



Government of India
Bhabha Atomic Research Centre
Reactor Engineering Division

Engg. Hall 7,
Trombay,
Mumbai 400 085

Ref: RED/ITDS/ND/MF//2022/OPA- P43857

10/05/2022

Sub: Minor Fabrication Work – Invitation to quote for two part tender for “Steel Connectors and Support Structures” as per Annexure-I

Dear Sir/Madam,

Sealed quotations are invited on behalf of the President of India by Head, Reactor Engineering Division for “Procurement of material, fabrication, testing and safe delivery of *steel connectors and support structure*” as per Annexure – I.

General Notes:

- 1) The work will be carried out at the supplier’s premise and supplier shall provide all necessary infrastructures for carrying out the work.
- 2) Supplier shall arrange sufficient number of qualified/experienced manpower to carry out the assignment.
- 3) Quotations shall be submitted in two parts i.e. “TECHNICAL” & “FINANCIAL”. These quotations shall be put in two separate envelopes and sealed properly. These two envelopes shall be put in a main envelope and sealed properly.
- 4) The reference no. of this letter, date and time of opening of bids must be clearly mentioned on the all sealed envelopes containing the quotation.
- 5) Quotations shall be provided on a company letterhead describing Name, address and contact details. All quotations must be complete with proper reference number, signed and stamped by the authorized representative of the bidder. Without this information the offer will be treated as invalid.
- 6) In “TECHNICAL” bid, supplier shall furnish the details of manpower, equipment, machinery, infrastructure and work experience of similar type of work specified in Annexure-I for assessment by the purchaser. Copy of work order/completion certificates of the similar assignment carried out in the recent past shall be attached with the quotations. Without this information the offer will be rejected.

- 7) The "TECHNICAL" quotation must clearly indicate compliance with the technical specification as per Annexure-I. Offers that do not comply with the technical specification in all respects will be rejected.
- 8) The "TECHNICAL" quotation must be given in the letter head of the supplier. All documents being submitted for "TECHNICAL" quotation shall be listed in this letter.
- 9) The quotations must reach to Shri Nirupam Das, Head/ITDS, Reactor Engineering Division latest by 25-05-22 before 15:00 hrs. Quotations will be opened on 26-05-22 at 11:00 hrs.
- 10) The quotations have to be sent by speed post only. Hand delivered quotation will not be entertained.
- 11) The bidder may contact Shri Nirupam Das, Head/ITDS (telephone no. 022-2559-3973/ 022 6929 3973 email: ndas@barc.gov.in) or Shri Biaksh Kumar Jaiswal, SO/F, RED (telephone no. 022-2559-1568/ 022 6929 1568 email: bikash@barc.gov) for enquiries related to MF.
- 12) "TECHNICAL" part of quotations will be opened first and "FINANCIAL" part of quotation will be opened only if the "TECHNICAL" bid is found to be acceptable as per terms and conditions of technical specifications.
- 13) Payment will be made as per government rules, ONLY after the completion of the work to purchaser's satisfaction against submission of original bill in triplicate and advance stamped receipt.
- 14) Income tax @2% and GST as applicable will be deducted from the bill. Taxes if applicable shall be paid as per government rates.
- 15) Bidder shall mention their PAN and VAT/GST nos. in the quotation.
- 16) The offer shall be kept open for acceptance for a minimum period of 60 days from the date of opening of the quotation.
- 17) The bidder shall furnish the detailed information regarding whether an ex-employee of BARC is working in their organization or whether any of their relative is working in DAE/BARC or whether he/she is an ex-employee of DAE/BARC. In case of absence of such information, or wrong information the quotation or contract is likely to be rejected or cancelled.

CONFIDENTIALITY CLAUSES:

I. Confidentiality:

No party shall disclose any information to any third party concerning the matters under this contract generally. In particular, any information identified as "Proprietary" in nature by the disclosing party shall be kept strictly confidential by the receiving party and shall not be

disclosed to any third party without the prior written consent of the original disclosing party. This clause shall apply to the sub-bidders, consultants, advisers or the employees engaged by the party with equal force.

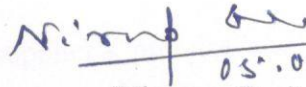
II. “Restricted information” categories under Section 18 of the Atomic Energy Act, 1962 and “Official Secrets” under Section 5 of the Official Secrets Act, 1923:-

Any contravention of the above-mentioned provisions by any bidder, sub-bidder, consultant, adviser or the employees of a bidder will invite penal consequences under the aforesaid legislation.

III. Prohibition against use of BARC’s name without permission for publicity purposes:-

The bidder or sub-bidder, consultant, adviser or the employees engaged by the bidder shall not use BARC’s name for any publicity purpose through any public media like Press, Radio, T.V. or Internet without the prior written approval of BARC.

Thanking you,


05.05.2022

(Nirupam Das)

Head, Innovative Technology Development Section

Enclosure: Annexure - I



ANNEXURE - I

Technical specification for fabrication

of

“Steel Connectors and Support Structures”

PART – I - Scope of Supply:

1. Scope of Work:

Procurement of material, fabrication, testing and safe delivery of Steel Connectors and Support Structures as per this technical specification, drawing no. Solar/GG/SCSS/01 (1 no. of sheet) and drawing no. Solar/GG/SCSS/02 (3 nos. of sheet) and Bill of Materials (BOM).

PART – II - Technical Specifications

The following is a brief description of the work included in the scope of supply of Steel connectors and support structures.

1. Job Details:

The work involves fabrication of steel connectors, designated as SS-01 to SS-12, made by cutting, grinding, drilling, machining and welding of pipes, box section and plates, etc. as per attached drawings described in Section (2) below with a detailed breakup given in Bill of Material (BOM).

All fabrication work will be done at the supplier's premises. The items are to be delivered safely to the purchaser's premise without any damage. Testing of the materials is to be done from government approved test laboratory (NABL).

2. Drawing Description:

Drawing no. Solar/GG/SCSS/01 provides General Assembly of the parts to be supplied, wherein all the part nos. (nos. SS-01 to SS-12) are indicated.

Drawing no. Solar/GG/SCSS/02 (Sheet 1/3) provides part details of part no. SS-01, SS-02, SS-03, SS-11 and SS-12.

Drawing no. Solar/GG/SCSS/02 (Sheet 2/3) provides part details of part no. SS-04, SS-05 and SS-06.

Drawing no. Solar/GG/SCSS/02 (Sheet 3/3) provides part details of part no. SS-07 and SS-08.

3. Applicable Codes and standards

- IS-2102 General tolerances, Part I and Part II
- IS 1367 Part 8 (2002) Technical supply conditions for threaded steel fasteners
- IS- 3658 (1999) Code of Practice for Liquid Penetrant Flaw Detection
- ASTM A240 specification for chromium and chromium nickel, Stainless steel plate, sheet, and strip for pressure vessels and for general applications.
- ASTM A312 Standard specification for seamless and welded austenitic stainless steel pipes
- ASTM A193 Standard Specification for Alloy-Steel and Stainless Steel Bolting for High Temperature or High Pressure Service and Other Special Purpose
- ASTM A554 standard specification for welded stainless steel mechanical tubing

Latest version of the above-mentioned code will be applicable if need arises.

4. Free Issue Material:

No free issue material will be provided by the purchaser.

5. Inspection and Testing:

Material shall be inspected and approved by the authorized representative of the purchaser. Fabrication work shall not start without approval of the authorized representative of the purchaser.

Following inspection and testing shall be carried out by the authorized representative of the purchaser.

- a) A minimum of 5 nos. of specimen shall be tested for mechanical properties and 10 nos. of specimen shall be tested for chemical properties. Specimen will be selected by the purchaser or his representative from the structural materials offered for fabrication. Supplier has to arrange for testing of the specimens from government approved test laboratory(NABL) for Chemical composition, Mechanical properties -Yield Strength (YS), Ultimate Tensile Strength (UTS), percentage elongation as per relevant IS codes mentioned in Section (3)of this specification.
- b) All the structural materials offered for fabrication shall be new. Used and reconditioned materials will not be accepted.
- c) Materials shall be straight and free from bends and kinks.
- d) Material offered for supply shall be smooth and free of rust, scratches, void, bend and dents.

- e) The material test certificates and manufacturer's test certificate in standard format shall be submitted along with the materials prior to start of fabrication work.
- f) Material will be rejected if it does not conform to the above testing requirement.
- g) All the tests shall be carried out by government approved test laboratory (NABL).
- h) The pipes/plates shall be welded by SMAW so as to produce minimal distortion. Welder shall be qualified for the structural fabrication work to produce quality weld joints.
- i) Visual inspection shall be carried out and Dye Penetration Test (DPT) of all welds shall be witnessed by authorized representative of the purchaser. The fabricated structure will be subjected to inspection and acceptance by authorized representative of the purchaser. Inspection and testing is binding to the supplier.
- j) Surface/edge preparation will be carried out before welding. Welding shall be uniform and free from defects such as undersized welds, undercut, spatter, overlap, surface porosity etc.
- k) All components shall be subjected to dimensional check. Dimensions of all the materials offered for supply shall be measured. A document containing measurements taken for dimension check is to be prepared and shall be submitted for acceptance by purchaser.

6. Acceptance Criteria

The finished items will be accepted based on the following acceptance criteria,

- a. Approval of all the material test certificates,
- b. Approval of Welder qualification certificates,
- c. Visual inspection and DP test of all the welds,
- d. Dimensional inspection of all the fabricated parts as per drawing,
- e. Approval of dimension check documents by the purchaser and
- f. Acceptance of tolerances as mentioned in the attached drawings and specification.

7. Delivery:

Supplier has to deliver this material safely to the following address,

REZ store,

Bhabha Atomic Research Centre (BARC)

Trombay, Mumbai-400 085.

Supplier has to bear the cost of delivery. Delivery period of the items is 2 Months from the date of acceptance of order.

8. Terms and Conditions:

All the materials, manpower, welding machines, welding machines, welding consumables, tools and accessories required for the work is in the scope of fabricator. The work shall be subject to review by the purchaser or his authorized representative. Work shall be conducted under their guidance and to the full extent of satisfaction of the purchaser.

PART – III - Notes to Bidder:

- a) **Compliance statement:** The bidder shall submit **point wise compliance statement** of the above technical specifications in their offer.

- b) **Bidder Evaluation Criteria:**
 - i. The bidder shall have prior experience in manufacture of components of accuracies required in this tender. Sufficient documentary evidence shall be submitted for evaluation.

 - ii. The bidder shall have own fabrication facility with sufficient equipment and manpower required for fabrication and inspection. Details of the required equipment available at the vendor's facility together with other details shall be submitted for evaluation.

 - iii. The vendor shall submit documentary proofs of 2 nos. of similar works that they have successfully completed in the past 5 years.

- c) **Sub contract:** No sub-contracting of any part of the job is acceptable without prior approval from the purchaser. The bidder shall clearly indicate any work intended to be sub-contracted to any other party in the offer itself. Sub-contracting will be permitted only if the purchaser is satisfied with the capability of the sub-contractor. The bidder is responsible for all the operations carried out by the sub-contractor.

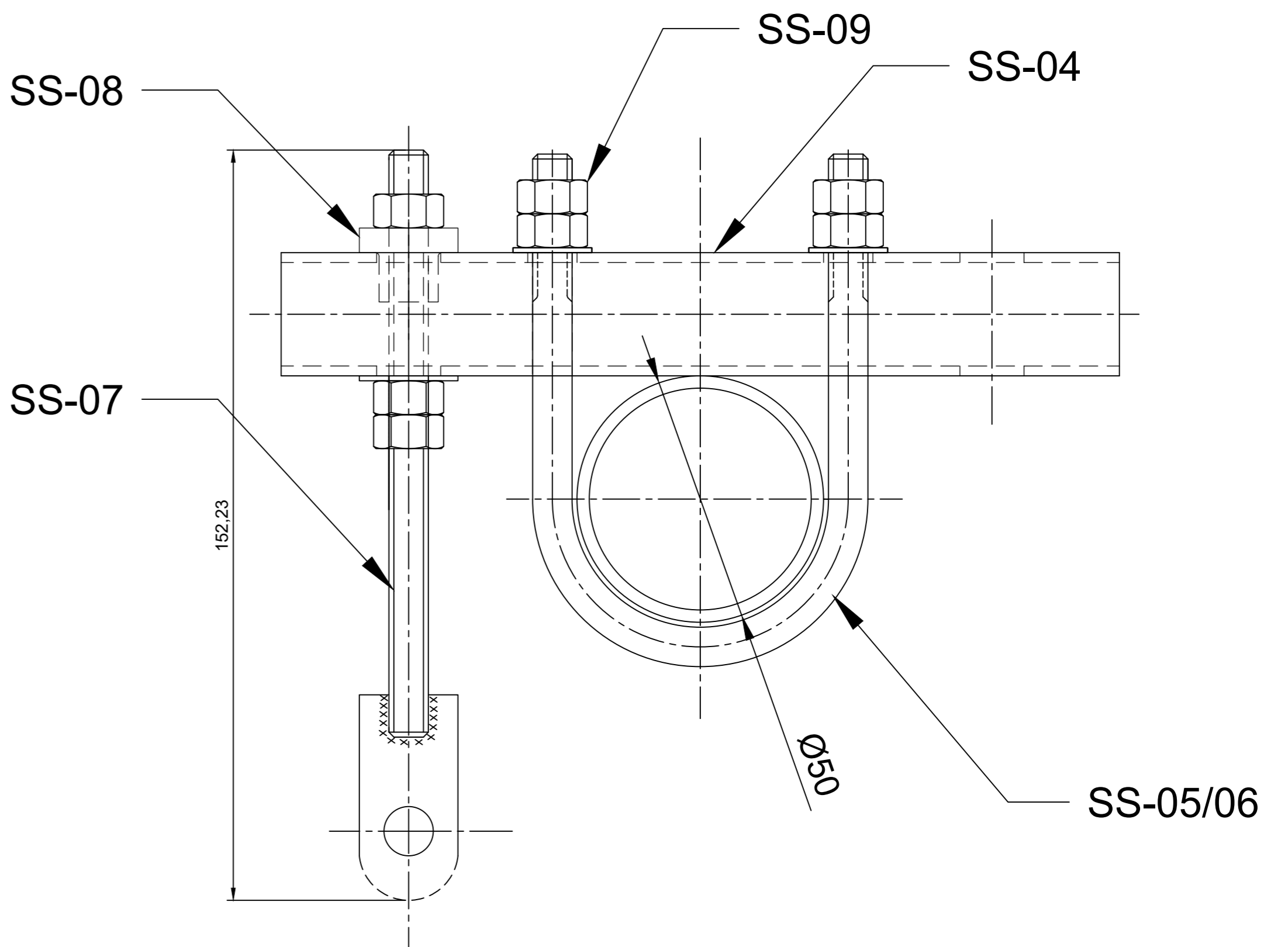
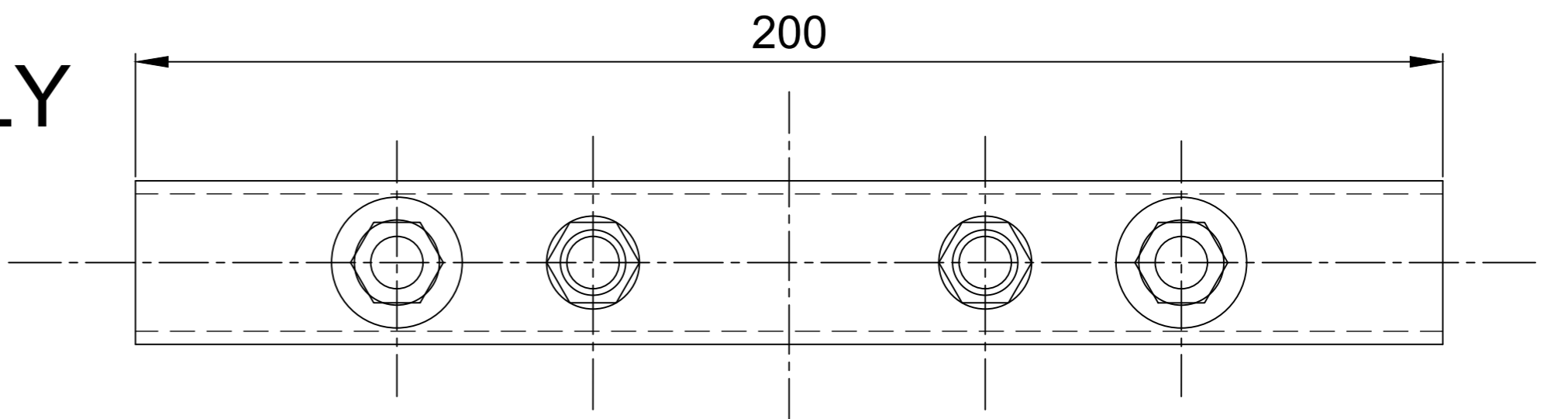
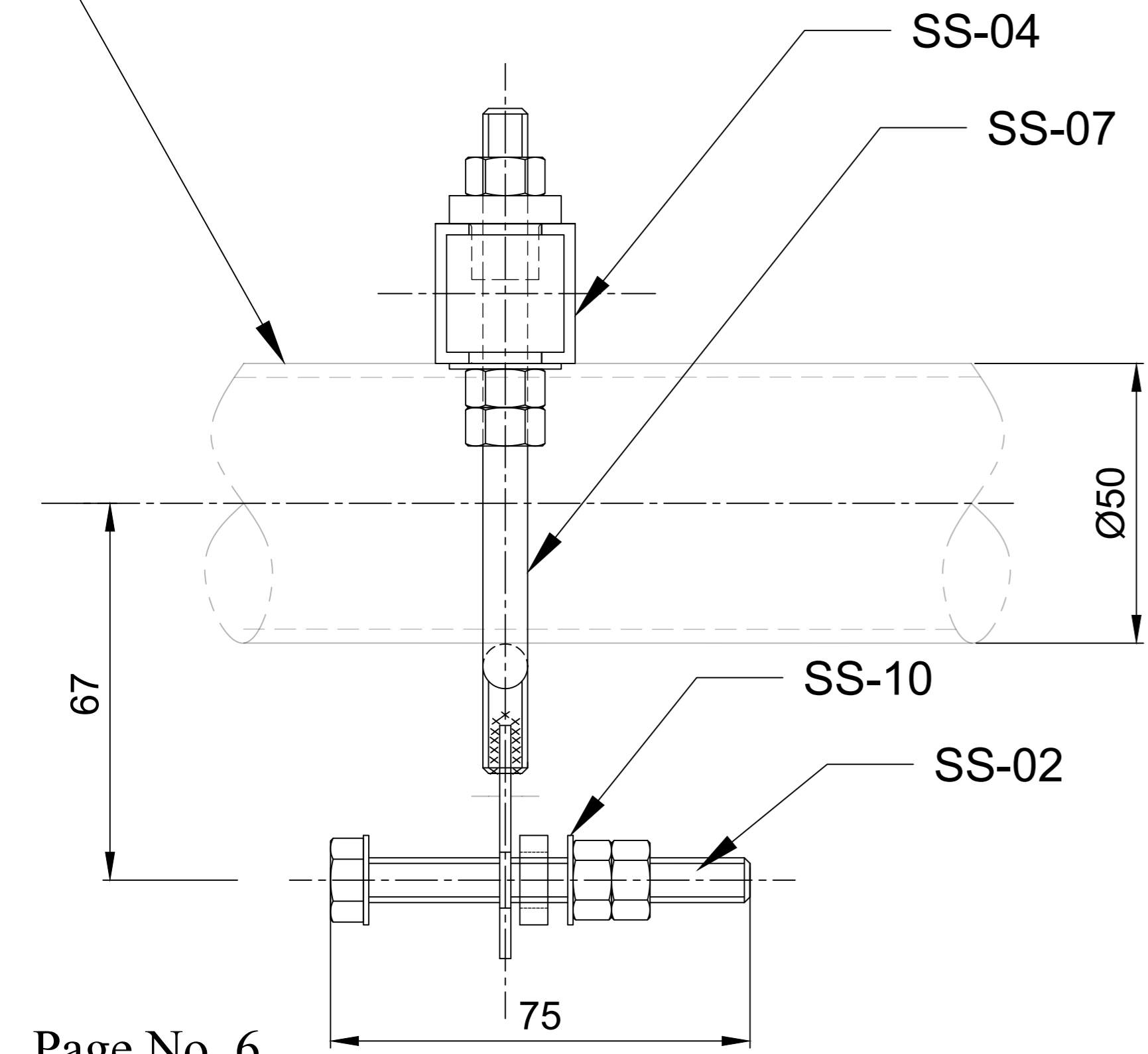
- d) The offer shall contain sufficient documentary evidences to meet the bidder evaluation criteria. Further during evaluation of their offer the purchaser reserves right to evaluate their capabilities of their facility in person. During such a visit the purchaser shall give free access to all their facilities relevant to meet the requirements in this tender. Failing to meet the bidder evaluation criteria would lead to rejection of their offer.

- e) During the process of fabrication or prior to it, the purchaser reserves the right to incorporate minor changes to the reference sketch which do not necessitate a change in machining procedure, inspection procedure or size of raw material. This shall not be taken as a reason for revision of quoted price.
- f) Inspection from the purchaser does not relieve the supplier of his responsibilities towards fabrication of job as per specifications.
- g) The purchaser reserves the right to undertake additional inspections, if deemed necessary by him.
- h) The drawing along with the enquiry gives both detail and assembly of the components. In case of any deviation, the bidder shall mention this in his quotation. The deviation could be accepted without sacrificing actual functionalities of the item.
- i) In case of any ambiguity or doubt, the bidder shall not assume any dimension or configuration. The purchaser shall be contacted to clarify the doubts.

STEEL CONNECTOR - GENERAL ASSEMBLY

SOLAR/GG/SCSS/-01

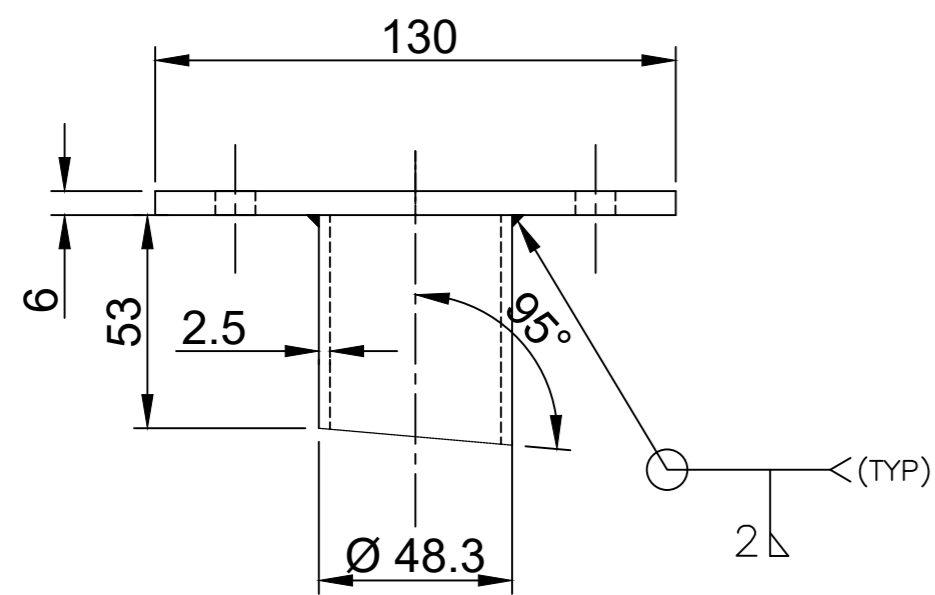
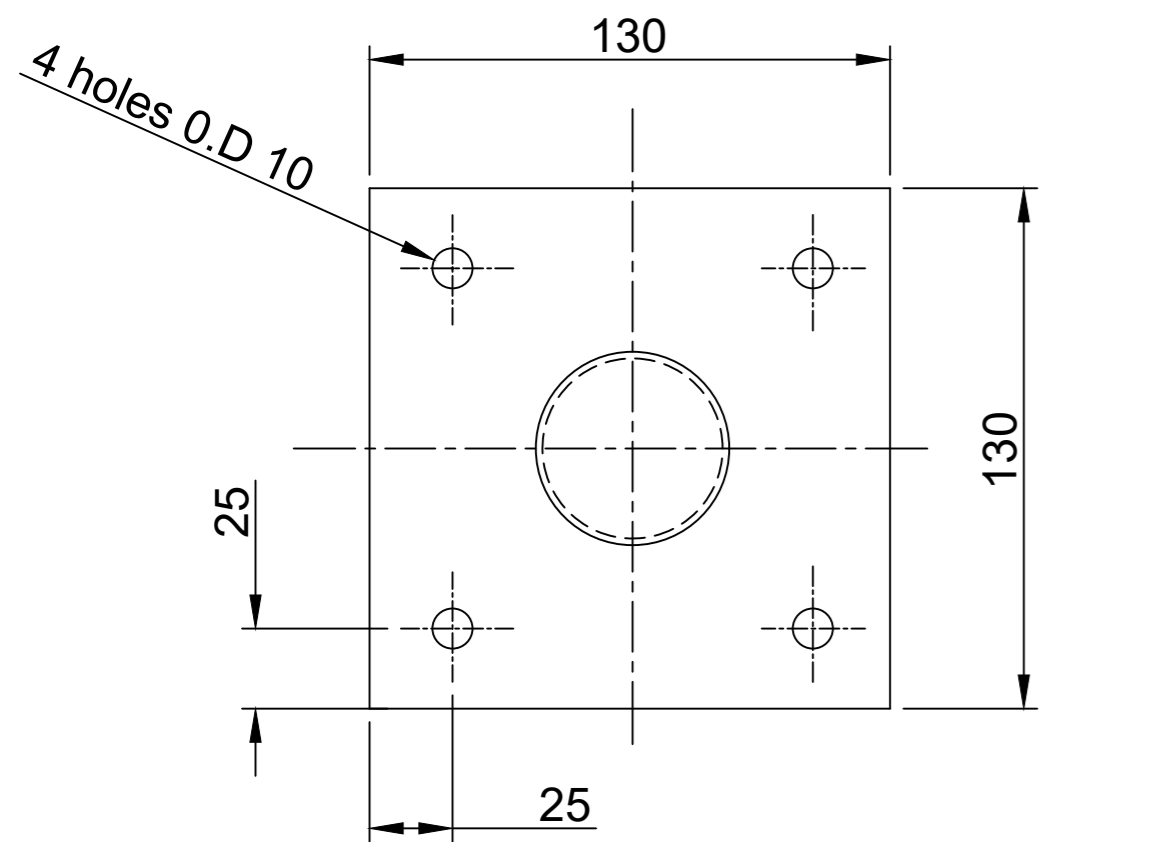
PIPE ON WHICH U-BOLT WILL BE CLAMPED (NOT IN SCOPE OF SUPPLY)



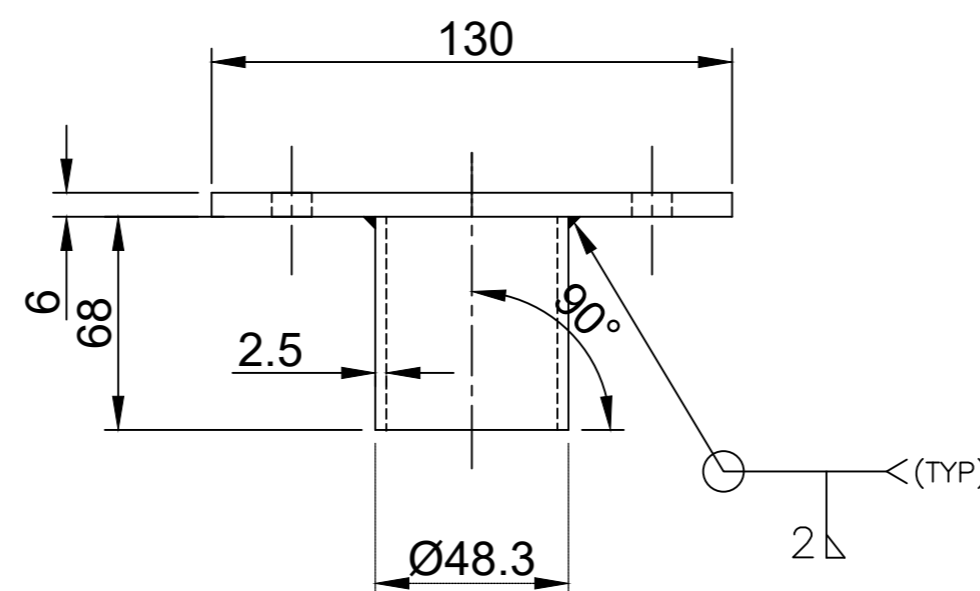
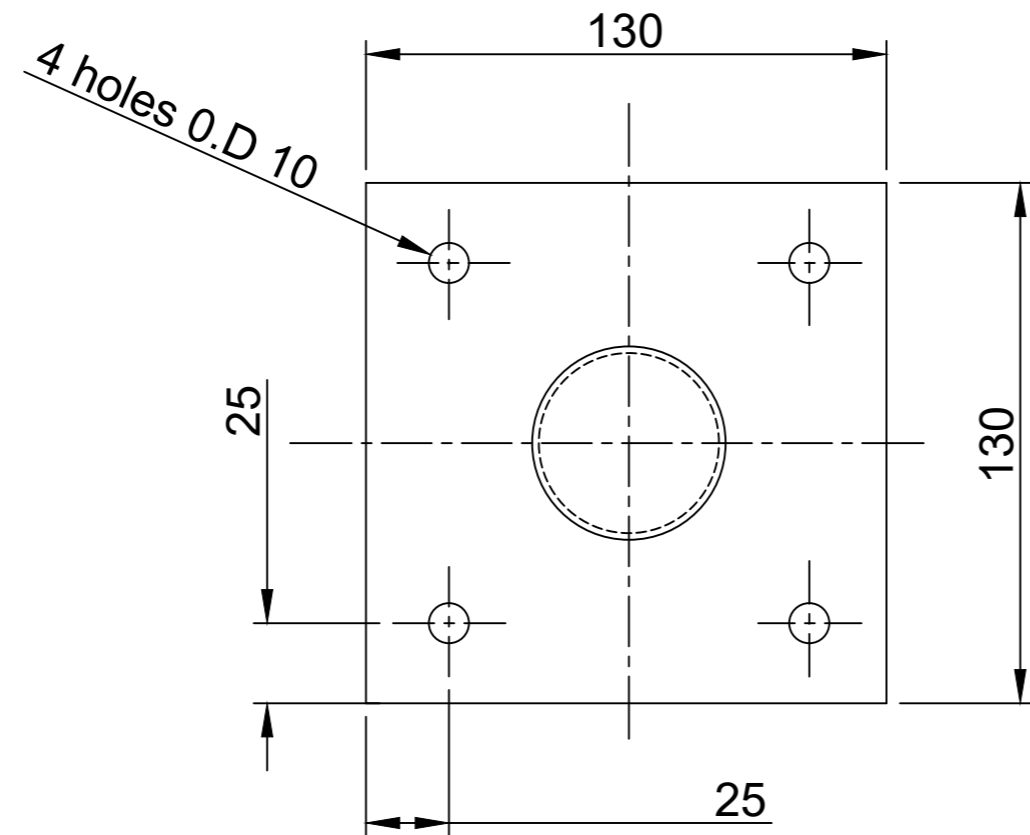
STEEL CONNECTOR - PART DETAILS

SOLAR/GG/SCSS/-02 SHEET 1/3

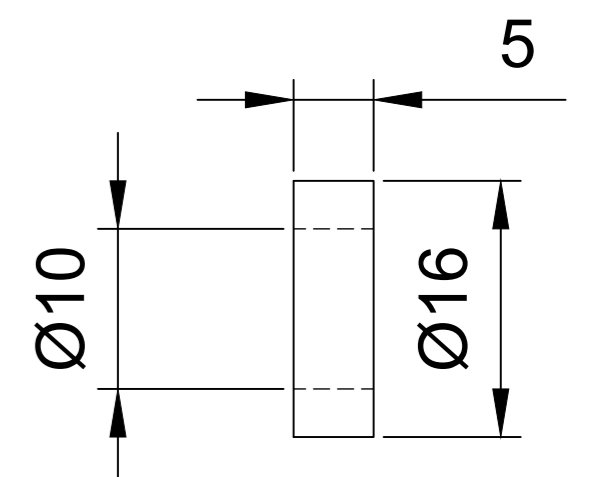
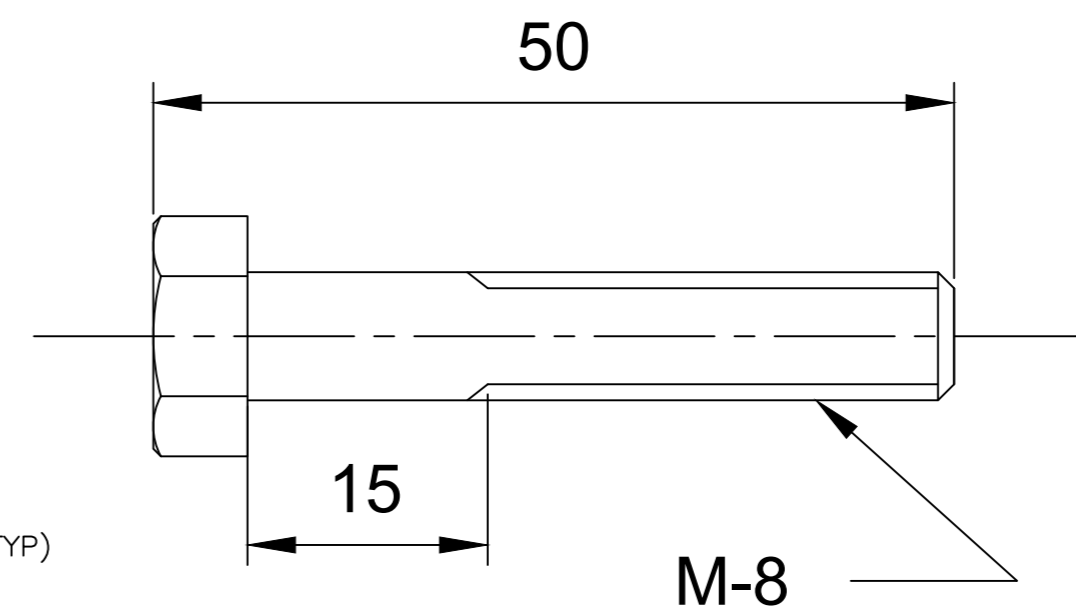
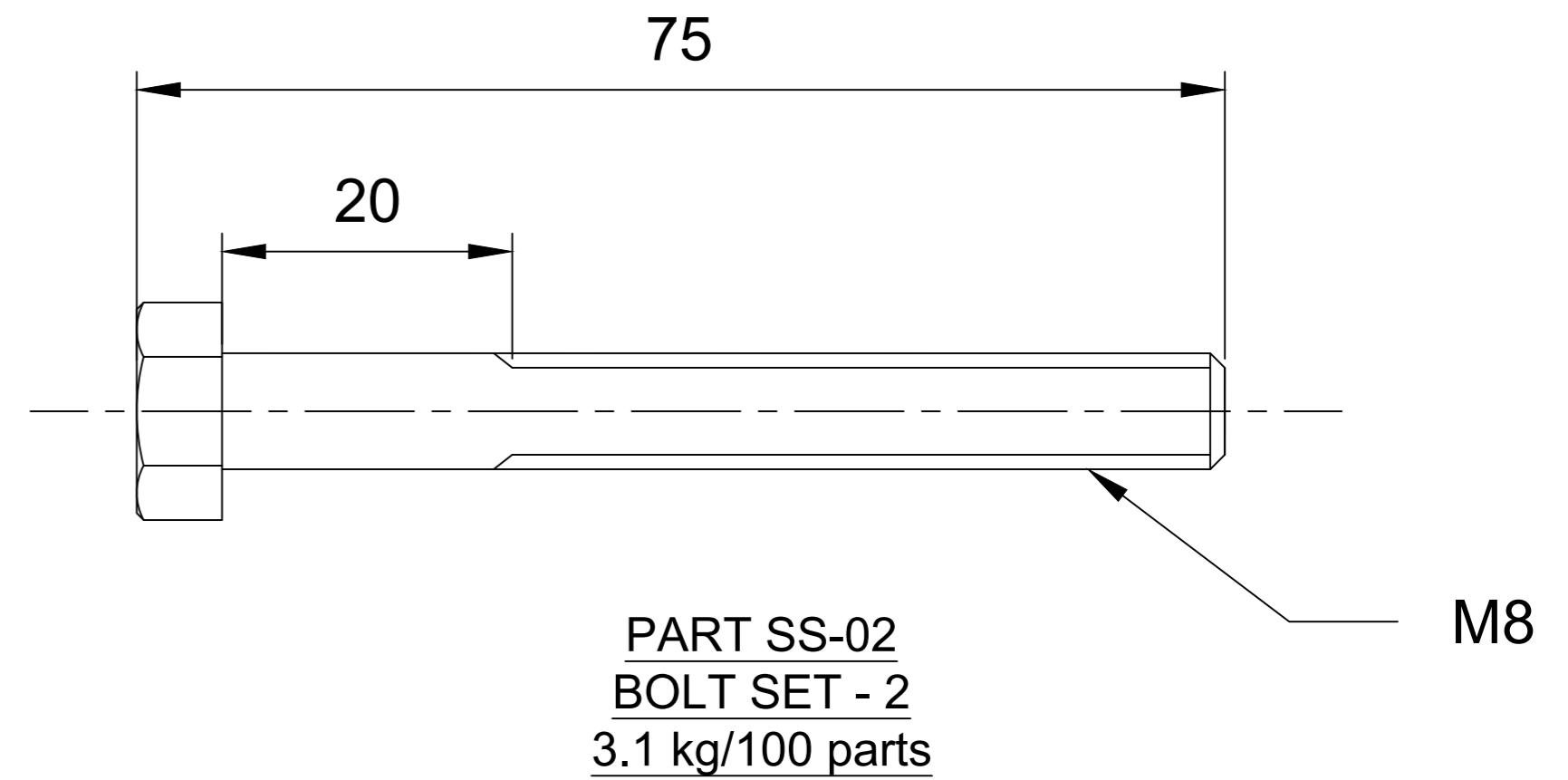
ALL DIMENSIONS ARE IN "mm"



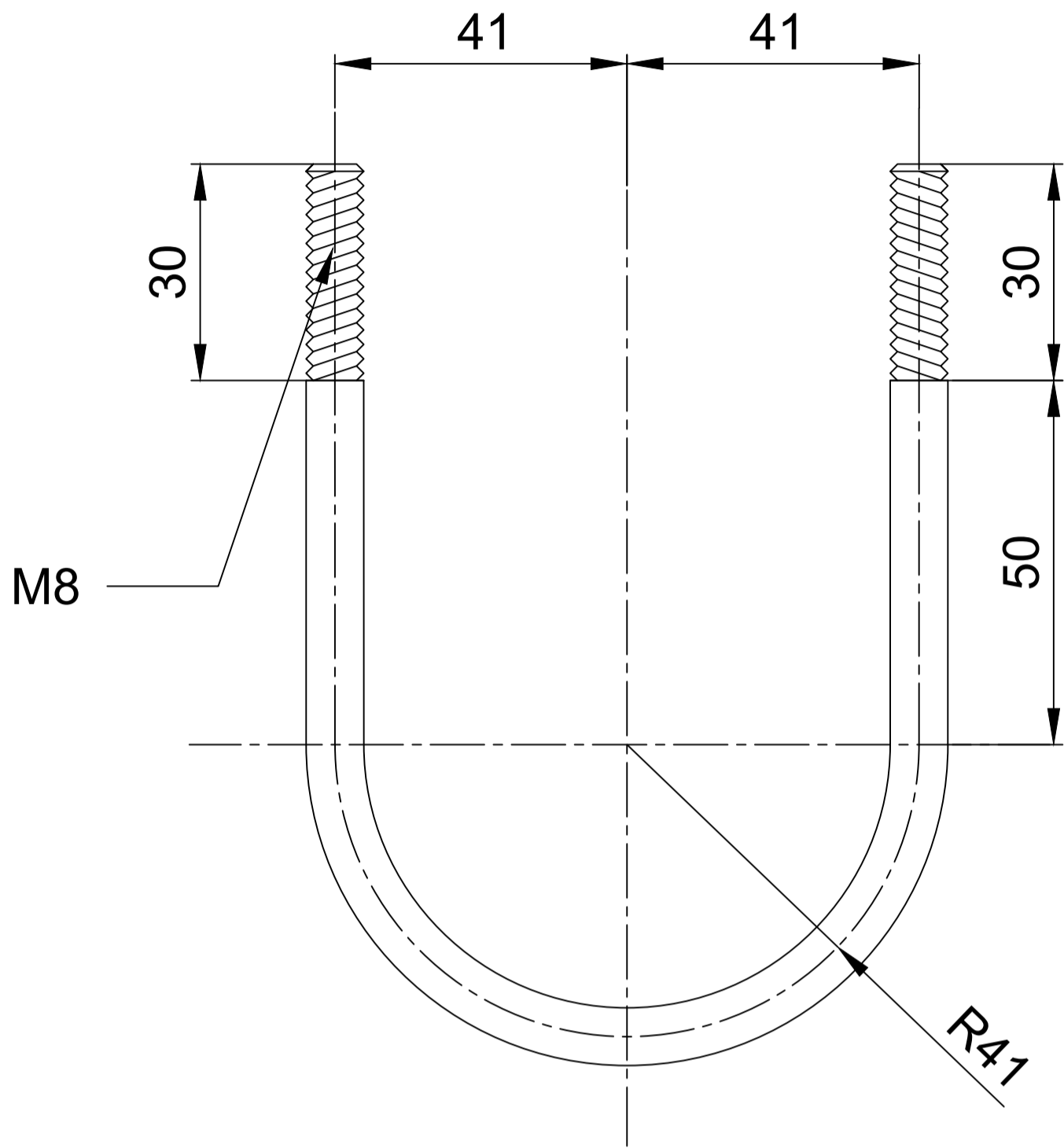
PART - SS-01
CONNECTOR-01
 SCALE 4:1
 120kg/100 parts



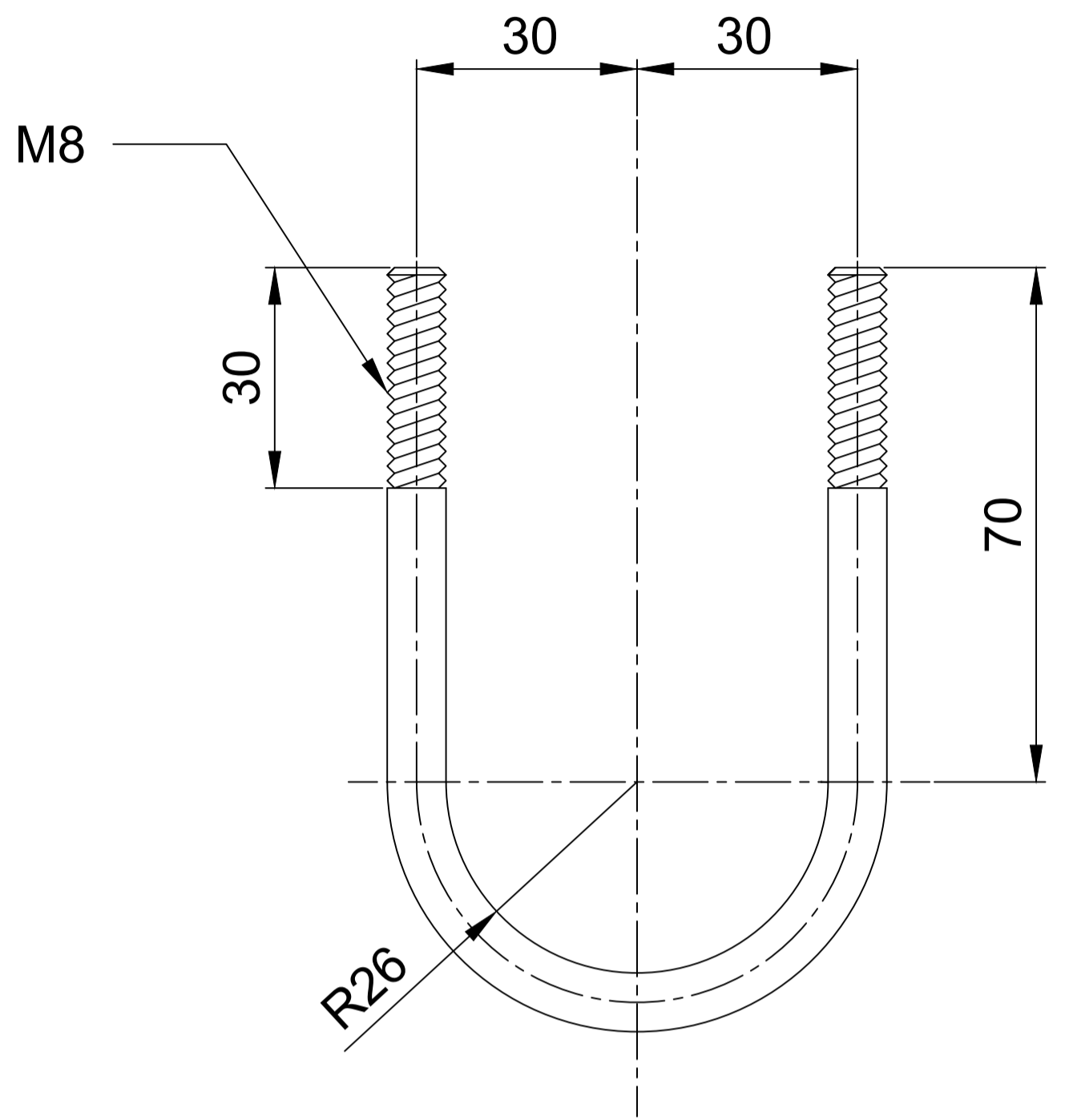
PART - SS-12
CONNECTOR - 02
 SCALE 4:1
 120kg/100 parts



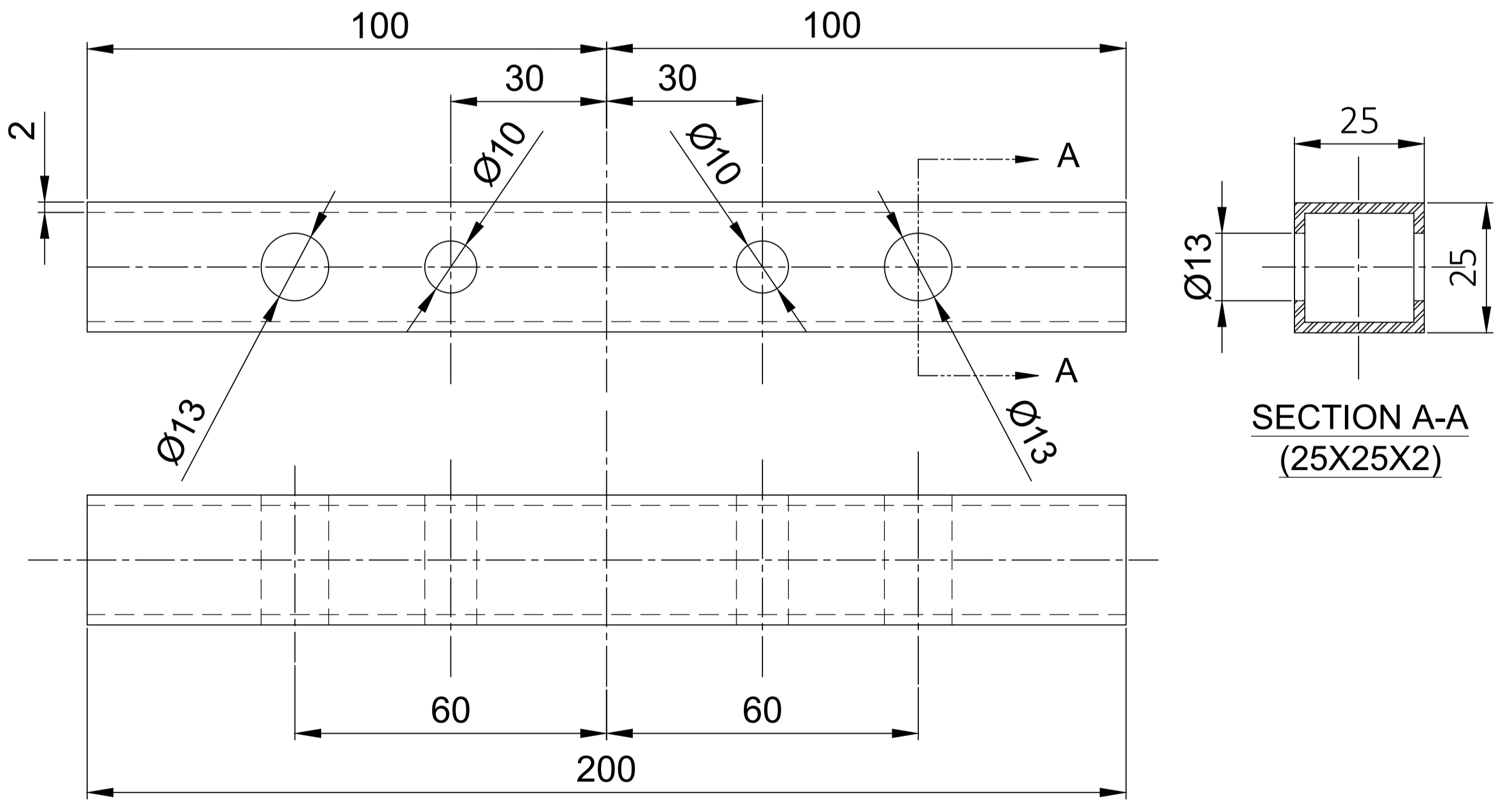
STEEL CONNECTOR - PART DETAILS
 SOLAR/GG/SCSS/-02 SHEET 2/3
 ALL DIMENSIONS ARE IN "mm"



PART - SS-06
U BOLT -2
 (U-BOLT TO FIT ON PIPE OF O.D 73 mm)
 11.61 kg/100 parts

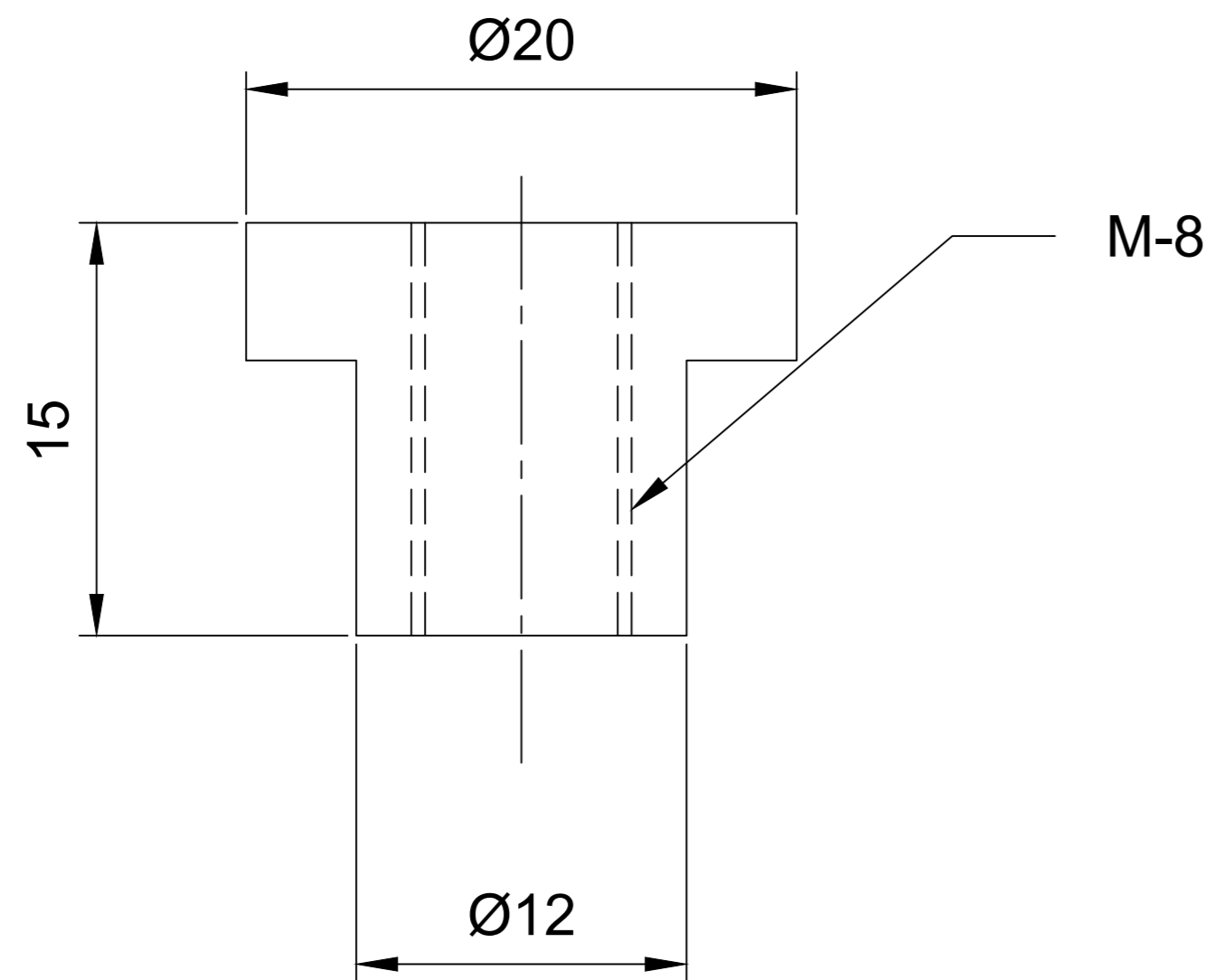


PART - SS-05
U-BOLT -1
 (U-BOLT TO FIT ON PIPE OF O.D 50 mm)
 9 kg/100 parts

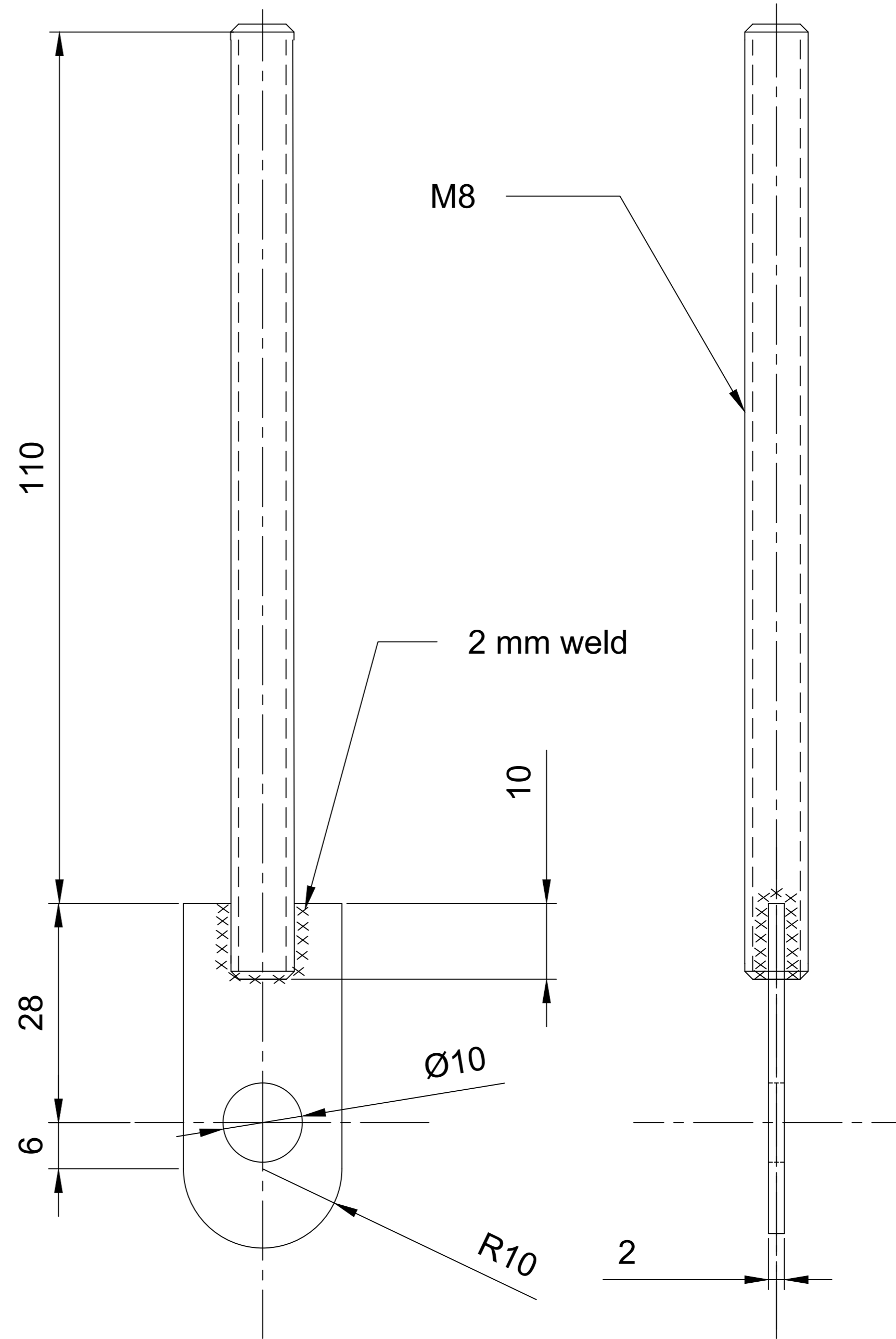


PART - SS-04
 32 kg/100 parts

STEEL CONNECTOR - PART DETAILS
SOLAR/GG/SCSS/-02 SHEET 3/3
ALL DIMENSIONS ARE IN "mm"



PART - SS-08
SOCKET NUT
(SCALE 1:2)
3.77 kg/100 parts



PART - SS-07
ADJUSTOR ROD
6.3 kg/100 parts

TABLE (1) BOM FOR STEEL CONNECTOR AND SUPPORT STRUCTURE

Sr. No.	PART NO.	PART NAME	QUANTITY	MATERIAL	REF# DRG. NO.
1	SS-01	CONNECTOR-01	30	SS-304/SS-316	SOLAR....02/SH-1/3
2.	SS-02	BOLT SET -1	1600	SS-304/SS-316	SOLAR....02/SH-1/3
3.	SS-03	BOLT SET - 2	2600	SS-304/SS-316	SOLAR....02/SH-1/3
4.	SS-04	BOX SECTION	800	SS-304/SS-316	SOLAR....02/SH 2/3
5.	SS-05	U-BOLT SET - 1	800	SS-304/SS-316	SOLAR....02/SH 2/3
6.	SS-06	U-BOLT SET - 2	40	SS-304/SS-316	SOLAR....02/SH 2/3
7.	SS-07	ADJUSTER ROD	1600	SS-304/SS-316	SOLAR....02/SH 3/3
8.	SS-08	SOCKET NUT	1600	SS-304/SS-316	SOLAR....02/SH 3/3
9.	SS-09	M8 NUT	17,000	SS-304/SS-316	STANDRAD ITEM
10.	SS-10	M8 WASHER	17,000	SS-304/SS-316	STANDRAD ITEM
11.	SS-11	SPACER	1600	SS-304/SS-316	SOLAR....02/SH-1/3
12.	SS-12	CONNECTOR-02	150	SS-304/SS-316	SOLAR....02/SH-1/3

SS 316 and SS 304 items should conform to to ASTM A312 standard for pipes

SS 316 and SS 304 items should conform to ASTM SA240 standard for plates

SS 316 and SS 304 should conform to one of ASTM A554 standards for box-section