

Parallel Robots iX4-650H/HS

EtherCAT (NJ501-R) version

Four-axis parallel robot achieves high speed and high precision

- EtherCAT connectivity to the Omron NJ501-R controller and programming through the familiar IEC 61131-3 programming language or scripting (eV+).
- Four-axis arm evenly distributes the load on the robot
- Fast and high-precision conveyance and assembly
- Designed with a high payload to support multi-hand (multi-picking)
- Supports fast Pick & Place on a fast conveyor
- Meets the sanitary standards of the United States Department of Agriculture for prevention of product contamination
- Maximum working diameter 1,300 mm
- Working height 500 mm
- Maximum payload 15 kg
- Weight 117 kg



Specifications

Product name			iX4		
			650		
			H		HS
			Standard	IP65/67	Standard
Part Number			RX4-216600[]	RX4-216602[]	RX4-216601[]
Number of axes			4		
Mounting			inverted		
Working volume	X,Y axis (stroke)		1300 mm		
	Z axis (stroke)		500 mm		
	theta axis (rotation angle)	0° (fixed) (P30)			
		±46.25° (P31)			
		±92.5° (P32)			
±185° (P34)					
Maximum Payload			6 kg (P30: 15 kg)		3 kg (P30: 12 kg)
Repeatability			±0.10 mm		
Cycle times, sustained, at 20°C ambient	Payload 0.1 kg		0.30 s *1, 0.46 s *2		0.39 s *1, 0.55 s *2
	Payload 1.0 kg		0.36 s *1, 0.47 s *2		0.41 s *1, 0.58 s *2
	Payload 2.0 kg		0.37 s *1, 0.52 s *2		0.42 s *1, 0.59 s *2
	Payload 4.0 kg		0.41 s *1, 0.58 s *2		-
	Payload 6.0 kg		0.43 s *1, 0.61 s *2		-
Power Requirements			24 VDC: 6 A 200 to 240 VAC: 10 A, single-phase		
Protection	Base	Topside of robot	IP20	IP65	IP66
		Underside of robot	IP65	IP65	IP66
	Platform, Arms		IP67		
Environment Requirements	Ambient Temperature		1 to 40°C		
	Humidity Range		5 to 90% (non-condensing)		
Weight			117 kg		
USDA-Accepted for meat and poultry processing			---	---	Yes
Basic configuration	Controller		iCS-ECAT		
	On-board I/O (Input/Output)		12/8		
	Conveyor tracking input		4		
	RS-232C serial communications port		1		
	Programming environment		Sysmac Studio 64-bit		
	ACE Sight		Yes		
	ePLC Connect		No		
ePLC I/O			No		
Connectable controller			Omron NJ501-R Series		

*1. Adept cycle, in mm (25/305/25)

*2. Extended cycle, in mm (25/700/25)

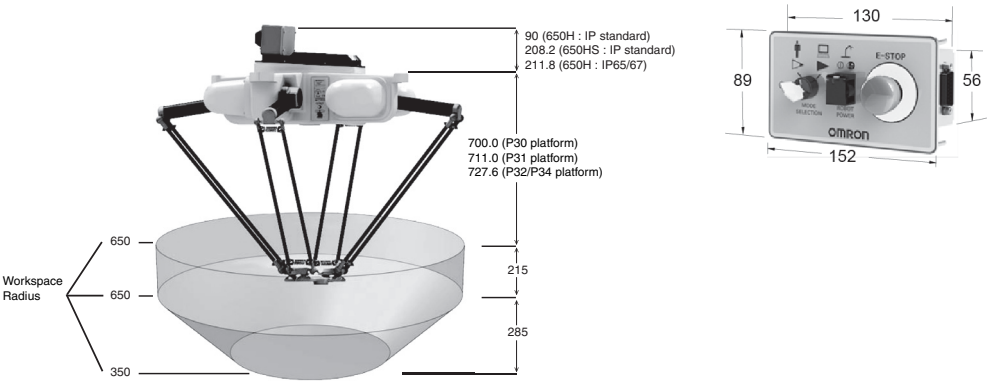
Dimensions

(Unit: mm)

iX4-650H/HS

Note: The figure shows the HS type.

Front panel



Four choices of platform offer different ranges of rotation.

Appearance				
Type	P30	P31	P32	P34
Rotation angle	No rotation	±46.25°	±92.5°	±185°
Maximum Payload	H: 15 kg, HS: 12 kg	H: 6 kg, HS: 3 kg	H: 6 kg, HS: 3 kg	H: 6 kg, HS: 3 kg

Note: The platform appearances of the H type are shown above. The platform of the HS type is made of stainless steel.

Robot Parts Code and Bundled Accessories

Type	iX4		
IP	Standard (H)	Standard (HS)	IP65/67
iX4 P30	RX4-2166000	RX4-2166010	RX4-2166020
iX4 P31	RX4-2166001	RX4-2166011	RX4-2166021
iX4 P32	RX4-2166002	RX4-2166012	RX4-2166022
iX4 P34	RX4-2166004	RX4-2166014	RX4-2166024
Overview	To be used in conjunction with NJ501-R Series controller, which can connect up to 8 robots via EtherCAT		
Bundled Accessories	- XSYSTEM cable with jumpers and Ethernet Management port, 1.8 m/6 ft (13323-100) - Front panel kit (92546-10358)		

Four-axis parallel robot achieves high speed and high precision

- EtherCAT connectivity to the Omron NJ501-R controller and programming through the familiar IEC 61131-3 programming language or scripting (eV+).
- Four-axis arm evenly distributes the load on the robot
- Fast and high-precision conveyance and assembly
- Designed with a high payload to support multi-hand (multi-picking)
- Supports fast Pick & Place on a fast conveyor
- Meets the sanitary standards of the United States Department of Agriculture for prevention of product contamination
- Maximum working diameter 1,600 mm
- Working height 500 mm
- Maximum payload 10 kg
- Weight 117 kg



Specifications

Product name			iX4		
			800		
			H		HS
			Standard	IP65/67	Standard
Part Number			RX4-216630[]	RX4-216632[]	RX4-216631[]
Number of axes			4		
Mounting			inverted		
Working volume	X,Y axis (stroke)		1600 mm		
	Z axis (stroke)		500 mm		
	theta axis (rotation angle)	0° (fixed) (P30)			
		±46.25° (P31)			
		±92.5° (P32)			
		±185° (P34)			
Maximum Payload			4 kg (P30:10 kg)		1 kg (P30: 7 kg)
Repeatability			±0.10 mm		
Cycle times, sustained (at 20°C ambient)	Payload 0.1 kg		0.33 s *1, 0.48 s *2		-
	Payload 1.0 kg		0.38 s *1, 0.50 s *2		0.45 s *1, 0.62 s *2
	Payload 2.0 kg		0.40 s *1, 0.55 s *2		-
	Payload 4.0 kg		0.45 s *1, 0.62 s *2		-
Power Requirements			24 VDC: 11 A (eAIB, SmartController) 200 to 240 VAC: 10 A, single-phase		
Protection	Base	Topside of robot	IP20	IP65	IP66
		Underside of robot	IP65	IP65	IP66
	Platform, Arms		IP67		
Environment Requirements	Ambient Temperature		1 to 40°C		
	Humidity Range		5 to 90% (non-condensing)		
USDA-Accepted for meat and poultry processing			---	---	Yes
Weight			117 kg		
Basic configuration	Controller		iCS-ECAT		
	On-board I/O (Input/Output)		12/8		
	Conveyor tracking input		4		
	RS-232C serial communications port		1		
	Programming environment		Sysmac Studio 64-bit		
	ACE Sight		Yes		
	ePLC Connect		No		
			No		
Connectable controller			Omron NJ501-R Series		

*1. Adept cycle, in mm (25/305/25)

*2. Extended cycle, in mm (25/700/25)

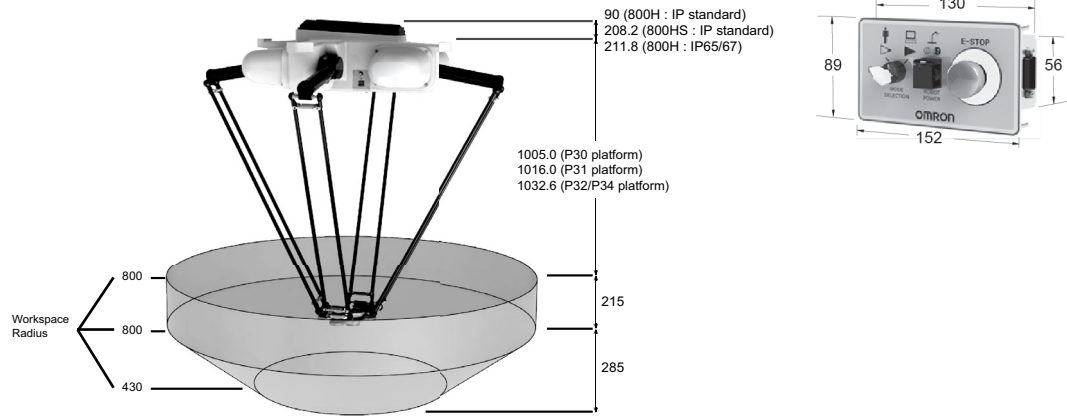
Dimensions

(Unit: mm)

ix4-800H/HS

Note: The figure shows the H type.

Front panel



Four choices of platform offer different ranges of rotation.

Appearance				
Type	P30	P31	P32	P34
Rotation angle	No rotation	$\pm 46.25^\circ$	$\pm 92.5^\circ$	$\pm 185^\circ$
Maximum Payload	H: 10 kg, HS: 7 kg	H: 4 kg, HS: 1 kg	H: 4 kg, HS: 1 kg	H: 4 kg, HS: 1 kg

Note: The platform appearances of the H type are shown above. The platform of the HS type is made of stainless steel.

Robot Parts Code and Bundled Accessories

Type	ix4		
IP	Standard (H)	Standard (HS)	IP65/67
ix4 P30	RX4-2166300	RX4-2166310	RX4-2166320
ix4 P31	RX4-2166301	RX4-2166311	RX4-2166321
ix4 P32	RX4-2166302	RX4-2166312	RX4-2166322
ix4 P34	RX4-2166304	RX4-2166314	RX4-2166324
Overview	To be used in conjunction with NJ501-R Series controller, which can connect up to 8 robots via EtherCAT		
Bundled Accessories	- XSYSTEM cable with jumpers and Ethernet Management port, 1.8 m/6 ft (13323-100) - Front panel kit (92546-10358)		

Quattro 650H/HS

Four-axis parallel robot achieves high speed and high precision

- Programmable through ACE software and eV+ language, or through the familiar IEC 61131-3 when using ePLC Connect.
- Four-axis arm evenly distributes the load on the robot
- Fast and high-precision conveyance and assembly
- Designed with a high payload to support multi-hand (multi-picking)
- Supports fast Pick & Place on a fast conveyor
- Meets the sanitary standards of the United States Department of Agriculture for prevention of product contamination
- Maximum working diameter 1,300 mm
- Working height 500 mm
- Maximum payload 15 kg
- Weight 117 kg



Specifications

Product name			Quattro		
			650		
			H		HS
			Standard	IP65/67	Standard
Part Number			1721-2600[]	1721[]-2602[]	1721[]-2601[]
Number of axes			4		
Mounting			inverted		
Working volume	X,Y axis (stroke)		1300 mm		
	Z axis (stroke)		500 mm		
	theta axis (rotation angle)	0° (fixed) (P30)			
		±46.25° (P31)			
		±92.5° (P32)			
		±185° (P34)			
Maximum Payload			6 kg (P30: 15 kg)		3 kg (P30: 12 kg)
Repeatability			±0.10 mm		
Cycle times, sustained, at 20°C ambient	Payload 0.1 kg		0.30 s *1, 0.46 s *2		0.39 s *1, 0.55 s *2
	Payload 1.0 kg		0.36 s *1, 0.47 s *2		0.41 s *1, 0.58 s *2
	Payload 2.0 kg		0.37 s *1, 0.52 s *2		0.42 s *1, 0.59 s *2
	Payload 4.0 kg		0.41 s *1, 0.58 s *2		-
	Payload 6.0 kg		0.43 s *1, 0.61 s *2		-
Power Requirements			24 VDC: 11 A (eAIB, SmartController) 200 to 240 VAC: 10 A, single-phase		
Protection	Base	Topside of robot	IP20	IP65	IP66
		Underside of robot	IP65	IP65	IP66
	Platform, Arms		IP67		
Environment Requirements	Ambient Temperature		1 to 40°C		
	Humidity Range		5 to 90% (non-condensing)		
Weight			117 kg		
USDA-Accepted for meat and poultry processing			---	---	Yes
Basic configuration	Controller		SmartController EX		
	On-board I/O (Input/Output)		12/8		
	Conveyor tracking input		4		
	RS-232C serial communications port		1		
	Programming environment		ACE, ePLC		
	ACE Sight		Yes		
	ePLC Connect		Yes		
ePLC I/O		Yes			
Connectable controller *3			SmartController EX, NJ/NX/NY Series *4		

*1. Adept cycle, in mm (25/305/25)

*2. Extended cycle, in mm (25/700/25)

*3. Choose a controller to suit your application.

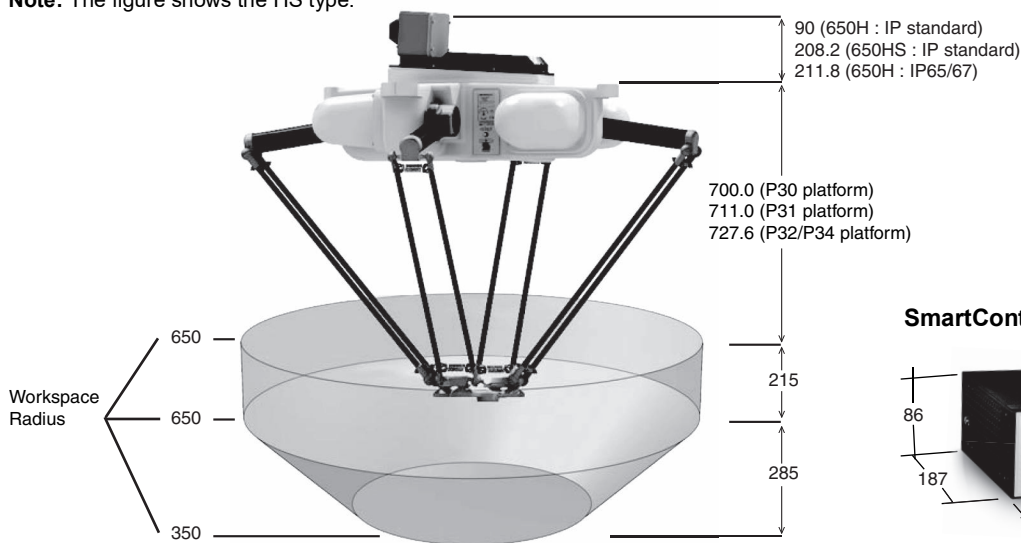
*4. The robot version 2.3.C or later is required to connect with the NJ/NX/NY Series.

Dimensions

(Unit: mm)

Quattro 650H/HS

Note: The figure shows the HS type.



Front panel



SmartController EX



Four choices of platform offer different ranges of rotation.

Appearance				
Type	P30	P31	P32	P34
Rotation angle	No rotation	$\pm 46.25^\circ$	$\pm 92.5^\circ$	$\pm 185^\circ$
Maximum Payload	H: 15 kg, HS: 12 kg	H: 6 kg, HS: 3 kg	H: 6 kg, HS: 3 kg	H: 6 kg, HS: 3 kg

Note: The platform appearances of the H type are shown above. The platform of the HS type is made of stainless steel.

Robot Parts Code and Bundled Accessories

Type	Quattro with EX Controller			Quattro Add-On		
IP	Standard (H)	Standard (HS)	IP65/67	Standard (H)	Standard (HS)	IP65/67
Quattro P30	17214-26000	17214-26010	17214-26020	17213-26000	17213-26010	17213-26020
Quattro P31	17214-26001	17214-26011	17214-26021	17213-26001	17213-26011	17213-26021
Quattro P32	17214-26002	17214-26012	17214-26022	17213-26002	17213-26012	17213-26022
Quattro P34	17214-26004	17214-26014	17214-26024	17213-26004	17213-26014	17213-26024
Overview	Robot + eAIB+ SmartController EX + required connection cables			Robot + eAIB + required connection cables		
Purpose	Typical for use in single robot system and multi-robot systems.			Typically added to systems with an existing SmartController EX to create multi-robot systems		
Bundled Accessories	- SmartController EX (09200-000) - XSYS cable, 4.5 m/15 ft (11585-000) 1394 latch cable, 4.5 m/15 ft (13632-045) - Front panel kit (92546-10358) - eV+ license to connect to controller (14529-103)	- SmartController EX (09200-000) - XSYS cable, 4.5 m/15 ft (11585-000) 1394 latch cable, 4.5 m/15 ft (13632-045) - Front panel kit (92546-10358) - eV+ license to connect to controller (14529-103) - Cable Seal Kit (09564-000)	- SmartController EX (09200-000) - XSYS cable, 4.5 m/15 ft (11585-000) 1394 latch cable, 4.5 m/15 ft (13632-045) - Front panel kit (92546-10358) - eV+ license to connect to controller (14529-103) - Cable Seal Kit (08765-000)	- XSYS cable, 4.5 m/15 ft (11585-000) - DB9 splitter (00411-000) 1394 latch cable, 4.5 m/15 ft (13632-045) - eV+ license to connect to controller (14529-103)	- XSYS cable, 4.5 m/15 ft (11585-000) - DB9 splitter (00411-000) 1394 latch cable, 4.5 m/15 ft (13632-045) - eV+ license to connect to controller (14529-103) - Cable Seal Kit (09564-000)	- XSYS cable, 4.5 m/15 ft (11585-000) - DB9 splitter (00411-000) 1394 latch cable, 4.5 m/15 ft (13632-045) - eV+ license to connect to controller (14529-103) - Cable Seal Kit (08765-000)

Quattro 800H/HS

Four-axis parallel robot achieves high speed and high precision

- Programmable through ACE software and eV+ language, or through the familiar IEC 61131-3 when using ePLC Connect
- Four-axis arm evenly distributes the load on the robot
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- Designed with a high payload to support multi-hand (multi-picking)
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- Maximum working diameter 1,600 mm
- Working height 500 mm
- Maximum payload 10 kg
- Weight 117 kg



Specifications

Product name			Quattro		
			800		
			H		HS
			Standard	IP65/67	Standard
Part Number			1721[]-2630[]	1720[]-2632[]	1721[]-2631[]
Number of axes			4		
Mounting			inverted		
Working volume	X,Y axis (stroke)		1600 mm		
	Z axis (stroke)		500 mm		
	theta axis (rotation angle)		0° (fixed) (P30)		
			±46.25° (P31)		
			±92.5° (P32)		
			±185° (P34)		
Maximum Payload			4 kg (P30:10 kg)		1 kg (P30: 7 kg)
Repeatability			±0.10 mm		
Cycle times, sustained (at 20°C ambient)	Payload 0.1 kg		0.33 s *1, 0.48 s *2		-
	Payload 1.0 kg		0.38 s *1, 0.50 s *2		0.45 s *1, 0.62 s *2
	Payload 2.0 kg		0.40 s *1, 0.55 s *2		-
	Payload 4.0 kg		0.45 s *1, 0.62 s *2		-
Power Requirements			24 VDC: 11 A (eAIB, SmartController) 200 to 240 VAC: 10 A, single-phase		
Protection	Base	Topside of robot	IP20	IP65	IP66
		Underside of robot	IP65	IP65	IP66
	Platform, Arms		IP67		
Environment Requirements	Ambient Temperature		1 to 40°C		
	Humidity Range		5 to 90% (non-condensing)		
USDA-Accepted for meat and poultry processing			---	---	Yes
Weight			117 kg		
Basic configuration	Controller		SmartController EX		
	On-board I/O (Input/Output)		12/8		
	Conveyor tracking input		4		
	RS-232C serial communications port		3		
	Programming environment		ACE, ePLC		
	ACE Sight		Yes		
	ePLC Connect		Yes		
ePLC I/O			Yes		
Connectable controller *3			SmartController EX, NJ/NX/NY Series *4		

*1. Adept cycle, in mm (25/305/25)

*2. Extended cycle, in mm (25/700/25)

*3. Choose a controller to suit your application.

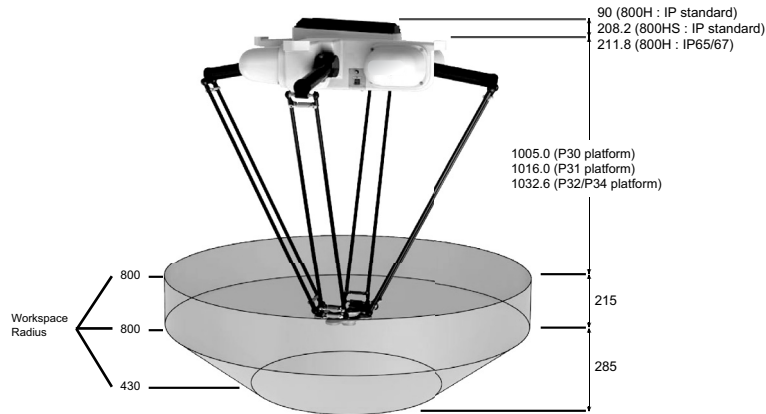
*4. The robot version 2.3.C or later is required to connect with the NJ/NX/NY Series.

Dimensions

(Unit: mm)

Quattro 800H/HS

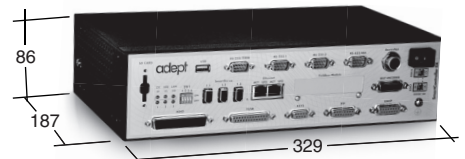
Note: The figure shows the H type.



Front panel



SmartController EX



Four choices of platform offer different ranges of rotation.

Appearance				
Type	P30	P31	P32	P34
Rotation angle	No rotation	$\pm 46.25^\circ$	$\pm 92.5^\circ$	$\pm 185^\circ$
Maximum Payload	H: 10 kg, HS: 7 kg	H: 4 kg, HS: 1 kg	H: 4 kg, HS: 1 kg	H: 4 kg, HS: 1 kg

Note: The platform appearances of the H type are shown above. The platform of the HS type is made of stainless steel.

Robot Parts Code and Bundled Accessories

Type	Quattro with EX Controller			Quattro Add-On		
IP	Standard (H)	Standard (HS)	IP65/67	Standard (H)	Standard (HS)	IP65/67
Quattro P30	17214-26300	17214-26310	17214-26320	17213-26300	17213-26310	17213-26320
Quattro P31	17214-26301	17214-26311	17214-26321	17213-26301	17213-26311	17213-26321
Quattro P32	17214-26302	17214-26312	17214-26322	17213-26302	17213-26312	17213-26322
Quattro P34	17214-26304	17214-26314	17214-26324	17213-26304	17213-26314	17213-26324
Overview	Robot + eAIB+ SmartController EX + required connection cables			Robot + eAIB + required connection cables		
Purpose	Typical for use in single robot system and multi-robot systems.			Typically added to systems with an existing SmartController EX to create multi-robot systems		
Bundled Accessories	- SmartController EX (09200-000) - XSYS cable, 4.5 m/15 ft (11585-000) 1394 latch cable, 4.5 m/15 ft (13632-045) - Front panel kit (92546-10358) - eV+ license to connect to controller (14529-103)	- SmartController EX (09200-000) - XSYS cable, 4.5 m/15 ft (11585-000) 1394 latch cable, 4.5 m/15 ft (13632-045) - Front panel kit (92546-10358) - eV+ license to connect to controller (14529-103) - Cable Seal Kit (09564-000)	- SmartController EX (09200-000) - XSYS cable, 4.5 m/15 ft (11585-000) 1394 latch cable, 4.5 m/15 ft (13632-045) - Front panel kit (92546-10358) - eV+ license to connect to controller (14529-103) - Cable Seal Kit (08765-000)	- XSYS cable, 4.5 m/15 ft (11585-000) - DB9 splitter (00411-000) 1394 latch cable, 4.5 m/15 ft (13632-045) - eV+ license to connect to controller (14529-103) - Cable Seal Kit (09564-000)	- XSYS cable, 4.5 m/15 ft (11585-000) - DB9 splitter (00411-000) 1394 latch cable, 4.5 m/15 ft (13632-045) - eV+ license to connect to controller (14529-103) - Cable Seal Kit (08765-000)	- XSYS cable, 4.5 m/15 ft (11585-000) - DB9 splitter (00411-000) 1394 latch cable, 4.5 m/15 ft (13632-045) - eV+ license to connect to controller (14529-103) - Cable Seal Kit (08765-000)