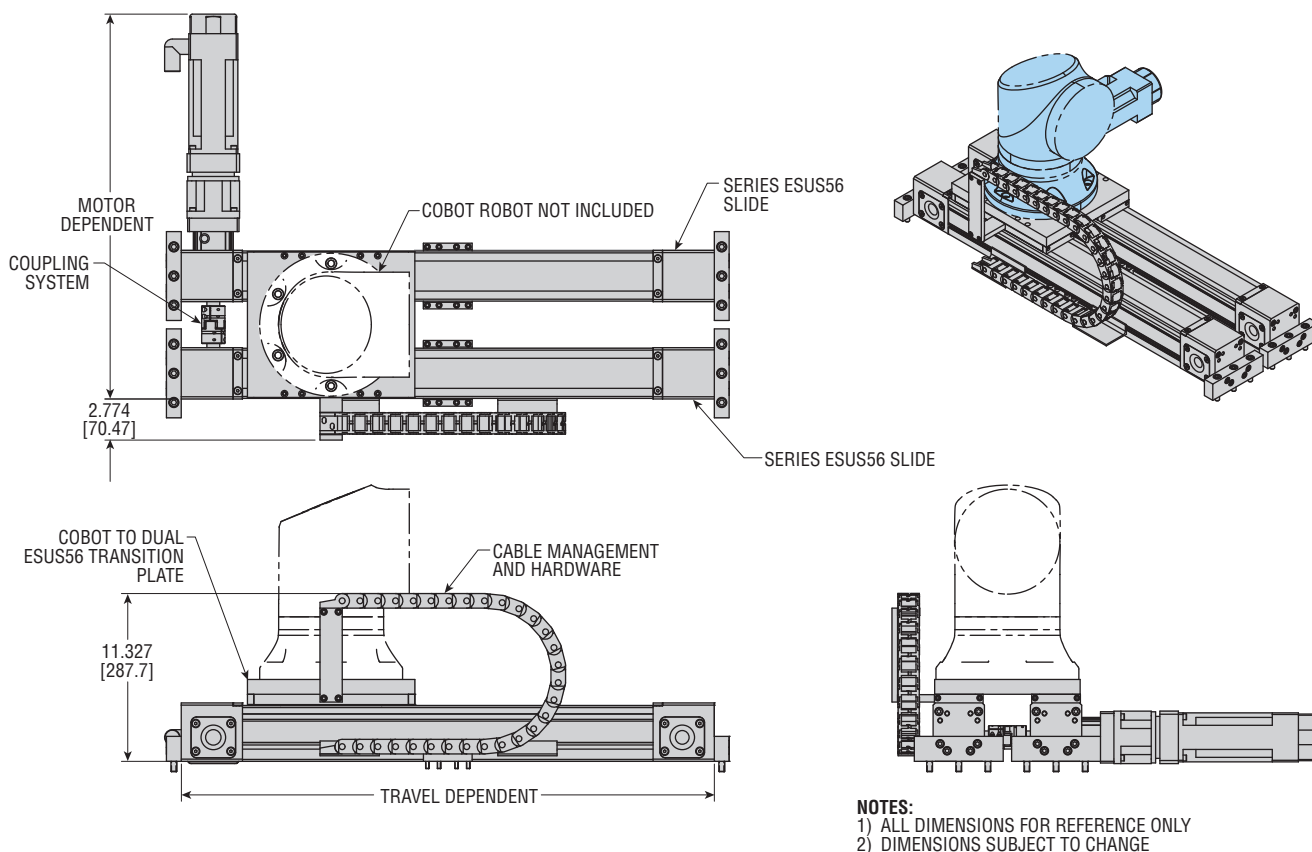
## ML320401 - ESUD56



## ML320402 - ESUD58



## ML320403 - Dual ESUS56





## Systems for UR Cobots

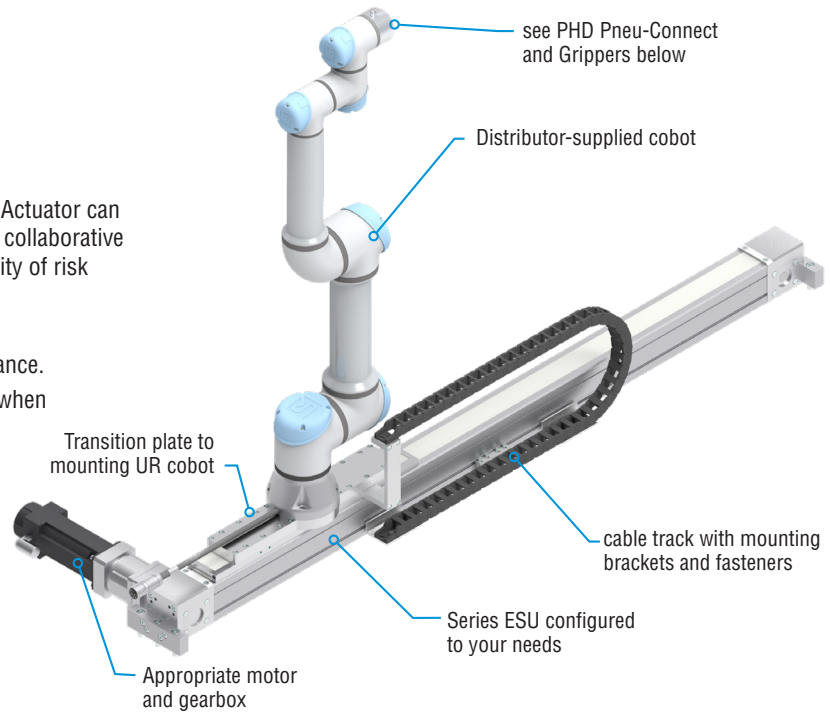
### DESCRIPTION

- Torque limiting servo-driven Series ESU -RT Linear Actuator can provide fault in case of collisions. Series ESU is not collaborative rated from PHD. Customer assumes the responsibility of risk assessment.
- Integrate EOAT PneuConnect, see below.
- Optimized system is designed for superior performance.
- Easy to set up and program using URCap software when combined with Kollmorgen.

URCap is included with system

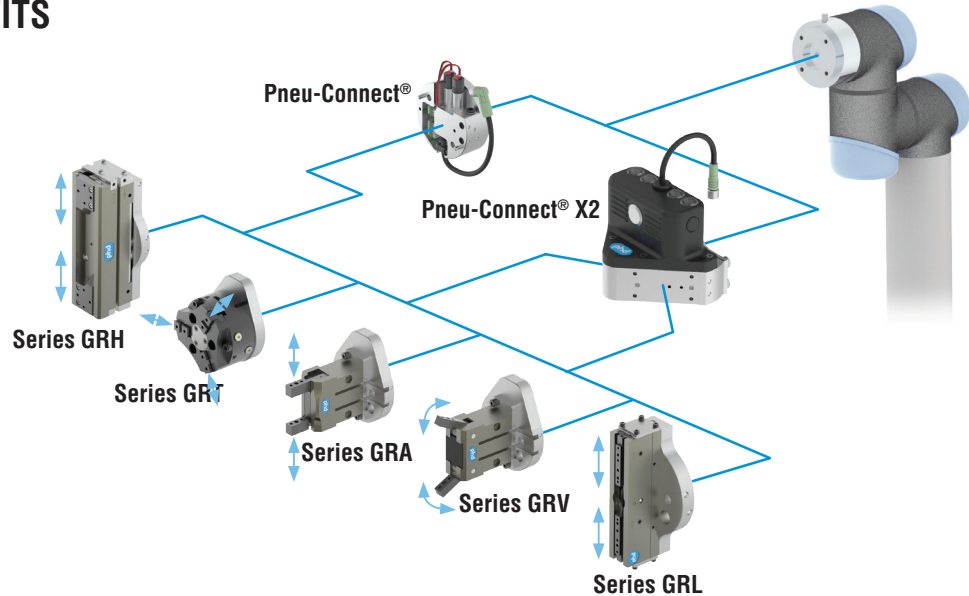


**UNIVERSAL ROBOTS**  
UR+ Partner

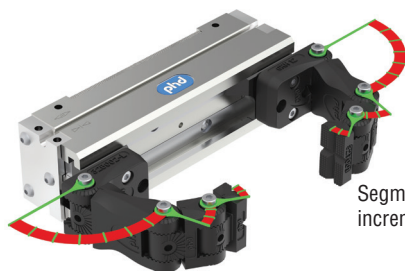


### PNEU-CONNECT® BENEFITS

- Provides seamless, cost-effective, pneumatic end-effector integration for collaborative robots.
- Couples directly to the robot arm tool port enabling pneumatic gripping capability.
- Incorporated MAC® valves
- URCap software is included for intuitive, easy setup of Pneu-Connect system.
- Pneu-Connect X2 design features the Freedrive button that interfaces with the UR for easy position programming.
- Consult PHD for use on other cobots.



### CLICK & GRIP: Adjustable Gripper Tooling



Segments adjust in 15° increments and lock

- Fast configuration and reconfiguration
- Flexibility with interchangeable component - segments can be added and removed allowing for endless combinations
- Lightweight polyamide plastic, ideal for cobot applications and proof of concept
- Design provides limited compliance – helpful during setups and around workers

## Digital Design Tools



### CAD APP

- Select from popular CAD formats (AutoCAD®, Inventor® Unigraphics®, Solidworks®, and more)



### Sizing APP

Answer questions about your application to find a product that meets your exact requirements.



- Graphical configurator supports real-time compatibility
- Download CAD models directly from your browser or have them emailed

- Save a project to revisit and revise later
- Automatic calculations and unit conversion: imperial or metric
- Available for web and mobile use

Our powerful online engineering tools simplify the design process to save you time.

## Customized Solutions

We have the engineering expertise and factory capability to design and build custom solutions for almost any industry and application. Currently, our database includes over 35,000 unique designs born out of a commitment to provide our customers exactly what they need. If an application requires a modified component, our experienced design team is ready to help. We welcome special requests for fully custom products, regardless of quantity or frequency of order.



FAST & EASY PRODUCT CUSTOMIZATION

35,000+ DESIGNS IN OUR DATABASE

150,000+ AVAILABLE QUOTES

NO MINIMUM ORDER QUANTITIES

## Partnering to Serve the Customer



We're a proud member of the MAC Distributor Network (MDN): a global network of manufacturers and distributors partnering to provide superior product, service, and support to customers.

Our distribution partners within this global network are factory-trained, application-oriented, and carry a wide range of supporting products. MDN offers the opportunity to blend their unique expertise with that of the PHD team to provide exceptional automation solutions and ongoing support to our customers around the world.

### Global Reach

A globally linked network of partners in over 45 countries facilitates fast and seamless support to multinational customers.

### Expert Support

Factory-trained application and industry specialists ensure cost-effective and field-proven automation solutions.

### Customer Commitment

MDN members are committed to providing customers what they need when they need it.