



**ITER-India, Institute for Plasma Research**

Block A, Sangath SKYZ, Bhat- Motera Road, Koteswar, Ahmedabad 380005 Gujarat,India.

www.iter-india.org

**Email:** ecrh.group@iter-india.org

## Minor Fabrication Work

### ENQUIRY - LOCAL

OFFICE COPY                      ENQUIRY NO                      : II/ECH/2021/002  
Date                                      : 05/01/2021  
Due Date                                : 26/01/2021 by 5:00 PM (IST)

We invite your rate/s for the following item/s. The Instructions to bidders and Terms & Conditions are attached herewith.

#### Important Note :

1. ITER-India, IPR is entitled to avail concessional rate of GST @ 5% (2.5% CGST and 2.5% SGST) as per Central Goods and Service Tax (CGST) Notification No. 45/2017-Central Tax (Rate) dated 14th November, 2017, State Goods and Service Tax (SGST) Notification No. 45/2017 – State Tax (Rate) dated 15th November, 2017 and IGST @ 5% as per Notification No. 47/2017-Integrated Tax (Rate) dated 14th November, 2017 for supply of Goods. Therefore, please consider GST in your quotation accordingly.
2. Any clarification on this enquiry may be sought from ecrh.group@iter-india.org
3. Quotations in hard copy should be addressed to The Project Manager, ECRH Group, only at above address. Email quotations are not acceptable
4. This is a Two-part tender. Bidders are required to submit the technical and the price bids in two separate sealed envelopes. Price bids should not be mixed with the technical bid.
5. Sealed Envelope-1 (Technical Bid) and sealed Envelope-2 (Price Bid). Both the envelopes (envelope-1 and envelope-2) can be enclosed in another main envelope, superscribed with Enquiry Number, Date and Due date and shall be addressed to the Project Manager, ITER-India. The bid documents should reach ITER-India Office (refer enquiry header for full address) on or before the specified due date and time.

Sr No.	Material Description	Quantity	Unit
1	Fabrication& Supply of Mini Flow Test & Calibration Manifold	1	SET

#### Note:

- (1) Technical Specifications are given in the Annexure – A
- (2) Technical specification shall be signed and stamped by the bidder and submitted along with the offer. This shall be considered as acceptance of the specification by the bidder

Encl:- as above

**Project Manager**  
**(S. Laxmikant Rao)**  
**ECRH**  
**ITER-India**

**Note:** This Enquiry is electronically generated and no signature is required.

## TERMS AND CONDITIONS

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1. The quotation and any order resulting from this enquiry shall be governed by our Conditions of Order and supplier quoting against this enquiry shall be deemed to have read and understood the same in total
2. Where counter terms and conditions have been offered by the Tenderer, the same shall not be deemed to have been accepted by ITER-India unless our specific written acceptance thereof is obtained.
3. The quoted prices should be firm for a period of 30 days from due date of bid submission. ITER-India is not bound to accept lowest rate/s. Bidder shall submit the price bid/offer on Bidder's letter head with official seal and sign on each page.
4. The bid documents shall be prepared in English language only
5. All pages of the bid documents shall be numbered. Each page of the bid document shall be stamped and initialized.
6. In the event of any date indicated above is a declared Holiday, the next working day with the same time limit shall become operative for the respective purpose mentioned herein
7. In case of deviation in payment terms including demand of advance other than specified in payment schedule and accepted by ITER-India, prevailing Prime Lending Rate (PLR) of SBI will be loaded for price comparison purpose
8. ITER-India and their authorized representatives may visit the Contractor/Sub-contractors if required as part of technical evaluation process
9. ITER-India reserves the right to place order on one or more parties.
10. Specifications: Material should be offered strictly conforming to our specifications/drawings, if any. Deviation, if any, should be clearly indicated by the supplier in their quotation. The Tenderer should also indicate the Make/Type number of the materials offered and catalogues, technical literature and samples, wherever necessary should accompany the quotation. Clarification/s on specifications/drawings should be obtained from Purchaser before submitting quotation.
11. Terms of Prices : Quotation should be submitted on door delivery basis, duly packed without extra charge wherever possible.
12. Unit rate/s should be valid throughout the validity of Purchase Order for addition/deletion purposes. Break-up of price should be furnished. The quoted price should not be subject to price escalation for whatsoever reasons. The quoted price shall be firm, fixed and non-revisable during the validity/ extended validity of Purchase Order.
13. Prices are required to be quoted according to the units indicated in the tender form/Enquiry. When Quotations are given in terms of units other than those specified in the tender form, relationship between the two sets of units must be furnished.
14. Tender should be free from Correction and Erasures. Corrections, if any, must be attested. All amounts shall be indicated both in words as well as in figures. Where there is difference between amounts quoted in words and figures, amount quoted in words shall prevail. Unsigned quotations will summarily be rejected.
15. ITER-India shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portion of the quantity offered and the tenderers shall supply the same at the rates quoted. ITER-India also reserves the right to split the order at its sole discretion
16. Delivery Date/Period: Delivery period is essence of the Order. Supplier must indicate the firm delivery date by which the materials will be dispatched / delivered by them from the date of our order.
17. Inspection: Materials on its arrival at ITER-India will be inspected by our Engineer/Stores In-Charge, and his decision in the matter will be final. However, where the items are required to be inspected at the Suppliers Premises, Supplier has to give advance notice to the Purchaser regarding readiness of the material to enable Purchase/Stores section to depute his representative for inspection.
18. Payment: Payment will be arranged for accepted materials only within 30 days from the date of acceptance of materials at ITER-India and receipt of error free bills in our accounts section, complete in all respects.
19. No correspondence will be entertained within 30 days from the date of receipt of material and bills, whichever is later.
20. Warranty: The Stores/Items offered should be guaranteed for a minimum period of twelve months from the date of acceptance, against defective materials, design, workmanship, operation or manufacture. For defects noticed and communicated during the Guarantee period, replacement/rectification should be arranged free of cost within a reasonable period of such notification. In case where our specifications call for a guarantee period more than 12 months specifically, then such a period shall apply.
21. The Contractor/Supplier shall at all times indemnify the purchaser against all claims which may be made in respect of the stores for infringement of any right protected by Patent, Registration of design or Trade Mark and shall take all risk of accidents or damage, which may cause failure of supply from whatever cause arising and the entire responsibility for sufficiency of all means used by him for the fulfillment of the Order.
22. Non-compliance to tender specifications and/or tender scope and/or tender terms and conditions are liable for rejection. Decision of ITER-India in respect of non-compliance shall be final and binding on the bidders.
23. Canvassing in any form with regard to this tender will lead to rejection of the bid.
24. The Project Director, ITER-India reserves the right to accept or reject any quotations fully or partly or to cancel the enquiry without assigning any reasons.
25. This enquiry is not a commitment and the Purchaser reserves the right to reject or cancel any or all offers.
26. Jurisdiction: The Order shall be governed by the Laws of India for the time being in force. The Courts of Ahmedabad/Gandhinagar only shall have jurisdiction to deal with and decide any legal or dispute arising out of this Order.
27. Unsuccessful bidders will not be intimated about the results of the enquiry/tender.
28. Purchase will not be responsible for payment of any interest to the Supplier, in case of delay in releasing payment.
29. The price evaluation shall be carried out on Landed price including taxes, duties and all other applicable charges.

## FORMAT FOR SUBMISSION OF QUOTATION

Enquiry No. : II/ECH/2021/002  
Name Of Party : OFFICE COPY  
Quotation No. & Date :  
Due on : 26/01/2021 by 5:00 PM (IST)

Sr No.	Material Description	Qty	Unit	Rate	Total
1	Fabrication& Supply of Mini Flow Test & Calibration Manifold	1	SET		
				Grand Total	

### COMMERCIAL TERMS & CONDITIONS \*

Sr.No	Description	Bidder's Compliance [Comply Yes/No (In case of No Please provide details)]
1	Delivery Basis : Free Door Delivery	
2	Validity Period (Refer Sr.No. 3 Of Terms and Condition)	
3	Warranty (Refer Sr.No. 20 Of Terms and Condition)	
4	GST (5% extra as per sr. no 1 of Note in enquiry document)	
5	GST No. (To Specify)	
6	Udhyog Aadhar No. & Category (Micro/Small/Medium Enterprise)	
7	Discount(if any)	
8	Remarks	
9	HSN/ SAC Code (To specify)	
10	Payment: Payment will be arranged after the inspection & final acceptance of the works carried-out by the contractor, within 30 days from the date of final acceptance by ITER-India and receipt of error free bills in our accounts section, complete in all respects.	
11	GST Extra (Specify)	
12	Delivery period (8 weeks from date of order)	

\* Fill in the applicable details

Place:

Authorised Signatory:

Date:

Company Seal

# ANNEXURE-A

## Technical Specifications Document

(TWO Part Tender; refer Section-10 of this document for bid submission details)

	<b>Annexure-A Technical Specifications</b>	Enquiry No.: II/ECH/2021/002
		Date:05/01/2021

# Fabrication & Supply of Mini Flow Test & Calibration Manifold

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## 1. Scope of Supply

Fabrication & supply of Mini flow test manifold as per attached drawings along with the fittings, accessories & instrumentation (refer section 3 for detailed specifications and quantities) .

## 2. Scope of Work

The supplier shall be responsible for the following main scope of work:

1. Procurement of all required materials/items as per the specifications and as per the attached schematics & drawings in Annexure-1.
2. Cutting, machining and fabrication of suitable components with appropriate dimensions like SS 304 C Channels, Pipes, flanges etc. as per attached schematics & drawings in Annexure-1.
3. Performing Hydro-test and other relevant tests of the assembled system conforming with the specifications.
4. Appropriate safe packing of the material and delivery to ITER-India site
5. It is within the bidder's scope to propose any necessary changes and improvements in the design to meet the fabrication/ assembly requirements.
6. Supplier to present/submit material test certificates for any of the procured raw materials if requested by ITER-India.

## 3. Drawings & Detailed Specifications

- 3.1 Detailed drawings: Detailed drawings in annexure-1 consisting of all necessary specifications are attached here with.
- 3.2 Key Specifications and BOM for fabrication of work:



## Annexure-A Technical Specifications

Enquiry No.:  
II/ECH/2021/002

Date:05/01/2021

S. No.	Component Description		Material Specifications	Quantity	Bidder Specification/ Compliance
1.	Pipelines & fittings	Line Size: DN 80	<b>Material:</b> SS304 (nonmagnetic grade) for cooling water application <b>Schedule:</b> 10 S <b>Fittings:</b> It will include all elbows, flanges, gaskets and complete set of fasteners. Operating Pressure: 6 Bar; Test Pressure: 8 Bar Maximum Temperature: 70 °C	As per lengths mentioned in drawings (Annexure-1)	
		Line Size: DN 25			
		Line Size: DN 15			
2.	Extra fittings:	Reducer- Size: DN 100 to DN 80	<b>Material:</b> SS304 (nonmagnetic grade) for cooling water application <b>Schedule:</b> 10 S <b>Fittings:</b> It will include all flanges, gaskets and complete set of fasteners. Operating Pressure: 6 Bar; Test Pressure: 8 Bar Maximum Temperature: 70 °C	2 Nos	
		Elbow- Size: DN 100 with Flange end		2 Nos	
3.	C Channels (For Support Structure)		Material: SS 304 Size: 75mm X 40mm X 5mm	As per lengths mentioned in drawings (Annexure-1)	
	Castor wheels (For Support Structure)		4 -Heavy Duty Castor wheels / 1 Ton Load capacity	Refer drawings	

	<b>Annexure-A Technical Specifications</b>	Enquiry No.: II/ECH/2021/002
		Date:05/01/2021

4.	Accessories: Flow straightener		Size – To suit 80NB (82.8 mm Inner Dia.) Media - Demineralized water Operating Pressure - ~ 6 Bar MOC Pipes - SS 304 FSV - 19 Tube Bundle x 3D RF Type MOC FSV Tubes - SS 304 /SS 316 SMLS x 1.2MM to 1.6MM thick MOC RF Mounting Flange - SS304 x 6.35mm Thick	1 No	
5.	Flow Control Valve	DN 25	Globe type, Flanged end valve, MOC: SS304/ SS316	1 No	
		DN 15		1 No	
6.	Ball Valve	DN 15	Threaded type. MOC: SS304/ SS316	3 Nos	
6.	Instrumentation: Flowmeter	Line Size: DN 80	Please refer table 2, for complete specifications	1 No	*Please specify the proposed make and models
		Line Size: DN 25	Please refer table 2, for complete specifications	1 No	*Please specify the proposed make and models
		<p>Recommended Makes: Flow meters of well-established &amp; proven makes and models that are complying with the specifications are only allowed. Makes Such as: Honeywell, Krohne Marshall, Kobold, Yokogawa, Emerson, or equivalent may be considered.</p> <p>*Please duly submit the verifiable openly published data sheets of the proposed models along with the bid as a proof of compliance. Bidders are requested to do their market study for technical compliance and cost estimation before proposing a model in their bid.</p>			

Table 1: Specifications for fabrication

### 3.3 Technical Specifications of Flowmeters

Specification Name	Detail	Required Value	Bidders comment & compliance notes
Sizing	Flow range	~ (25 - 80) LPM	

	<b>Annexure-A Technical Specifications</b>	Enquiry No.: II/ECH/2021/002
		Date:05/01/2021

	Type 1	Line Size	DN 25	
	Type 2	Flow range	~ (400 - 1100) LPM	
		Line Size	DN 80	
Measuring Technique	DN 25		Vortex type	
	DN 80		Vortex type	
<b>MOC</b> –Flow Sensor SS 316, <b>Housing</b> - Non-magnetic material, SS 304/ SS316/Die-cast Aluminum with matching fasteners SS 304 or better.				
Display			LCD with backlight or LED display; in <b>LPM</b> unit	
Process Connection	DN 25		Flanged end, Class 150, ASME B16.5	
	DN 80			
Nominal Pressure	Operating between		0- 6 Bar(g)	
Maximum Pressure	Must withstand at least		8 Bar(g)	
Temperature			15 to 70 °C	
Accuracy			±1 % of full-scale flow rate or better	
	Calibration		3- or 5-Point Calibration report to be included. <b>(ITER-India on its own discretion may witness the Calibration test)</b>	
Protection			as per IP-65 or better	
Pressure Drop			≤ 0.3 Bar at 100% flow range	
Power Supply			24V Loop power supply preferred	
Current measurement			2-wire method	
Transmitter analog output signal monitoring			4-20 mA, with HART Protocol.	
Cable*			10 meters	
<i>*Cables requirements for all instrumentations- Power &amp; Control cables shall be of 1100 Volts grade, annealed flexible copper conductor, PVC/PTFE insulated, extruded FRLC PVC inner sheathed and overall FRLS PVC sheathed confirming to IS 1554/Pt.1/1988 with latest amendments.</i>				

Table 2: Technical Specifications of Flowmeters



#### 4. Prefabrication & Quality Control

- Random inspection may be organized by ITER-India for inspecting the quality of procured material/components and observation of fabrication processes for SS Structure & Pipe Assembly.

#### 5. Factory Testing, Pre-dispatch Inspection & Dispatch Clearance

- ✓ Supplier has to demonstrate assembly of all components and assembled pipes are to be **Hydro tested at 8 Bar test pressure**.
- ✓ A pre-dispatch Inspection may be conducted by ITER-India representative for witnessing the factory tests. It is preferable to conduct basic flow tests at factory to ensure that the flow meters are functioning properly before dispatch. However, if such tests are not possible at factory the same will be done at ITER-India site.
- ✓ A dispatch clearance note will be issued by the purchaser after successful completion of the pre-dispatch inspection. Supplier shall initiate the delivery only after receiving the dispatch clearance note from the purchaser.

#### 6. Delivery Period

The delivery period shall be 8 weeks from the date of PO placement.

#### 7. Packing and Shipment

Packing: Appropriate packaging must be done to avoid damage during transportation. The supplier shall replace/repair at his own expenses, if, any damage found at the time of delivery. Packaging, Loading, Transportation and Unloading are under the scope of supplier. Items shall be delivered at:

ECH-Lab, Third floor,  
ITER-India Lab Building,  
Institute for Plasma Research,  
Near Indira Bridge, P.O. Bhat  
Gandhinagar -382 428, India

Prior information of the material dispatch shall be given to ITER-India Purchase Officer

#### 8. Final Acceptance

- ✓ The properly fabricated and assembled structure of Mini Flow Test & Calibration Manifold will be inspected and tested by ITER-India for flow tests and for any leakages. If found satisfactory, the final acceptance will be given.

	<b>Annexure-A Technical Specifications</b>	Enquiry No.: II/ECH/2021/002
		Date:05/01/2021

## 9. Warranty

The Supplier should provide one-year standard warranty, i.e., repair/replace free of cost in case of a failure or material defects during the warranty period.

## 10. Bid Submission

- ✓ **This is a Two-part tender. Bidders are required to submit the technical and the price bids in two separate sealed envelopes. Price bids should not be mixed with the technical bid.**
- ✓ **Sealed Envelope-1 (Technical Bid) and sealed Envelope-2 (Price Bid)**
- ✓ **Both the envelopes (envelope-1 and envelope-2) can be enclosed in another main envelope, superscribed with Enquiry Number, Date and Due date and shall be addressed to the Project Manager, ITER-India. The bid documents should reach ITER-India Office (refer enquiry header for full address) on or before the specified due date and time.**
- ✓ **Only technically compliant bids will be further considered for price bid opening**
- ✓ Bidder has to study all the drawings thoroughly and incase of any query/question, it should be sought from ITER-India before bid submission.
- ✓ Bidder has to fill up the technical compliance sheet as per Tables-2 and submit along with the bid and incase of any query/question, it should be sought from ITER-India before bid submission
- ✓ As a proof of compliance, the bidder has to submit the verifiable OEM published data sheet for the proposed Flow-meters. Bidders are requested to do their market study for technical compliance and cost estimation before proposing a make & model in their bid. Authenticity of the data sheets that cannot be verified through the OEM's web site may not be considered for evaluation and such bids may be rejected. Bidders are requested quote good quality reliable and reputed products meeting all the technical specifications only
- ✓ As a confirmation that bidder has gone through the drawings and understood the full scope of work, signed & stamped copies of all the drawings are to be submitted along with the bid.

## 11. Annexure-1: List of drawings & schematics

S. No.	Description	Page No
1	Isometric view of Assembly	01
2	Isometric & Projection view of Structure	02-03
3	Isometric & Projection view of 3" line	04
4	Isometric & Projection view of 1" line	05
5	Isometric & Projection view of 1/2" line	06
6	Isometric & Projection view of C channel-1	07
7	Isometric & Projection view of C channel-2	08
8	Isometric & Projection view of C channel-3	09
9	Isometric & Projection view of C channel-4	10
10	Isometric & Projection view of C channel-5	11
11	Isometric & Projection view of C channel-6	12
12	Isometric & Projection view of 3" RF Flange	13
13	Isometric & Projection view of 4" RF Flange	14
14	Isometric & Projection view of 4" elbow	15
14	Isometric & Projection view of 3" elbow	16
15	Isometric & Projection view of 4" to 3" reducer	17

Table 3: List of drawings for the project

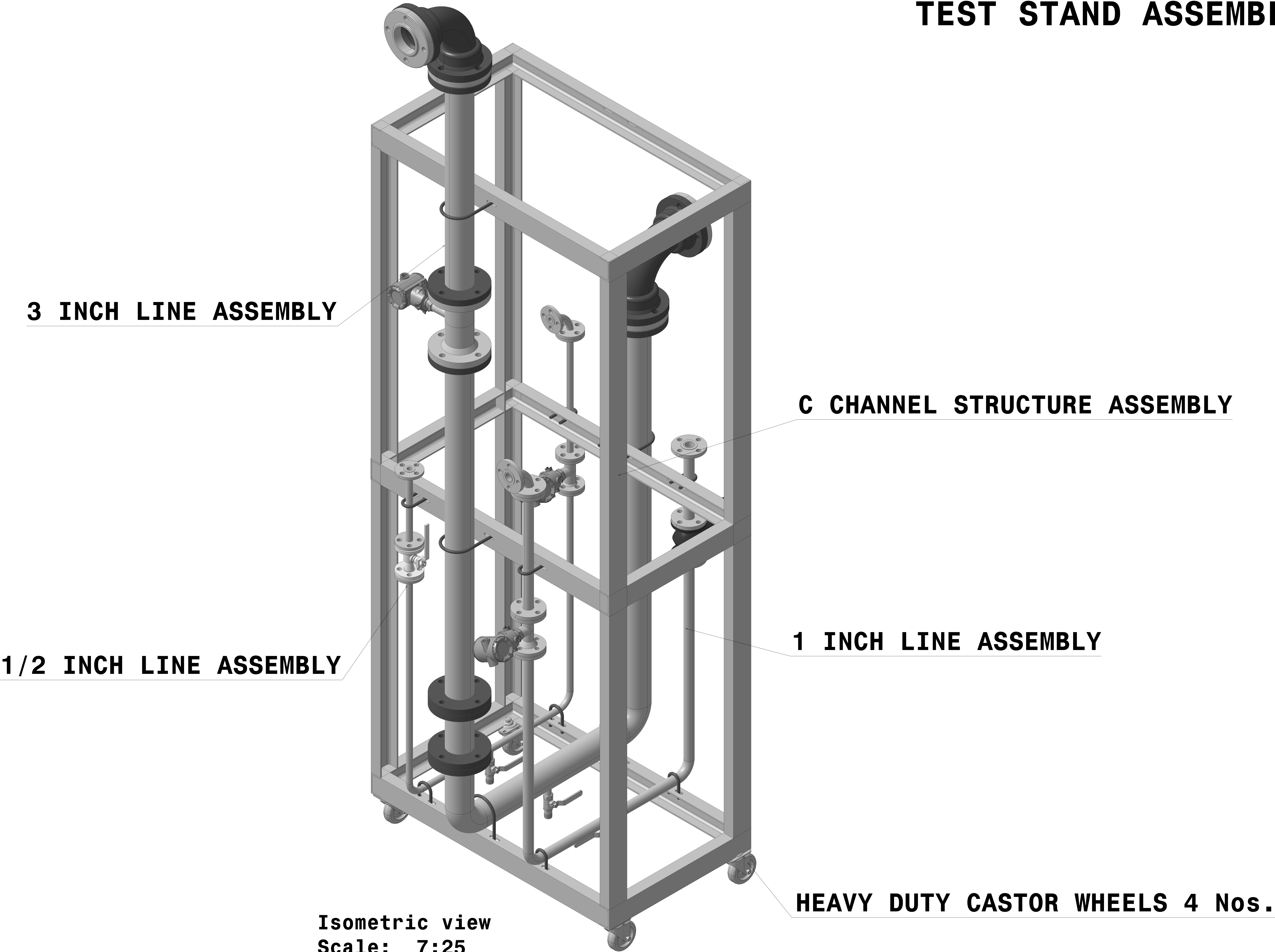
Bidders Signature		
Name of the Signatory & Title	Name	Title
Bidder's Official seal		
Place & Date	Place	DD-MM-YYYY

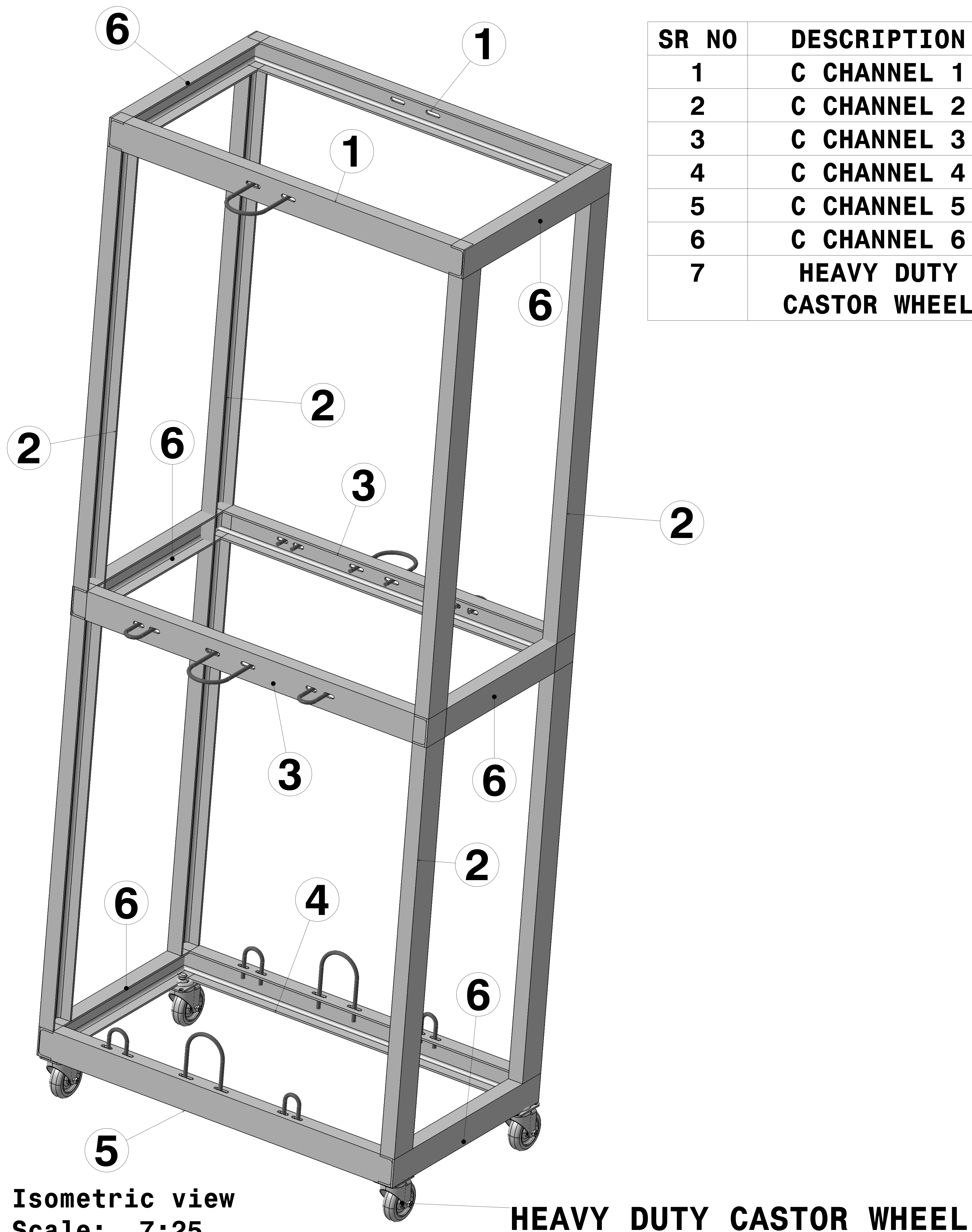
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## **Annexure-1: List of drawings & schematics**

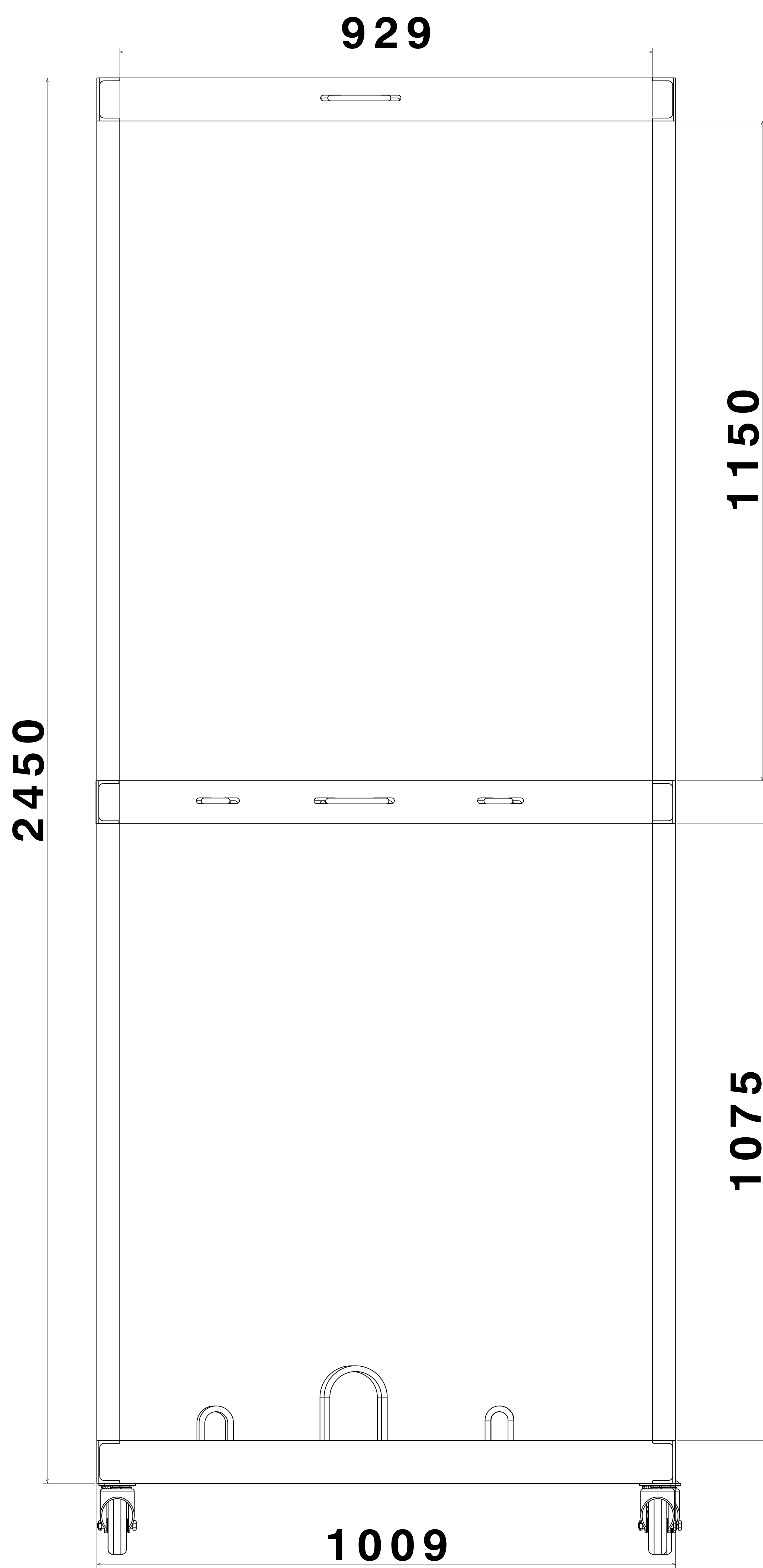
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**TEST STAND ASSEMBLY**

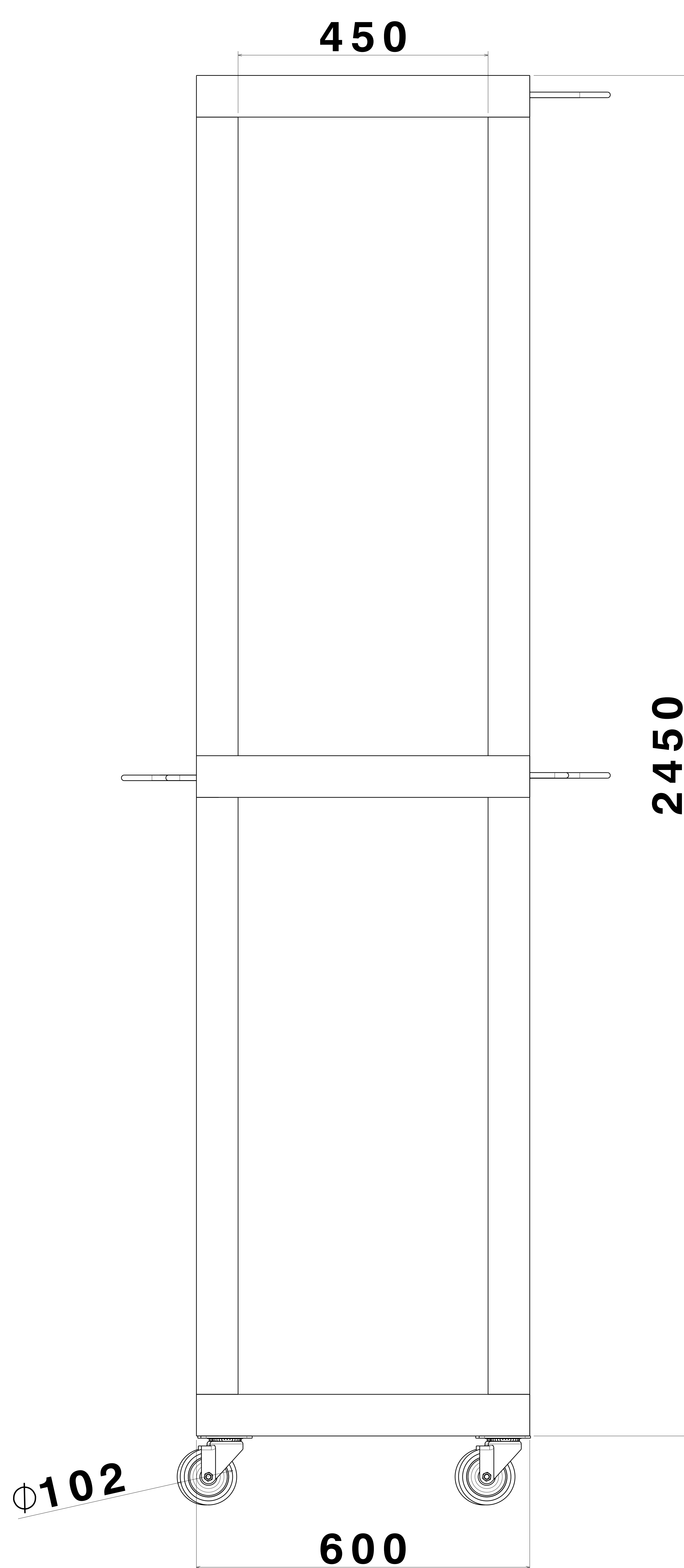




SR NO	DESCRIPTION	SIZE (mm)	QTY	MATERIAL	REMARKS
1	C CHANNEL 1	40 x 75 x 1000	2	SS 304	
2	C CHANNEL 2	40 x 75 x 2300	4	SS 304	
3	C CHANNEL 3	40 x 75 x 1000	2	SS 304	
4	C CHANNEL 4	40 x 75 x 1000	1	SS 304	
5	C CHANNEL 5	40 x 75 x 1000	1	SS 304	
6	C CHANNEL 6	40 x 75 x 600	6	SS 304	
7	HEAVY DUTY CASTOR WHEEL		4	SS 304	1 TON CAPACITY

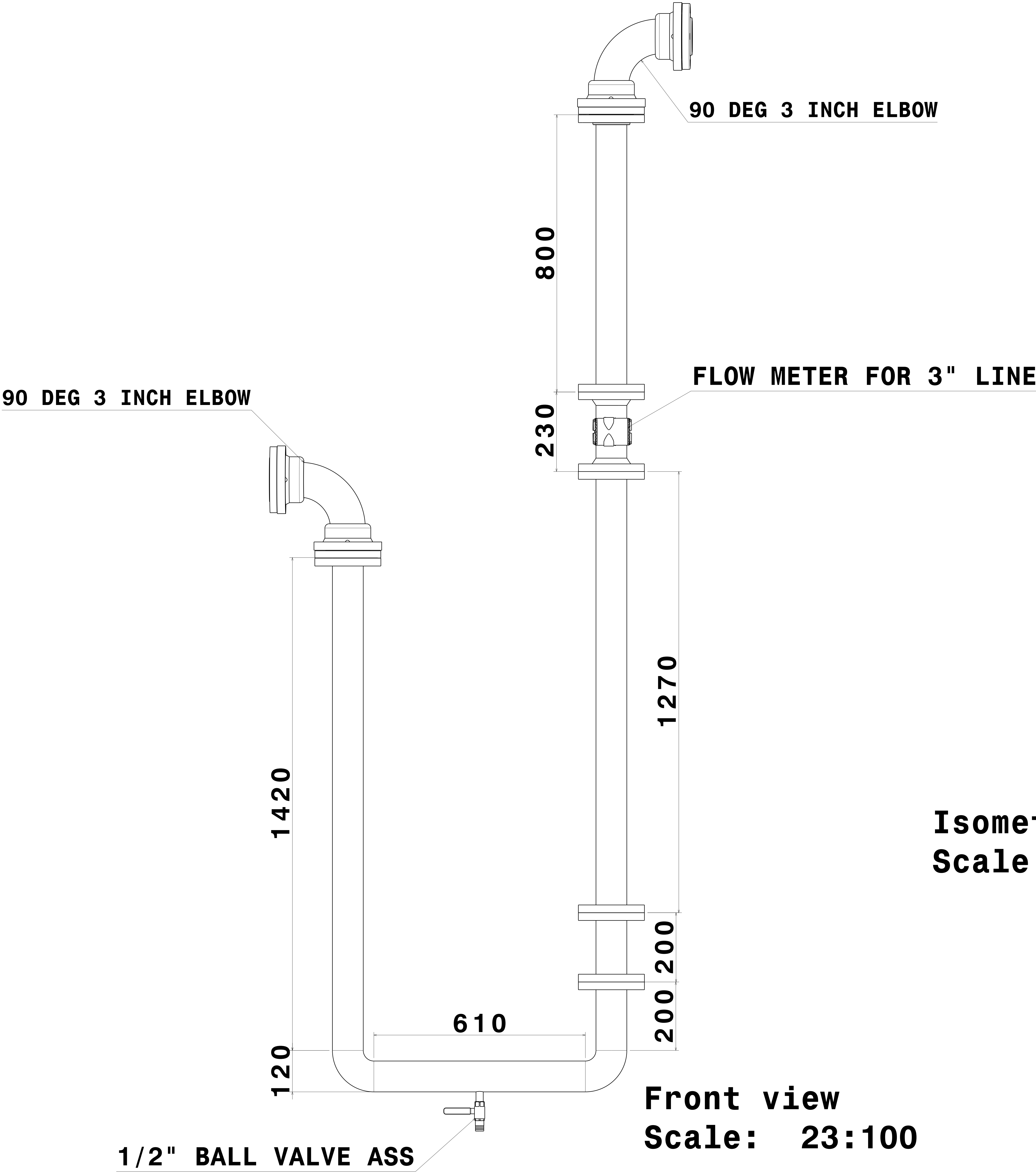


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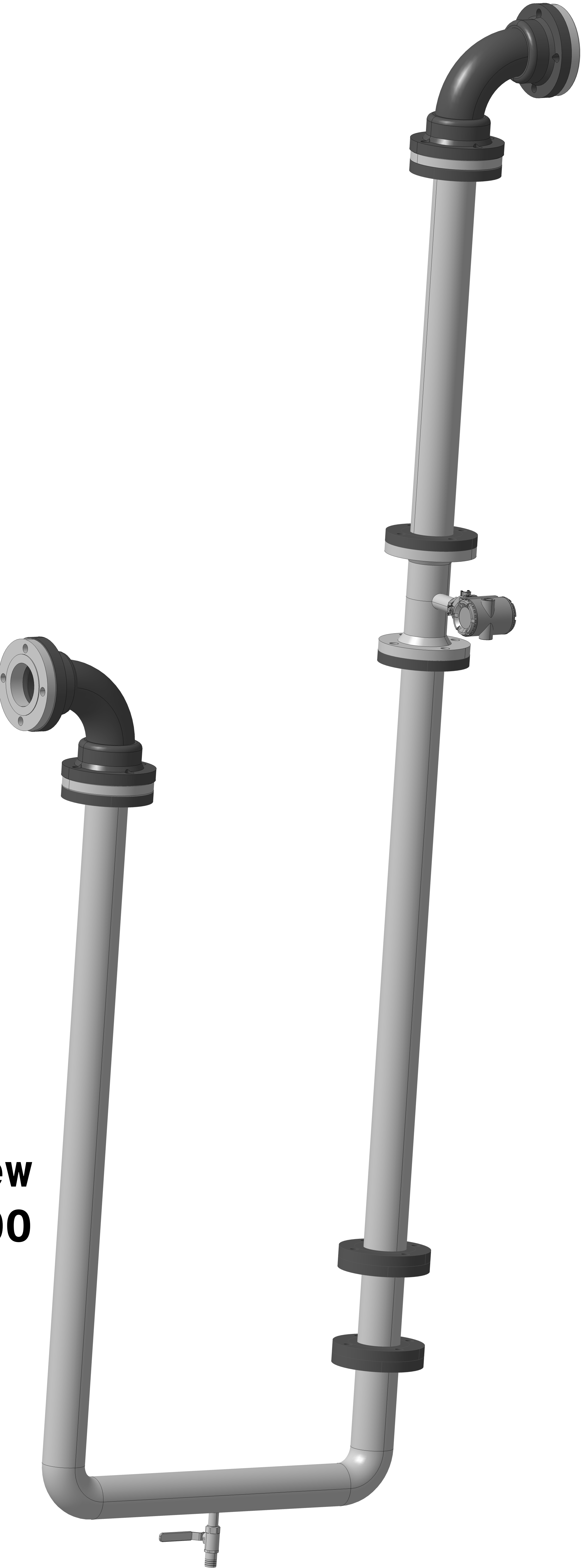


Left view  
Scale: 7:25

# 3" LINE ASSEMBLY



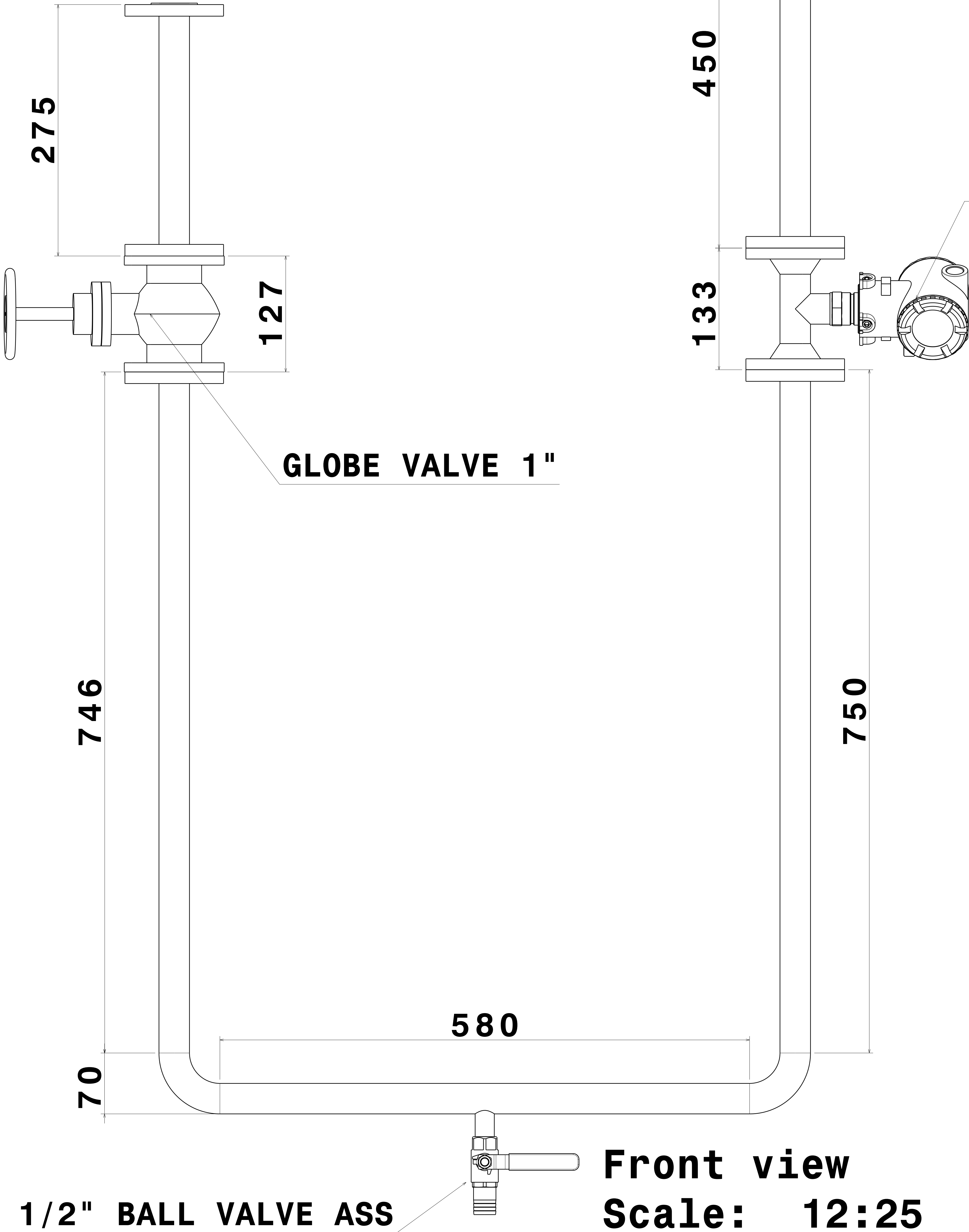
Isometric view  
Scale: 23:100



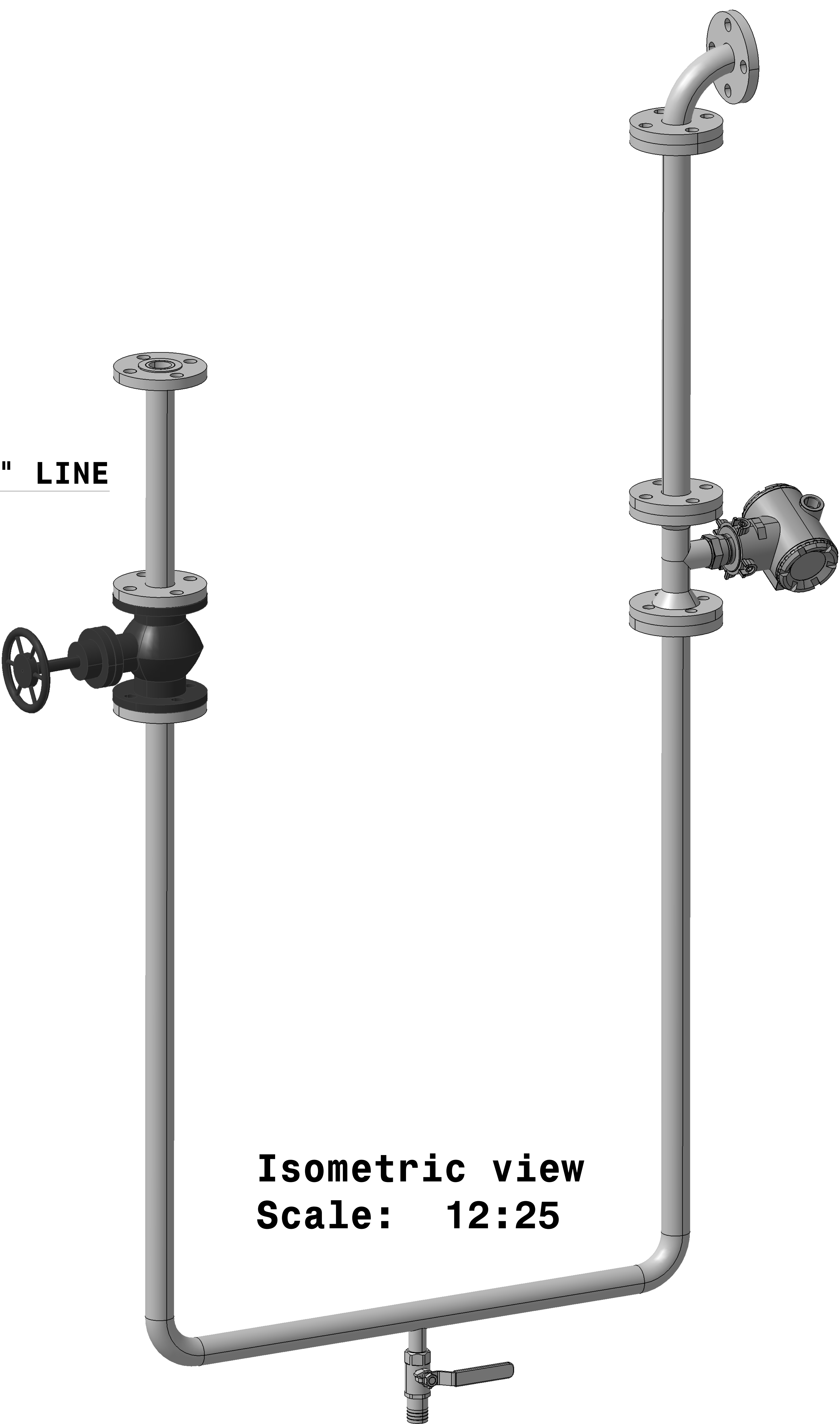


# 1 " LINE ASSEMBLY

90 DEG 1 INCH ELBOW



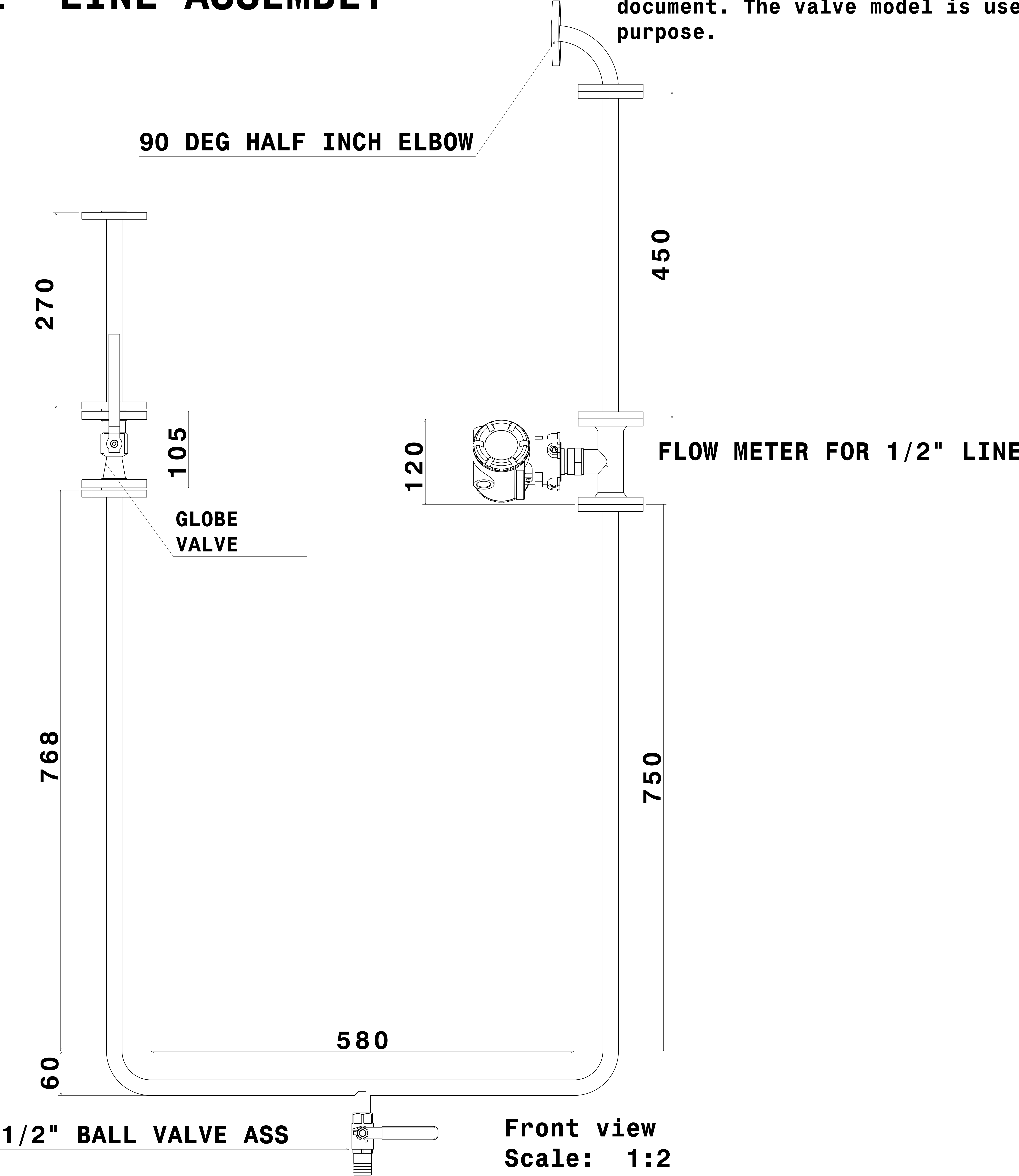
Front view  
Scale: 12:25



Isometric view  
Scale: 12:25

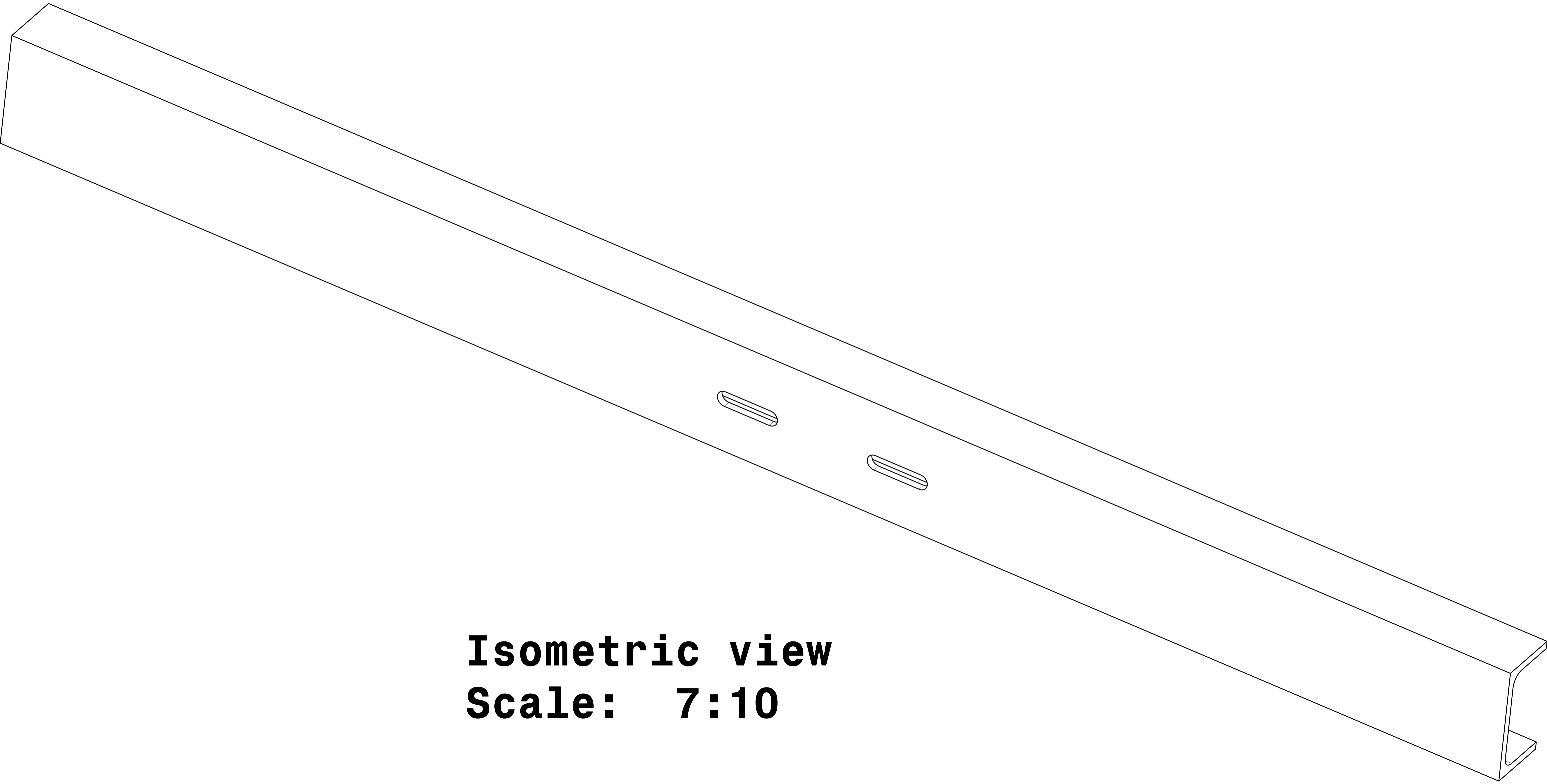
# 1/2" LINE ASSEMBLY

Note: Globe valve is to be considered as per the specification document. The valve model is used only for representation purpose.

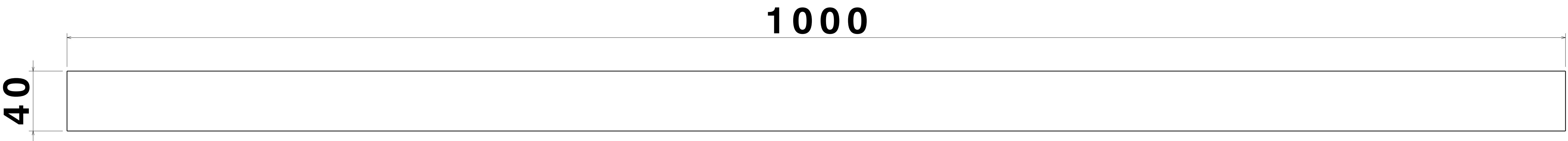


Isometric view  
Scale: 9:20

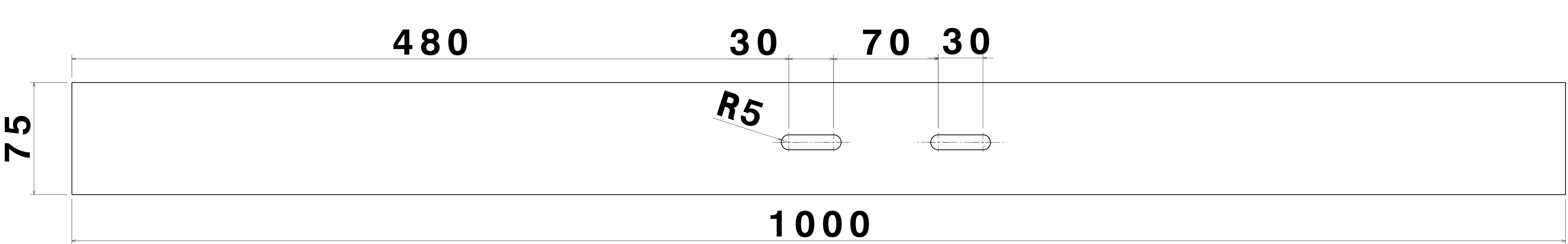
C CHANNEL - - 1



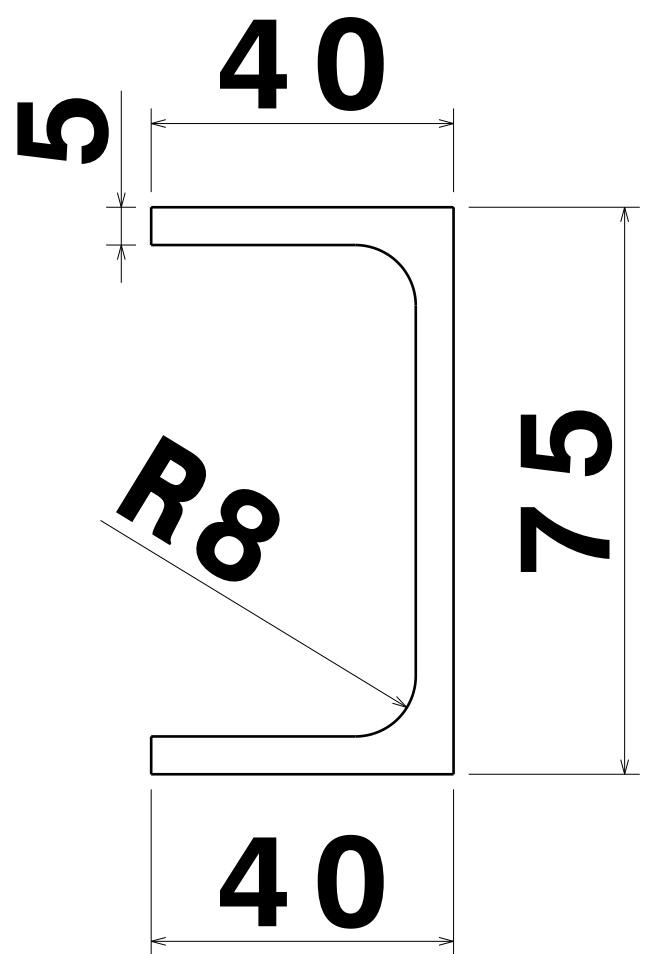
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Bottom view  
Scale: 7:10

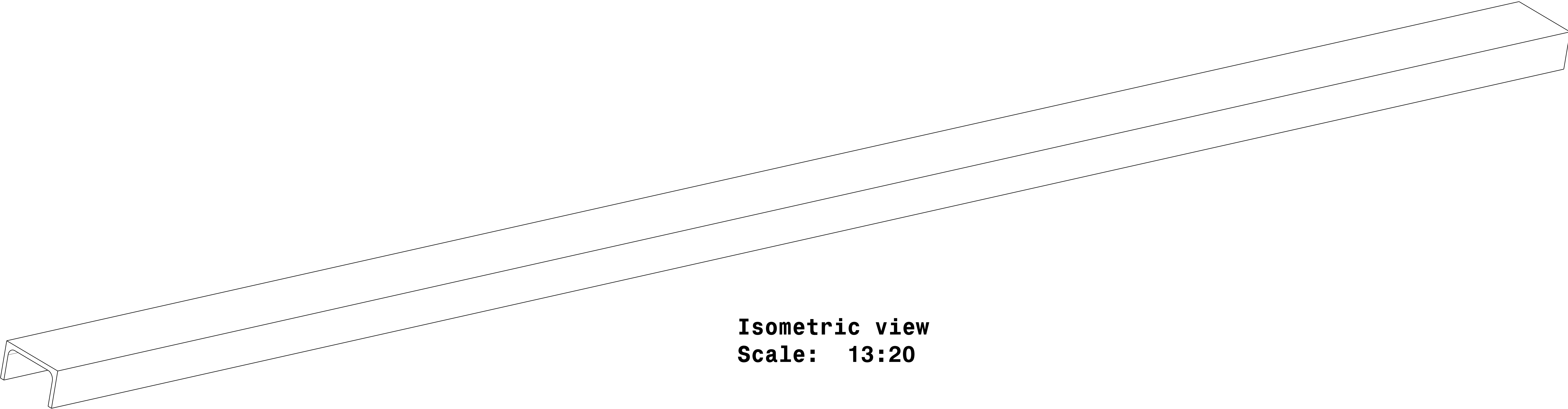


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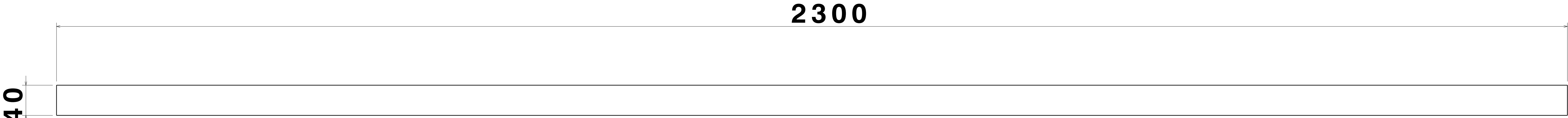


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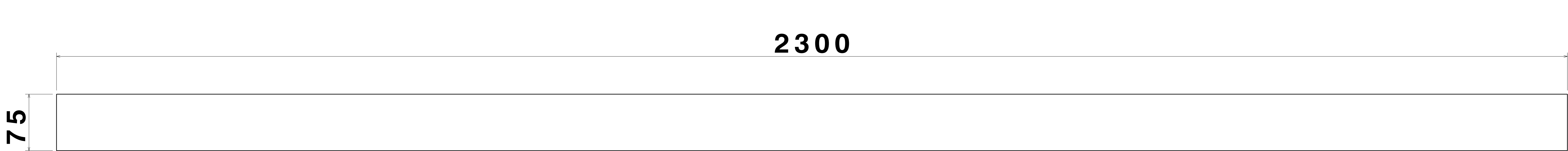
C CHANNEL - -2



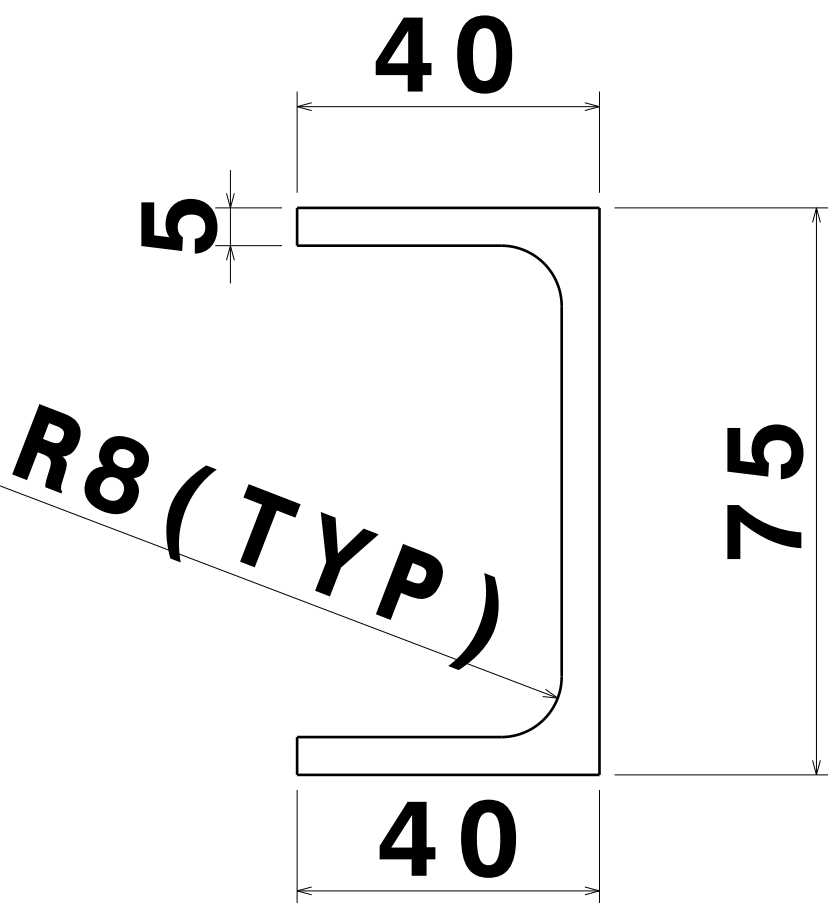
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Bottom view  
Scale: 2:5

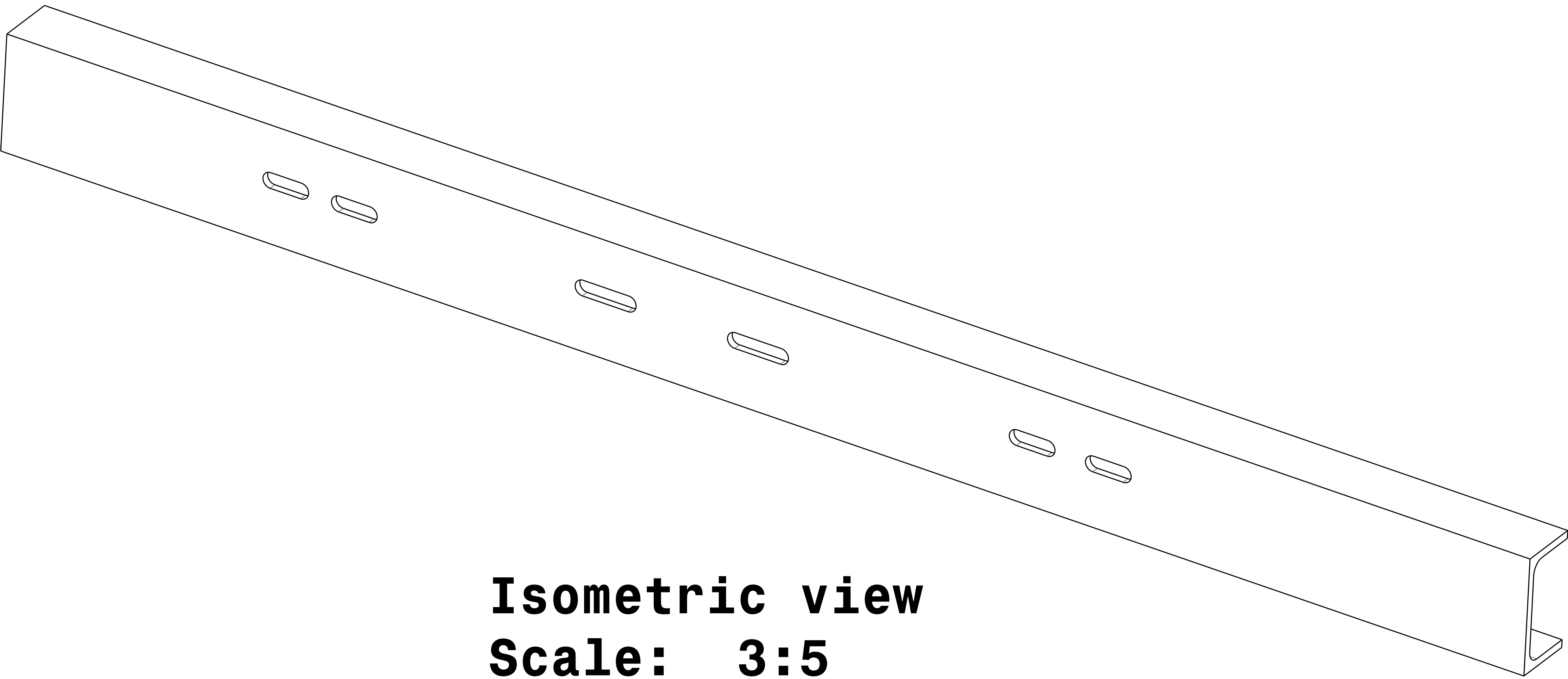


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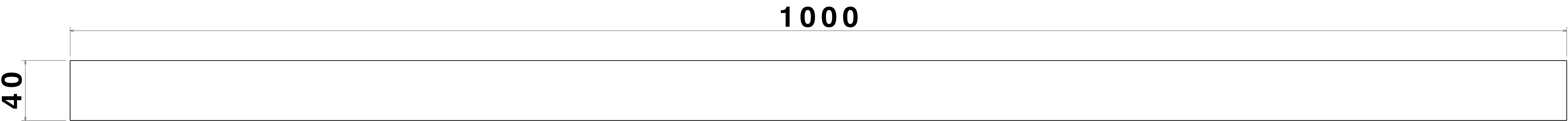


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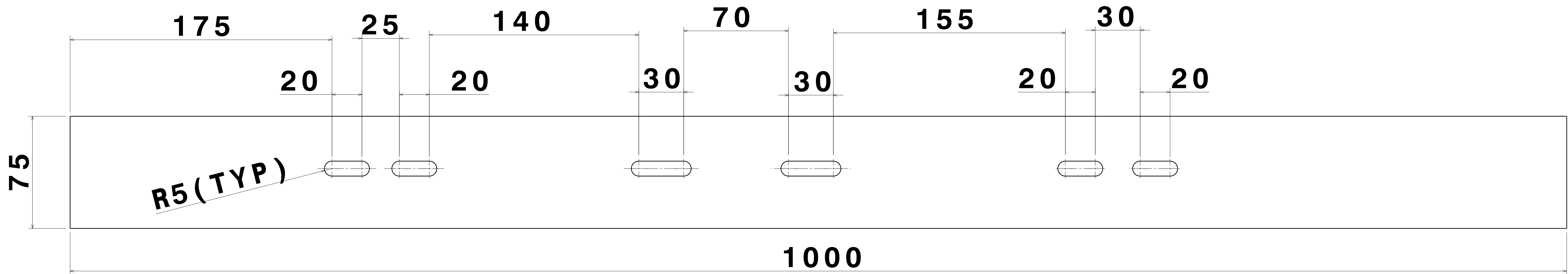
C CHANNEL - -3



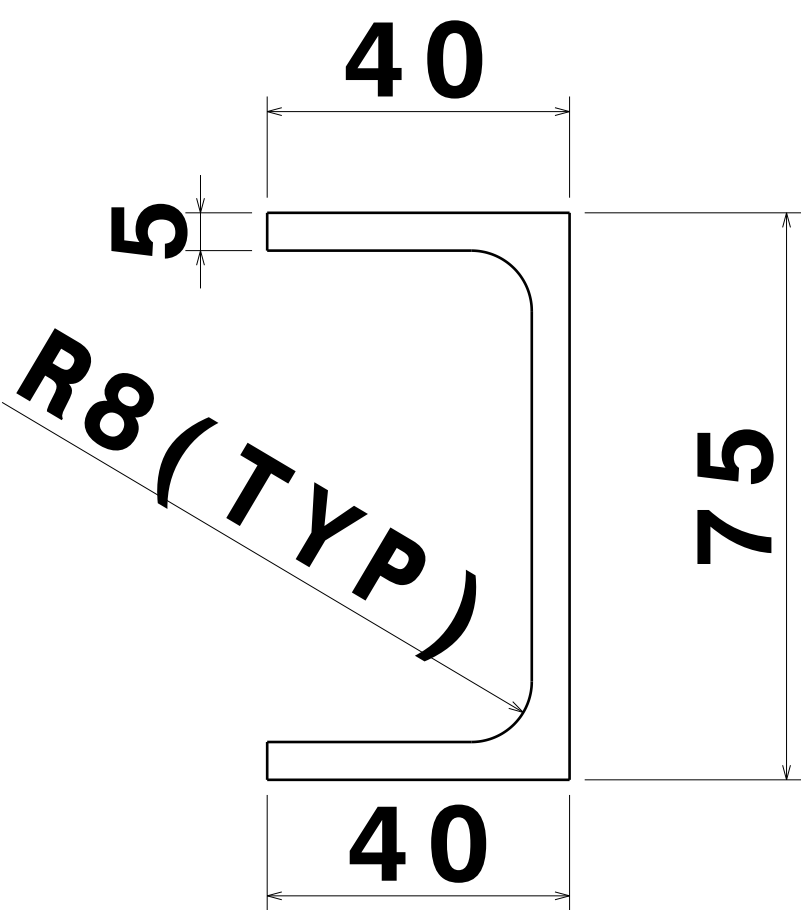
Isometric view  
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Bottom view  
Scale: 3:4

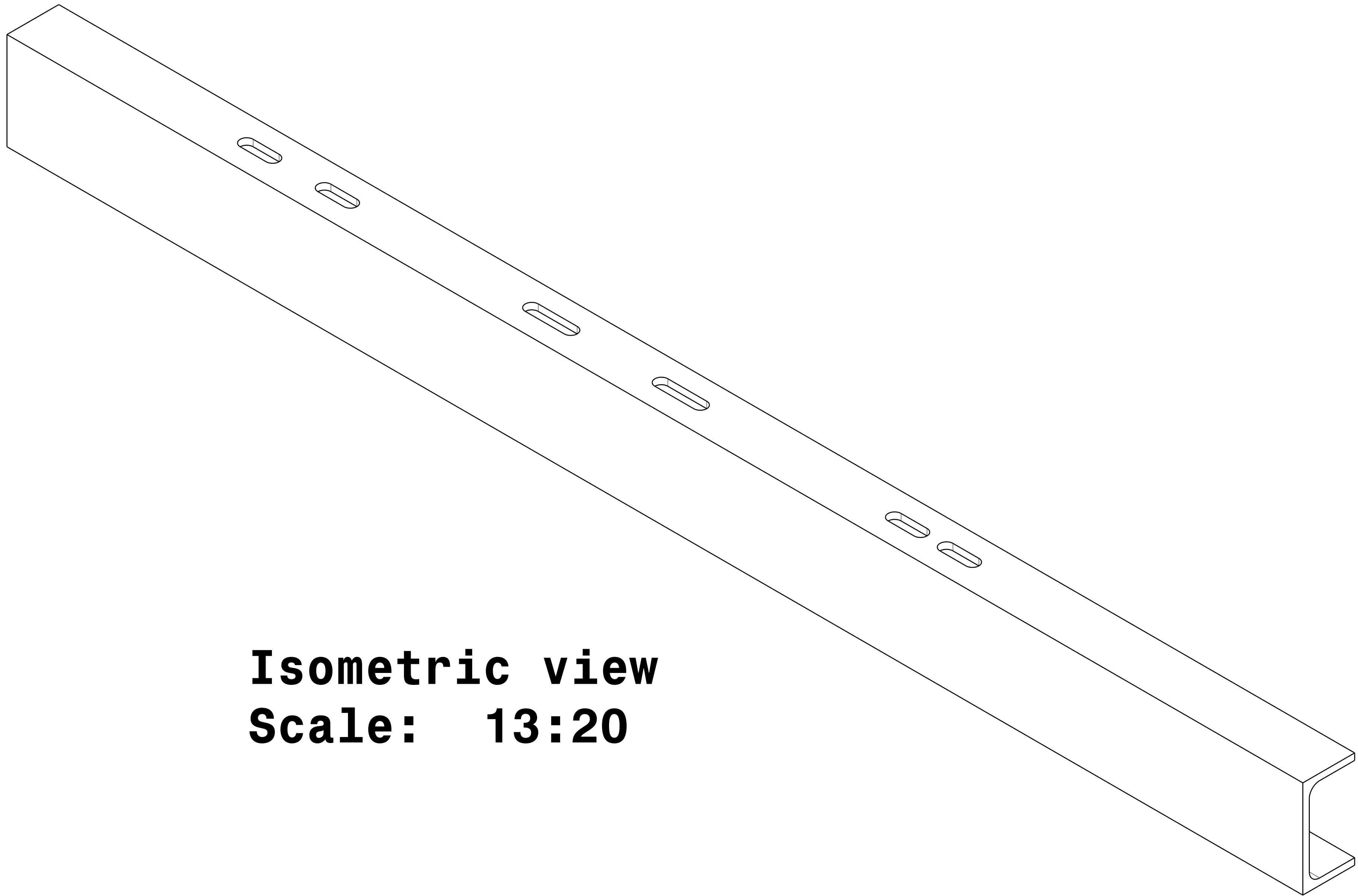


Front view  
Scale: 3:4

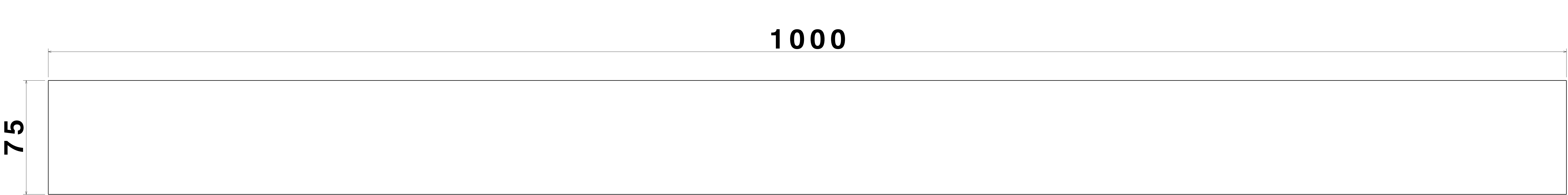


Left View  
Scale: 1:1

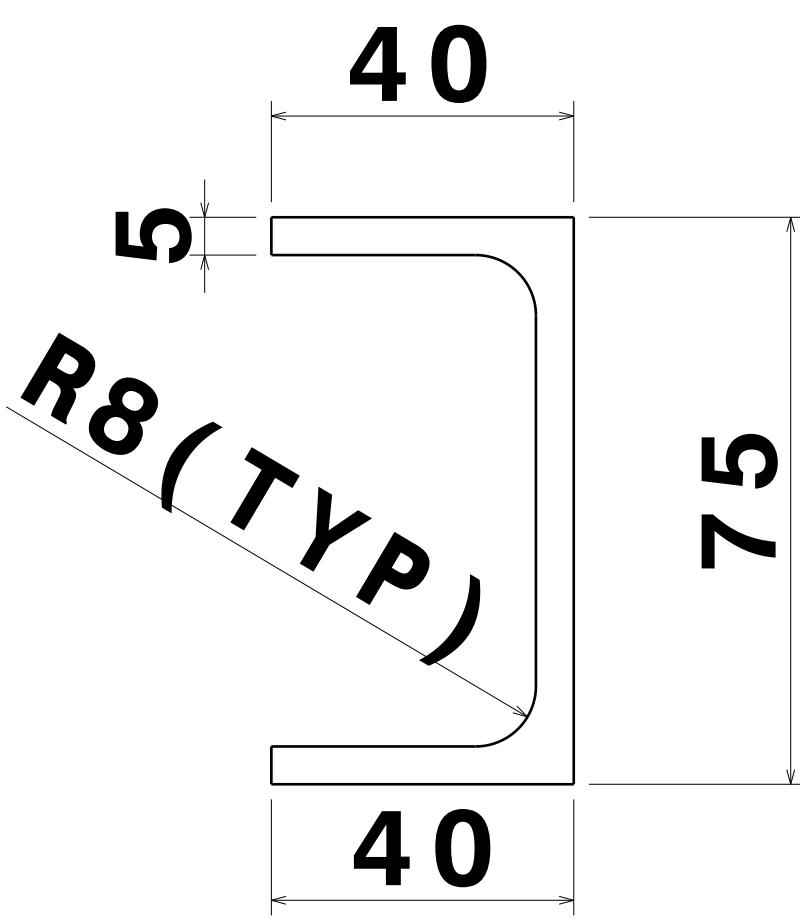
C CHANNEL - - 4



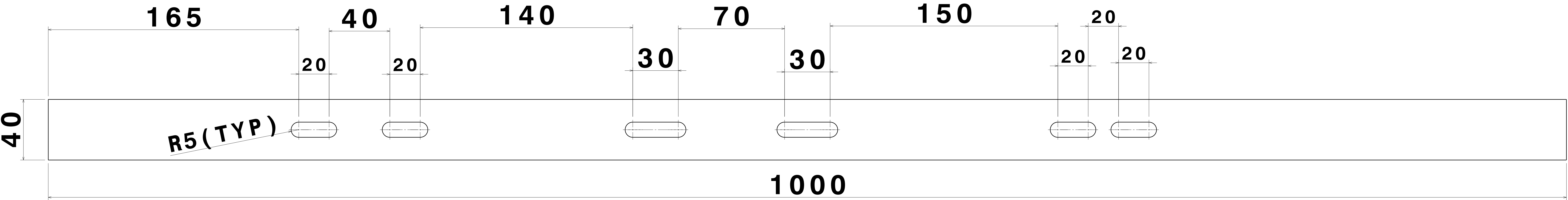
Isometric view  
Scale: 13:20



Front view  
Scale: 19:20

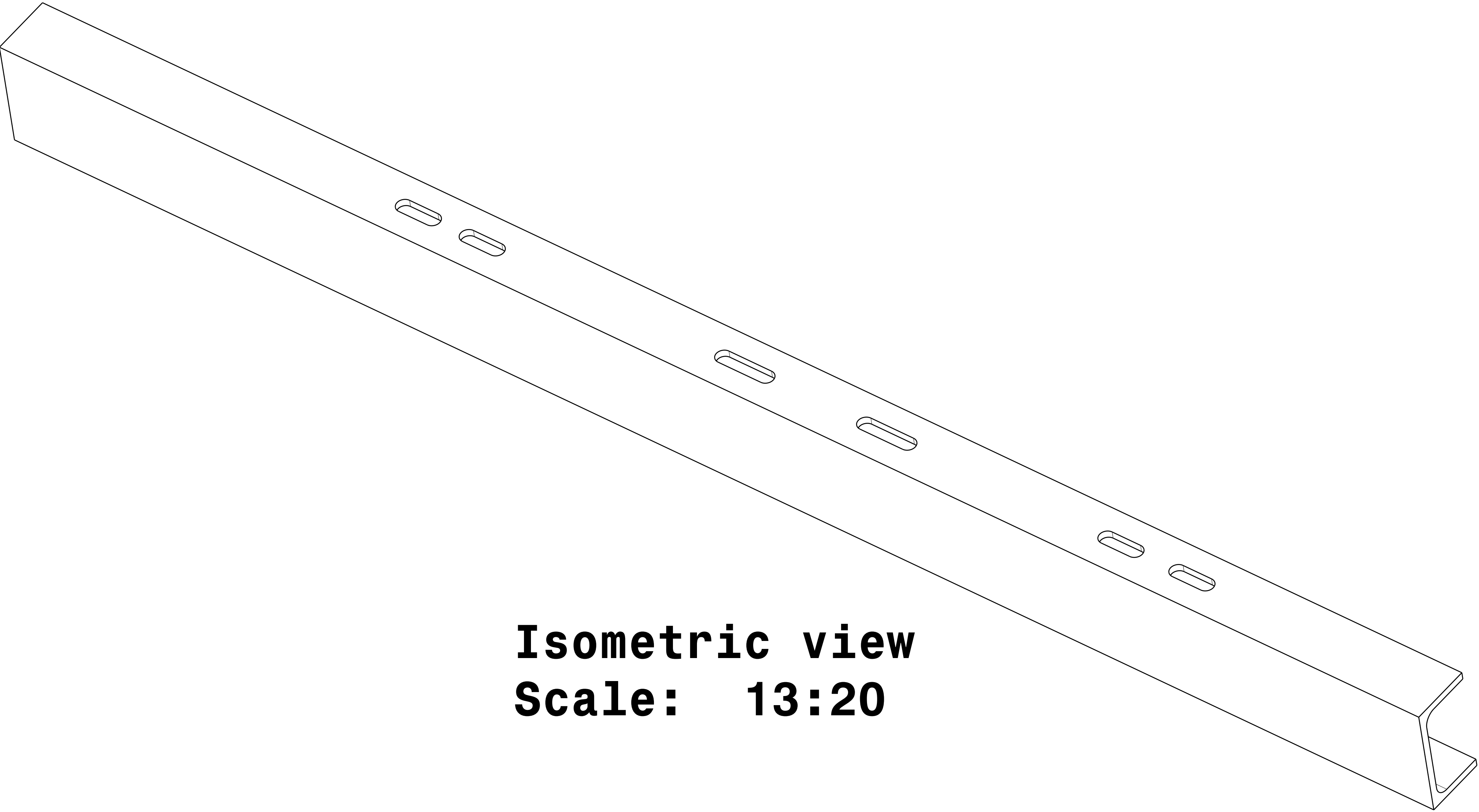


Left View  
Scale: 1:1

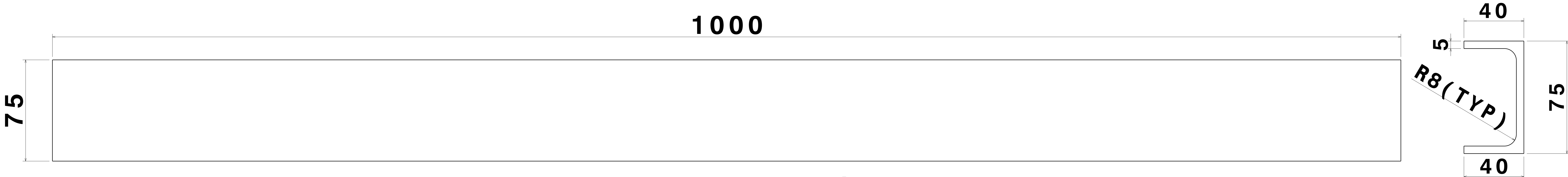


Top view  
Scale: 19:20

C CHANNEL - -5

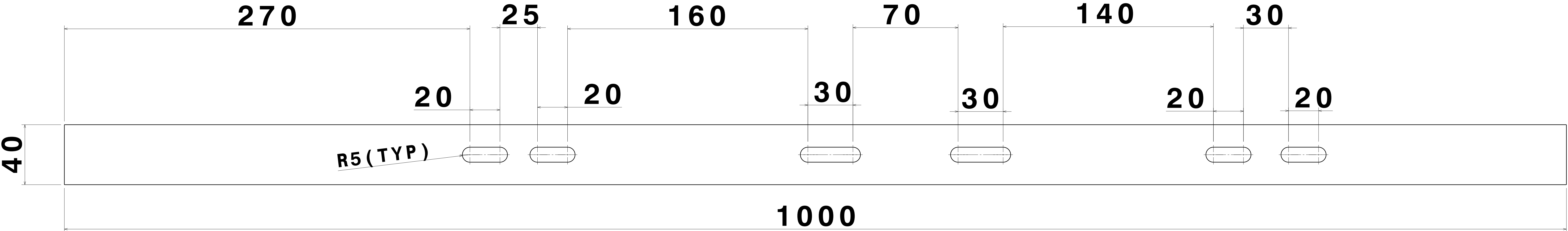


Isometric view  
Scale: 13:20



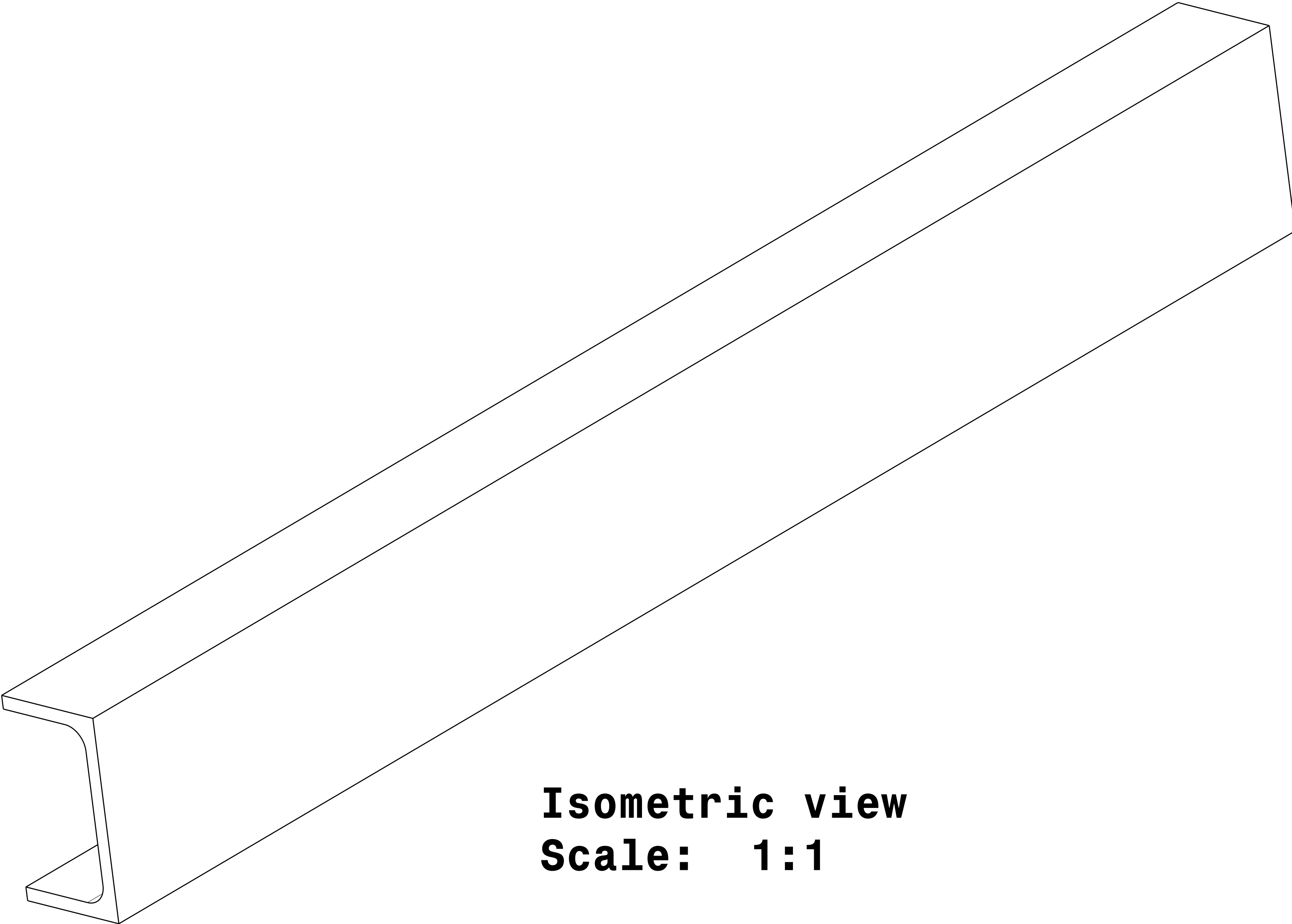
Front view  
Scale: 9:10

Left View  
Scale: 1:1

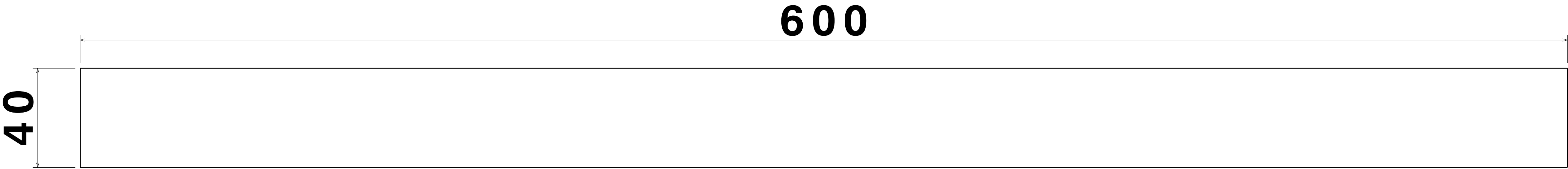


Top view  
Scale: 9:10

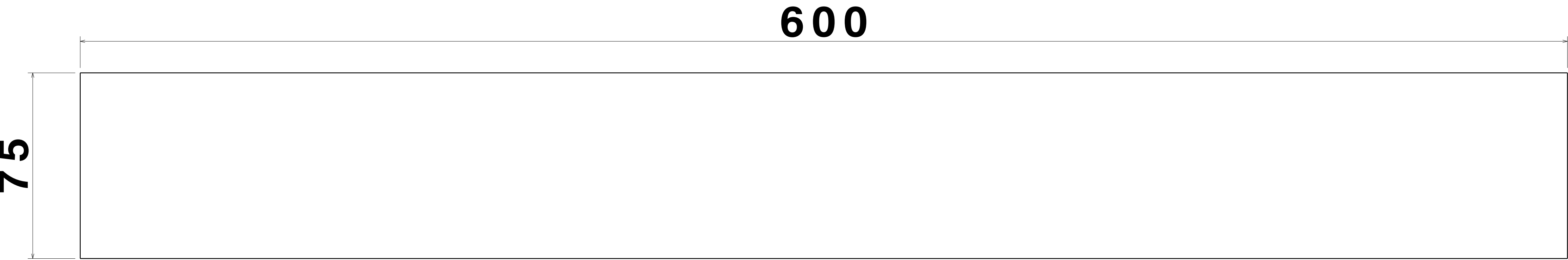
C CHANNEL - -6



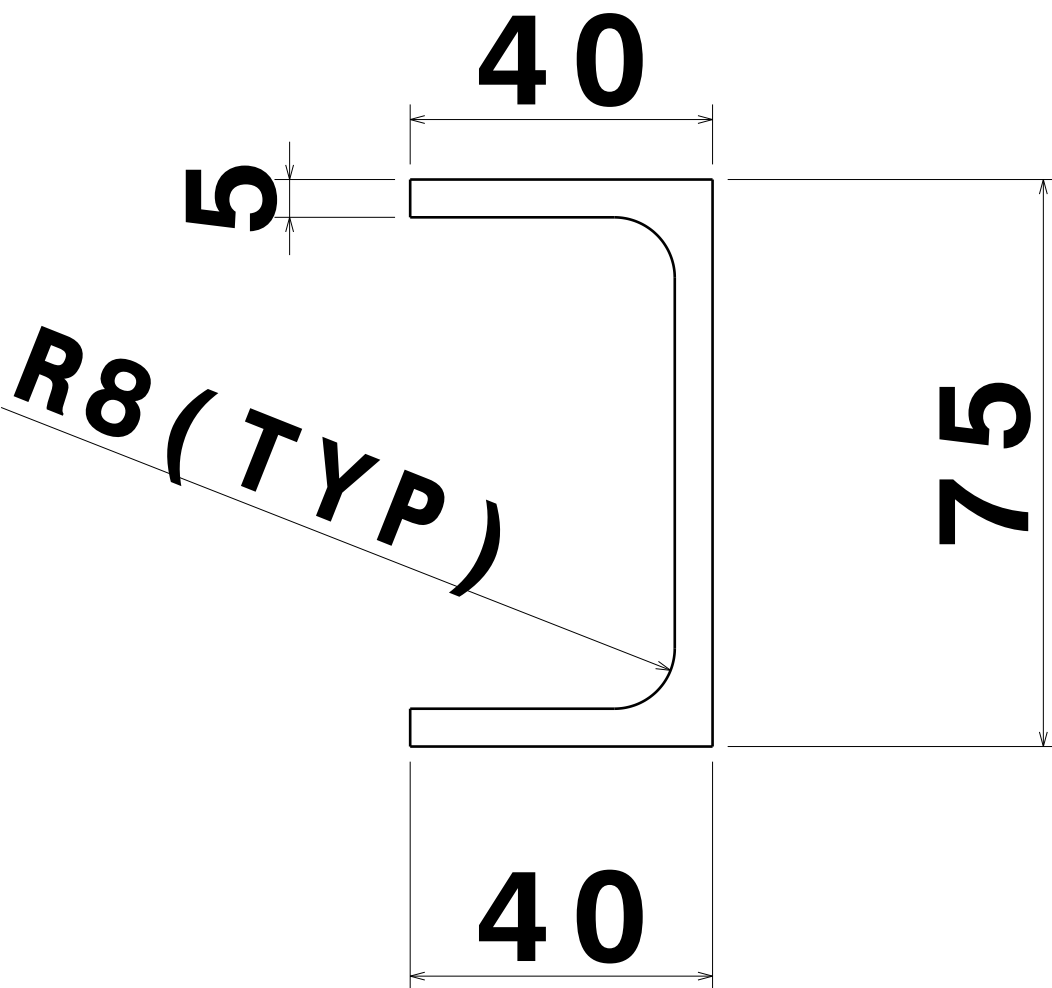
Isometric view  
Scale: 1:1



Bottom view  
Scale: 1:1



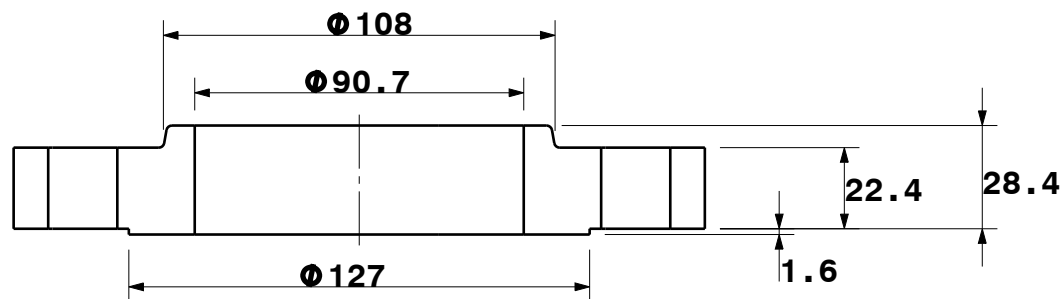
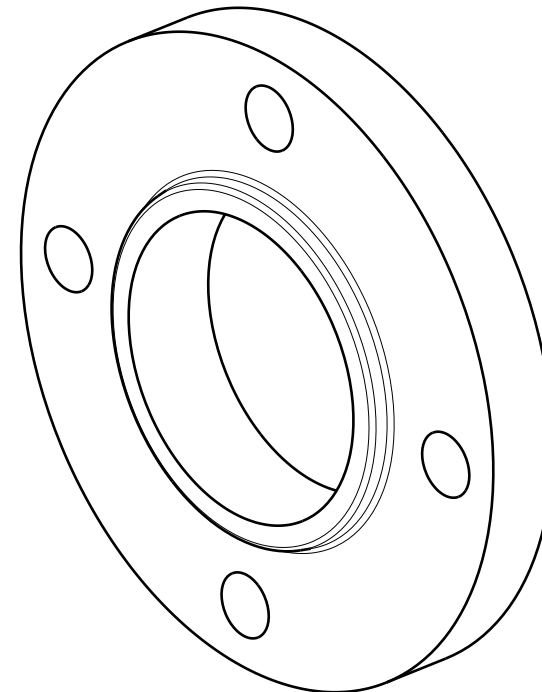
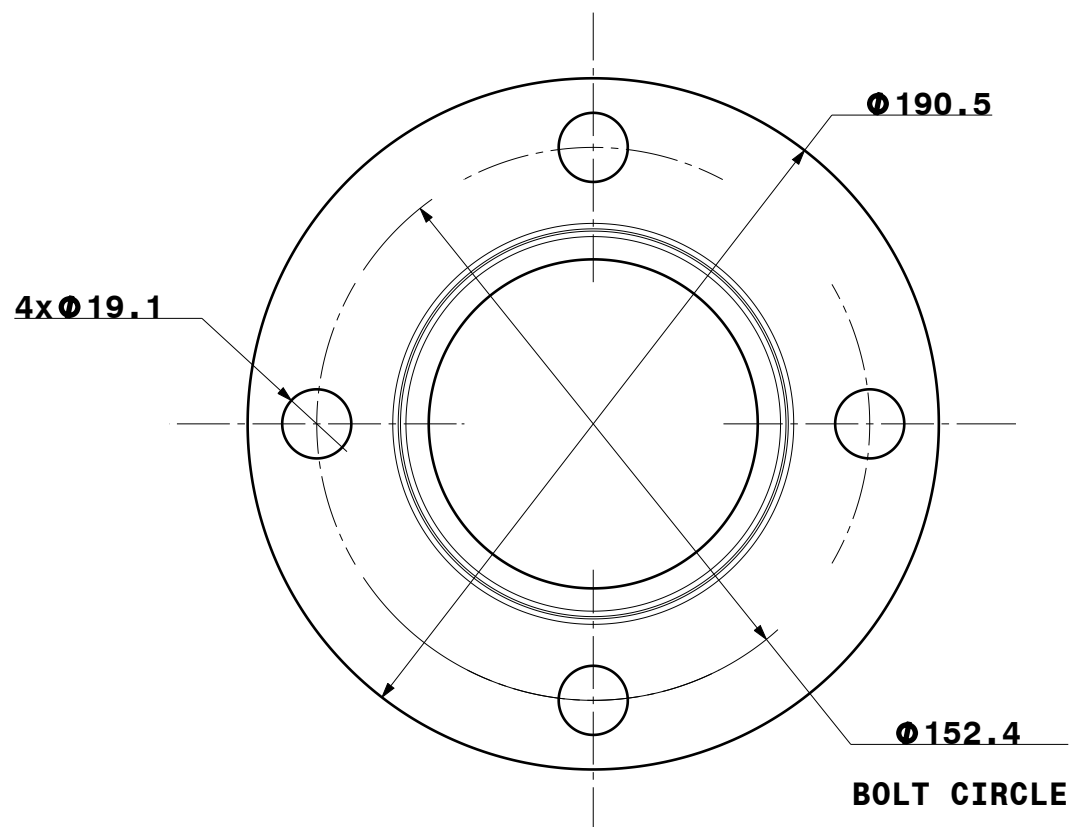
Front view  
Scale: 1:1



Left view  
Scale: 1:1

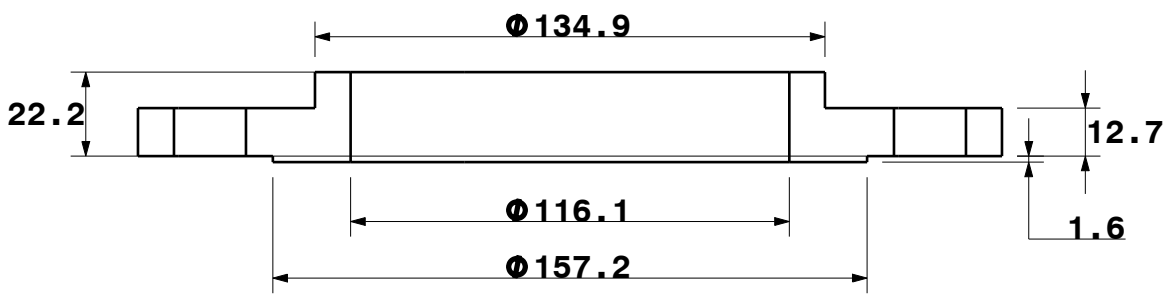
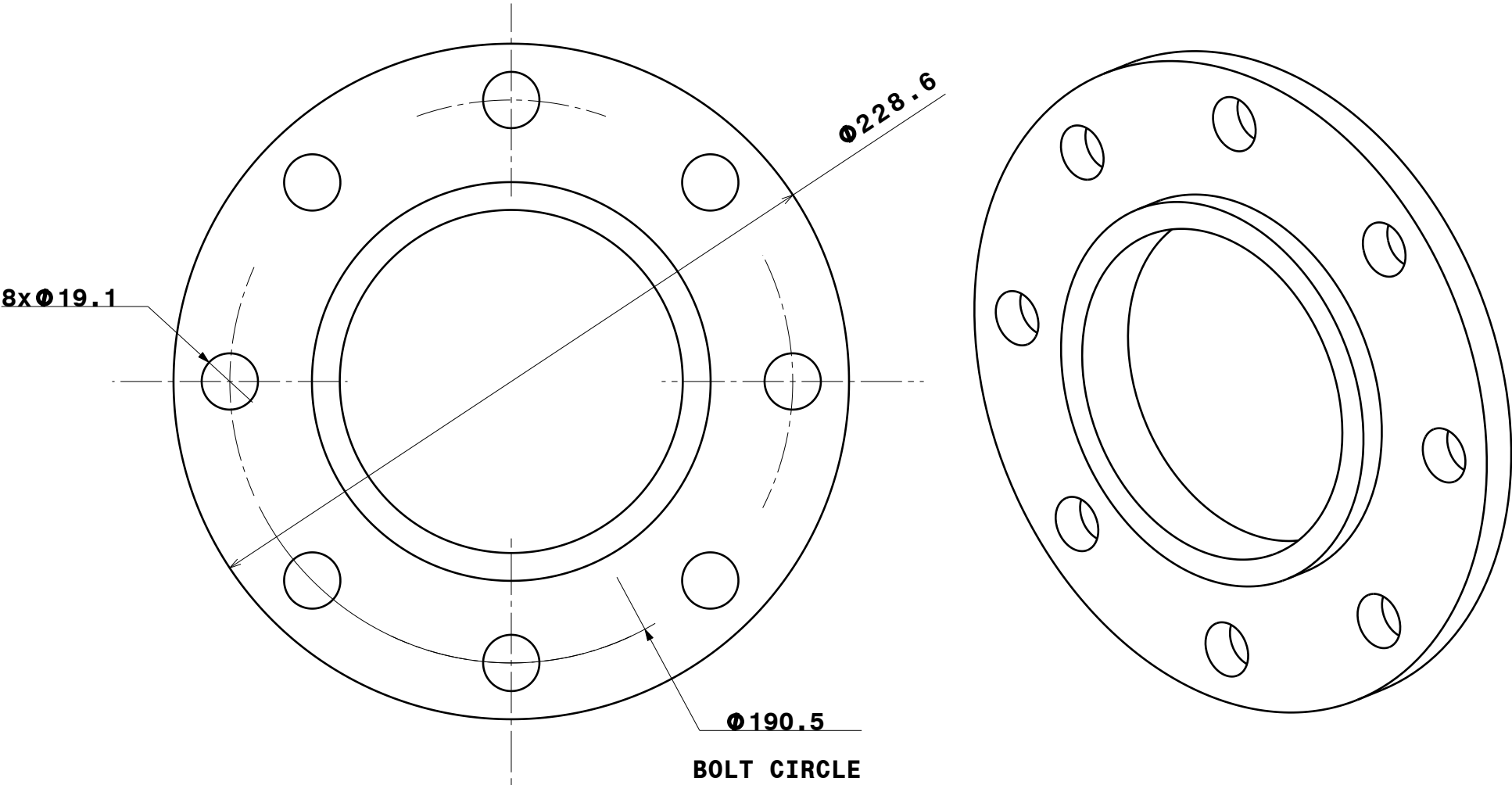


# 3" RF FLANGE



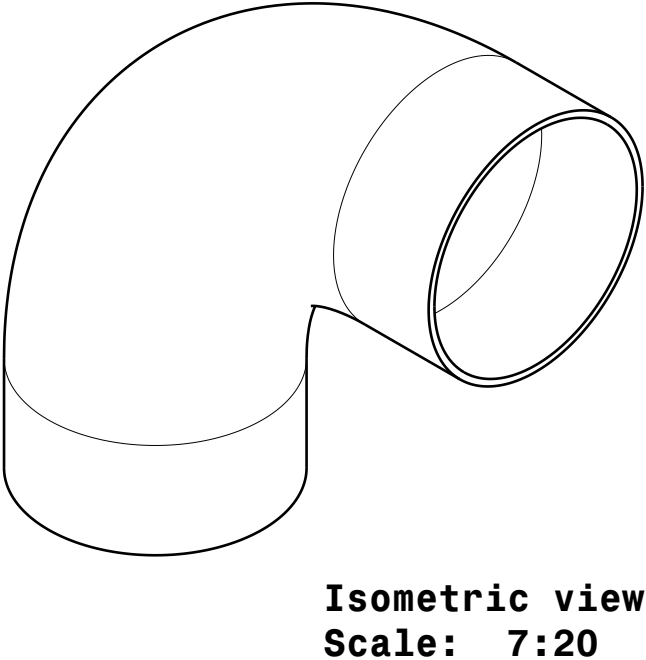
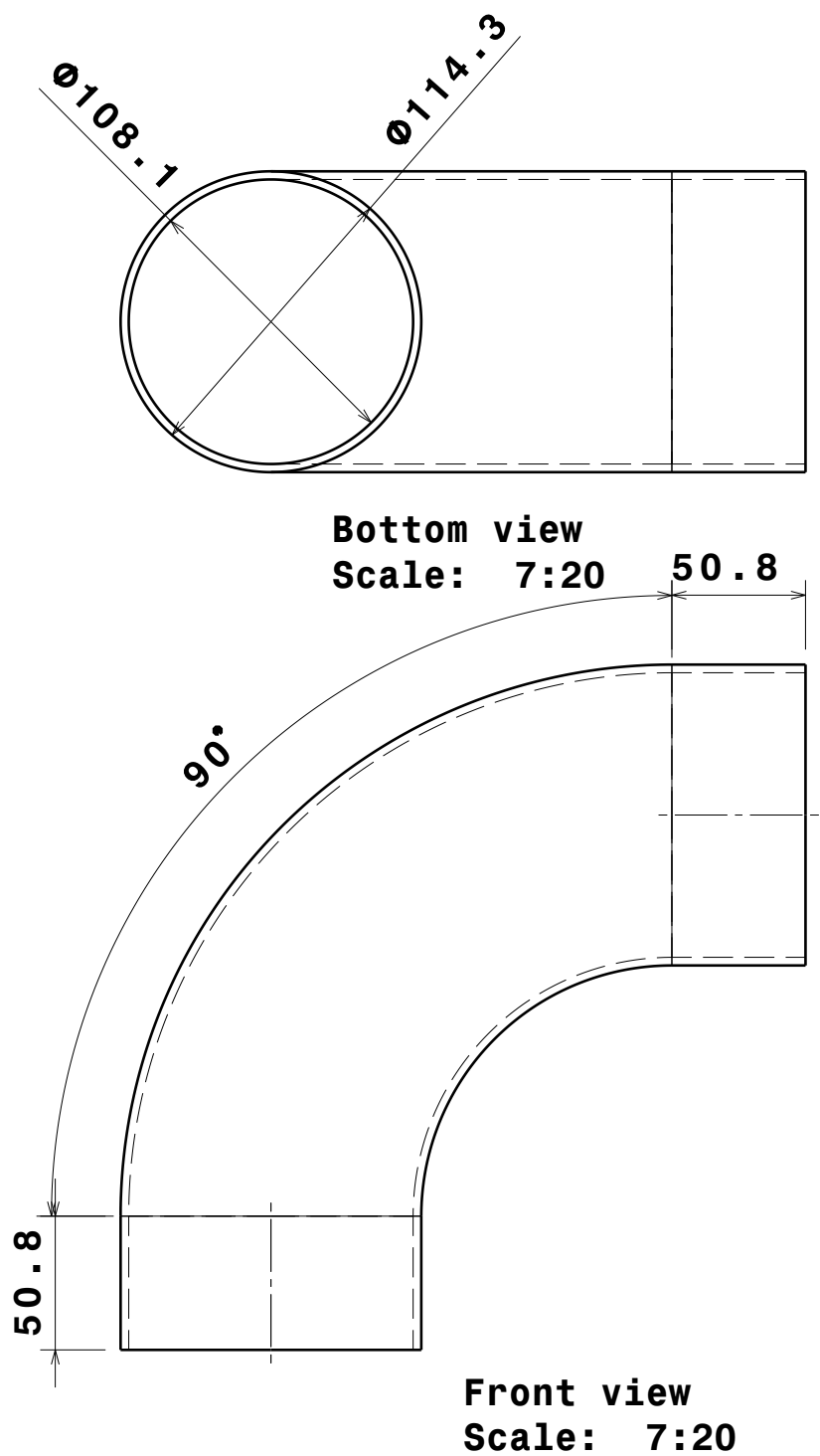
SIZE:	3" NOM. PIPE
TYPE:	150-SLIP-ON-RF - FLANGE

4" RF FLANGE

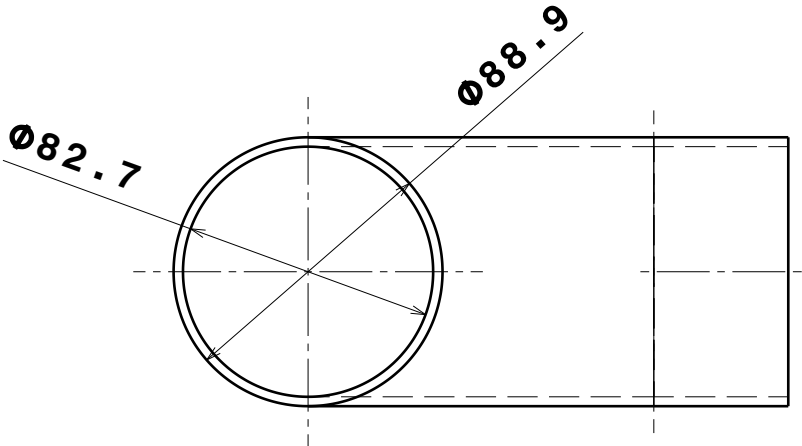


SIZE:	4" NOM. PIPE SIZE
TYPE:	125LW-RF-SO - FLANGE

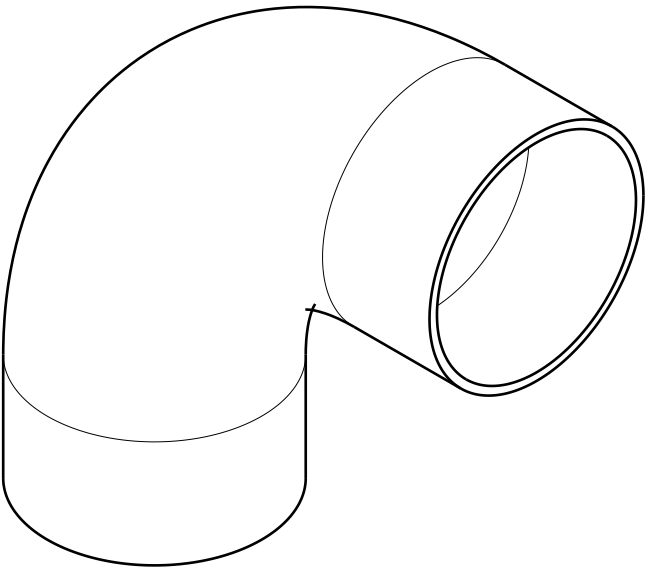
4" 90 DEG ELBOW



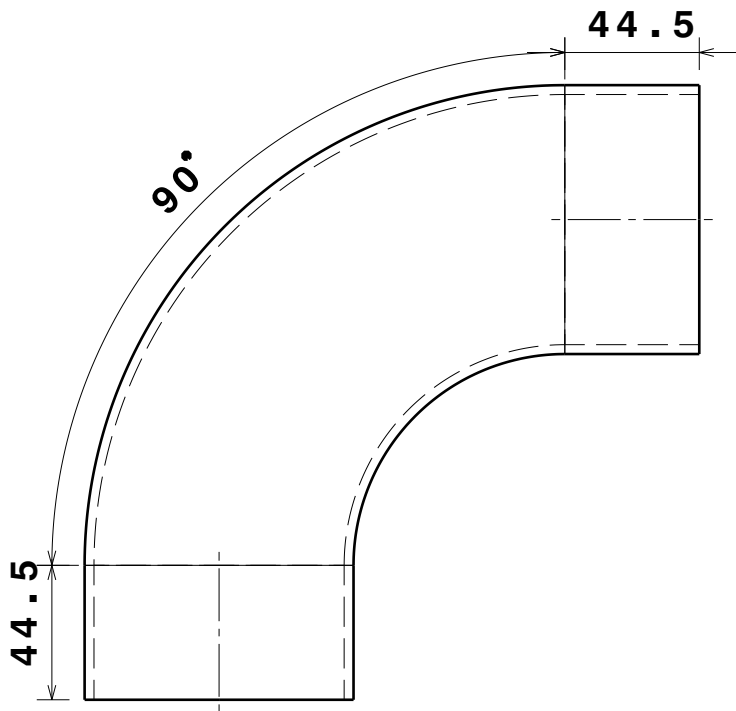
3 INCH 90 DEG ELBOW



Bottom view  
Scale: 2:5

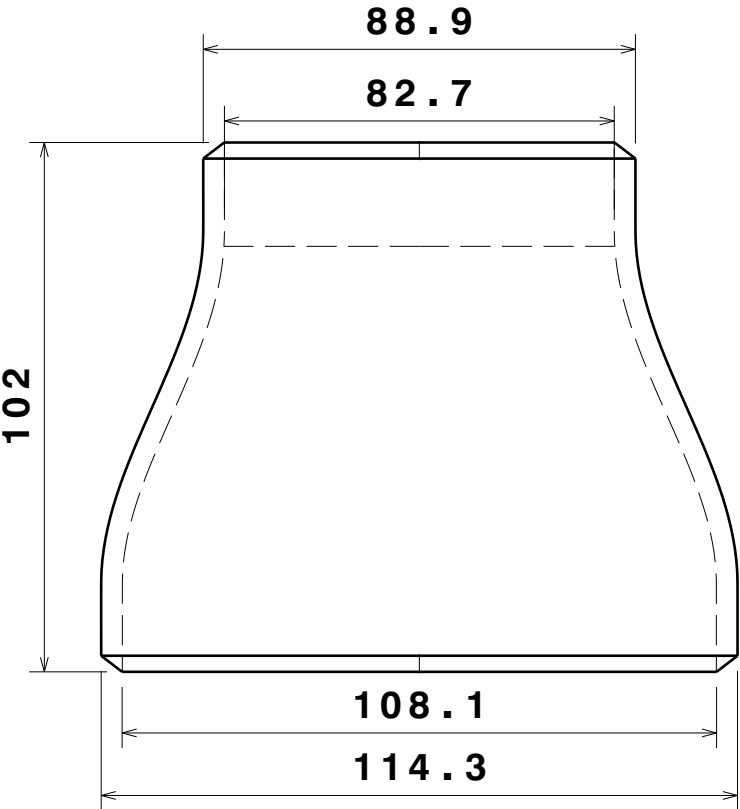


Isometric view  
Scale: 9:20

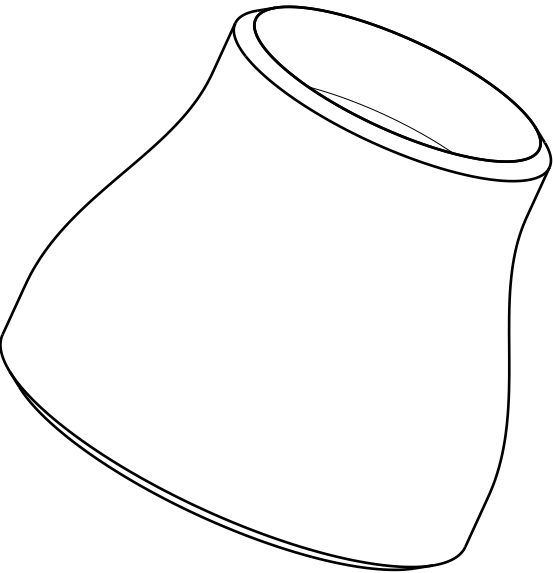


Front view  
Scale: 2:5

4" TO 3" REDUCER



Front view  
Scale: 1:2



Isometric view  
Scale: 2:5