






AD-4983-5080

Pusher Type Rejector

INSTRUCTION MANUAL

WARNING DEFINITIONS

The warnings described in this manual have the following meanings:

 WARNING	A potentially hazardous situation which, if not avoided, could result in death or serious injury.
 CAUTION	A potentially hazardous situation which, if not avoided, may result in minor or moderate injury or damage to the instrument.
	This symbol indicates caution against electrical shock. Do not touch the part where the symbol is placed.
	This symbol indicates the ground terminal.
	This symbol indicates that an operation is prohibited.
Note	Information or cautions to use the device correctly.

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The contents of this manual and the specifications of the instrument covered by this manual are subject to change for improvement without notice.

Contents

1. Introduction	4
2. Unpacking	5
2-1 Confirmation of Packing List.....	5
3. Descriptions of parts	7
3-1 Overall view	7
3-2 Gears of the Motor Unit	9
3-3 Cables.....	10
3-4 Warnig Labels.....	11
4. Assembling the AD-4983-C5080	12
4-1 Insstalling the filter and regulator	12
4-2 Installation of the AD-4983-B5080 (when separate package is used for the AD-4983-C5080).....	14
5. Installation.....	15
6. Connecting to the AD-4991 Series	16
7. Adjusting Pusher Arm Speed	20
8. Maintenance	21
9. Specifications.....	22
10. External dimensions.....	23
11. Revision History	24

1. Introduction

The AD-4983-5080 is a pusher type rejector that can be used when connecting to the AD-4991 Xray inspection system. The pusher arm is activated by magnetic rodless cylinder, products can be separated into two directions (rejected products in one push-out direction and passed products in one straight direction).

2. Unpacking

Caution

The AD-4983-5080 pusher type rejector is a precision instrument.

Handle it with great care. A strong impact may damage the instrument.

2-1 Confirmation of Packing List

Before assembling, make sure that the following items are included in the package and they are not damaged.

If you find that anything is missing or damaged, please contact your local dealer.

Depending on how you made the purchase, your product may be delivered pre-assembled.

Table 1 Packing list 1/2 of the AD-4983-C5080

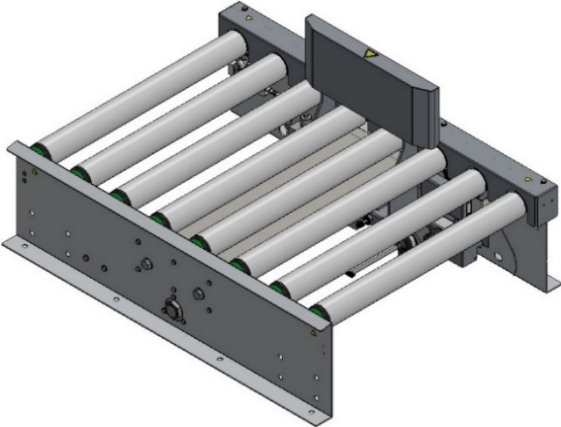
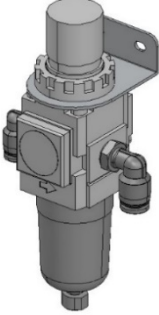

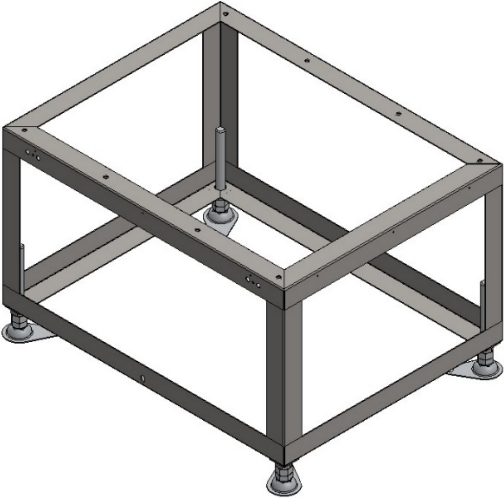
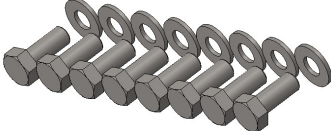


Item	View
AD-4983-C5080	
Filter regulator	
Two mounting screw sets for filter regulator (M4 x 8 mm Allen head screw, M4 plain washer)	

Table 2 Packing list 1/2 of the AD-4983-C5080 (In combined order)

Item	View
AD-4983-B5080	
8 mounting screw sets for the AD-4983-C5080 (If the AD-4983-C5080 is assembled in our factory, they are not include.)	
3 cable clips (If the AD-4983-C5080 is assembled in our factory, they are not include.)	
3 cable clips and mounting screw sets (If the AD-4983-C5080 is assembled in our factory, they are not include.)	

3. Descriptions of parts

3-1 Overall view

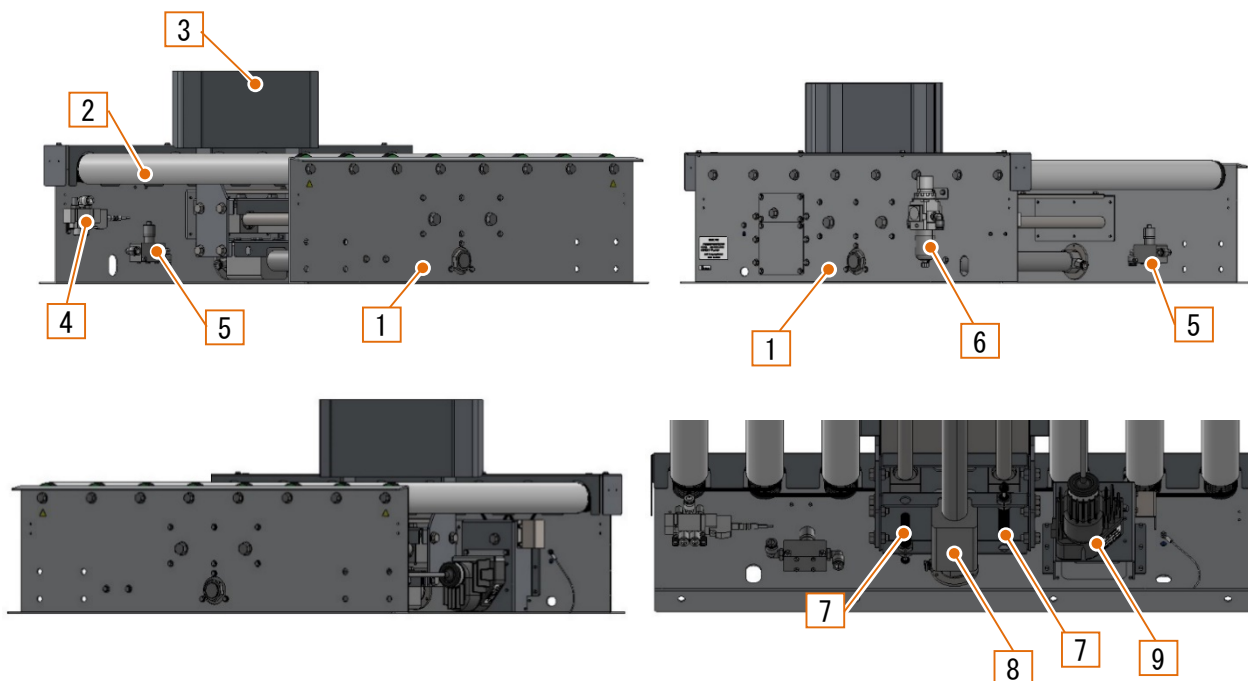


Fig. 1 Overall view (AD-4983-C5080)

Table 3 Part names and functions (AD-4983-C5080)

No.	Name	Function
1	Frame	Frame to install rollers that carries products.
2	Roller	Rollers to carry product.
3	Pusher arm	When external signal received, it selects passing or rejection of conveyed products.
4	Solenoid valve	By an electric signal from the inspection system, via the speed controller, it switches either supplying air to the cylinder or discharging air from the cylinder by this air cylinder of magnet type.
5	Speed controller	Speed controller can adjust the supplying air pressure of the air cylinder of magnet type and discharging air pressure form it.
6	Filter regulator	Filter regulator filters the air supplied to the solenoid valve. The air pressure supplied to the solenoid valve can also be adjusted.
7	Shock absorber	Absorbs shock of the pusher arm.
8	Cylinder rod of magnet type	Selects passing and rejecting products by air pressure of the pusher arm.
9	Motor unit	Rotates rollers.

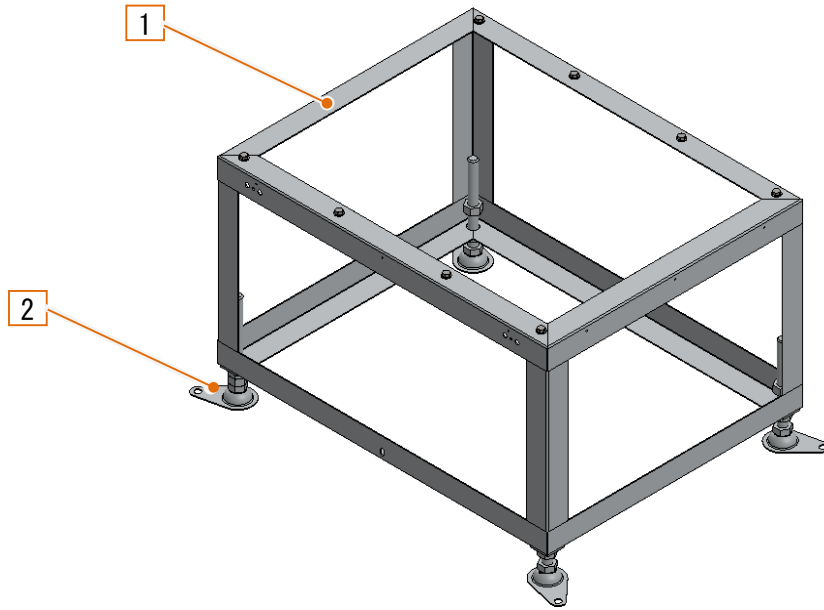


Fig. 2 Overall view (AD-4983-B5080)

Table 4 Part names and functions (AD-4983-B5080)

No.	Name	Function
1	Base frame	AD-4983-C5080 is base frame for exclusive use.
2	Adjusting foot	Adjusting feet can be used to height and level adjustment. And $\phi 14$ holes can be used to fix the base frame by ancker.

3-2 Gears of the Motor Unit

The motor unit uses gears made of resin.

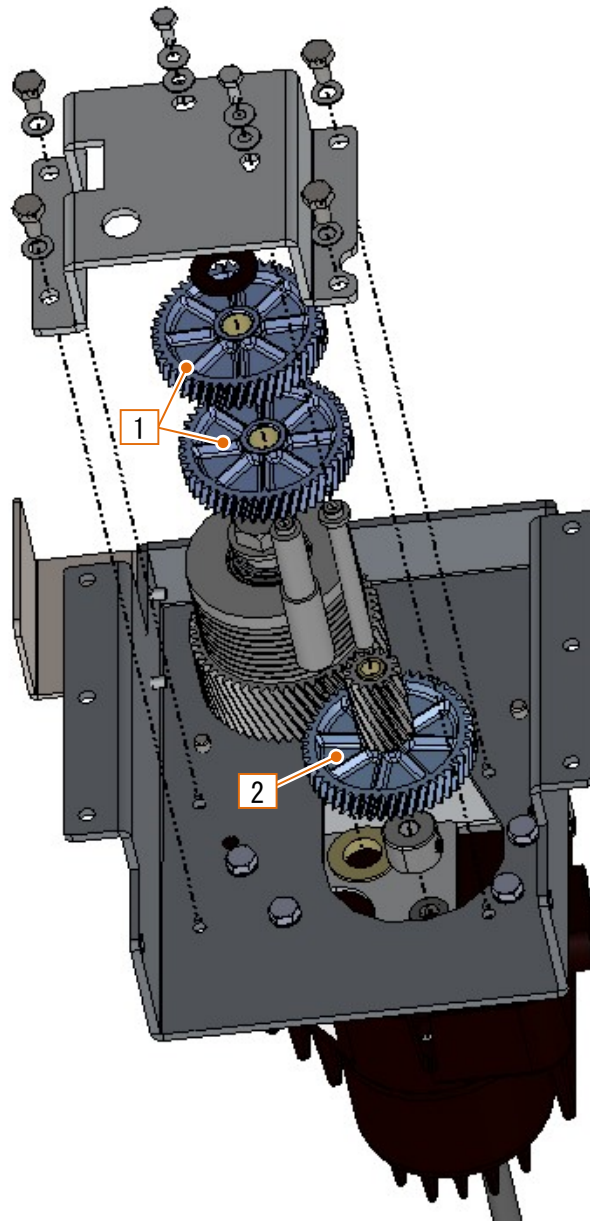


Fig. 3 Gears of motor unit

Table 5 Name and type of consumptive gears

No.	Name	Type	Number of use
1	AD49XX gear 50 flange reduction gear	1PA49XX-GEAR07	2
2	AD49XX gear 15-50 double gear	1PA49XX-GEAR08	1

3-3 Cables

This rejector has three cables that connects externally.

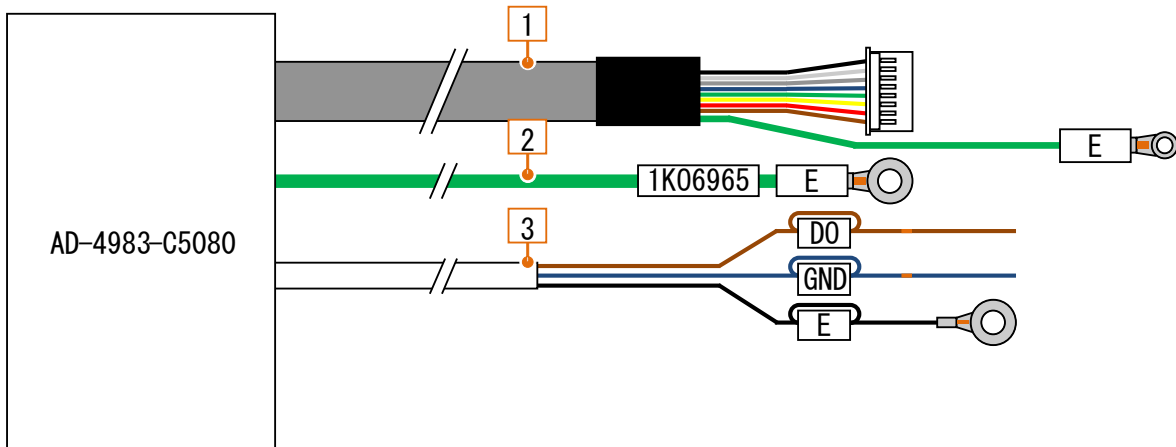


Fig 4 Appearances of cable tips

Table 6 Cable name and function

No.	Name	Function
1	Motor cable (1KO4223)	Connects the motor control board to the motor of the rejector.
2	Ground cable (1KO6965)	Connects the ground of external inspection system to the grounding terminal of the rejector.
3	Solenoid valve cable	Connects the general-purpose external output signal source to the solenoid valve of the rejector.

3-4 Warnig Labels

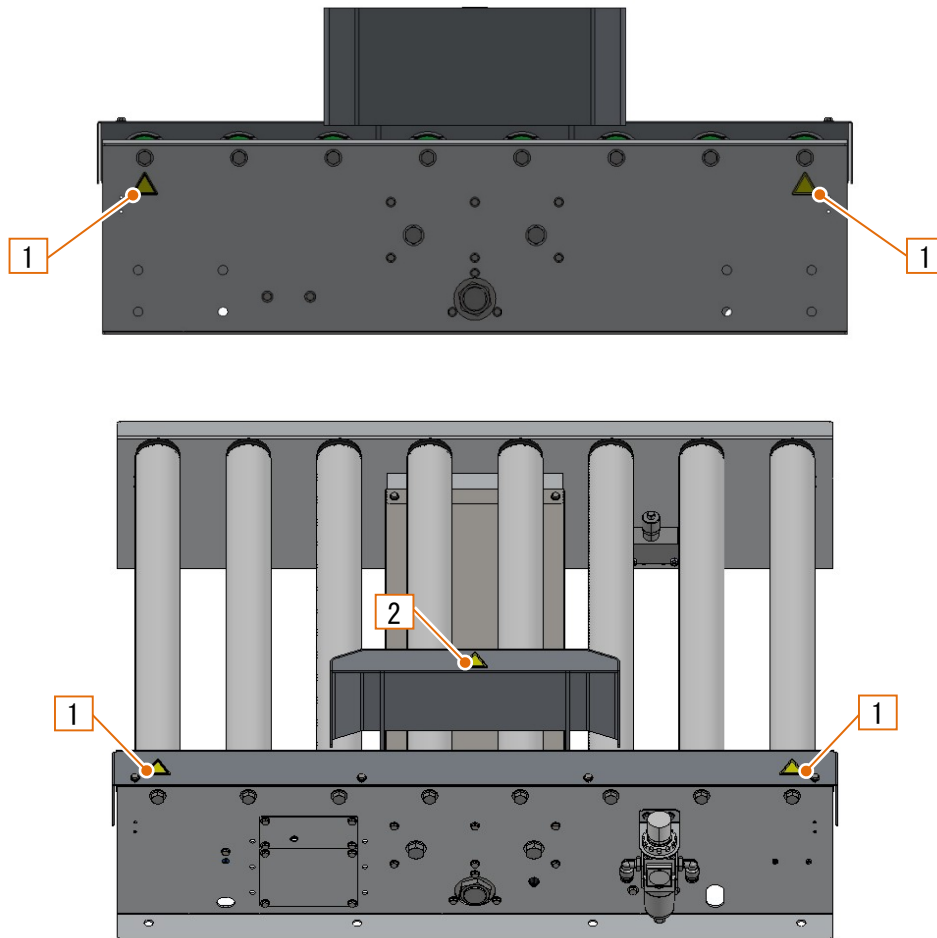




Fig. 5 Positions of the warning labels

Table 7 Warning labels

No.	Label	Description of labels
1		Be careful not to get hands, etc., caught in the roller of conveyor.
2		Be careful not to get hands, etc., caught in the pusher parts.

4. Assembling the AD-4983-C5080

Caution

Assembly work should be done by two or more people.

4-1 Installing the filter and regulator

1. Using 7 mm wrench, attach the filter regulator bracket on the main unit with the mounting screws.

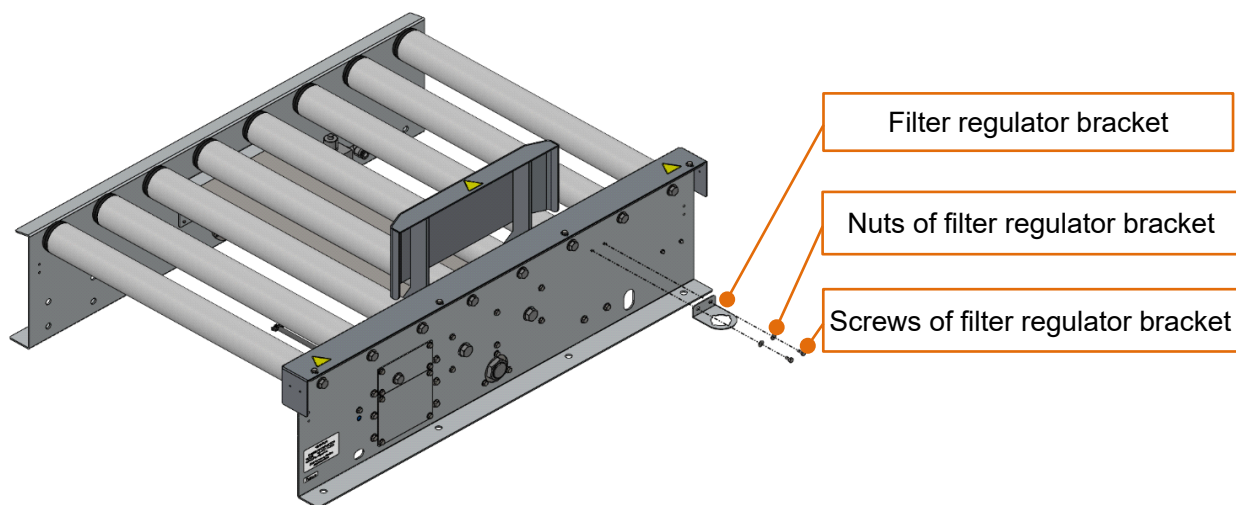


Fig. 6 Attaching the filter regulator bracket

2. Attach the filter regulator to the filter regulator bracket with nut.

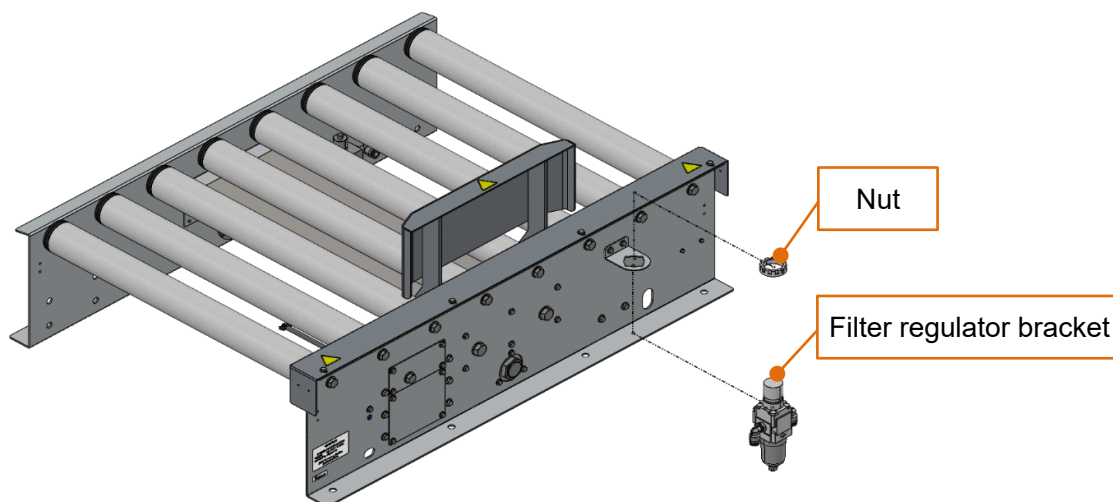


Fig. 7 Attaching the filter regulator

3. Connect air tube and adjust air pressure to 0.6 Mpa with the filter regulator.

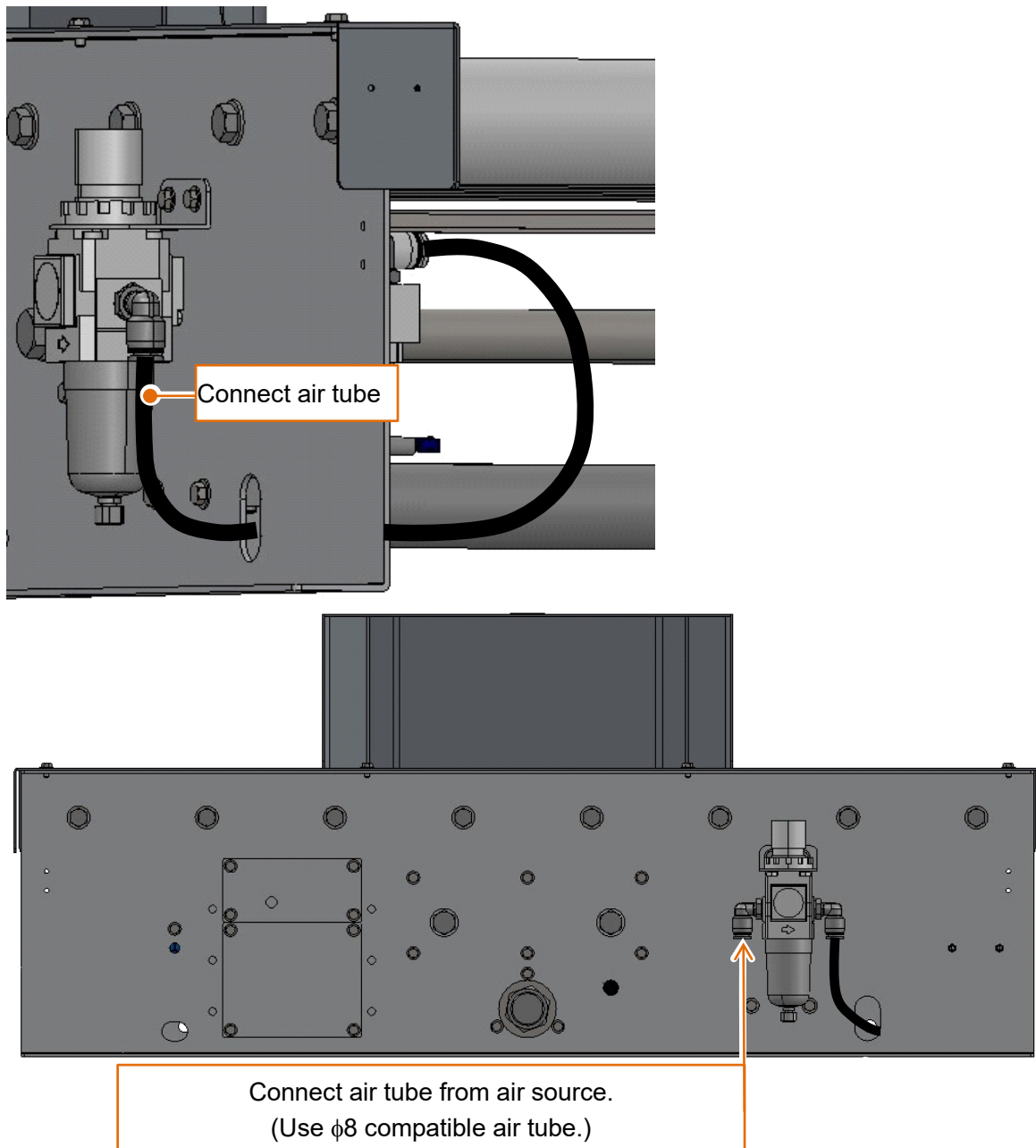


Fig 8 Connecting filter regulator and air tube

4-2 Installation of the AD-4983-B5080 (when separate package is used for the AD-4983-C5080)

Note :

In this chapter, the explanation is assumed that mounts the pusher type rejector onto the AD-4983-B5080 : base frame of pusher type rejector H790 (sold separately) and that each unit is packed separately. If you have any question, contact your local dealer.

1. Confirm the direction of base frame and pusher type rejector, mount pusher type rejector onto the base frame and fix them with 13 mm wrench like fig 9.

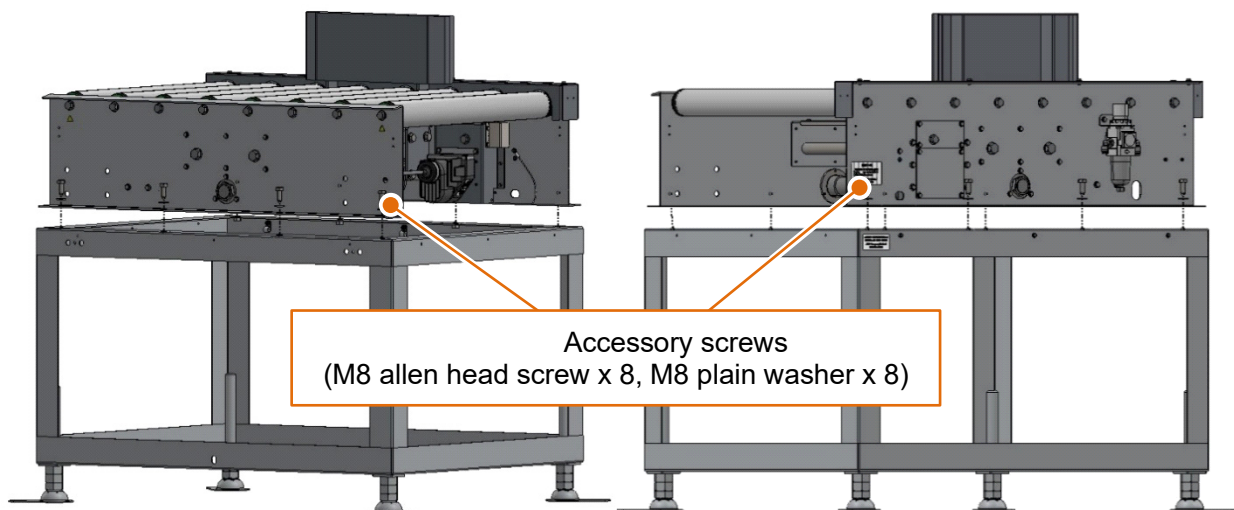


Fig 9 Attaching onto the AD-4983-B5080

2. Fix the motor cable (1KO4223) and grounding cable (1KO6965) using 7 mm wrench with accessory cable claps and mounting screws. Base frame has 3 holes to pass cables. Fix cable at proper position like fig. 10 so as to adapt to the AD-4991 series.

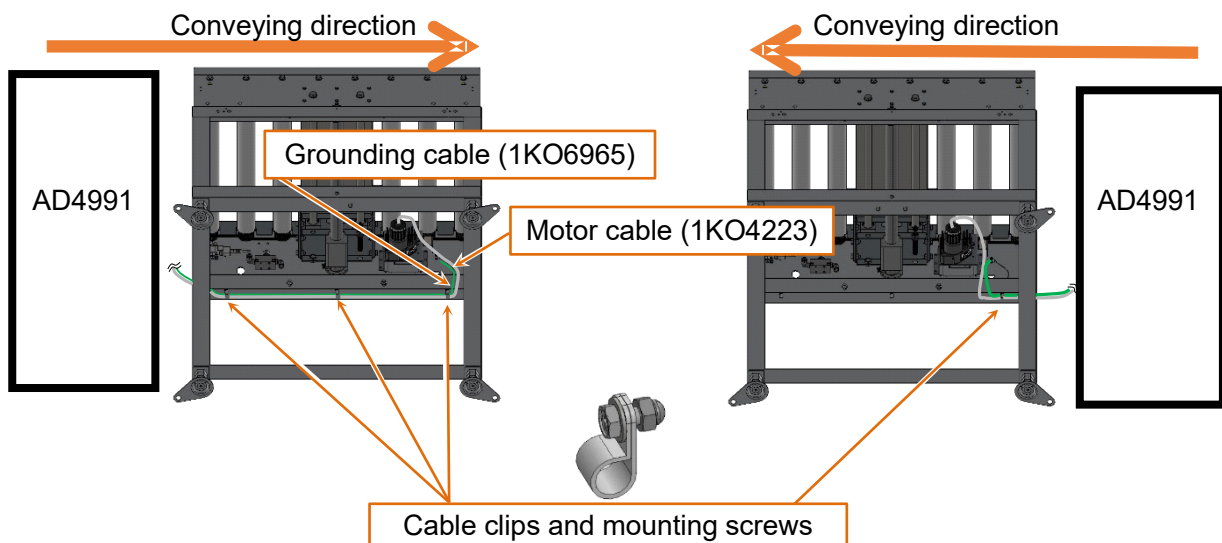


Fig 10 Wiring motor cable and grounding cable

5. Installation

Note :

In this chapter, the explanation is assumed that mounts the pusher type rejector onto the AD-4983-B5080 : base frame of pusher type rejector H790 (sold separately) and that each unit is packed separately. If you have any question, contact your local dealer.

1. Install the pusher type rejector beside the connected AD-4991 series (downstream side).
2. Arrow indicates the direction in which products are conveyed. Confirm conveying direction and direction of the pusher type rejector when installing them.

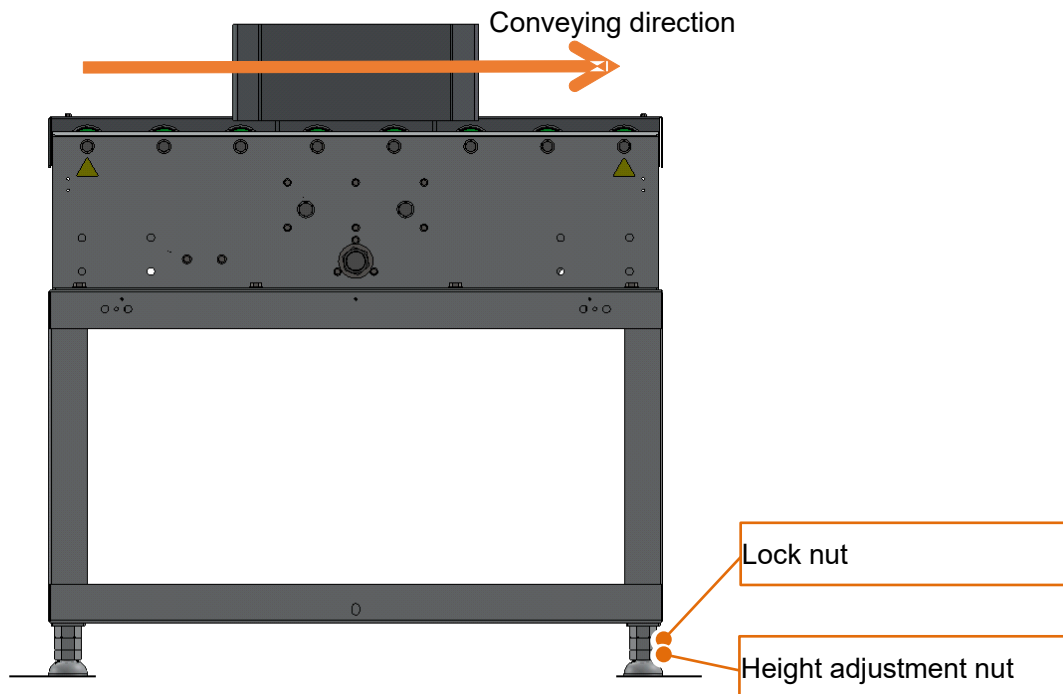


Fig. 11 Installation

3. Adjust height of conveyor with height adjustment nuts using 30 mm wrench.
4. Fix height adjustment nuts with lock nuts using 30 mm wrench.
5. Depending on the conditions of the floor on which the pusher type rejector is installed and the operating speed of rejection operations, the installation position may be easily displaced by the vibration of rejection operations. If it is frequently displaced, anchor or otherwise secure the adjustable feet in place.

6. Connecting to the AD-4991 Series

Caution :

To prevent injury or equipment failure during connection work, cut off the power supply to the AD-4991 series.

1. Remove the rear cover of the AD-4991 series.

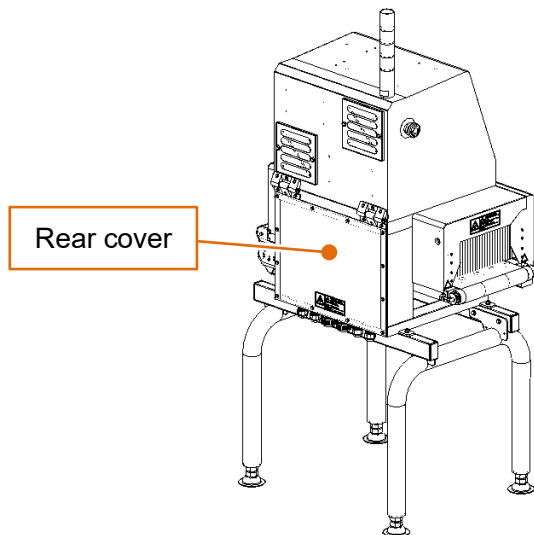


Fig. 12 Removing the rear cover

2. Attach the motor control board on the following position with mounting screws using #2 phillips screwdriver.

Caution :

The mounting position of the motor control board is different depended on other AD-4991 series. The explanation in this chapter is used the AD-4991-2510.

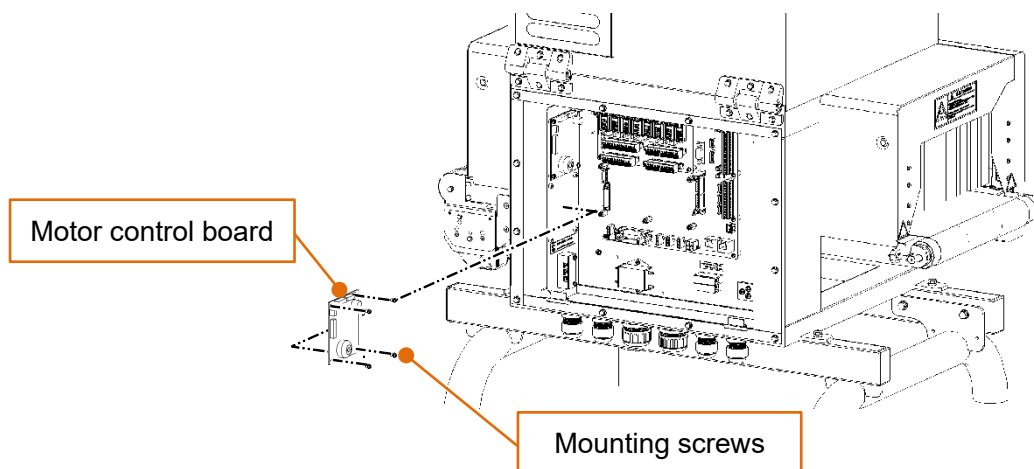


Fig. 13 Mounting the motor control board

3. Remove cable gland of the AD-4991 series using two adjustable wrench. Install the dedicated cable gland in place of the removed cable gland.

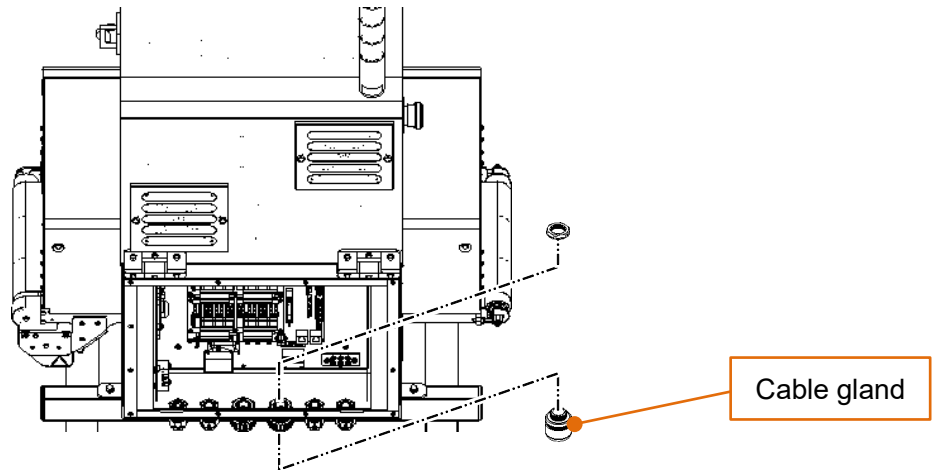


Fig. 14 Replacing cable gland

4. Pass the motor cable (1KO4223), grounding cable (1KO6965) and solenoid valve cable through the dedicated cable gland. Install the seal plug to the remaining hole of cable gland.

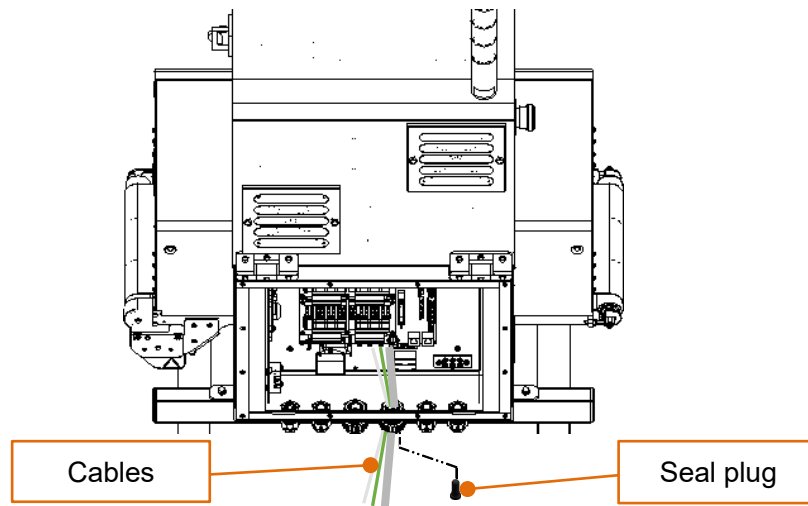


Fig. 15 Pass cables through (cable gland)

5. Connect the motor control cable, motor power cable and motor cable to the motor control board that are attached to the AD-4991 series in step 2.

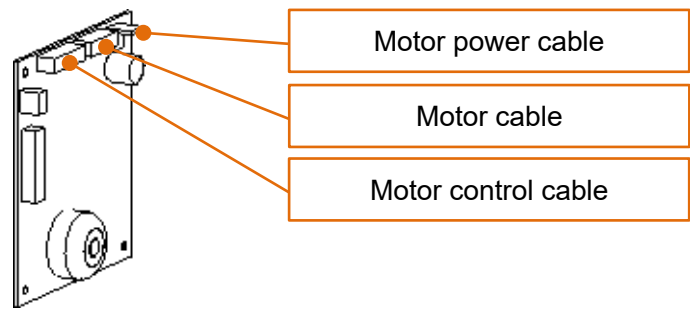


Fig. 16 Connecting cables (on the motor control board)

6. Connect the motor power cable, motor control cable and solenoid valve cable to connectors of the main board. Connect the grounding cable and black wire of the solenoid valve cable to the grounding bar using #2 phillips screwdriver.

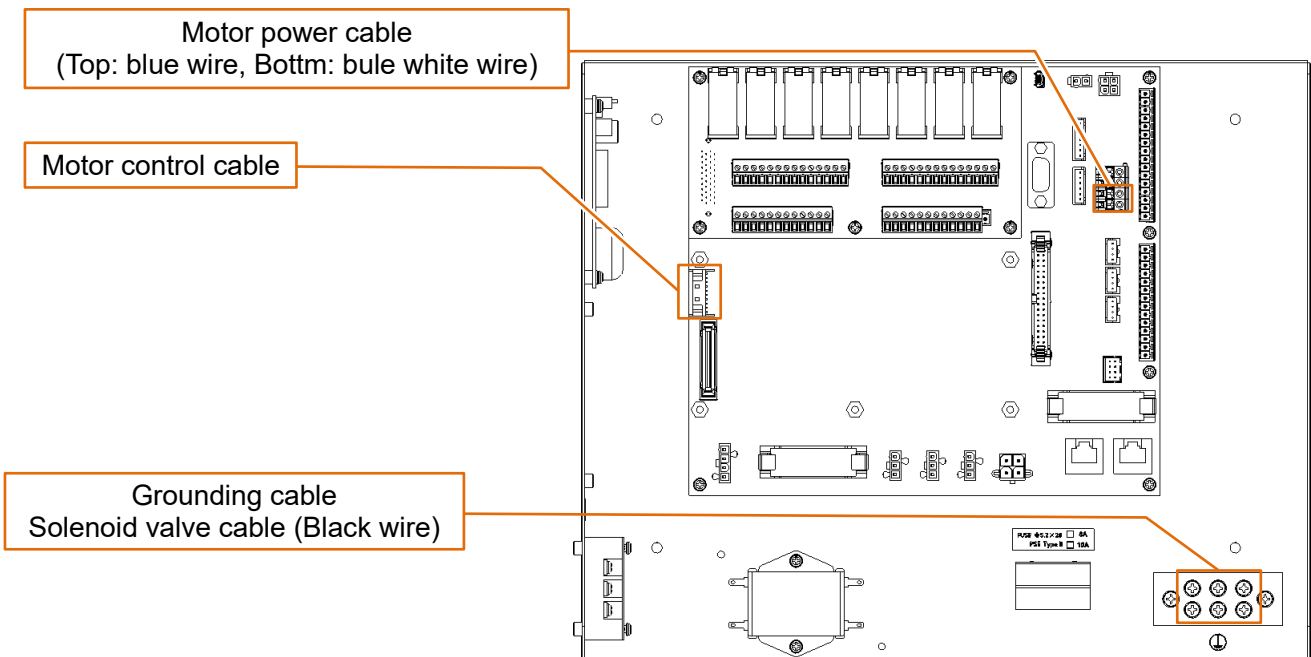


Fig 17 Connecting cables (on the main board and grounding bar)

- Remove connectors shown below, connect the solenoid valve cable passed in step 2 and the supplied 24 V crossover cable. The figure shown below is an example of connection for rejection operation using DO1 (positive polarity) of the AD-4991.

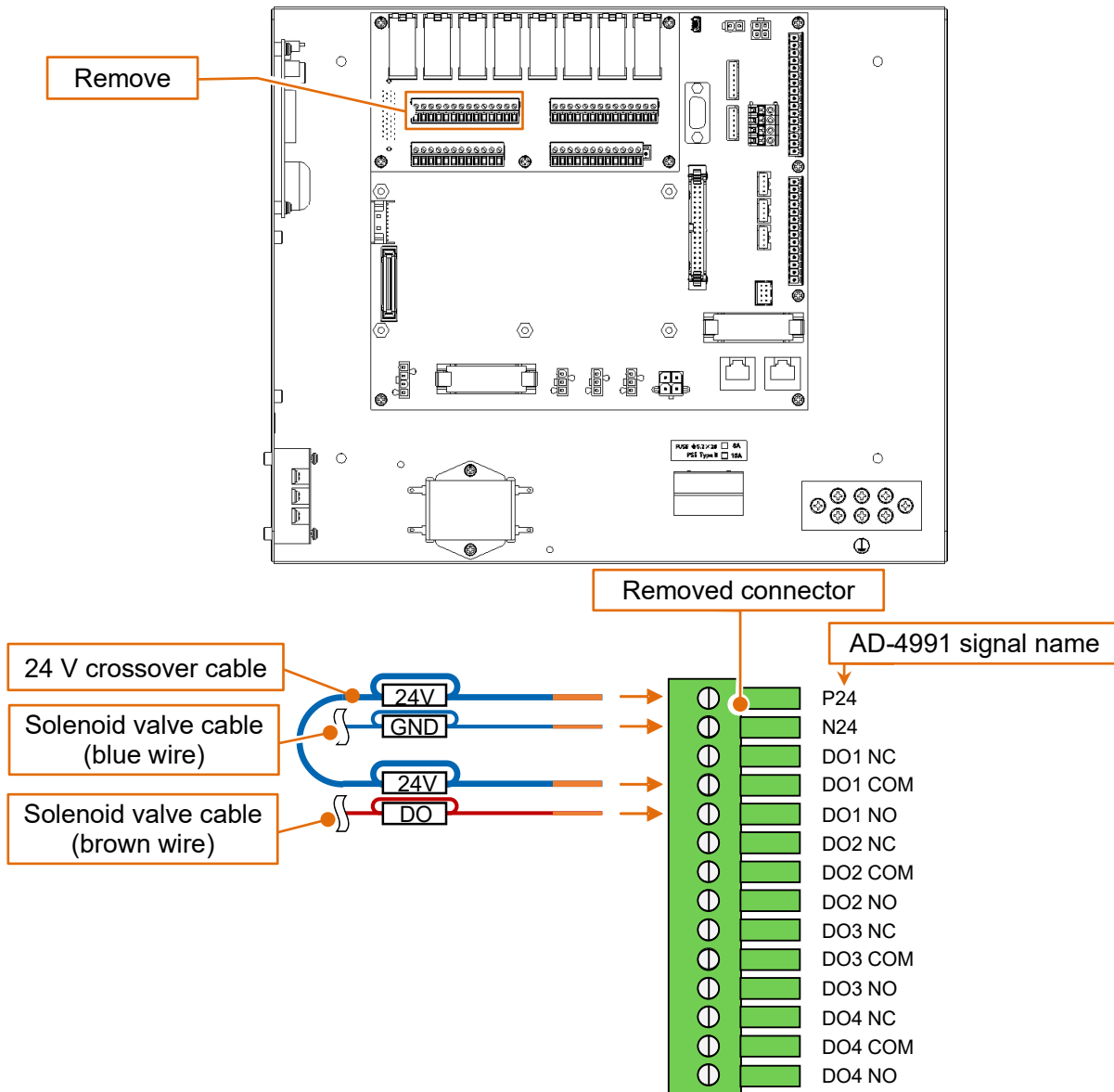


Fig. 18 Connecting the solenoid valve cable and 24 V crossover cable

- Attach again to the connector removed in step 7.
- Attach again rear cover removed in step 1.
- Start supplying power to the AD-4991 series, and set the following items if necessary.
 - Administrator settings (use of the rejector)
 - Belt settings (belt speed adjustment, error check)
 - Product settings (belt speed of rejector, DO map, DO behavior)
 - DI settings (DI setting, reject confirmation, reject timing)

7. Adjusting Pusher Arm Speed

Adjust the pusher arm speed.

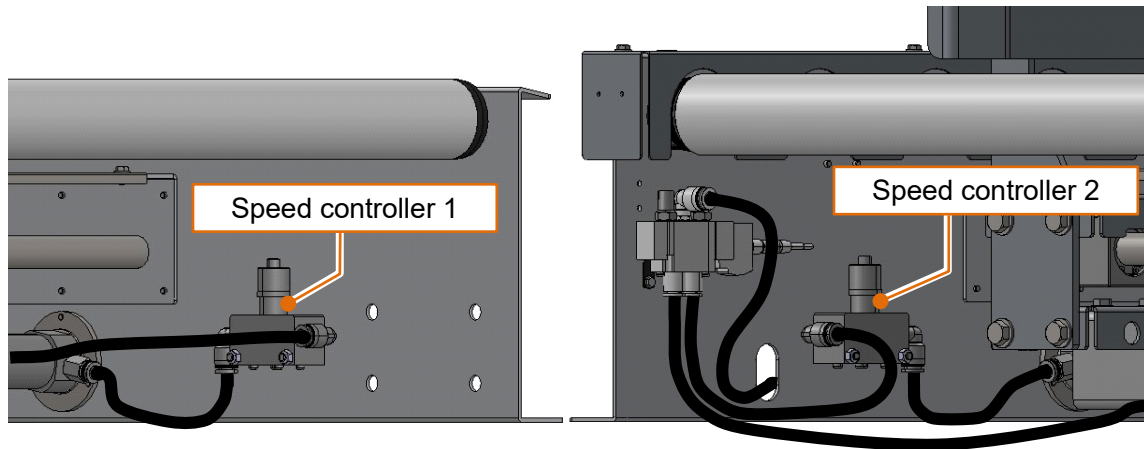


Fig. 19 Adjusting speed controller

Adjust the speed using the speed controller 1 that the pusher arm pushes the product.

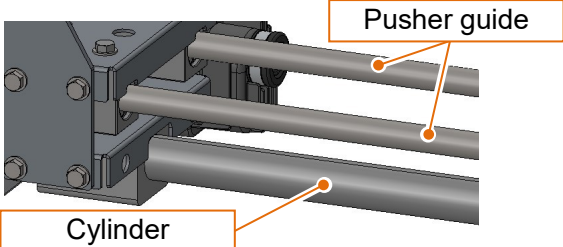
Adjust the speed using the speed controller 2 that the pusher arm returns to home position.

8. Maintenance

To ensure safe use, please check each part of this rejector before use.

If the status of the rejector does not match that of the check contents, please take the actions indicated in the table below.

Table 8 Daily Check

No.	Check contents	Action contents
1	Make sure the installation position and height of the equipment in front of and behind the rejector allow products to be conveyed in and out.	Depending on the conditions of the floor on which the rejector is installed and the operating speed of rejection operations, the installation position may be easily displaced by the vibration of rejection operations. If it is frequently displaced, please contact your local dealer.
2	Confirm that is inspected correctly when verifying non-conforming and conforming products.	If products are not screened correctly, check the following. <ul style="list-style-type: none"> • The DO settings of the inspection system • Belt speed is prpper. • The DI settings and reject confirmation settings of the inspection system.
3	Run the belt and check that there is no noise or error in motor and gears.	If there is noise or error, replacement of the motor or gears needs. Please contact your local dealer.
4	<p>Confirm that there is no dust etc. at the pusher guide and cylinder of the rejector.</p> 	Clean them if there is dust etc.
5	Confirm that shock absorber is no damage.	If you find damage of shock absorber, replacement of shock absorber needs. Please contact your local dealer.

9. Specifications

Table 9 Specifications

Product	AD-4983-C5080
Conveyor width	500 mm
Rejector length	800 mm
Pass line *1	720~860 mm
conveyer speed *2	10~40 m/min
Screening capacity *3	40 pcs/min
Ari source	0.6 MPa 4.33 NL/time Φ8 mm quick joint connector for urethane air tube
Conveying capacity	40 kg maximum
Use environment	0 to 40 °C 85 %RH or less No condensation
International protection	IP65
Maximum consumption	Approximately 100 W
Mass *4	Approximately 34 [Approximately 47] kg
Material of roller	SUS304
Diameter of roller	50.8 mm

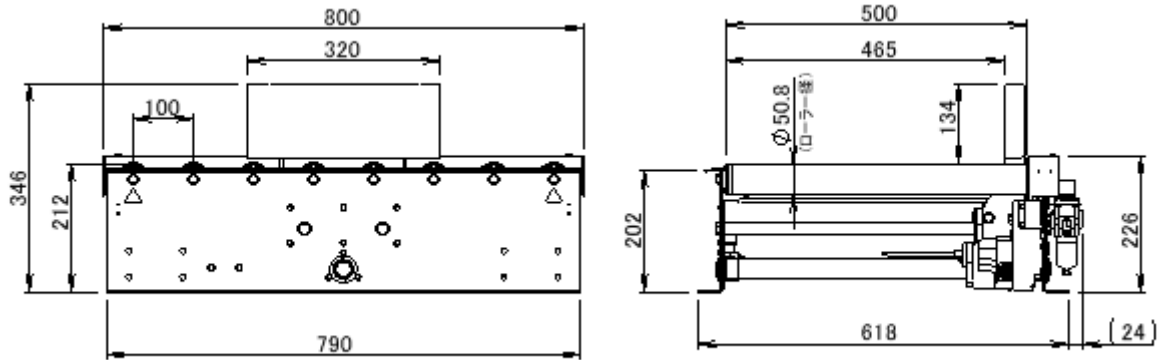
*1: The value when the AD-4983-B5080 sold separately is assembled.

*2: The value of this rejector. The available value may become narrower due to combination of the inspection system.

*3: The value differs depending on the shape and the condition of the product and installation environment.

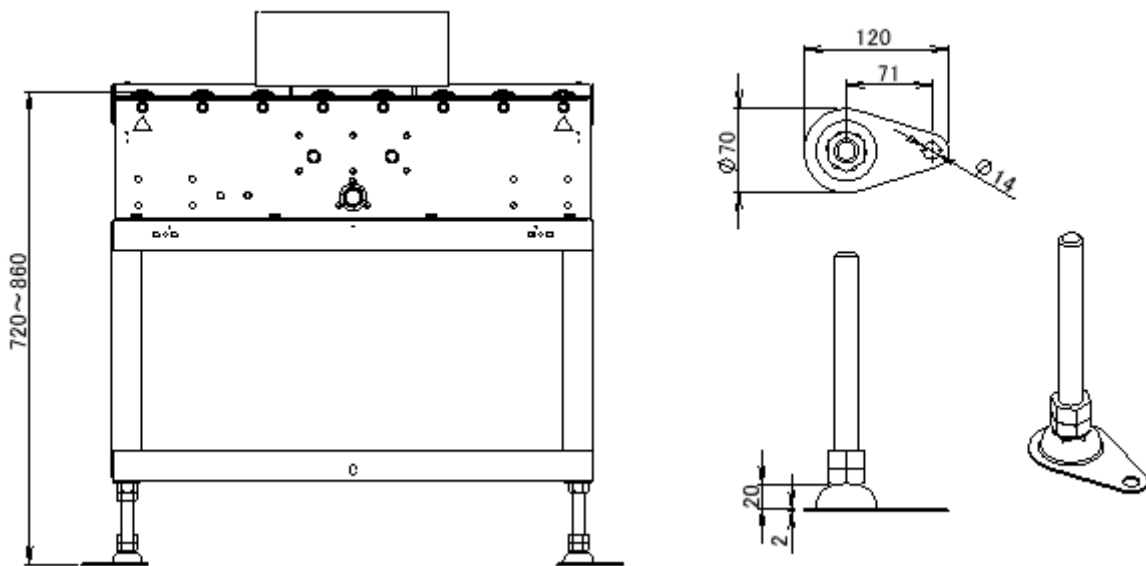
*4: The value in [] is the weight including the AD-4983-B5080.

10. External dimensions



Unit:mm

Fig. 20 External dimensions (standard)



Unit:mm

Fig 21 External dimensions (when products sold separately are installed)

11. Revision History

Table 10 Revision history

Date	Part number	Description of issue
2024/02/14	1WMPD4005188	First edition

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A&D Company, Limited

3-23-14 Higashi-Ikebukuro, Toshima-ku, Tokyo 170-0013, JAPAN
Telephone: [81] (3) 5391-6132 Fax: [81] (3) 5391-1566

A&D ENGINEERING, INC.

47747 Warm Springs Blvd, Fremont, California 94539, U.S.A.
Tel: [1] (800) 726-3364 Weighing Support:[1] (888) 726-5931 Inspection Support:[1] (855) 332-8815

A&D INSTRUMENTS LIMITED

Unit 24/26 Blacklands Way, Abingdon Business Park, Abingdon, Oxfordshire OX14 1DY United Kingdom
Telephone: [44] (1235) 550420 Fax: [44] (1235) 550485

A&D AUSTRALASIA PTY LTD

32 Dew Street, Thebarton, South Australia 5031, AUSTRALIA
Telephone: [61] (8) 8301-8100 Fax: [61] (8) 8352-7409

A&D KOREA Limited

한국에이.엔.디(주)
서울특별시 영등포구 국제금융로6길33 (여의도동) 맨하탄빌딩 817 우편 번호 07331
(817, Manhattan Bldg., 33. Gukjegeumyung-ro 6-gil, Yeongdeungpo-gu, Seoul, 07331 Korea)
전화: [82] (2) 780-4101 팩스: [82] (2) 782-4264

ООО A&D RUS

ООО "ЭЙ энд ДИ РУС"

Почтовый адрес:121357, Российская Федерация, г.Москва, ул. Верейская, дом 17
Юридический адрес: 117545, Российская Федерация, г. Москва, ул. Дорожная, д.3, корп.6, комн. 86
(121357, Russian Federation, Moscow, Vereyskaya Street 17)
тел.: [7] (495) 937-33-44 факс: [7] (495) 937-55-66

A&D Instruments India Private Limited

ऐ&डी इन्स्ट्रुमेंट्स इण्डिया प्रा० लिमिटेड

D-48, उद्योग विहार , फेस -5, गुडगांव - 122016, हरियाणा , भारत
(D-48, Udyog Vihar, Phase-V , Gurgaon - 122016, Haryana, India)
फोन : [91] (124) 4715555 फैक्स : [91] (124) 4715599

A&D SCIENTECH TAIWAN LIMITED. A&D台灣分公司 艾安得股份有限公司

台湾台北市中正區青島東路5號4樓
(4F No.5 Ching Tao East Road, Taipei Taiwan R.O.C.)
Tel : [886](02) 2322-4722 Fax : [886](02) 2392-1794

A&D INSTRUMENTS (THAILAND) LIMITED

บริษัท เอ แอนด์ ดี อินสตรูमेंท์ (ไทยแลนด์) จำกัด
168/16 หมู่ที่ 1 ตำบลรังสิต อำเภอธัญบุรี จังหวัดปทุมธานี 12110 ประเทศไทย
(168/16 Moo 1, Rangsit, Thanyaburi, Pathumthani 12110 Thailand)
Tel : [66] 20038911