



PROTECTION SYSTEM
FOR ROBOT
CABLES/HOSES

KOREA

MADE
IN KOREA



PASSED
RELIABILITY
TEST!

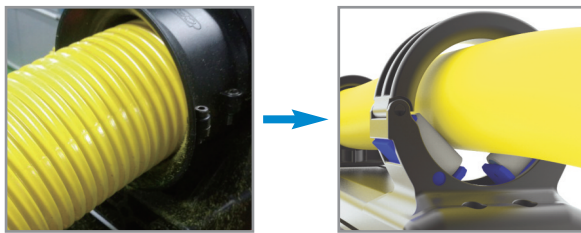
>> General information

Item	Value
Composition	Roboway, Robo-kit
Application	Welding Robot, Handling Robot
Tube Temperature	-50℃ ~+95℃
Color of Tube	Yellow, Black
Certificate	CE
Certificate	CE, ATEX(Ex)

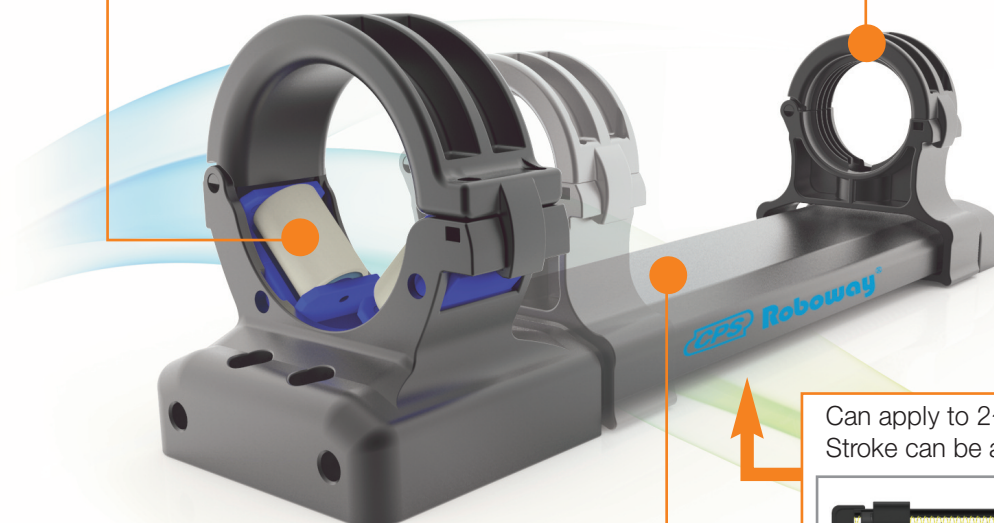
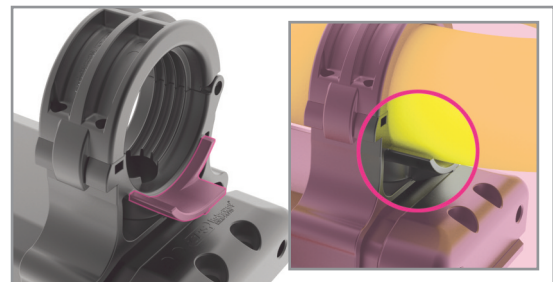
Roboway can protect cables effectively by making tube's movement to one direction while robot arm operates to complicated direction.

>> Product characteristic #1

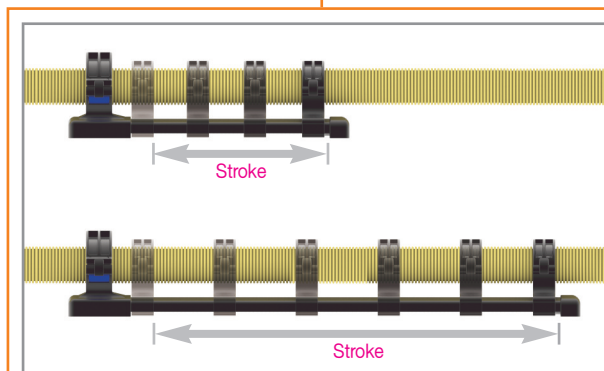
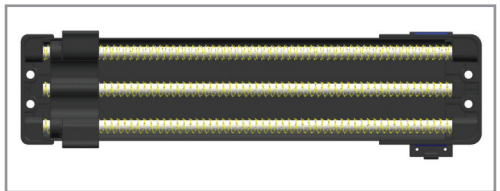
Minimized dust by applying rollers at fixing part.



Design the supporting guide to prevent sagging to down side at Moving part.



Can apply to 2~3 special springs. Stroke can be adjusted.

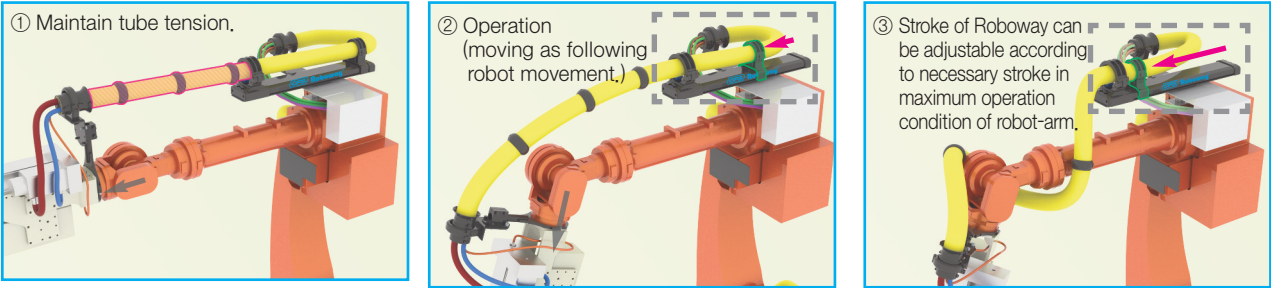


Adjustable stroke structure.

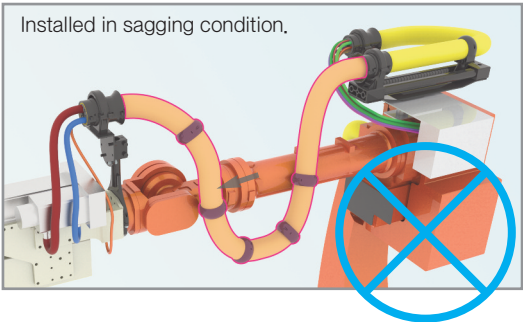


Possible to keep always certain tension to protect tube and cables.

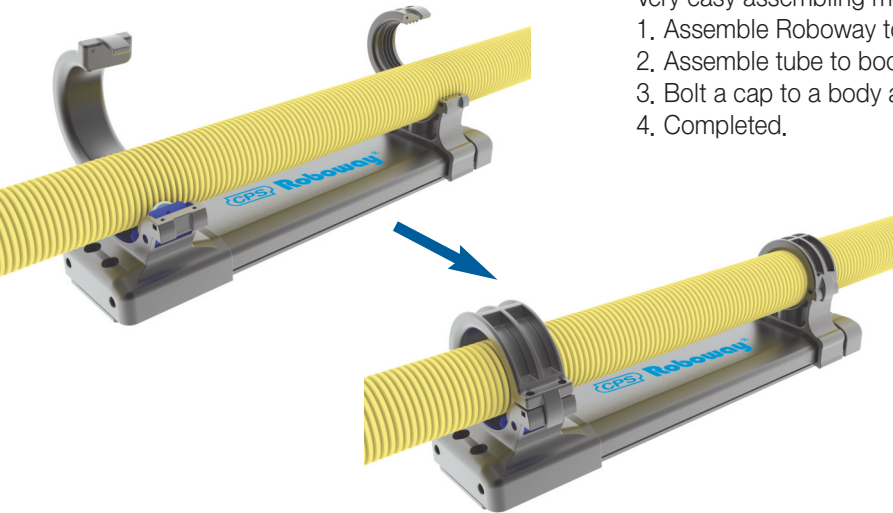
>> Product characteristic #2



Tube could be damaged or broken when robot-arm operates in sagging condition as it causes tube to bump against robot-arm strongly and many times.

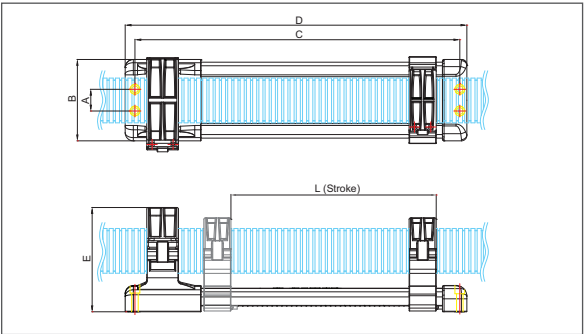


>> Product characteristic #3



- Very easy assembling method as below;
1. Assemble Roboway to main bracket.
 2. Assemble tube to body after opening a cap of Roboway.
 3. Bolt a cap to a body after closing a cap.
 4. Completed.

>> Roboway Dimension



Type	A Bolt hole width	B Width	C Bolt hole width	D Length	E Height	L Stroke
RW-36	30	96	L+170	L+202	137	300 / 400 / 500 / 600
RW-48	30	96	L+170	L+202	137	
RW-56	40	150	L+215,5	L+249	192	350 / 450 / 550 / 650
RW-70	40	150	L+215,5	L+249	192	

(Dimensions in mm)

>> Ordering

RW-48 400L : 10ST

Length

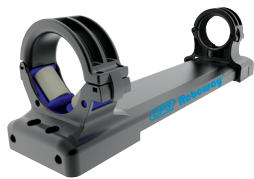
Size 36, 48, 56, 70

Roboway®

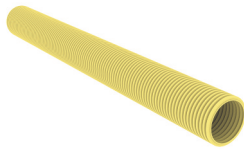
Q'ty(set)

>> Components / A type (48,56,70 size)

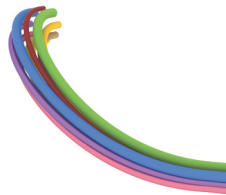
※ Roboway® Components can be changed by order specification.



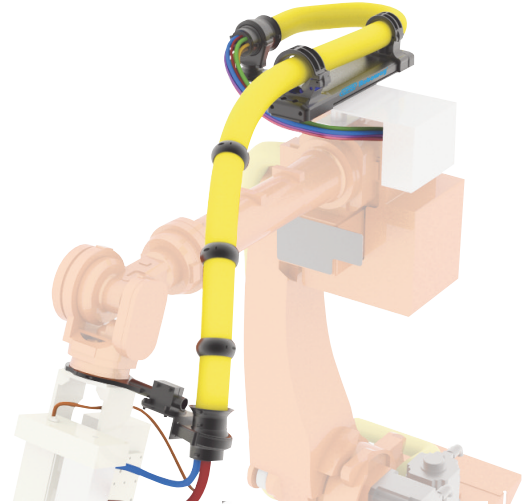
● RW (1set)



● PAM (4~5m)



● Cable, Hose (5~10m)



● RKTP (4pcs)



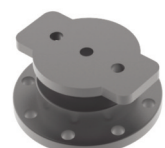
● RKS (2pcs)



● RKC (2pcs)



● RKSC (2pcs)



● RKR (1pcs)



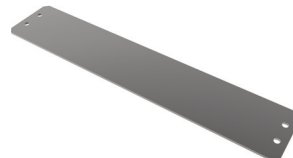
● VCG (2pcs)



● RKTC (2pcs)



● Column Support : RCS (1pcs)



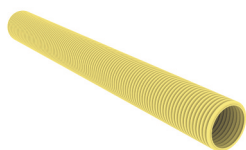
● Main Bracket : RMB (1pcs)



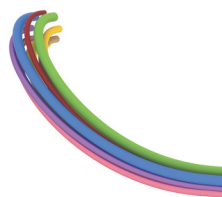
● Sub Bracket : RSB (1pcs)

>> Components / B type (48,56,70 size)

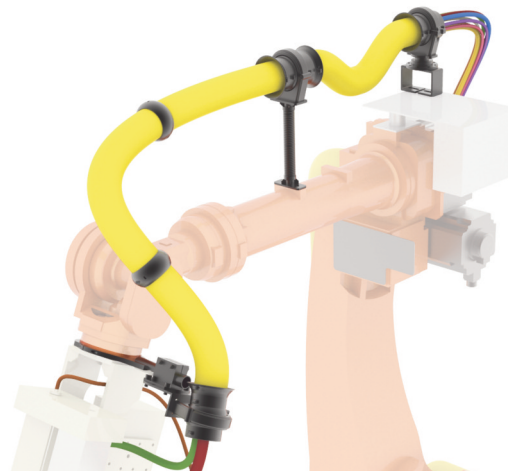
※ Roboway® Components can be changed by order specification.



● PAM (5~6m)



● Cable, Hose (5~10m)



● RKTP (4pcs)



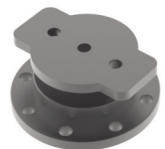
● RKS (3pcs)



● RKC (3pcs)



● RKSC (2pcs)



● RKR (1pcs)



● VCG (2pcs)



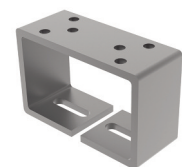
● RKTC (2pcs)



● Column Support : RCS (1pcs)

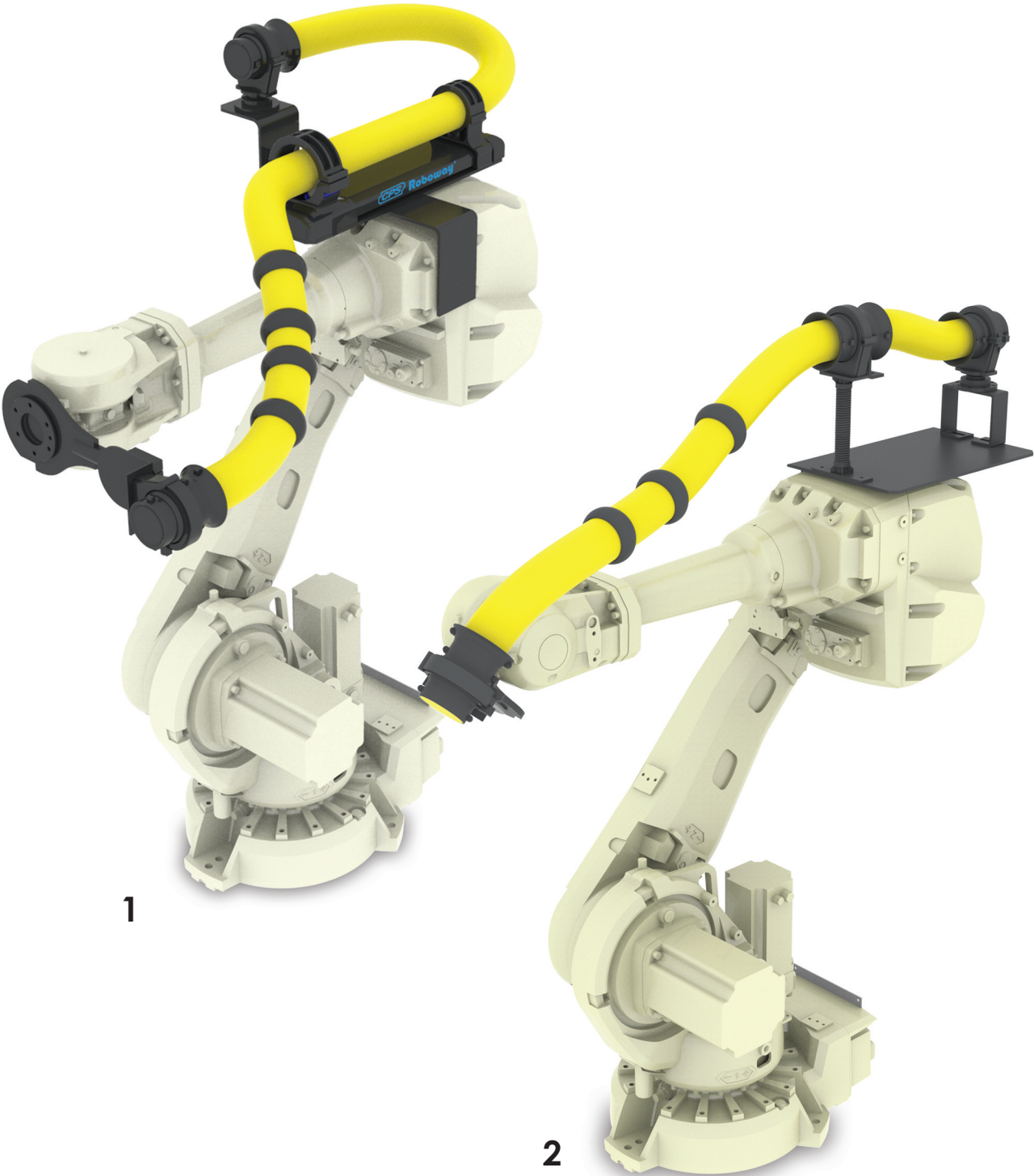


● Pillar Support : RPS (1pcs)



● Bed Plate : RBP (1pcs)

Roboway® Application to ABB



Part Number	Robot Specification	Description	No.
ROBOWAY-70B (A-type)	ABB 4600	ABB 4600 with Roboway-70B (450mm)	1
ROBOWAY-70B (B-type)	ABB 6640-255	ABB 6640-255	2



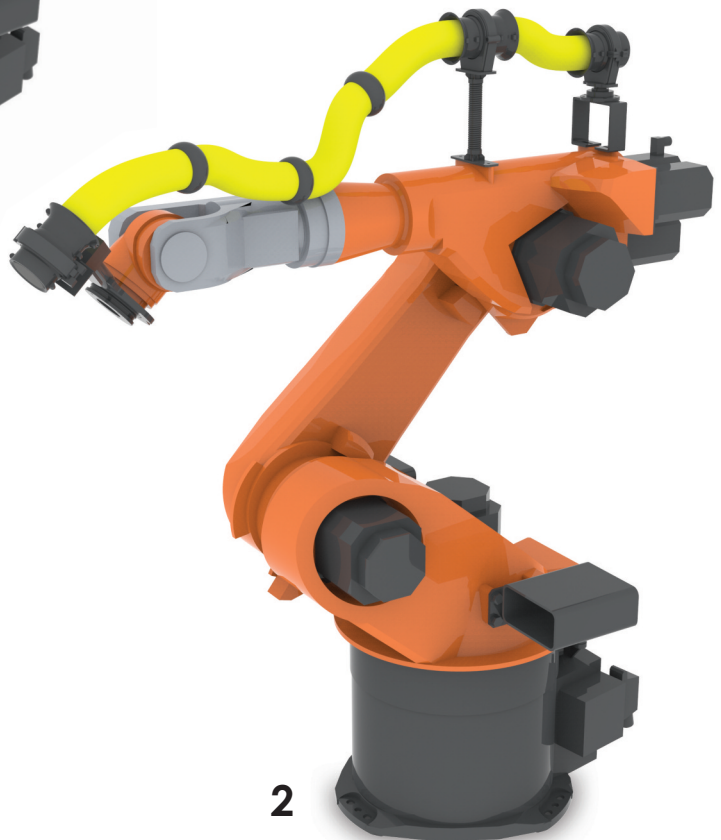
2

Part Number	Robot Specification	Description	No.
ROBOWAY-70B (A-type)	IRB 660	-	1
ROBOWAY-70B (B-type)	IRB 6650S	IRB 6650S	2



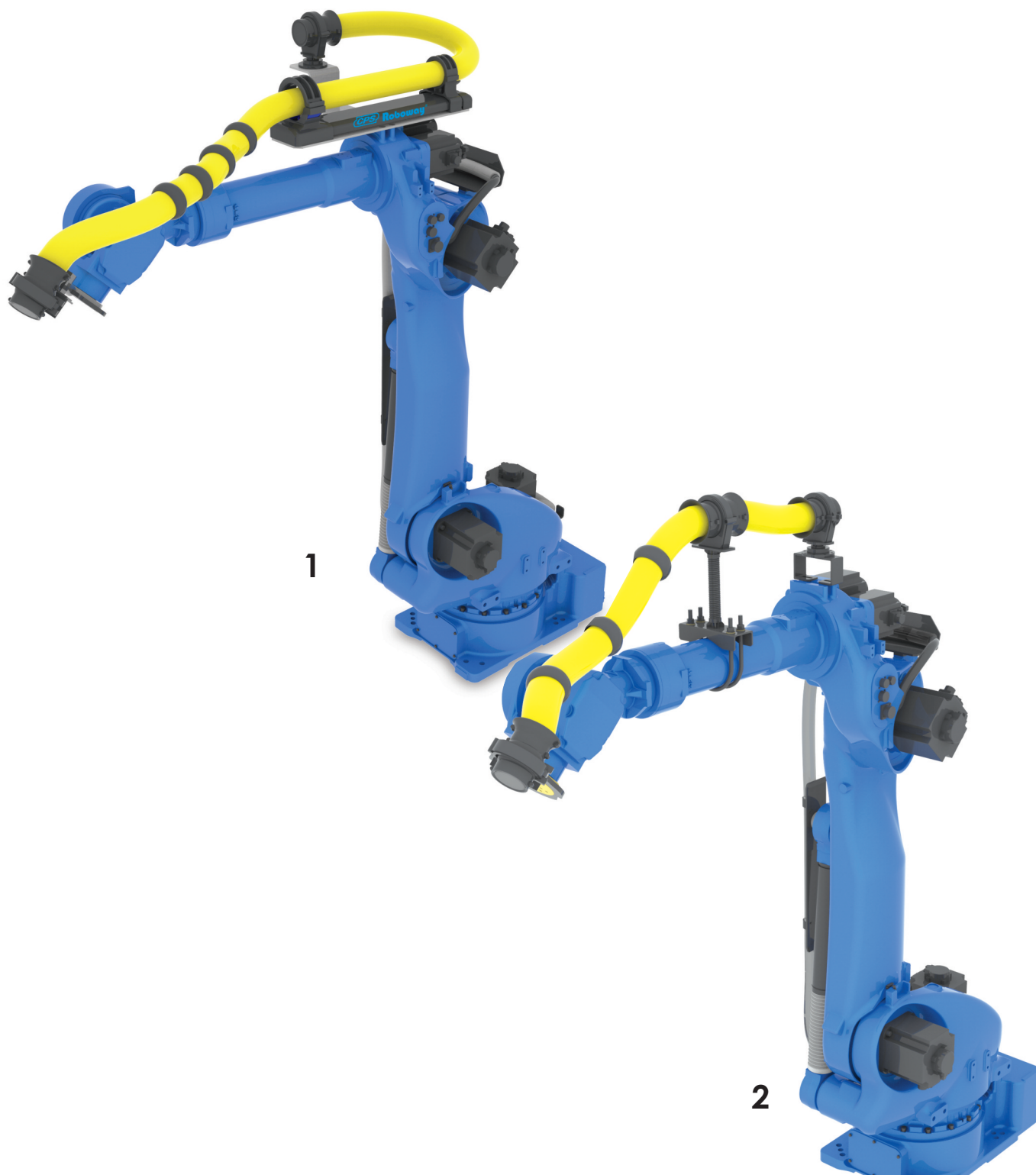
Part Number	Robot Specification	Description	No.
ROBOWAY-70B (A-type)	IRB 7500	IRB 7500 with Roboway-70B (450mm)	1
ROBOWAY-70B (B-type)	IRB 7500	IRB 7500	2

Roboway® Application to KUKA



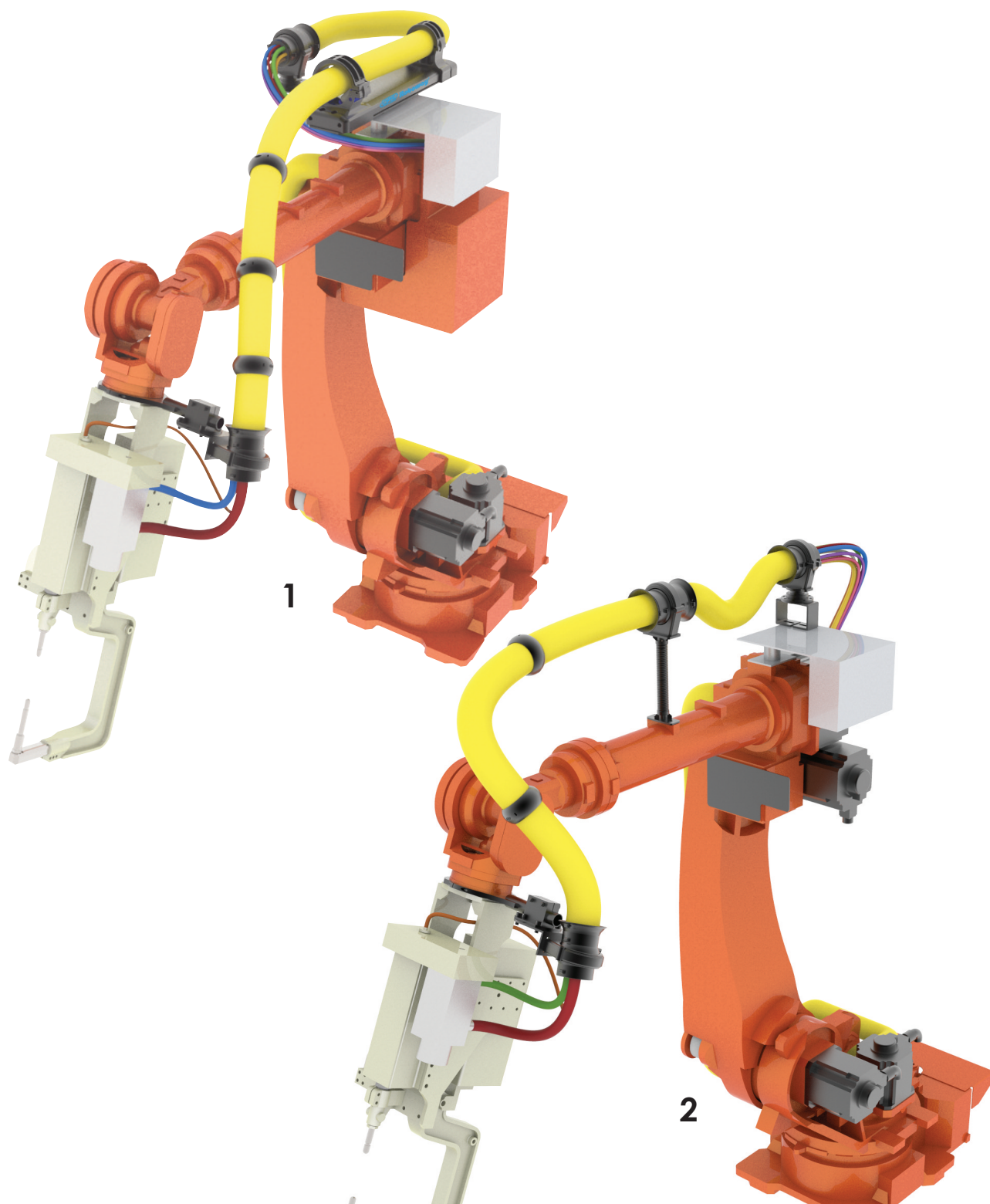
Part Number	Robot Specification	Description	No.
ROBOWAY-70B (A-type)	KR60-3	KR60-3 with Roboway-70B (450mm)	1
ROBOWAY-70B (B-type)	KR60-3	KR60-3	2

Roboway® Application to Yaskawa



Part Number	Robot Specification	Description	No.
ROBOWAY-70B (A-type)	MH180	MH180 with Roboway-70B (450mm)	1
ROBOWAY-70B (B-type)	MH180	MH180	2

Roboway® Application to Hyundai



Part Number	Robot Specification	Description	No.
ROBOWAY-70B (A-type)	HS-180	HS-180 with Roboway-70B (450mm)	1
ROBOWAY-70B (B-type)	HS-180	HS-180	2

Roboway® Application to Fanuc



Part Number	Robot Specification	Description	No.
ROBOWAY-70B (A-type)	Fanuc - 2000iB	Fanuc - 2000iB with Roboway-70B (450mm)	1
ROBOWAY-70B (B-type)	Fanuc - 2000iB	Fanuc - 2000iB	2



» Components



RKD 22/28/36/48/56/70

Tube Ball Joint Sleeve

RKD is also tube ball joint like RKS, however, its shape is a little bit different as ball joint direction is bidirectional unlike RKS.



VCG 22/28/36/48/56/70

Cable End Finishing

VCG is clamp for robot cables/hoses at end position of tube.



RKC 22/28/36/48/56/70

Tube Clamps

RKC is tube clamp in combination with RKS+RKRC or RKD+RKRC to holds tube's movement while robot operates.



RKSC 22/28/36/48/56/70

Strain Relief Insert

22~36 of RKSC : It clamp for VCG.
48~70 of RKSC : It clamp for Tube and RKS.



RKR-22/28/36/48/56/70

Rotating Connector

RKR in combination with RKC is to release tube's tension and fatigue as it can rotate with robot-arm movement.



RKTP-22/28/36/48/56/70

Abrasion Protection Connector

RKTP is made of reinforced polyamide 6. It is to protect abrasion and damage of tube when tube bumps on robot arm.



RKS-22/28/36/48/56/70

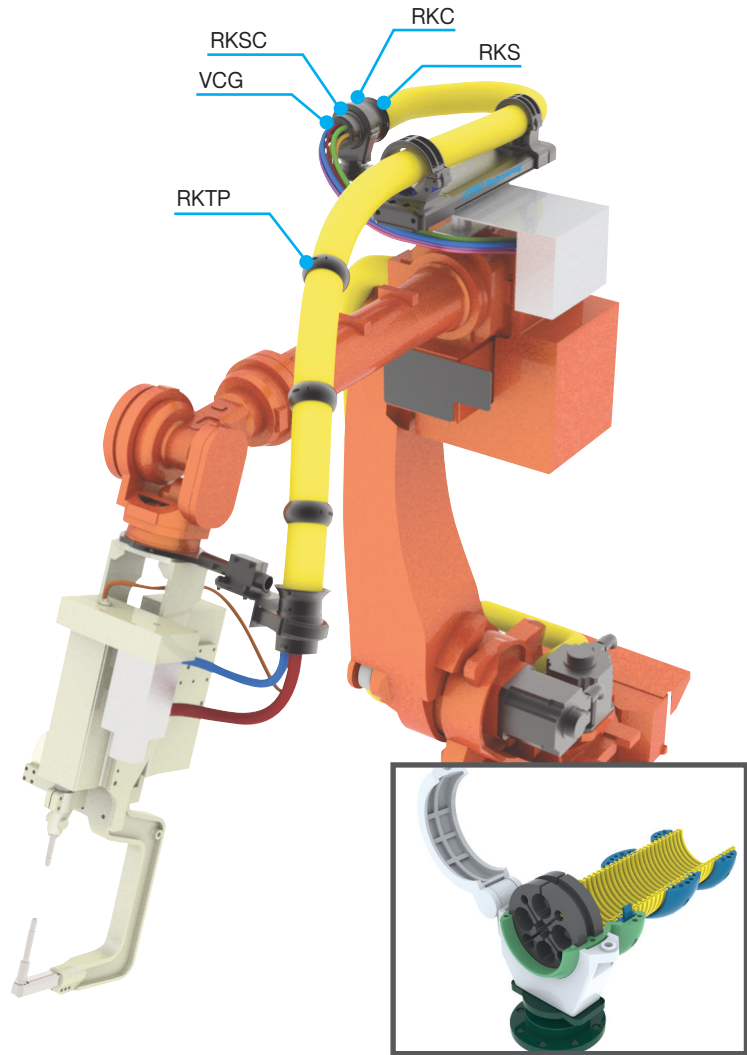
Tube Ball Joint

RKS is tube ball joint to strengthen tube's flexibility and release tube's tension loaded by robot operation.



RKTC-48/56/70

If robot tube got damaged such as cut or stretched condition, you don't need to replace total tube by using RKTC as it can cover damaged area.



RKR+RKC+RKS+VCG+RKSC

» Dimension

Product	Conduit Size	Width	Height	Length	Outer Diameter
RKTP	22	28.0	46.4		46.4
	28	30.0	53.0		53.0
	36	30.0	62.0		62.0
	48	30.0	80.0		80.0
	56	40.0	93.2		93.2
	70	40.0	108.0		108.0
RKTC	48	50.0	78.0		78.0
	56	60.0	90.2		90.2
	70	60.0	105		105
RKC	22	30.0	50.0	49.0	45.0
	28	30.0	59.5	58.8	53.5
	36	45.0	88.3	90.2	76.0
	48	49.5	105.0	128.2	94.0
	56	40.0	138.1	150.1	116.2
	70	40.0	145.5	164.9	131.0
RKS	22	50.0	23.0	23.0	23.0
	28	60.0	27.0	27.0	27.0
	36	100.3	80.5	80.5	80.5
	48	89	92.3	92.3	92.3
	56	102	105.3	105.3	105.3
	70	102	120.1	120.1	120.1
RKD	22	40.0	22.0	22.0	22.0
	28	63.5	30.0	30.0	30.0
	36	120.0	83.0	83.0	83.0
RKSC	22	10.5	29.5		29.5
	28	13.0	34.5		34.5
	36	20.6	44.6		44.6
	48	22.0	67.5		67.5
	56	26.0	81.2		81.2
	70	26.0	96.0		96.0
RKR	22	43.0	18.5		43.0
	28	55.0	23.0		55.0
	36	98.0	42.0		98.0
	48	98.0	42.0		98.0
	56	98.0	42.0		98.0
	70	98.0	42.0		98.0
VCG	22	10.5	25.5		25.5
	28	13.0	30.5		30.5
	36	20.6	40.6		40.6
	48	24.0	62.5		62.5
	56	34.0	75.8		75.8
	70	34.0	90.0		90.0

» ROBO-KIT Ordering

RKC-70 : 10EA



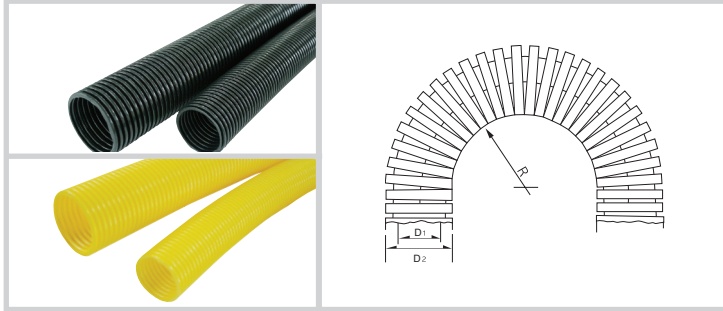
Q'ty(set)

Size 22, 28, 36, 48, 56, 70

ROBO-KIT® RKC / RKD / RKTP / RKTC
RKSC / RKR / VCG / RKS

» CPSFLEX® -PAM, PAR Specification

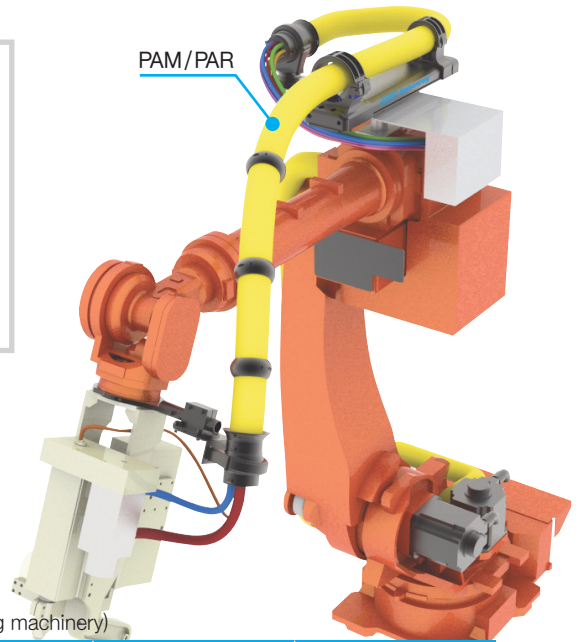
PAM is the highest quality of corrugated tube only for robots.
PAR is corrugated for robots and rotating machinery.



- Material : High Quality Polyamide 11/12 (PAM)
: High Quality Polyamide 12 (PAR)
- Construction : Inside & Outside Corrugated Plastic Hose
- Degrees of Protection : IP 68
- The max. Instantaneous Temperature : -50°C to +95°C
- Short Term : up to +150°C
- Self-Extinguishing : UL94-V2, Halogen-Free
- Color : Black & Yellow
- Connections : Roboway, Robo-kit, CPSFIX
- Application : Robots (Welding robot, Handling robot, Rotating machinery)

Black	Yellow	Inner Diameter (D1)	Outer Diameter (D2)	Bending Radius (R)mm ±10%	Packing meter / roll
PAM / PAR-22B	PAM / PAR-22Y	21.7	28.5	45	50
PAM / PAR-28B	PAM / PAR-28Y	27.8	34.5	55	50
PAM / PAR-36B	PAM / PAR-36Y	36.0	42.5	60	30
PAM / PAR-48B	PAM / PAR-48Y	46.5	54.5	70	30
PAM / PAR-56B	PAM / PAR-56Y	56.3	67.2	110	30
PAM / PAR-70B	PAM / PAR-70Y	70.0	82.5	160	10

(Dimensions in mm)



» CPSFLEX® -PAM Ordering ※ Please refer to page K-13 and K-14 more detail.

PAM - 70Y : 10M



» NORFLEX® -PUR Tube

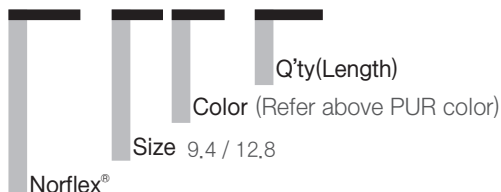


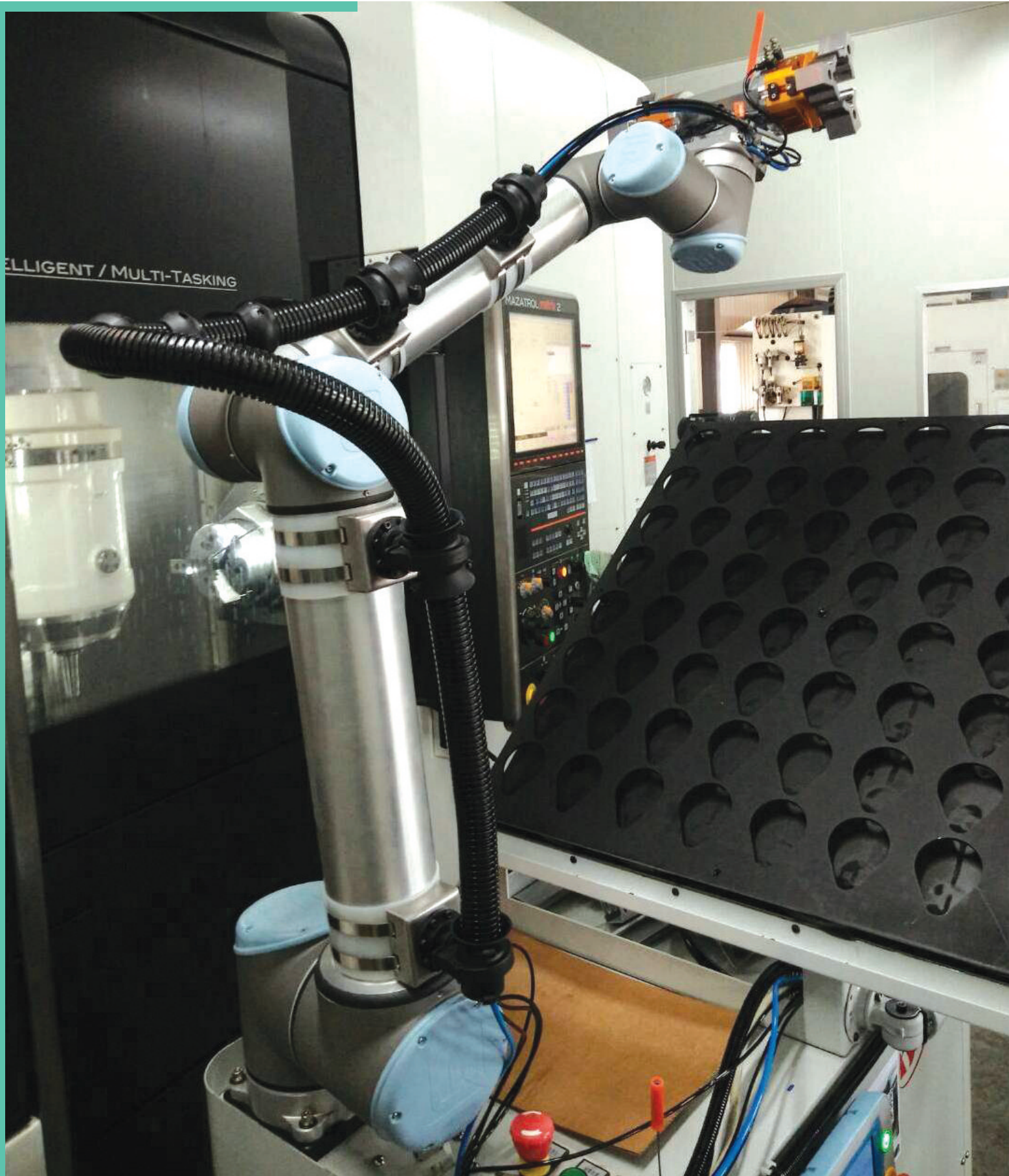
- Material : Smooth interior and exterior; wall: special premium polyurethane(Pre-PUR®)
- Properties : Fabric reinforced / highly abrasion-proof
Highly flexible / crush resistant
Good resistance to oil, gasoline and chemicals
Comform to RoHs guideline
- Color : Transparent, Blue, Gray, Black, Red, Green, Yellow
(TR, BL, GR, BK, RE, GN, YE)
- Application : Suitable to apply at industrial robot, automatic welding facility, especially it has resistance at hot spot welding flame and very suitable to apply at injection molding as a high pressure air or cooling water hose and also some other place need flexible and high anti-abrasion.

Inner Diameter (in/mm)	Outer Diameter (mm)	min. Burst Pressure (bar)	Bending Radius (mm)	Weight (kg/m)	Packing (m/roll)
3/8" (9.4)	16.0	80	55.3	0.153	50
1/2" (12.8)	19.5	80	68.8	0.230	50

» NORFLEX® Ordering

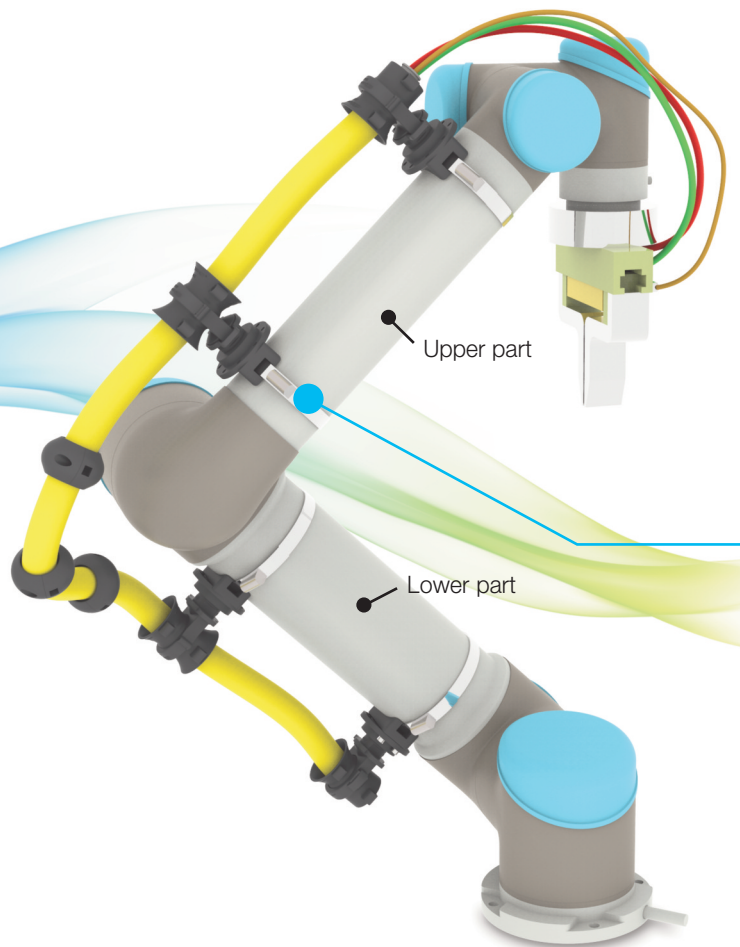
PUR - 9.4 BK : 50M



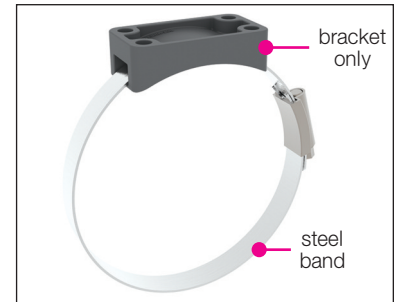


>> UR.BNAD for UNIVERSAL ROBOT

ROBO-KIT 22/28 can be specially applied to Universal Robot or compact robot to protect outside cables/hoses.



UR.BAND for UNIVERSAL ROBOT



UR.BAND with ROBO-KIT 22/28



>> UR.BNAD size table only for UNIVERSAL ROBOT

Type	Inner Diameter		Applicable products
● UR5,BAND	Upper part	Ø85	ROBO-KIT 22/28
	Lower part	Ø100	
● UR10,BAND	Upper part	Ø86	
	Lower part	Ø108	

※ UR.BAND consists of brackets and steel band.

>> Ordering (ROBO-KIT should be ordered separately.)

UR5,BAND 075 : 2EA

		Q'ty
		Inner Diameter (Order after check the upper and lower robot body diameter)
		UR, band for UNIVERSAL ROBOT (UR5 / UR10 Bracket and steel band included.)