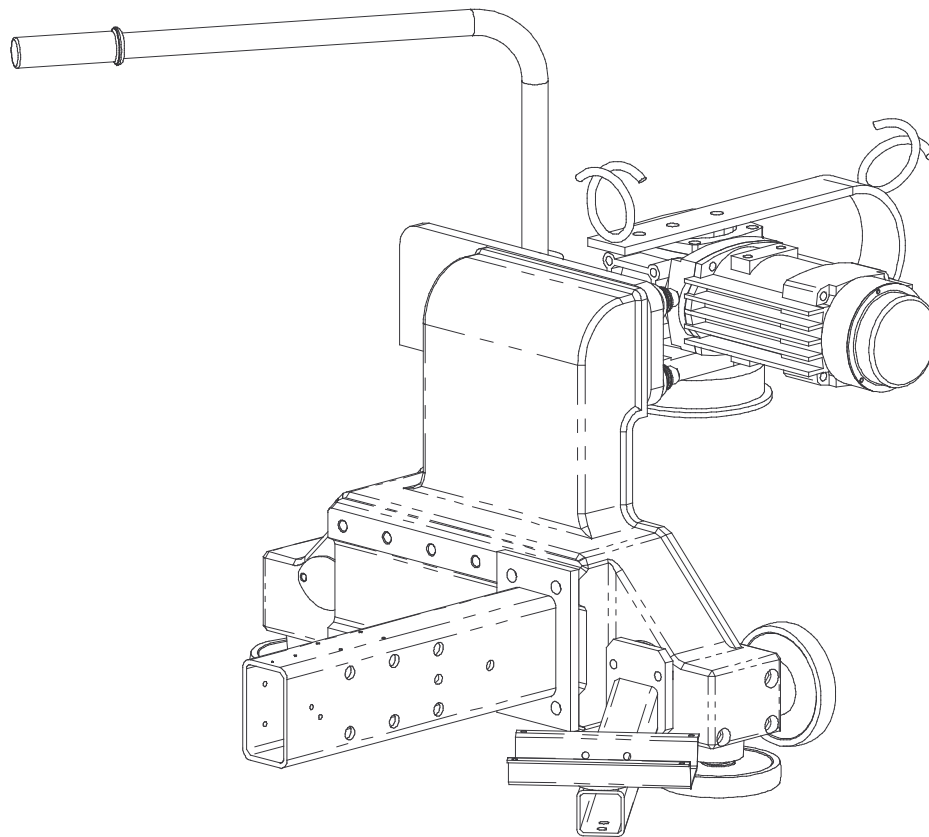




A2/ A6 Beam Travelling Carriage

A6BF F1/ BG F1



Instruction manual

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ENGLISH 5

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DECLARATION OF CONFORMITY

according to the Machinery Directive 98/37/EC, according to the EMC Directive 2004/108/EC

Type of equipment

Carriage for Welding Automat

Brand name or trade mark

ESAB

Type designation etc.

A2 / A6 Beam travelling carriage, from Serial number 916 xxx xxxx (2009 week 16)

Manufacturer or his authorised representative established within the EEA

Name, address, telephone No, telefax No:

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Phone: +46 584 81 000, Fax: +46 584 411 924

The following harmonised standard in force within the EEA has been used in the design:

EN 60204-1, Safety of machinery – Electrical equipment of machines – Party 1: General requirements
EN 12100-2, Safety of machinery – Part 2: Technical principles
EN 60974-10, Arc welding equipment – Part 10: Electromagnetic compatibility (EMC) requirements

By signing this document, the undersigned declares as manufacturer, or the manufacturer's authorised representative established within the EEA, that the equipment in question complies with the safety requirements stated above.

Date
Laxå 2009-04-09

Signatur


Position / Befattning
Global Director
Equipment and Automation

Kent Eimbrodt
Clarification

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1 SAFETY

Users of ESAB welding equipment have the ultimate responsibility for ensuring that anyone who works on or near the equipment observes all the relevant safety precautions. Safety precautions must meet the requirements that apply to this type of welding equipment. The following recommendations should be observed in addition to the standard regulations that apply to the workplace.

All work must be carried out by trained personnel well-acquainted with the operation of the welding equipment.

Incorrect operation of the equipment may lead to hazardous situations which can result in injury to the operator and damage to the equipment.

1. Anyone who uses the welding equipment must be familiar with:
 - its operation
 - location of emergency stops
 - its function
 - relevant safety precautions
 - welding
2. The operator must ensure that:
 - no unauthorised person is stationed within the working area of the equipment when it is started up.
 - no-one is unprotected when the arc is struck
3. The workplace must:
 - be suitable for the purpose
 - be free from draughts
4. Personal safety equipment
 - Always wear recommended personal safety equipment, such as safety glasses, flame-proof clothing, safety gloves. **Note!** *Do not use safety gloves when replacing wire.*
 - Do not wear loose-fitting items, such as scarves, bracelets, rings, etc., which could become trapped or cause burns.
5. Protection against other risks
 - Dust particles of a certain size can be harmful to man. A ventilation system and extractor should therefore be provided to eliminate this risk.
6. General precautions
 - Make sure the return cable is connected securely.
 - Work on high voltage equipment **may only be carried out by a qualified electrician.**
 - Appropriate fire extinguishing equipment must be clearly marked and close at hand.
 - Lubrication and maintenance must **not** be carried out on the equipment during operation.

GB



WARNING, RISK OF CRUSHING!

Do not use safety gloves when replacing wire, feed rollers and wire bobbins.



WARNING



ARC WELDING AND CUTTING CAN BE INJURIOUS TO YOURSELF AND OTHERS. TAKE PRECAUTIONS WHEN WELDING. ASK FOR YOUR EMPLOYER'S SAFETY PRACTICES WHICH SHOULD BE BASED ON MANUFACTURER'S HAZARD DATA.

ELECTRIC SHOCK - Can kill

- Install and earth the welding unit in accordance with applicable standards.
- Do not touch live electrical parts or electrodes with bare skin, wet gloves or wet clothing.
- Insulate yourself from earth and the workpiece.
- Ensure your working stance is safe.

FUMES AND GASES - Can be dangerous to health

- Keep your head out of the fumes.
- Use ventilation, extraction at the arc, or both, to keep fumes and gases from your breathing zone and the general area.

ARC RAYS - Can injure eyes and burn skin

- Protect your eyes and body. Use the correct welding screen and filter lens and wear protective clothing.
- Protect bystanders with suitable screens or curtains.

FIRE HAZARD

- Sparks (spatter) can cause fire. Make sure therefore that there are no inflammable materials nearby.

NOISE - Excessive noise can damage hearing

- Protect your ears. Use ear defenders or other hearing protection.
- Warn bystanders of the risk.

MALFUNCTION

- Call for expert assistance in the event of malfunction.

READ AND UNDERSTAND THE INSTRUCTION MANUAL BEFORE INSTALLING OR OPERATING.

PROTECT YOURSELF AND OTHERS!

2 INTRODUCTION

2.1 General

The “**A6BF F1/ BG F1**” is placed on the standard I-beam IPE 300, or if the accuracy requirements are higher, on a specially machined I-beam supplied by ESAB.

The horizontal drive of the carriage takes place over a drive motor with gear and a drive wheel running against the flange of the I-beam (see on page 10).

By way of a disconnection device it is possible to move the carriage manually along the beam.

The control of the travel motor takes place over the PEK control box, where the desired speed can be set.

The beam-travelling carriage can be used in combination with all the modules in the ESAB A6 automation program.

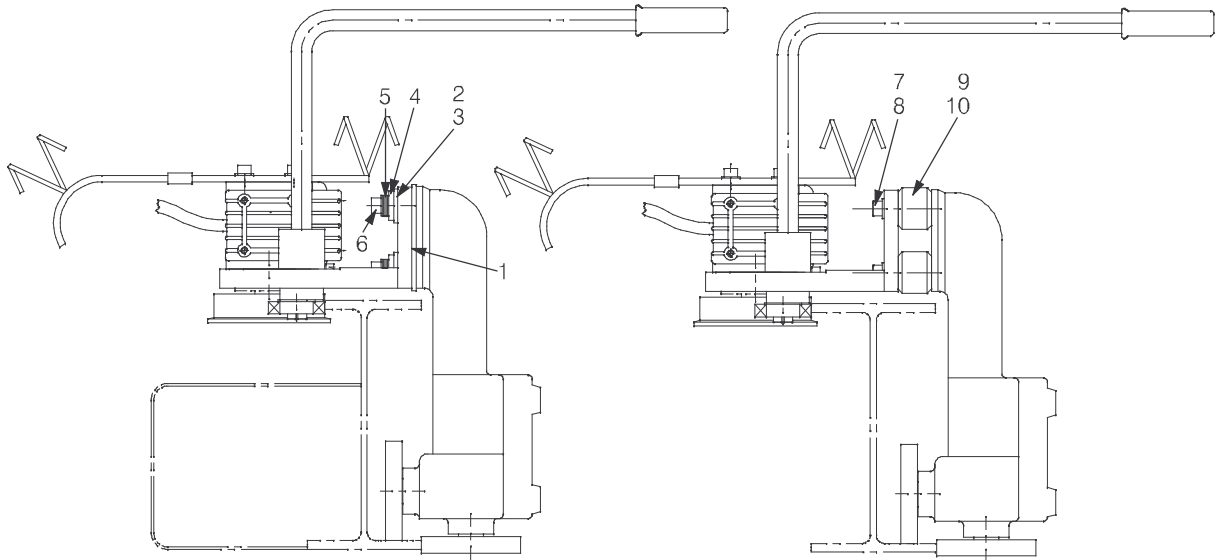
Together with the PAV slide control, GMH joint tracking unit, suitable welding heads and ESAB's welding power sources, a complete welding station can easily be put together.

On delivery the beam-travelling carriage is adapted to be fitted on a machined beam of ESAB design.

Supplemental parts are supplied for the fitting of the carriage on an unmachined standard IPE 300 beam.

When fitting a tandem welding head against the box girder adapter plate 458 026 001 is to be mounted between the box girder and the tandem attachment.

Beam travelling carriage on machined beam:	Beam travelling carriage on unmachined beam:
1. <i>Insulating plate</i> 2. <i>Insulating tube</i> 3. <i>Insulating washer</i> 4. <i>Washer</i> 5. <i>Spring</i> 6. <i>Allen screw</i>	7. <i>Washer</i> 8. <i>Allen screw</i> 9. <i>Insulator</i> 10. <i>Stop screw</i>



When an unmachined beam is to be used the positions 1-6 (fitted on delivery) are to be replaced by the supplied positions 7-10 (four of each).

The delivery also contains the following parts:

- Bracket and attachments for fitting of the slides and the welding head to the carriage.
- Attachments for the PEK/PAV unit.
- Motor cable (3m) with contact device to be connected to the PEK control box (terminal CN6).

2.2 Technical data

A6BF F1/ BG F1	
Travel speed	6-200 cm/min (Motor VEC 4000Rpm / 156 with tacho)
Load moment	1090 Nm
Weight (without welding machine)	60 kg

3 INSTALLATION

3.1 General

The installation must be executed by a professional.

Also consider the instructions in the separate instruction manuals supplied with the different modules to be fitted on the beam-travelling carriage.



WARNING

Rotating parts can cause injury, take great care.

3.2 Connections

- For connection and settings of control box PEK, see instruction manual 0460 948 xxx, 0460 949 xxx, 0459 839 036.
- For connection of **A6 SFE1/SFE2/SGE1/SFE1C**, see instruction manual 0456 562 xxx.
- For connection of **A6SF F1/ A6SF F1 Twin**, see instruction manual 0449 275 xxx.
- For connection of **A2 SFE1/SGE1**, see instruction manual 0456 552 xxx
- For connection of **A2SF J1/ A2SF J1 Twin/ A2SG J1/ A2SG J1 4WD**, see instruction manual 0449 175 xxx.
- For connection of **A6 VEC**, see instruction manual 0443 393 xxx.

3.3 Assembly

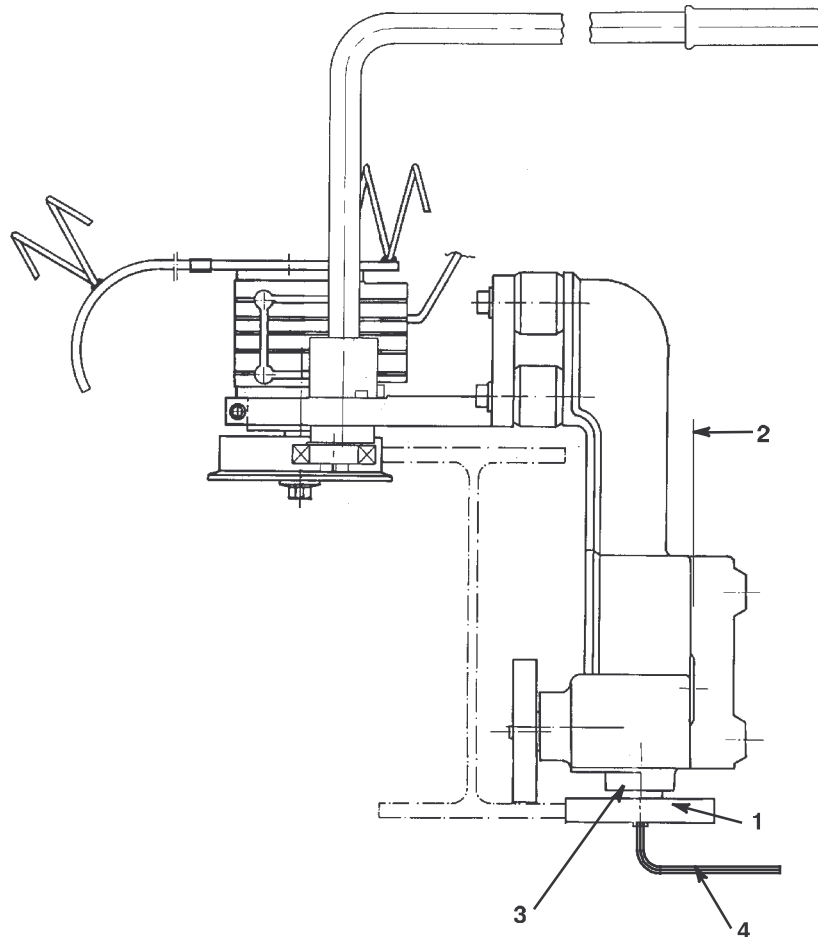
Placing the carriage on the beam:

- Lift up the beam-travelling carriage on the beam.
N.B. When lifting or displacing the carriage, use a lifting strap dimensioned for at least 500 kg.
- Make sure the strap is properly fitted so that the carriage cannot work loose.
- Check that no sensitive parts have been damaged during the lift.

Adjusting the wheels of the carriage:

- The carriage wheels (**1**) are to be adjusted so that the mounting plane of the carriage (**2**) is in vertical position.

The adjustment is made by way of the eccentricity lodged wheel pairs running against the flange of the beam.

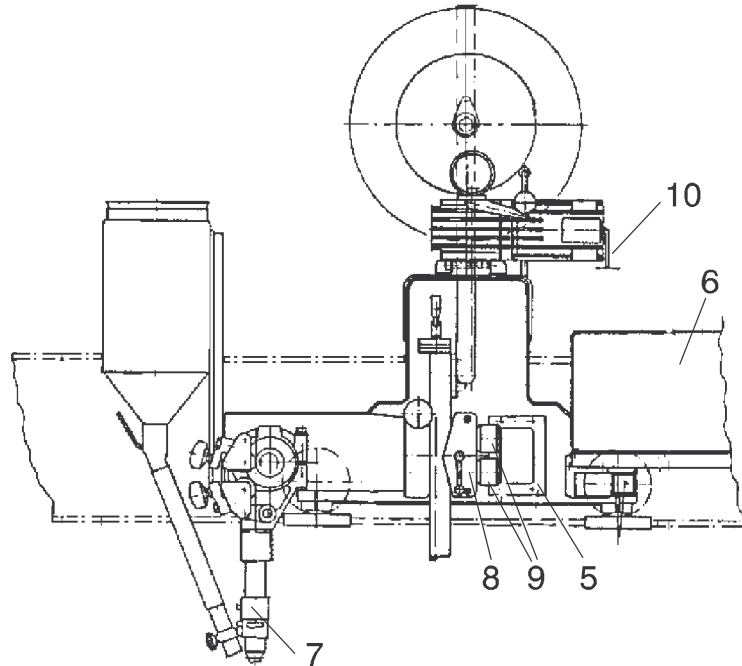


- Undo the attachment screws (Allen, M10) of the respective bearing support (**3**).
- Turn the eccentric shafts clockwise using Allen key (**4**).
- Check with a spirit level that the mounting plane (**2**) is in vertical position.
- Tighten the attachment screws.

N.B. Adjust the two wheel pairs so that they touch the flange of the beam.

Fitting the box girder and control unit PEK

- Fit the box girder (5) on to the carriage and screw up the PEK unit (6) with four screws.
- Connect **A6 VEC** to control box **PEK (6)** with motor cable (10).



Fitting the automatic welding machine:

- Fit the automatic welding machine (7) on to the carriage over the horizontal slide (8).

N.B.

When fitting a tandem welding head against the box girder (5) adapter plate 0458 026 001 is to be mounted between the box girder and the tandem attachment.

Fitting the insulators:

- Place the four insulators (9) between the slide (8) and the carriage to avoid galvanic contact between two units.

4 OPERATION AND MAINTENANCE

4.1 General

General safety regulations for the handling of the equipment can be found on page 6. Read through before you start using the equipment!

Please also observe the directions in the other manuals supplied regarding the assembly of the beam-travelling carriage.

The bearings in the carriage are permanently lubricated and free of maintenance.

Keep the beam free of oil, grease, dirt and particles, which can obstruct the motions of the beam-travelling carriage.

5 TROUBLE SHOOTING

For trouble shooting, see the respective manual for PEK and A2/A6 welding heads and welding power sources.

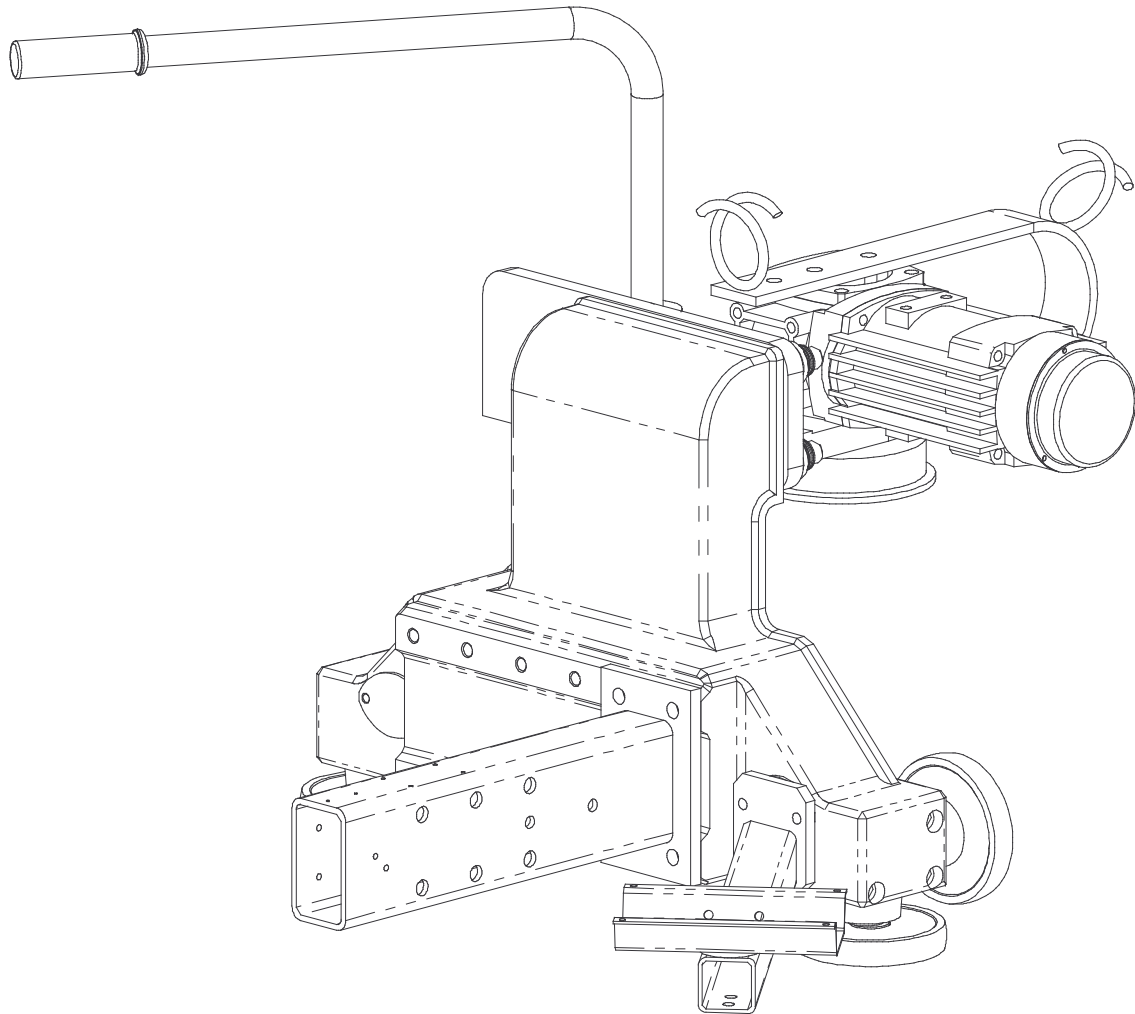
6 ORDERING OF SPARE PARTS

**A6BF F1/ BG F1 is designed and tested in accordance with the international and European standards EN 12200-2, EN 60204-1 and EN 60974-10.
It is the obligation of the service unit which has carried out the service or repair work to make sure that the product still conforms to the said standard.**

Spare parts are ordered through your nearest ESAB representative, see back cover. When ordering spare parts, please state machine type and number as well as designation and spare part number as shown in the spare parts list on page 15. This will simplify dispatch and ensure you get the right part.

SPARE PARTS LIST

Edition 091112

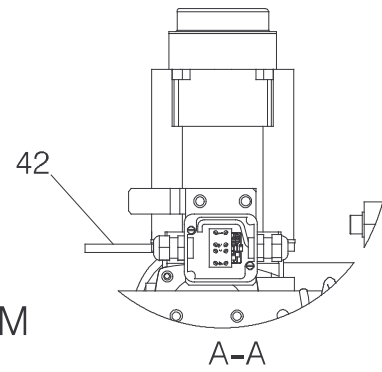
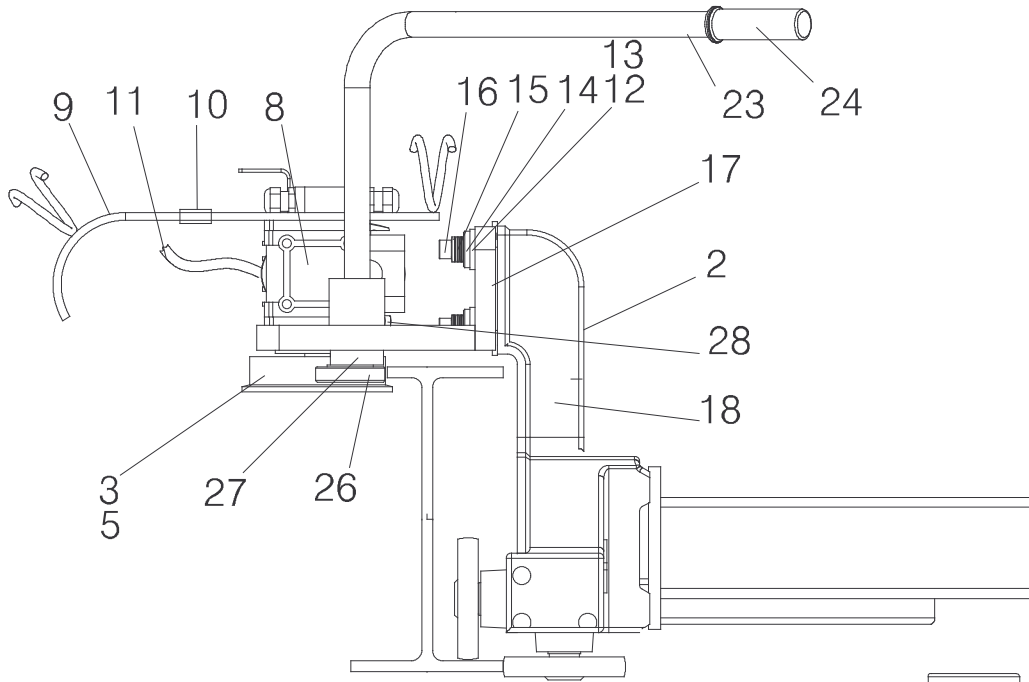


Ordering no.	Denomination	Notes
0457897881	A6BF F1/ BG F1	Carriage with VEC-motor for machined and unmachined beams

Item no.	Qty	Ordering no.	Denomination	Notes
		0457897881	Beam- travelling carriage	
2	2	0212904109	Positioning screw	nr 2x3
3	1	0212101608	Screw	m10x40
5	1	0334485001	Drive unit	
6	1	0457898880	Bracket	
7	1	0192238503	Allen screw	M10x60, Steel 8.8
8	1	0147018902	Motor with gear	A6 VEC (4000rpm, 672:1), see separate manual
9	1	0148503880	Cable clamp	
10	1	0192855001	Strap	
11	1	0460907892	Motor cable	3.0m
12	4	0215305401	Insulating washer	
13	4	0215510103	Insulating pipe	14/12x26
14	4	0215100204	Washer	D36/13x6, TBRSB Steel
15	24	0219504309	Cup spring	T = 1.5
16	4	0192238544	Allen screw	M12x60
17	1	0215305801	Insulating plate	
18	1	0020269081	Beam travelling carriage	
19	4	0278300180	Insulator	2000V
20	4	0212204527	Stop screw	M12x30
21	12	0190452178	Washer	D24/13x2, BRB Steel
22	8	0192238540	Allen screw	M12 x 40, Steel 8.8
23	1	0457891880	Disconnection arm	
24	1	0218801202	Rubber handle	
25	3	0192238380	Screw	M6x50, MC6S
26	1	0190726008	Ball bearing	SKF 6008-2rs
27	1	0457890001	Eccentric	
28	1	0192238368	Screw	M6x16, MC6S
29	3	0215100013	Washer	D12x6,4x1,5
31	1	0449498880	Junction box	
32	1	0417868880	Bracket	
33	4	0215100204	Washer	D36/13x6, TBRSB Steel
34	4	0192238548	Allen screw	M12x80, Steel 8.8
35	1	0334522880	Box holder	
36	1	0334185880	Box girder beam, complete	
38	1	0334187001	Box girder beam	
39	8	0194119227	Screw	RTS ST4.2x13
41	1	0161337036	Box	
42	1	0460908892	Pulse transducer cable	L=3m

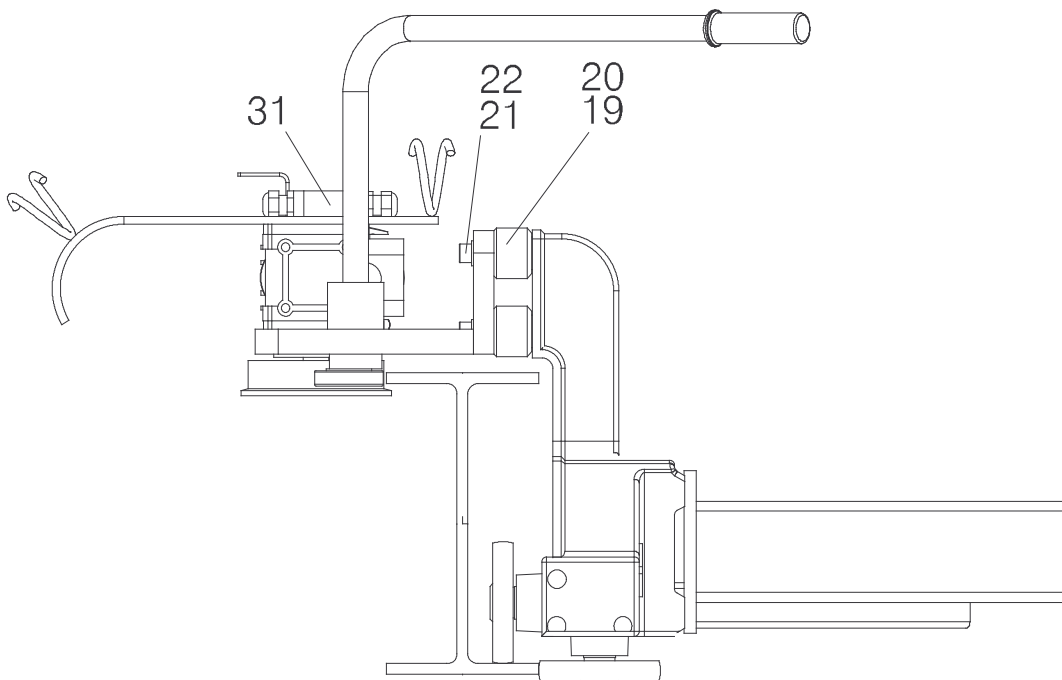
Note: Position 19-22 are used for unmachined beam (they are not shown in the picture).

MACHINED BEAM



UNMACHINED BEAM

A ——— A



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