外部委託業者の募集

References: IO/MS/25/YSA/SA

“Splicer Assembly "

（スプライサー組み立て）

IO 締め切り 2025 年 2 月 24 日(月)

〇はじめに

スプライシングデバイス（SD）は、超伝導磁石からの配線をトカマクの壁にあるコネクタに信号を送るケーブルに接続する高電圧（HV）ジョイントです。

スプライシングデバイスの組み立て過程では、いくつかの作業を注意深く行う必要があります。SD のいわゆる HV パッシェンテストは、組み立ての品質が正しいかどうかを判定するものです。

スプライサー組み立ての主な役割は、SD の個別の HV パッシェンテストを行えるようにし、組み立て中の SD の損傷リスクを軽減することです。HV パッシェンテストでは、スプライシング組み立て内部の圧力を 1e-2[mbar]まで下げる必要があります。

IO は、必要なすべての機能を組み込んだスプライサーアセンブリの初期設計を作成しました。この設計は、供給者と共有され、改善や調整のために活用されます。

図 1.1 スプライシングデバイスとスプライサー組み立ての概要

（詳細は英文技術仕様書を参照下さい）

〇スプライサーの特徴

SD の組み立てミスや取り扱いミス、ケーブル/ワイヤーの絶縁損傷が磁石システムに与えるリスクを軽減するために、以下の特徴をスプライサー設計に組み込む必要があります。

HV パッシェンテスト用の真空チャンバー機能

HV パッシェンテストは、HV 絶縁の不良を検出するためのものです。このテスト中、チャンバー内の真空圧力が変化します。もし絶縁に不良があれば、小電流の真空アークが発生することがあり、これは測定機器によって検出できます。

ノズルとポンピングシステムへのインターフェースは、初期の IO 設計では取り外し可能ですが、これは必須ではありません。

図 1.4：ポンピングシステム接続用ノズルのビュー。

ワイヤー側

図 1.6：ケーブル側のシーリングチャンバーの断面図

（詳細は英文技術仕様書を参照下さい）

EMC シールドと GND シールドポテンシャルトランジション

- **ワイヤー側**

  金属製のエッジクリップがワイヤーを円形に配置し、HV ワイヤーシールドのポテンシャルをスプライサーのケースに導きます。金属製ケースは SD を完全に包み込みます。

図 1.7：エッジクリップとスプライサーケースへの HV ワイヤーシールド接続
（詳細は英文技術仕様書を参照下さい）

- **ケーブル側**
  ケーブル側では、溝がケーブルシールドを SD ケースにクランプするために使用されます。この溝は金属製で、スプライサー本体と接触しています。
  図 1.8：専用溝にクランプされたケーブルシールド
  （詳細は英文技術仕様書を参照下さい）

  このシステムは、HV ワイヤー側から HV 真空ケーブルへの GND シールドポテンシャルの継続性を確保します。

ストレインリリーフ

- **ワイヤー側**
  エッジクリップがワイヤーを円形に配置し、ストレインリリーフ機能はケーブル側ほど重要ではありません。
  図 1.9：HV ワイヤー側のストレインリリーフ
  （詳細は英文技術仕様書を参照下さい）

- **ケーブル側**
  ケーブルの外ジャケットがチャンバーに入る際、ケーブルの曲げに対する弱点が保護されます。
  図 1.10：ケーブル側のストレインリリーフ
  （詳細は英文技術仕様書を参照下さい）

SD の重量による恒常的な荷重

シールドクランプ用のブラケットの直径は、シリコン製ストレインリリーフと接触するように調整されており、SD の垂直位置で荷重が停止します。

図 1.11：垂直位置で SD の荷重を停止させるメカニズム
（詳細は英文技術仕様書を参照下さい）

〇ターゲット価格とコスト設計の最適化

ITER 組織（IO）は、スプライサーアセンブリの初期設計をすでに行っています。スプライサー組み立てのシリーズ生産を開始する前に、設計は供給者の知識を活用して最適化され、IO のターゲット価格に合致させる必要があります。これを「コスト設計最適化」と呼びます。

〇暫定的な実施スケジュール

契約は、以下に示すように 2 つの段階/フェーズ/部分に分けて計画されています。製造は、To-Cost

Design Optimization の成果物に対する IO の検証後にのみ開始できます。
（詳細は技術仕様書を参照してください）

〇追加の注意事項および免責事項

- 調査に関する質問がある場合は、カバーレターに記載された連絡先にメールで送信してください。受け取った質問とその回答は、質問者を特定しない形で公開される場合があります。
- この市場調査に関する追加情報や修正があった場合、それらは同じウェブページで公開されます。
- 本市場調査に提供された情報は暫定的なものであり、変更される可能性があります。
- 本調査で提供された情報に関連するすべての知的財産権およびその他の権利は、IO に帰属します。本調査に参加する者および情報を閲覧する者は、調査への回答準備の目的のみで取得した情報を使用することが許可されており、その他の目的で使用することはできません。
- 本調査への参加は、将来の調達プロセスに自動的に参加資格を与えるものではありません。将来の調達手続きへの資格は未定です。

【※　詳しくは添付の英語版技術仕様書「**Splicer Assembly - Technical inputs for Market Survey**」をご参照ください。】
ITER 公式ウェブ　http://www.iter.org/org/team/adm/proc/overview からもアクセスが可能です。

「核融合エネルギー研究開発部門」の HP：　http://www.fusion.qst.go.jp/ITER/index.html
では ITER 機構からの各募集（IO 職員募集、IO 外部委託、IO エキスパート募集）を逐次更新しています。ぜひご確認ください。

イーター国際核融合エネルギー機構からの外部委託
に関心ある企業及び研究機関の募集について

＜ITER 機構から参加極へのレター＞

以下に、外部委託の概要と要求事項が示されています。参加極には、提案された業務に要求される能力を有し、入札すべきと考える企業及び研究機関の連絡先の情報を ITER 機構へ伝えることが求められています。このため、本研究・業務に関心を持たれる企業及び研究機関におかれましては、応募書類の提出要領にしたがって連絡先情報をご提出下さい。

china eu india japan korea russia usa
Route de Vinon-sur-Verdon - CS 90 046 - 13067 St Paul Lez Durance Cedex - France

To: Potential Suppliers

Ref: IO/MS/25/YSA/SA

Subject: Letter of Invitation for the Market Survey on "Splicer Assembly"

Dear Madam/Sir,

The ITER Organization (IO) launches a Market Survey and requests information from companies having the interest, knowledge, and capacity related to **the Splicer Assembly procurement.** With this letter, we invite all potential companies, institutions, or entities from ITER Member States to participate to this Market Survey.

The main purposes of this Market Survey are to incorporate the recent market situation into the procurement conditions as well as into the technical specifications and to prepare the budget baseline for the contract(s).

china
eu
india
japan
korea
russia
usa

Please note that this is not a Call for Nomination request, and all information including cost estimation to be collected are considered only as referential and non-binding basis. Therefore, we would greatly appreciate your feedback, which will help the IO to better understand the real situation of the industry.

You will find enclosed:

Annex I: Technical Inputs for Market Survey

- Appendix-1: Preliminary Design Drawings of Splicer Assembly
- Appendix-2: Preliminary Design 3D model data of Splicer Assembly

Annex II: Request for Information (RFI) Questionnaire

Please return a completed questionnaire using Annex II, **no later than 24 February 2025**, to the following email address Yuki.Suyama@iter.org with CC to Guillaume.Retaillaud@iter.org.

Thanks in advance for your participation and co-operation.

Yours faithfully,

William DE CAT
Procurement Division

William De Cat
Operations Manager
Procurement Division

Splicer Assembly - Technical inputs for Market Survey

1. Introduction

The Splicing Device (SD) is a high-voltage (HV) joint that connects wires from a superconducting magnet to the cable transmitting signals to the connector at Tokamak's wall.

During the assembly process of the splicing device, several activities demand a significant amount of care and attention. The so called HV Paschen test of the SD will determine the correctness of the assembly quality.

The primary role of the Splicer Assembly is to permit the individual HV Paschen test of the SD and mitigate the risk of SD damage during assembly. HV Paschen test requires pressures levels inside the Splicing assembly down to $1e^{-2}$ [mbar].

IO has generated an initial design of the Splicer Assembly, incorporating all necessary features. This design will be shared with the supplier for potential enhancements and adjustments.

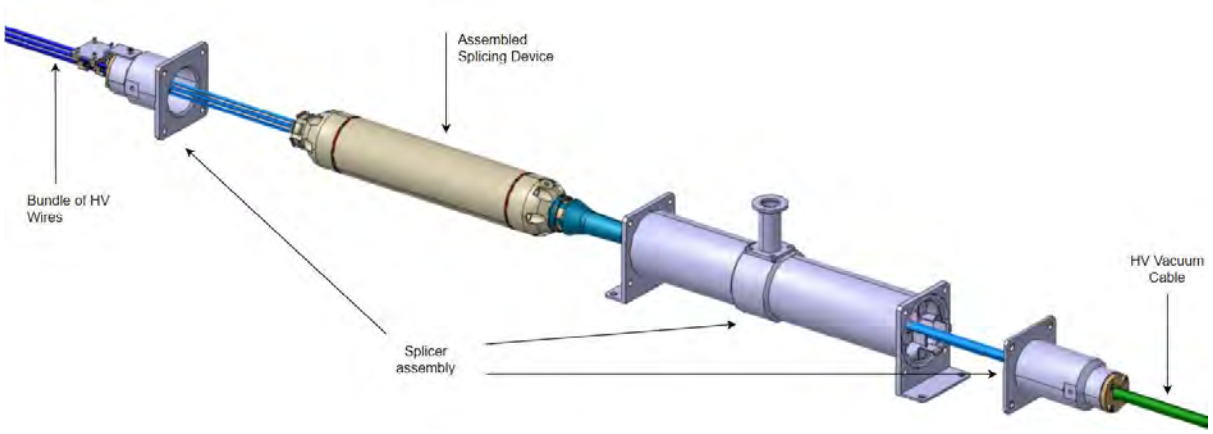

Figure 1.1 Overview of the Splicing Device and Splicer assembly.

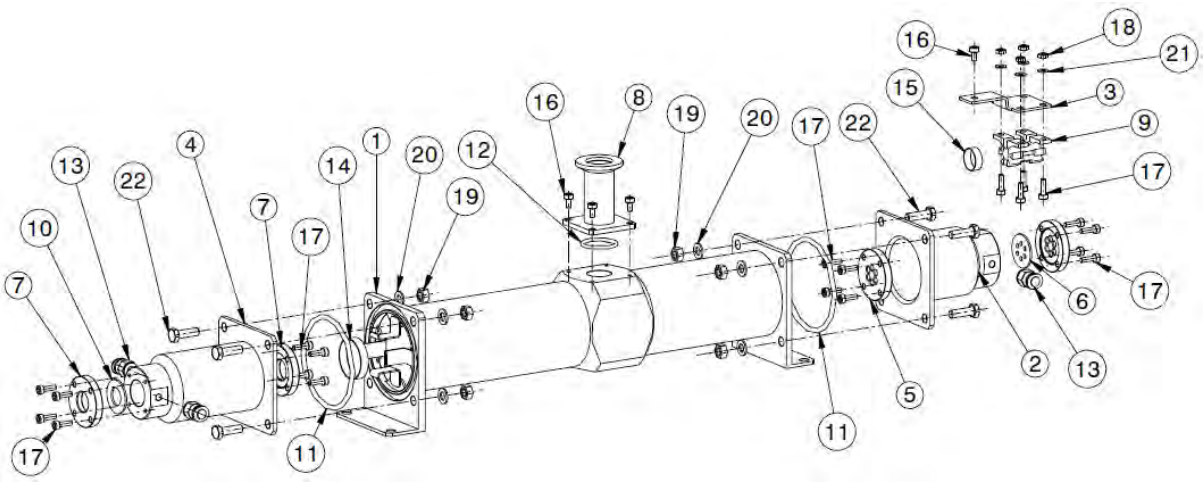

Figure 1.2 Detail of the preliminary IO design of the Splicer.

Item No.	Part Number	Revision	Material	Quantity	Weight
1	SD_SUPPORT#AUUYZ5	--A	316L	1	1.207kg
2	RESIN_CHAMBER_HV_WIRES#AUUZ5X	--A	316L	1	0.395kg
3	HV_WIRES_SHIELD_CONNECTOR_PLATE#AUUZ72	--A	316L	1	0.016kg
4	RESIN_CHAMBER_CABLE#AUUZ3Y	--A	316L	1	0.408kg
5	HV_WIRES_GASKET_CAP#AUV4YL	--A	316L	2	0.028kg
6	HV_WIRES_GASKET#AUV52H	--A	Viton (Fluoro Elastomer)	2	7.559e-004kg
7	CABLE_GASKET_CAP#AUV8LH	--B	316L	2	0.025kg
8	SD_SUPPORT_KF16-19-40_NOZZLE#AUV4SM	--A	316L	1	0.063kg
	Welded Flange KF 16/19/40				
9	HV_WIRES_SHIELD_CONNECTOR#AUV8HT	---	316L	1	0.027kg
10	CABLE_GASKET#AMWK58	--B	Viton (Fluoro Elastomer)	2	6.011e-004kg
11	SD_O-RING_SUPPORT_DIN56_EP3#AUV4UN	---	-	2	0kg
12	SD_O-RING_KF_NOZZLE_DINT20-EP2#AUV4WK	---	-	1	0kg
13	PNEUMATIC_CONNECTOR_QSM-M5-6#ANPCR5	---	-	4	0kg
14	AXOCLAMP_AXCL-02#AMWUN7	---	316L	1	0.002kg
15	CIRCULAR_CLIP_TBD#AMWVAD	---	Nylon	1	1.262e-004kg
16	CYLINDER_HEAD_SCREW_ISO_4762_M3X6#48SG8X	---	Steel_8.8	5	8.208e-004kg
17	CYLINDER_HEAD_SCREW_ISO_4762_M3X10#3ZNKKX	---	316L	20	0.001kg
18	HEXAGON_NUT_ISO_4032_M3#YQYV38	---	316L	4	3.953e-004kg
19	HEXAGON_NUT_ISO_4032_M5#YEAQTG	---	Steel_8.8	8	0.001kg
20	WASHER_ISO_7089_5#VUM5YR	---	-	8	0kg
21	WASHER_ISO_7089_3#WAQFHC	---	A2_304L	4	1.185e-004kg
22	HEXAGON_BOLT_ISO_4017_M5X16#26YGSK	---	stainless steel	8	0.004kg

Figure 1.3 BOM of components occurring in the preliminary assembly ***Error! Reference source not found.***.

2. Splicer features

To mitigate the risks to the magnet system that may result from SD assembly errors or mishandling & cables/ wires insulation damage, the features listed below need to be integrated into the Splicer design.

Vacuum chamber function for a HV Paschen-tightness test

The HV Paschen test enables the detection of failures in HV insulation. During this test, the vacuum pressure inside the chamber is varied. If the insulation is faulty, it may lead to the development of small-current vacuum arcs, which can be detected by the measuring instrument.

Nozzle, interface to the pumping system is removable in the preliminary IO design, but this is not a requirement.

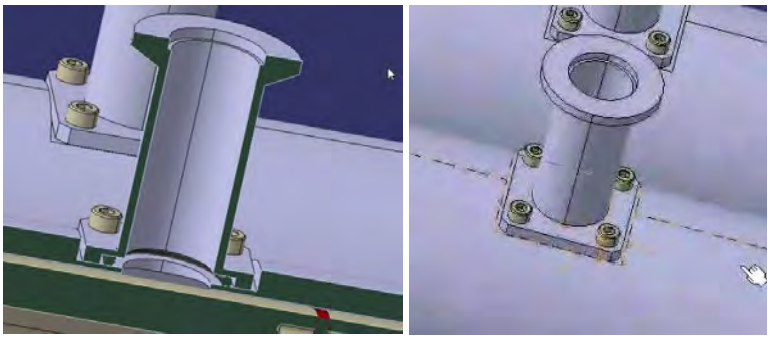

Figure 1.4 View of nozzle for connecting the pumping system.

Wires-side

Small, sealing chamber will be filled with a resin through pneumatic fittings. Injection can be made with a syringe. Gaskets on both sides of the sealing chamber will prevent the silicone from leaking. Wires inside the sealing chamber are not shielded.

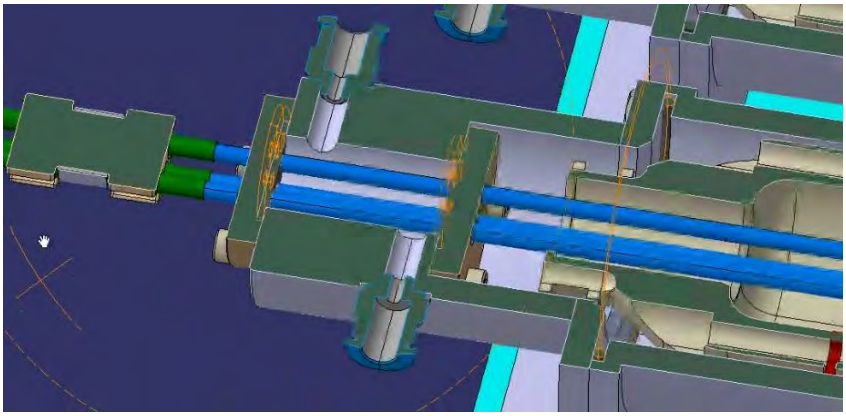

Figure 1.5 Cross-sectional view of the sealing chamber at the HV Wires side.

Cable-side

Same principle as for wires-side. The cable enters the chamber with the other jacket.

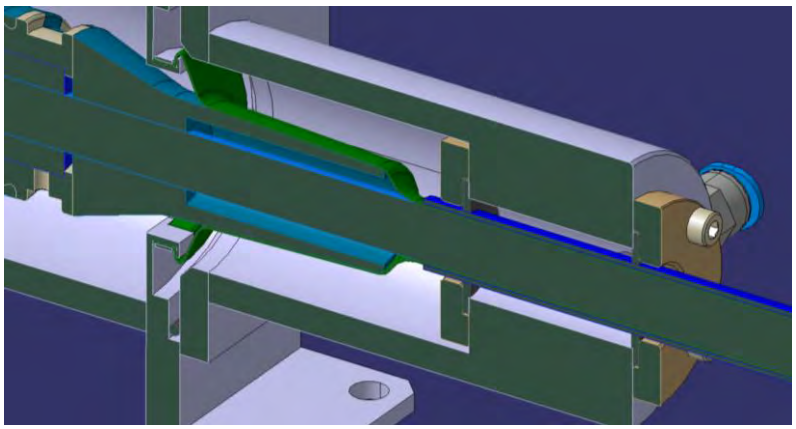

Figure 1.6 Cross-sectional view of the sealing chamber at the cable side.

EMC screening and GND Shield potential transition

On wires-side

A metallic edge clip securely hold wires in circular distribution and brings the HV Wires shield potential to the case of the Splicer, metallic case envelops fully the SD.

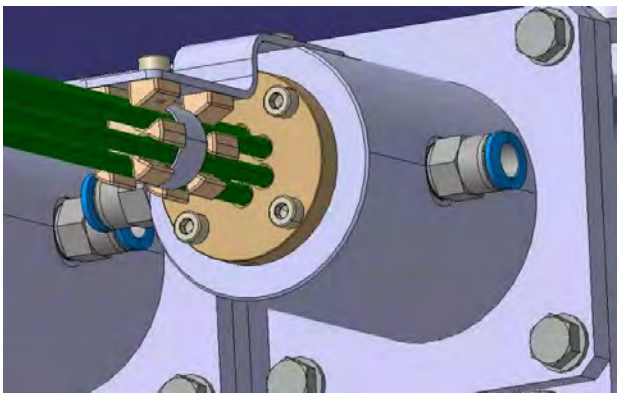

Figure 1.7 HV wires shields connection to the edge clip and the Splicer case.

On cable-side

On cable side, a groove will allow to clamp the cable shield to the case of the SD. The groove is metallic and in contact with the Splicer body.

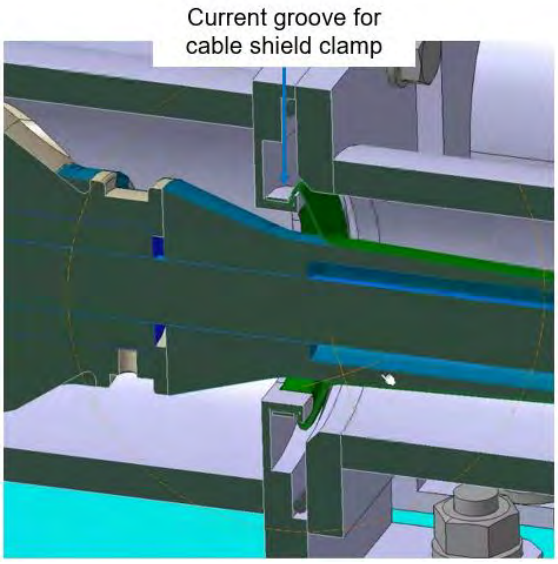

Figure 1.8 Cable shield clamped to the dedicated groove.

This system ensures the continuity of the GND Shield potential from the HV Wires side to the HV Vacuum Cable.

Strein relief

On wires-side

An edge clip securely hold wires in circular distribution. The strain relief function is less critical on the wire side than on the cable side.

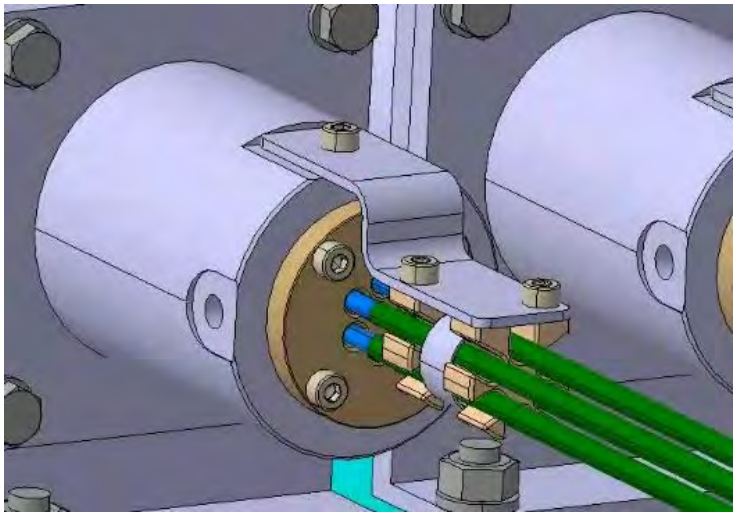

Figure 1.9 Strain relief at the HV Wires side.

On cable-side

The outer jacket of the cable enters the chamber, the weak point to cable bending is protected.

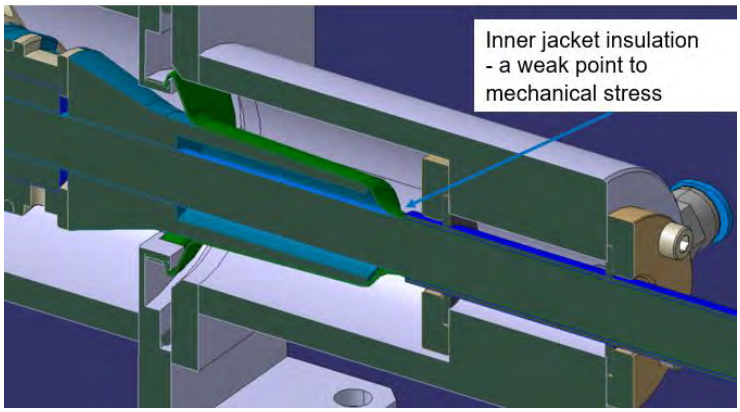

Figure 1.10 Strain relief at the cable side.

Permanent load due to SD weight

The diameter of the bracket for the shield clamping has been adjusted in order to get in contact with the silicon strain relief and stop the load of the SD in vertical position.

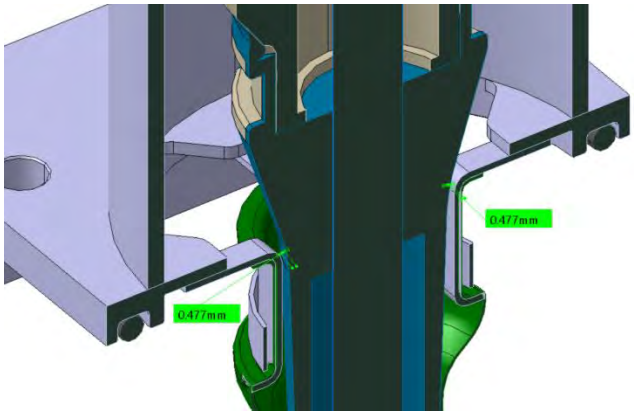

Figure 1.11 Mechanism to stop the load from SD in vertical position.

3. Target Price and To-Cost Design Optimization

The ITER Organization (IO) has already carried out a preliminary design of the Splicer Assembly. In prior to start the series production of the Splicer Assemblies, the design still needs to be optimized by the supplier using its knowledge to meet the IO's target price as shown below. This redesign phase is called "To-Cost Design Optimization".

Type of Splice Assembly	Quantity	Target Price
Prototype units	**1 unit**	Below 1.30kEUR per unit
Pre-series units	**18 units**	Below 1.30kEUR per unit
Series production	**450 units**	Below 1.00kEUR per unit

4. Tentative Implementation Schedule

The contract is planned to be divided into two stages/phases/parts as shown below. Manufacturing can be commenced only after the IO's validation on the deliverable of To-Cost Design Optimization.

5. Additional Notes and Disclaimer

- Please send any questions regarding the survey to the contact given in the cover letter via email. The received questions and their answers may be published in a manner that does not identify the questioner.
- If there will be any additional information and modifications to this Market Survey, they will be published at the same web page.
- All information provided in this Market Survey is tentative and subject to change.
- All intellectual property rights and other rights related to the information provided in this survey belong to the IO. Participants in the survey and viewers of the information are permitted to use the obtained information solely for the purpose of preparing responses to the survey and must not use it for any other purposes.
- Participation in this survey does not automatically grant eligibility for future procurement processes. Eligibility for future procurement procedures remains undetermined.

Annex-I

Attachment

Appendix-1: Preliminary Design Drawing

Appendix-2: 3D model data of Preliminary Design

REV No.	DETAILS OF MODIFICATION	SHEET No.	GRID REF	DATE	DCR No.
---	NEW_DRAWING	ALL	---	09/03/2024	---

DRW CAD ID	AWP7AH	APPROVED BY	HUYGENS	ITER Organization: INTERNAL USE. When received pursuant to a contract or agreement, the confidentiality clause therein shall be applicable. When received during tender phase treat as confidential.
LINKED EV5 PT ID	AV3L55	TECHNICAL REF	RODZIEJ	LEGAL OWNER: iter china EU india japan korea russia USA
LINKED 3D ID	AUV4RY	DRAWN BY	BLANVIT	
PBS TITLE	ITER Magnet System . .	SAFETY CLASS	NSR	DRAWING TITLE: SD_SUPPORT_CHAMBER_ASSY_DRW
DATE OF ISSUE: 29 Mar 24	PT MATURITY: CD	PT VERSION: --B	QUALITY CLASS: ---	DOCUMENT TYPE: Assembly Drawing
DR STATUS: D	SCALE: 1:1	PT STATUS: D		
THIRD ANGLE PROJECTION			FORMAT: A3	PBS NUMBER: 11 -- --

DRAWING NUMBER	SHEET	N°OF SHEETS	REVISION
072218	01	14	---

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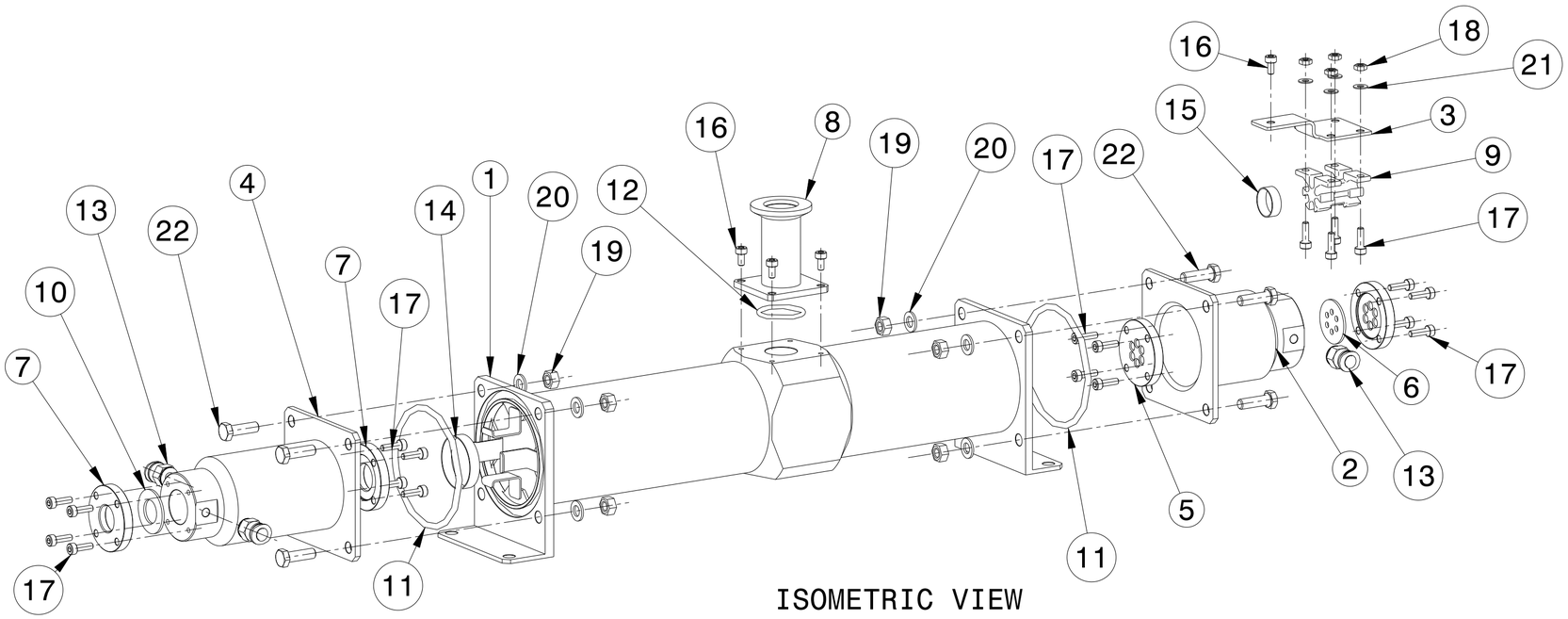
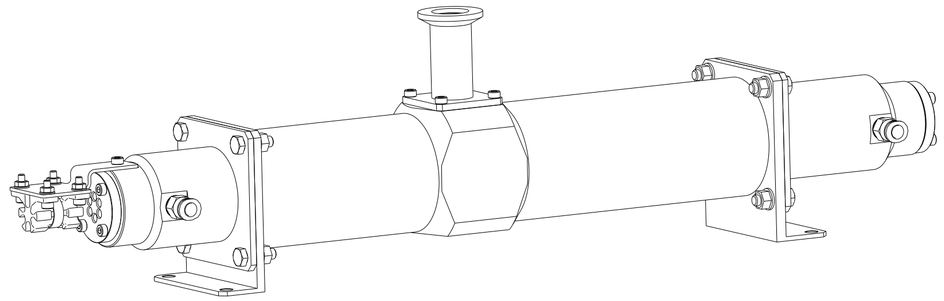


ISOMETRIC VIEW
Scale: 1:2



ISOMETRIC VIEW
Scale: 1:2

Item No.	Part Number	Revision	Material	Quantity	Weight
1	SD_SUPPORT#AUUYZ5	--A	316L	1	1.207kg
2	RESIN_CHAMBER_HV_WIRES#AUUZ5X	--A	316L	1	0.395kg
3	HV_WIRES_SHIELD_CONNECTOR_PLATE#AUUZ72	--A	316L	1	0.016kg
4	RESIN_CHAMBER_CABLE#AUUZ3Y	--A	316L	1	0.408kg
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7	CABLE_GASKET_CAP#AUV8LH	--B	316L	2	0.025kg
8	SD_SUPPORT_KF16-19-40_NOZZLE#AUV4SM	--A	316L	1	0.063kg
	Welded Flange KF 16/19/40				
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11	SD_O-RING_SUPPORT_DIN56_EP3#AUV4UN	---	-	2	0kg
12	SD_O-RING_KF_NOZZLE_DINT20-EP2#AUV4WK	---	-	1	0kg
13	PNEUMATIC_CONNECTOR_QSM-M5-6#ANPCR5	---	-	4	0kg
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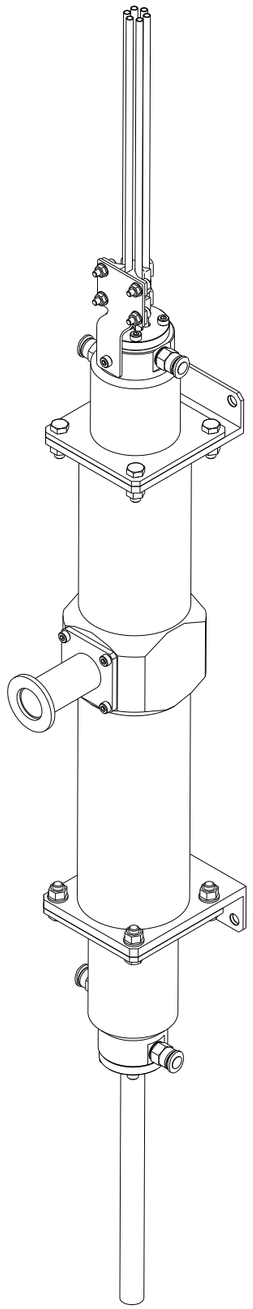
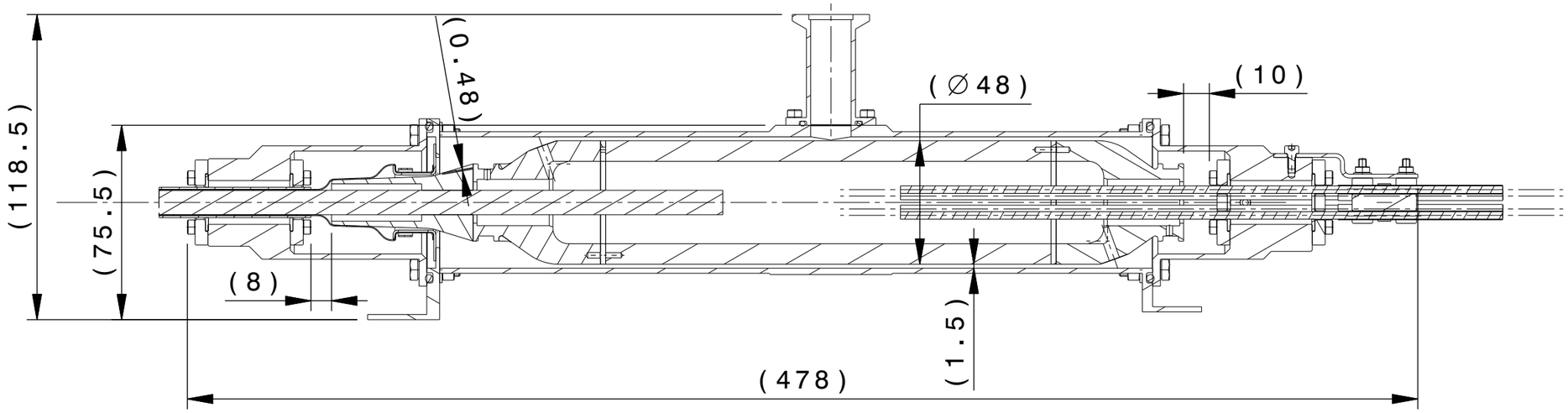
17	CYLINDER_HEAD_SCREW_ISO_4762_M3X10#3ZNKKX	---	316L	20	0.001kg
18	HEXAGON_NUT_ISO_4032_M3#YQYV38	---	316L	4	3.953e-004kg
19	HEXAGON_NUT_ISO_4032_M5#YEAQTG	---	Steel_8.8	8	0.001kg
20	WASHER_ISO_7089_5#VUM5YR	---	-	8	0kg
21	WASHER_ISO_7089_3#WAQFHC	---	A2_304L	4	1.185e-004kg
22	HEXAGON_BOLT_ISO_4017_M5X16#26YGSK	---	stainless steel	8	0.004kg

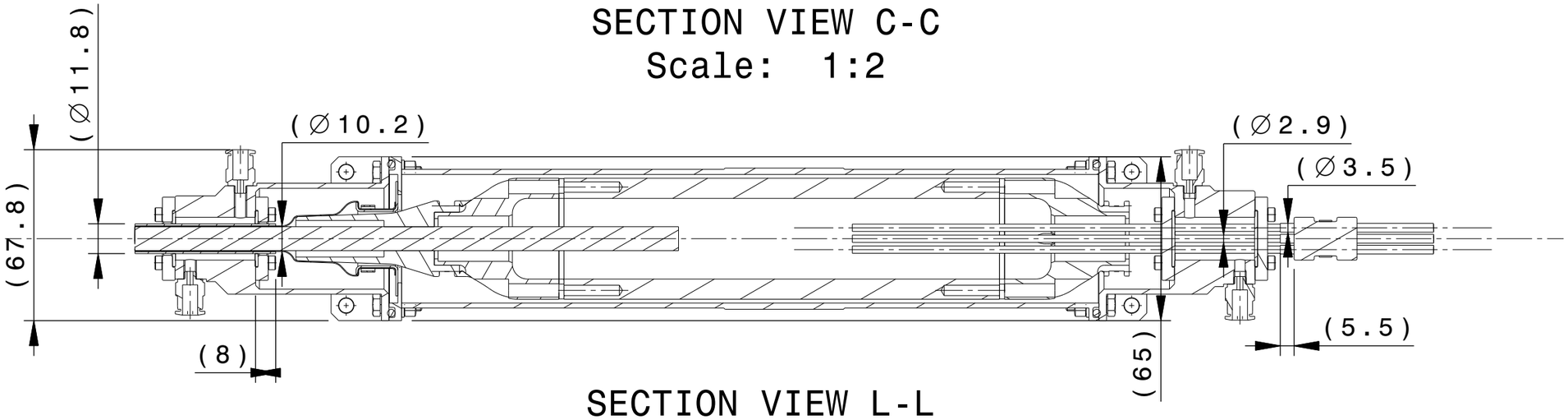
DRW CAD ID: AWP7AH			APPROVED BY: HUYGENS	ITER Organization: INTERNAL USE	LEGAL OWNER: iter (china EU india japan korea russia USA)
LINKED EV5 PT ID: AV3L55			TECHNICAL REF: RODZIEJ	When received pursuant to a contract or agreement, the confidentiality clause therein shall be applicable. When received during tender phase treat as confidential.	
LINKED 3D ID: AUV4RY			DRAWN BY: BLANVIT	DRAWING TITLE: SD_SUPPORT_CHAMBER_ASSY_DRW	
PBS TITLE: ITER Magnet System . .			SAFETY CLASS: NSR		
DATE OF ISSUE: 29 Mar 24	PT MATURITY: CD	PT VERSION: --B	QUALITY CLASS: ---	DOCUMENT TYPE: Assembly Drawing	
DR STATUS: D	SCALE: 1:2	PT STATUS: D			
THIRD ANGLE PROJECTION			FORMAT: A2	PBS NUMBER: 11 -- --	DRAWING NUMBER: 072218

SHEET: 02 | N°OF SHEETS: 14 | REVISION: ---





SECTION VIEW C-C
Scale: 1:2



SECTION VIEW L-L
Scale: 1:2

ISOMETRIC VIEW

DRW CAD ID	AWP7AH	APPROVED BY	HUYGENS
LINKED EV5 PT ID	AV3L55	TECHNICAL REF	RODZIEJ
LINKED 3D ID	AUV4RY	DRAWN BY	BLANVIT
PBS TITLE	ITER Magnet System . .	SAFETY CLASS	NSR
DATE OF ISSUE / PT MATURITY / PT VERSION	29 Mar 24 / CD / --B	QUALITY CLASS	---
DR STATUS / SCALE / PT STATUS	D / 1:3 / D		
THIRD ANGLE PROJECTION			

ITER Organization

INTERNAL USE

When received pursuant to a contract or agreement, the confidentiality clause therein shall be applicable. When received during tender phase treat as confidential.

LEGAL OWNER

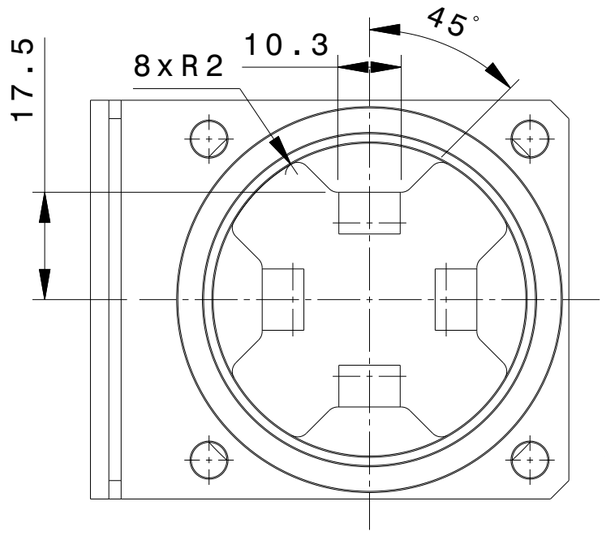
iter china EU india japan korea russia USA

DRAWING TITLE: SD_SUPPORT_CHAMBER_ASSY_DRW

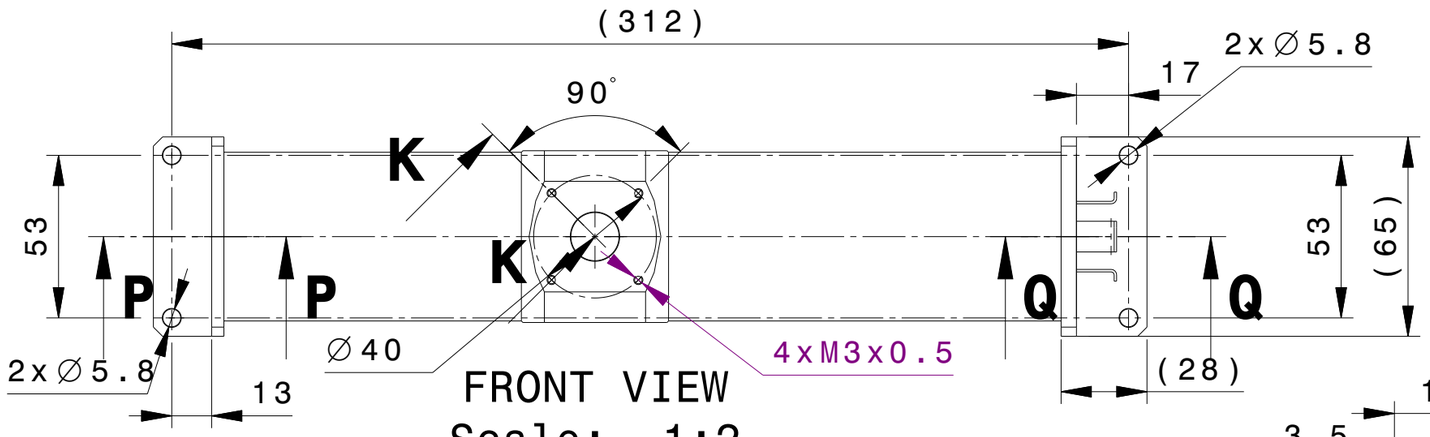
DOCUMENT TYPE: Assembly Drawing

FORMAT	PBS NUMBER	DRAWING NUMBER	SHEET	N°OF SHEETS	REVISION
A3	11 -- --	072218	03	14	---

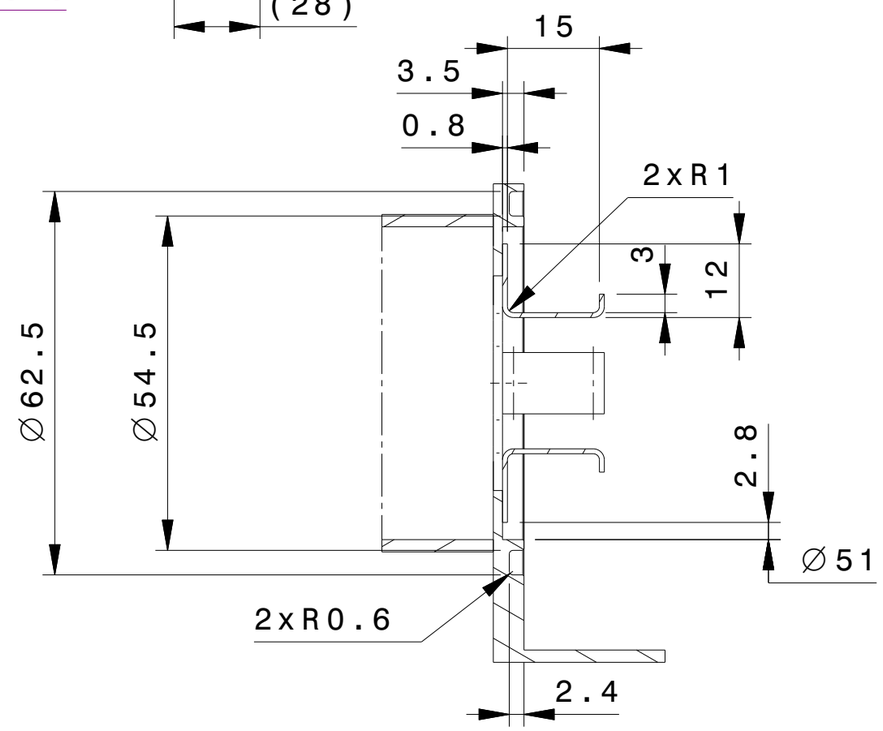
Spacereservation for the banner



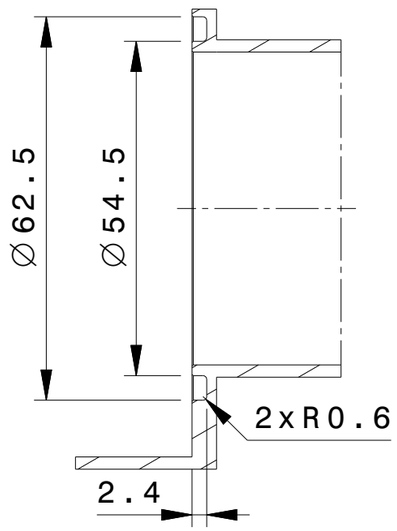
LEFT VIEW
Scale: 1:1



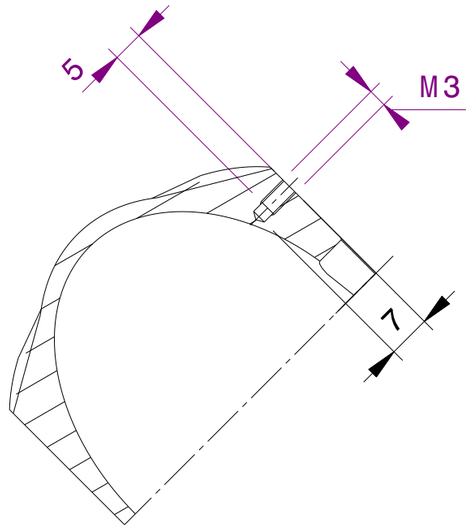
FRONT VIEW
Scale: 1:2



SECTION VIEW Q-Q
Scale: 1:1



SECTION VIEW P-P
Scale: 1:1

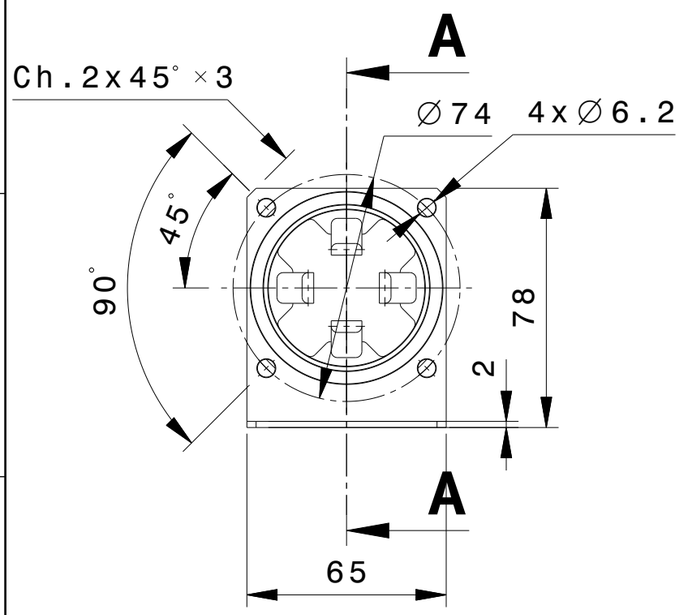


SECTION VIEW K-K
Scale: 1:1

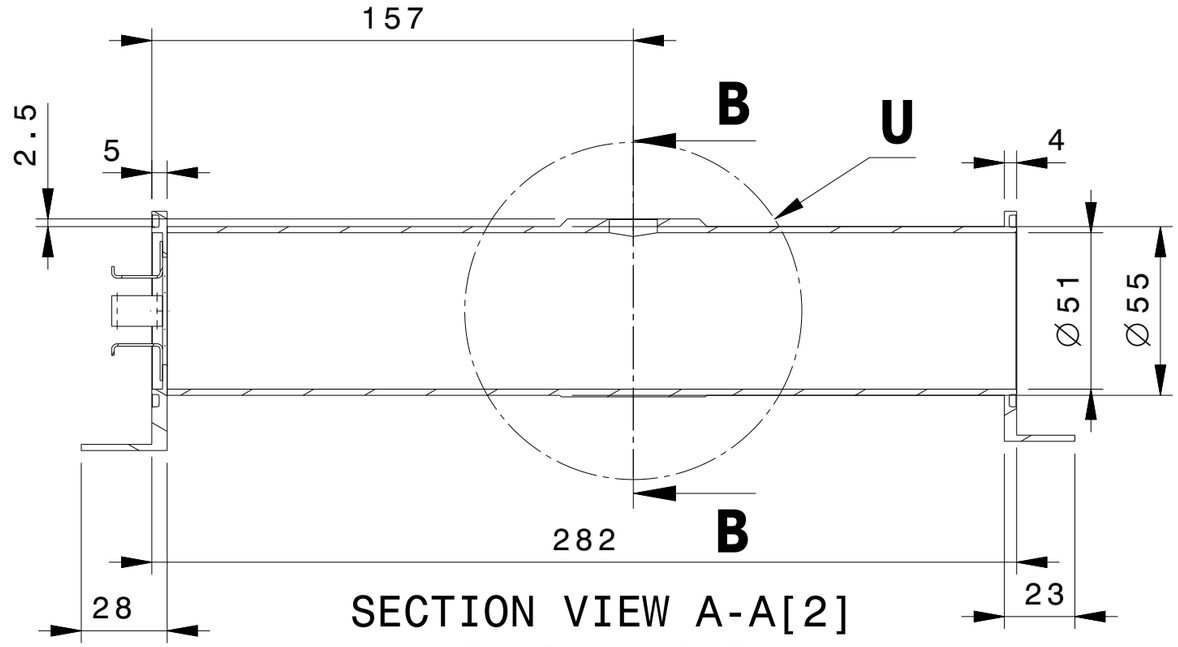
NOTES :
- The general dimension without specification must respect the ISO 2768 - mK
- Break sharp edges

DRW CAD ID	AWP7AH		APPROVED BY	HUYGENS	ITER Organization
LINKED EV5 PT ID	AV3L55		TECHNICAL REF	RODZIEJ	INTERNAL USE When received pursuant to a contract or agreement, the confidentiality clause therein shall be applicable. When received during tender phase treat as confidential.
LINKED 3D ID	AUV4RY		DRAWN BY	BLANVIT	LEGAL OWNER: iter, china EU india japan korea russia USA
PBS TITLE	ITER Magnet System . .		SAFETY CLASS	NSR	DRAWING TITLE: SD_SUPPORT_CHAMBER_ASSY_DRW SD_SUPPORT
DATE OF ISSUE	29 Mar 24	PT MATURITY: CD / PT VERSION: --B	QUALITY CLASS	---	DOCUMENT TYPE: Assembly Drawing
DR STATUS	D	SCALE: 1:2 / PT STATUS: D			
THIRD ANGLE PROJECTION			FORMAT: A3	PBS NUMBER: 11 -- --	DRAWING NUMBER: 072218 / SHEET: 04 / N°OF SHEETS: 14 / REVISION: ---

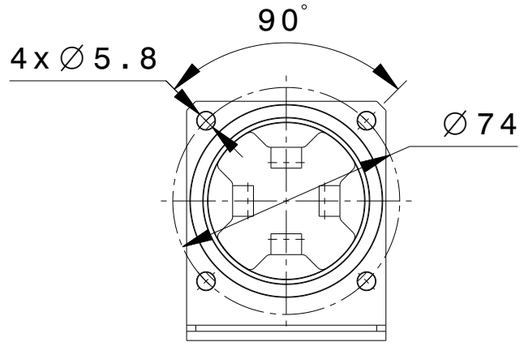
Spacereservation for the banner



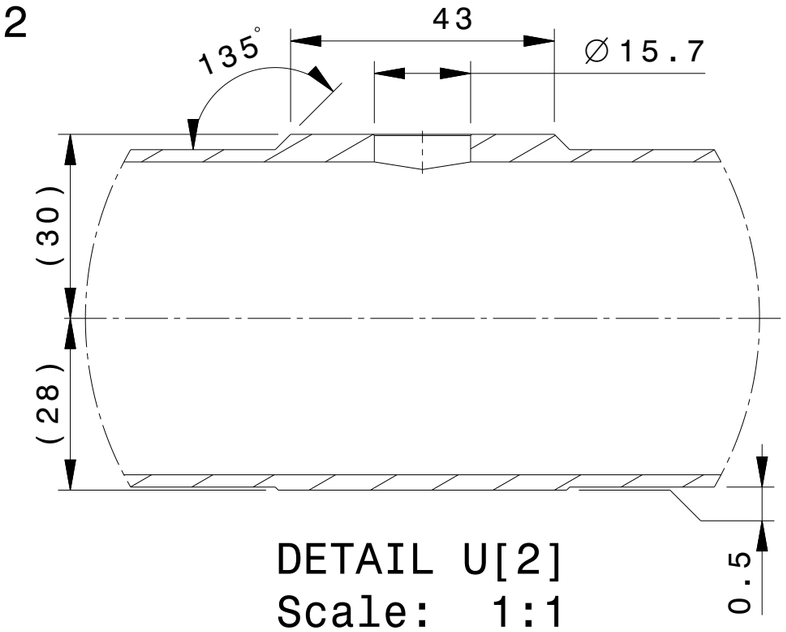
FRONT VIEW[3]
Scale: 1:2



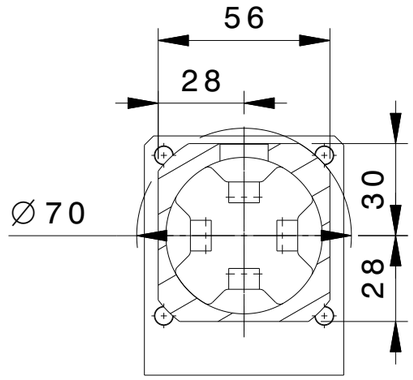
SECTION VIEW A-A[2]
Scale: 1:2



AUXILIARY VIEW V[2]
Scale: 1:2



DETAIL U[2]
Scale: 1:1



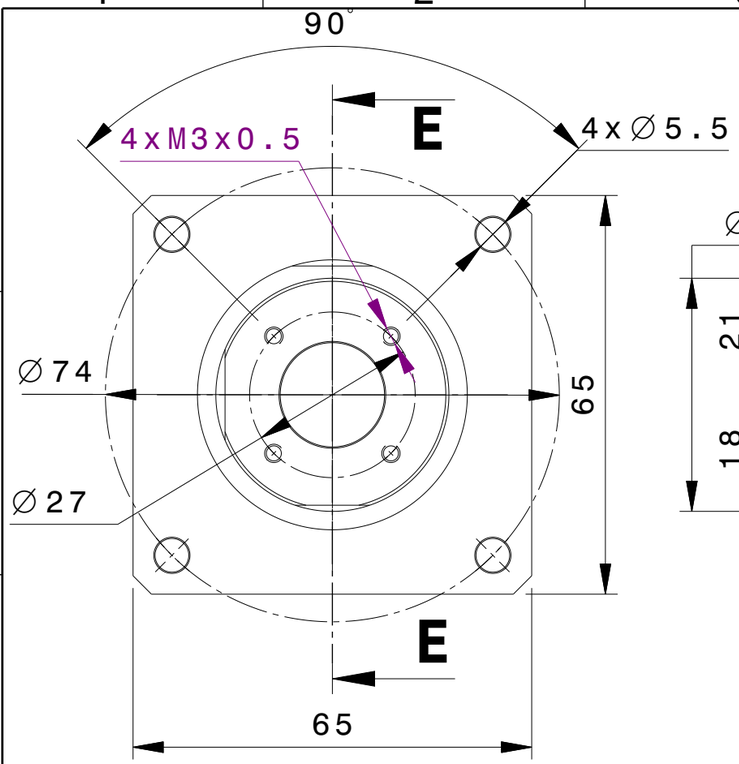
SECTION VIEW B-B[2]
Scale: 1:2

DRW CAD ID: AWP7AH			APPROVED BY: HUYGENS	ITER Organization: INTERNAL USE. When received pursuant to a contract or agreement, the confidentiality clause therein shall be applicable. When received during tender phase treat as confidential.	LEGAL OWNER: iter china EU india japan korea russia USA
LINKED EV5 PT ID: AV3L55			TECHNICAL REF: RODZIEJ		
LINKED 3D ID: AUV4RY			DRAWN BY: BLANVIT	DRAWING TITLE: SD_SUPPORT_CHAMBER_ASSY_DRW SD_SUPPORT	
PBS TITLE: ITER Magnet System . .			SAFETY CLASS: NSR		
DATE OF ISSUE: 29 Mar 24	PT MATURITY: CD	PT VERSION: --B	QUALITY CLASS: ---	DOCUMENT TYPE: Assembly Drawing	
DR STATUS: D	SCALE: 1:1	PT STATUS: D			
THIRD ANGLE PROJECTION			FORMAT: A3	PBS NUMBER: 11 -- --	DRAWING NUMBER: 072218

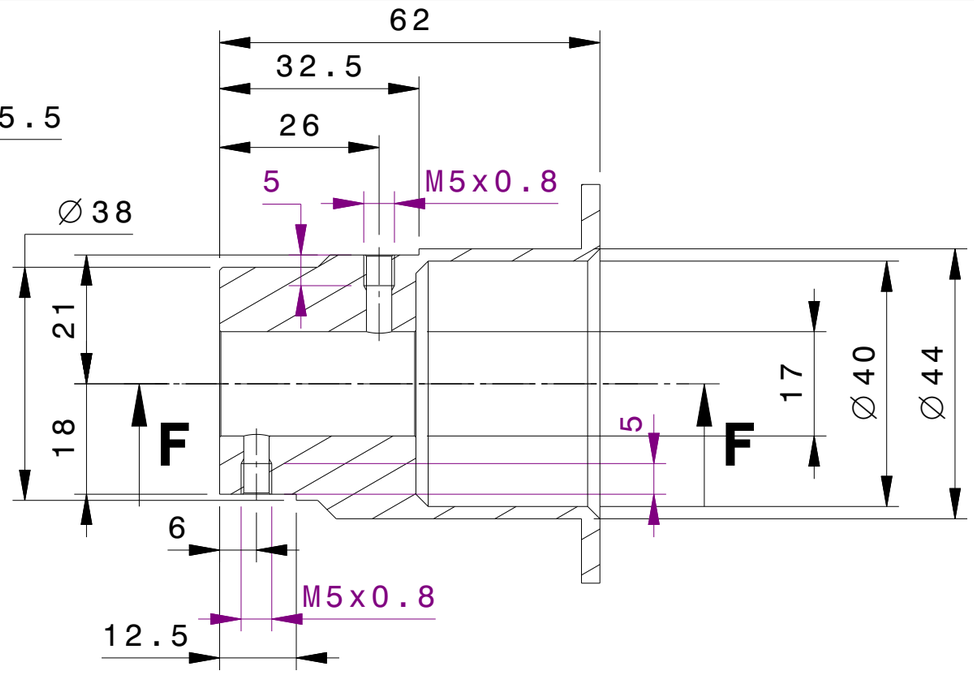
SHEET	N°OF SHEETS	REVISION
05	14	---

Spacereservation for the banner

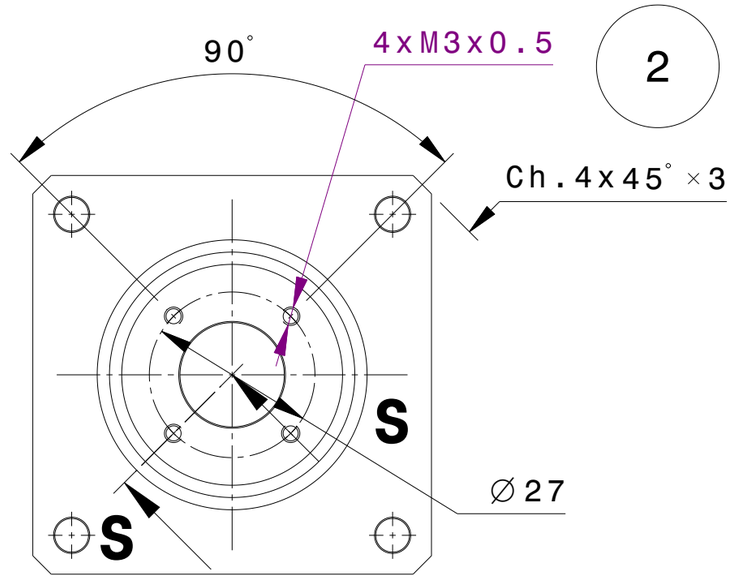
Spacereservation for the banner



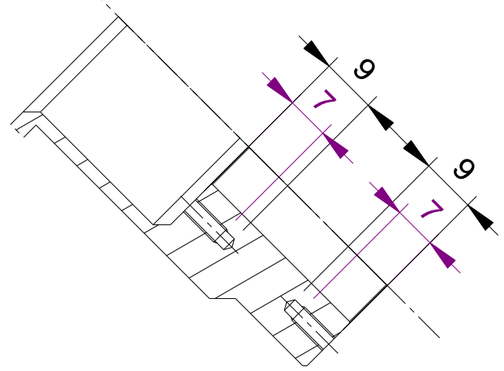
FRONT VIEW
Scale: 1:1



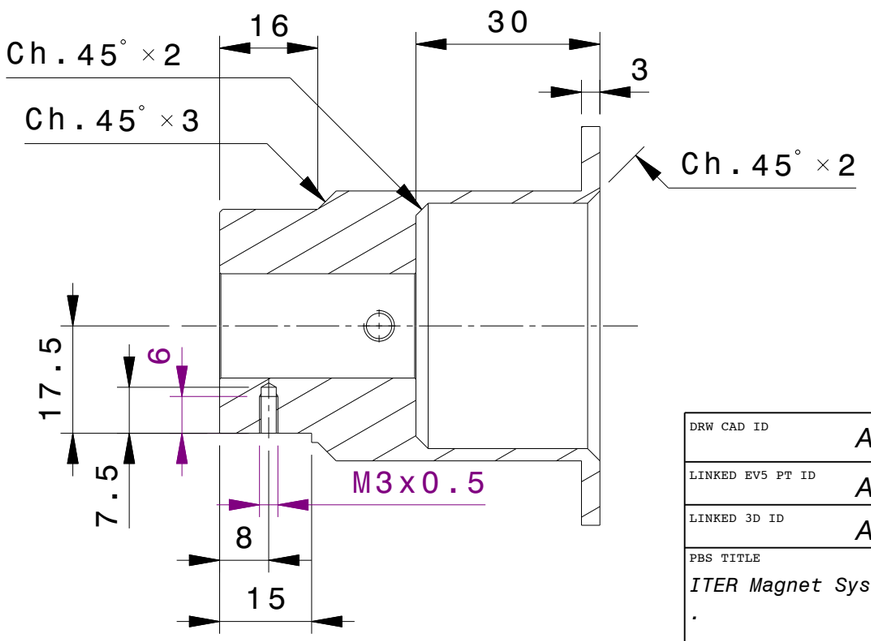
SECTION VIEW E-E
Scale: 1:1



AUXILIARY VIEW G
Scale: 1:1



SECTION VIEW S-S
Scale: 1:1

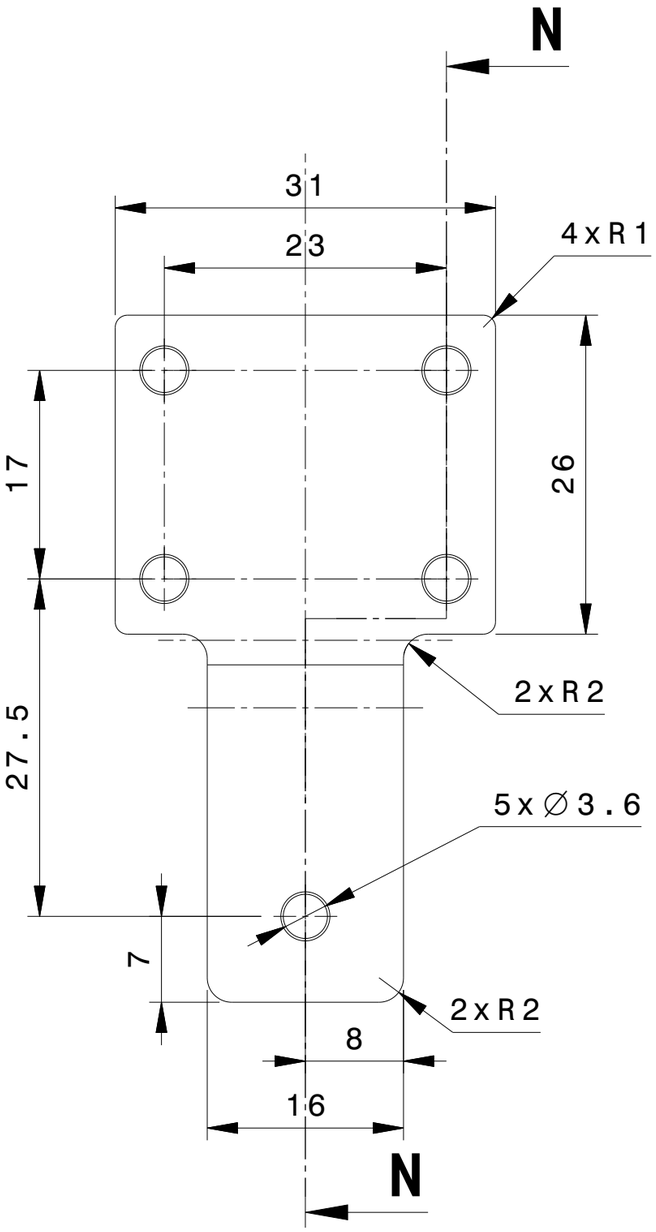


SECTION VIEW F-F
Scale: 1:1

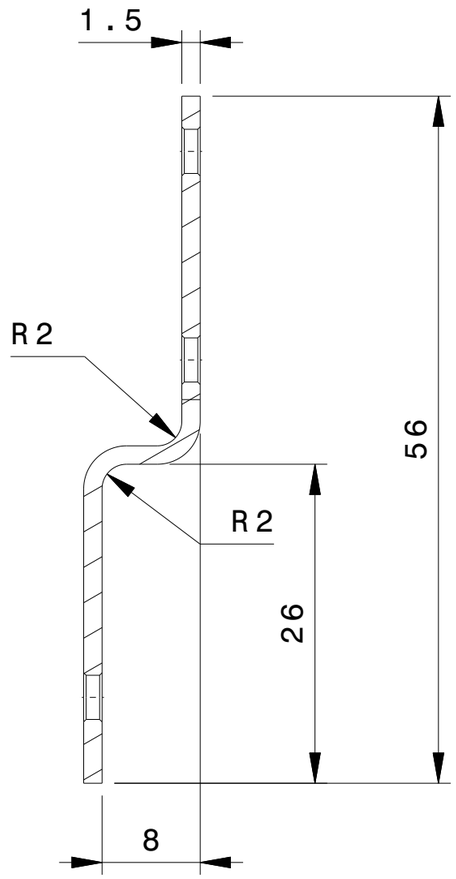
NOTES :
- The general dimension without specification must respect the ISO 2768 - mK
- Break sharp edges

DRW CAD ID: AWP7AH			APPROVED BY: HUYGENS	ITER Organization	LEGAL OWNER
LINKED EV5 PT ID: AV3L55			TECHNICAL REF: RODZIEJ	INTERNAL USE When received pursuant to a contract or agreement, the confidentiality clause therein shall be applicable. When received during tender phase treat as confidential.	iter china EU india japan korea russia USA
LINKED 3D ID: AUV4RY			DRAWN BY: BLANVIT	DRAWING TITLE: SD_SUPPORT_CHAMBER_ASSY_DRW RESIN_CHAMBER_HV_WIRES	
PBS TITLE: ITER Magnet System .			SAFETY CLASS: NSR		
DATE OF ISSUE: 29 Mar 24	PT MATURITY: CD	PT VERSION: --B	QUALITY CLASS: ---	DOCUMENT TYPE: Assembly Drawing	
DR STATUS: D	SCALE: 1:1	PT STATUS: D			
THIRD ANGLE PROJECTION			FORMAT: A3	PBS NUMBER: 11 -- --	DRAWING NUMBER: 072218	SHEET: 06	N°OF SHEETS: 14	REVISION: ---

Spacereservation for the banner



FRONT VIEW



SECTION VIEW N-N

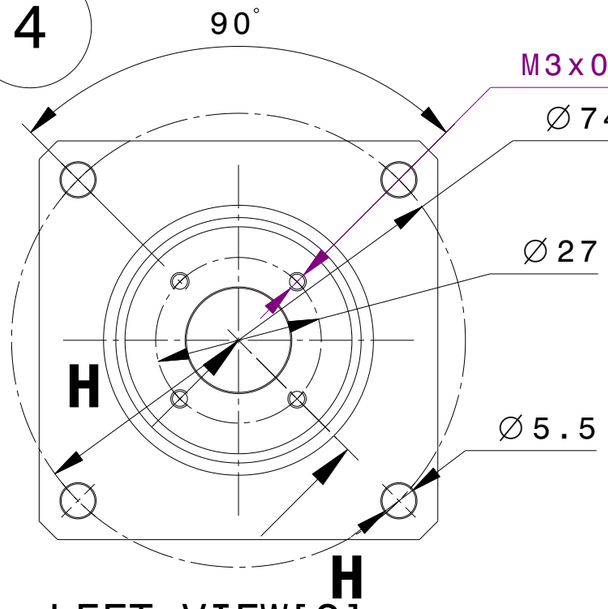
NOTES :
- The general dimension without specification must respect the ISO 2768 - mK
- Break sharp edges

DRW CAD ID: AWP7AH		APPROVED BY: HUYGENS	ITER Organization
LINKED EV5 PT ID: AV3L55		TECHNICAL REF: RODZIEJ	INTERNAL USE
LINKED 3D ID: AUV4RY		DRAWN BY: BLANVIT	When received pursuant to a contract or agreement, the confidentiality clause therein shall be applicable. When received during tender phase treat as confidential.
PBS TITLE: ITER Magnet System . .		SAFETY CLASS: NSR	LEGAL OWNER: iter china EU india japan korea russia USA
DATE OF ISSUE: 29 Mar 24	PT MATURITY: CD	PT VERSION: --B	QUALITY CLASS: ---
DR STATUS: D	SCALE: 2:1	PT STATUS: D	DRAWING TITLE: SD_SUPPORT_CHAMBER_ASSY_DRW HV_WIRES_SHIELD_CONNECTOR_PLATE
THIRD ANGLE PROJECTION			DOCUMENT TYPE: Assembly Drawing

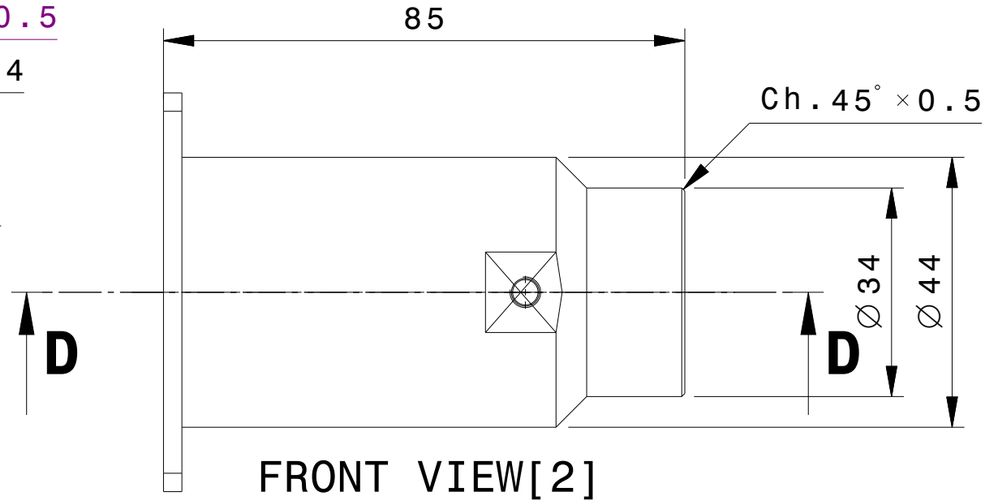
FORMAT	PBS NUMBER	DRAWING NUMBER	SHEET	N°OF SHEETS	REVISION
A3	11 -- --	072218	07	14	---

Spacereservation for the banner

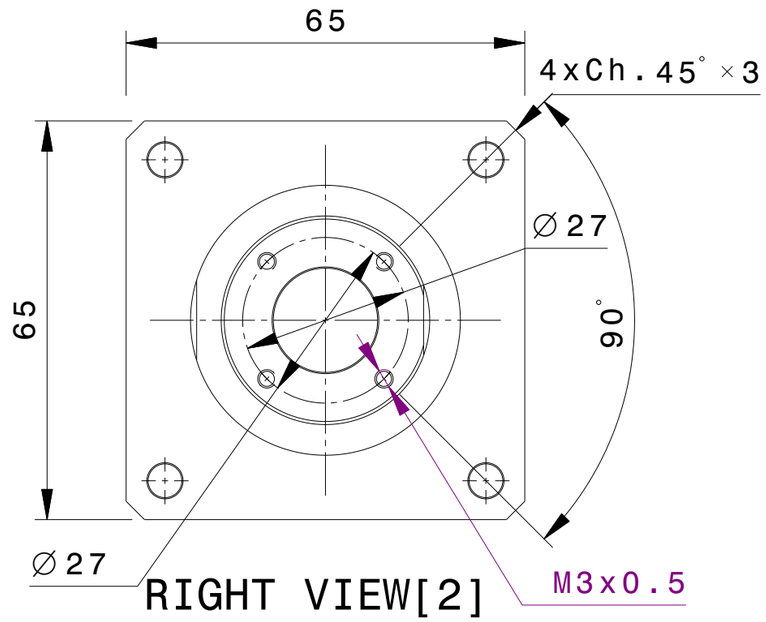
4



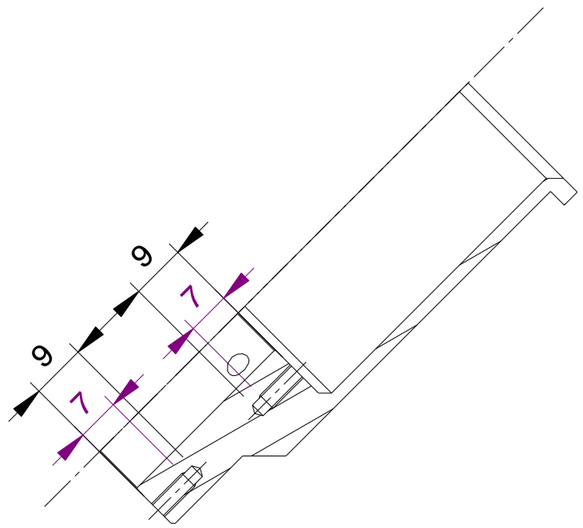
LEFT VIEW[2]



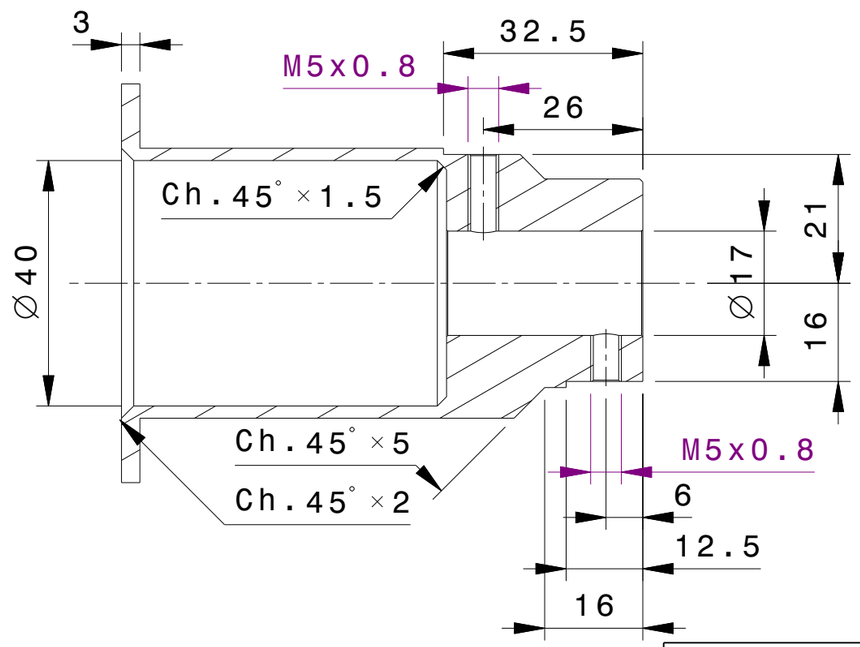
FRONT VIEW[2]
Scale: 1:1



RIGHT VIEW[2]



SECTION VIEW H-H[2]
Scale: 1:1



SECTION VIEW D-D[2]

DRW CAD ID: AWP7AH			APPROVED BY: HUYGENS
LINKED EV5 PT ID: AV3L55			TECHNICAL REF: RODZIEJ
LINKED 3D ID: AUV4RY			DRAWN BY: BLANVIT
PBS TITLE: ITER Magnet System . .			SAFETY CLASS: NSR
DATE OF ISSUE: 29 Mar 24	PT MATURITY: CD	PT VERSION: --B	QUALITY CLASS: ---
DR STATUS: D	SCALE: 1:1	PT STATUS: D	
THIRD ANGLE PROJECTION			

ITER Organization

INTERNAL USE

When received pursuant to a contract or agreement, the confidentiality clause therein shall be applicable. When received during tender phase treat as confidential.

LEGAL OWNER

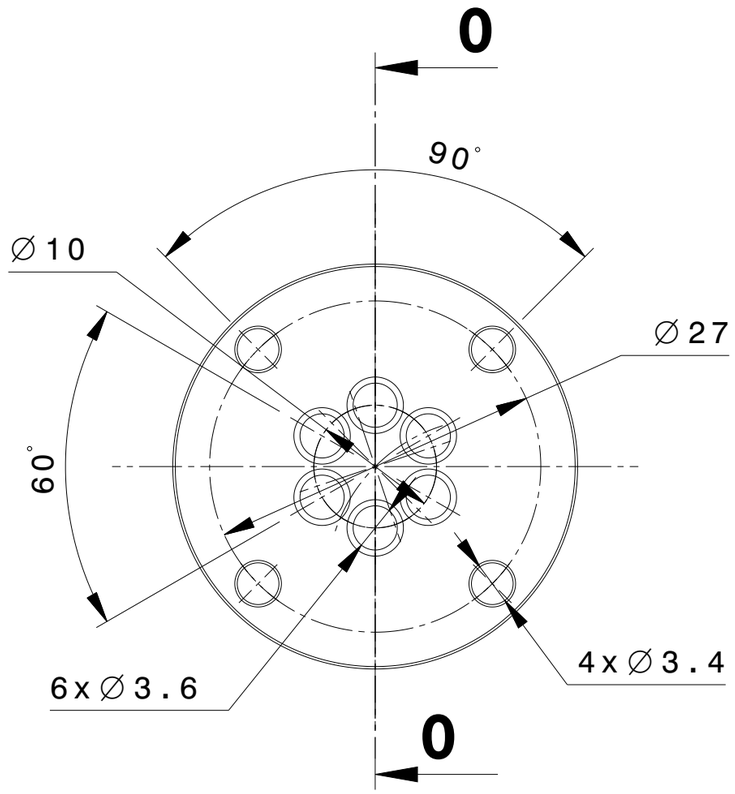
iter china EU india japan korea russia USA

DRAWING TITLE: SD_SUPPORT_CHAMBER_ASSY_DRW RESIN_CHAMBER_CABLE

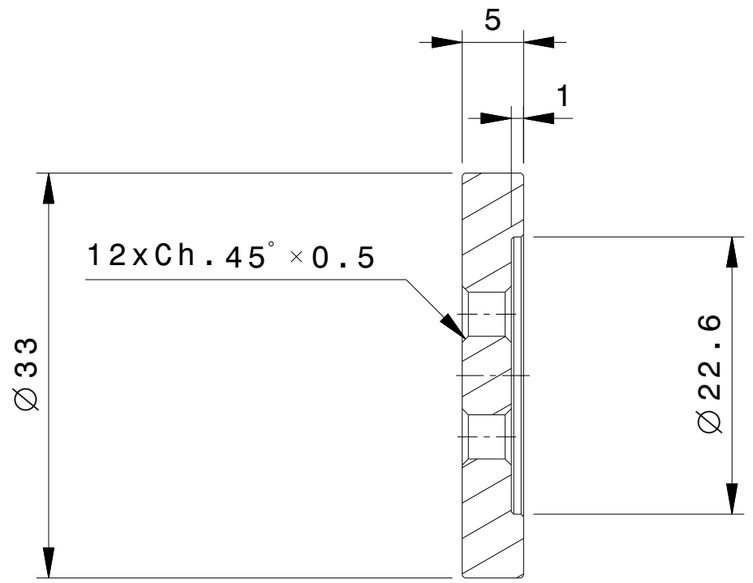
DOCUMENT TYPE: Assembly Drawing

FORMAT	PBS NUMBER	DRAWING NUMBER	SHEET	N°OF SHEETS	REVISION
A3	11 -- --	072218	08	14	---

Spacereservation for the banner



FRONT VIEW

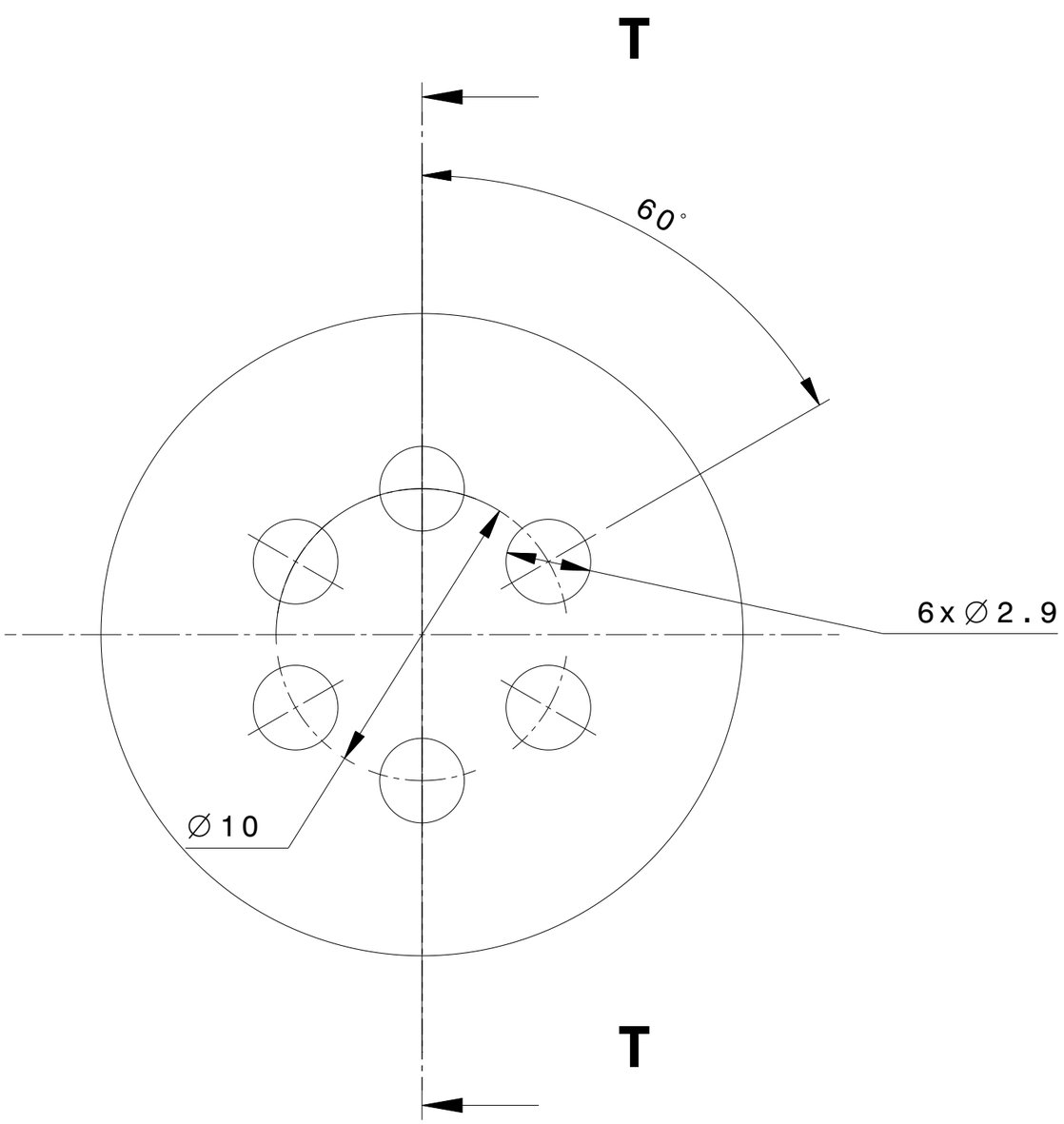


SECTION VIEW O-O

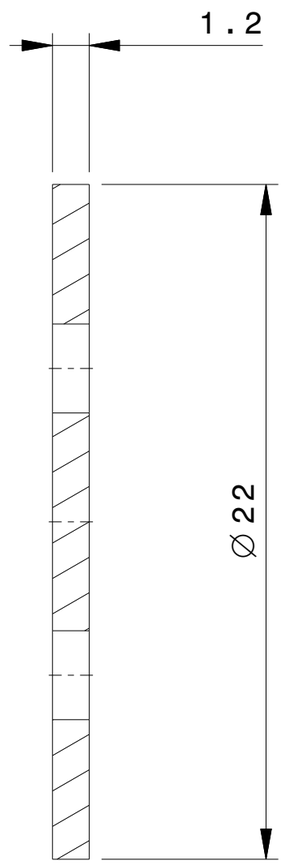
NOTES :
- The general dimension without specification must respect the ISO 2768 - mK
- Break sharp edges

DRW CAD ID: AWP7AH			APPROVED BY: HUYGENS	ITER Organization: INTERNAL USE. When received pursuant to a contract or agreement, the confidentiality clause therein shall be applicable. When received during tender phase treat as confidential.		LEGAL OWNER: iter china EU india japan korea russia USA	
LINKED EV5 PT ID: AV3L55			TECHNICAL REF: RODZIEJ				
LINKED 3D ID: AUV4RY			DRAWN BY: BLANVIT	DRAWING TITLE: SD_SUPPORT_CHAMBER_ASSY_DRW HV_WIRES_GASKET_CAP			
PBS TITLE: ITER Magnet System . .			SAFETY CLASS: NSR				
DATE OF ISSUE: 29 Mar 24	PT MATURITY: CD	PT VERSION: --B	QUALITY CLASS: ---	DOCUMENT TYPE: Assembly Drawing			
DR STATUS: D	SCALE: 2:1	PT STATUS: D					
THIRD ANGLE PROJECTION			FORMAT: A3	PBS NUMBER: 11 -- --	DRAWING NUMBER: 072218	SHEET: 09	N°OF SHEETS: 14 / REVISION: ---

Spacereservation for the banner



FRONT VIEW
Scale: 5:1

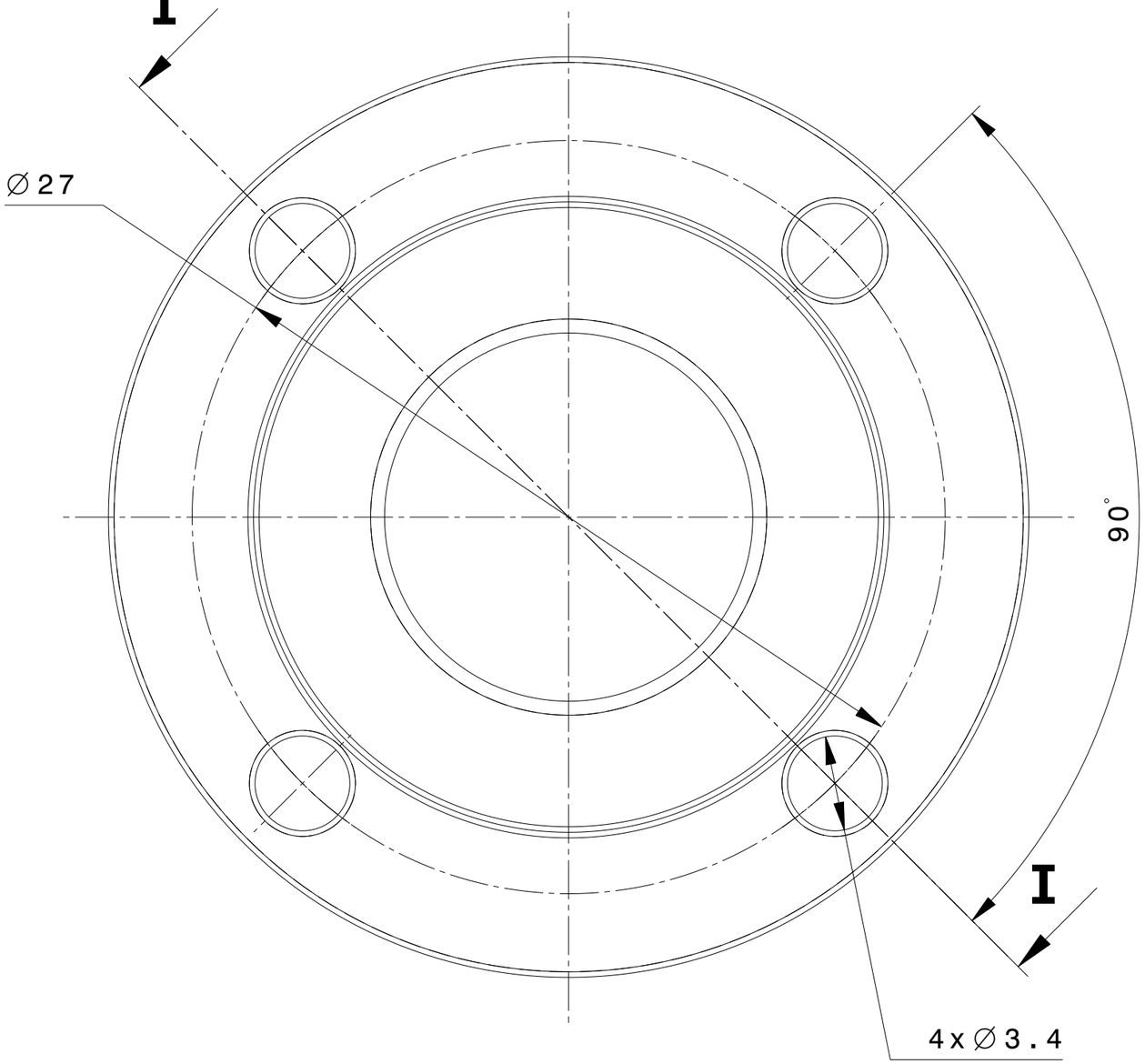


SECTION VIEW T-T
Scale: 5:1

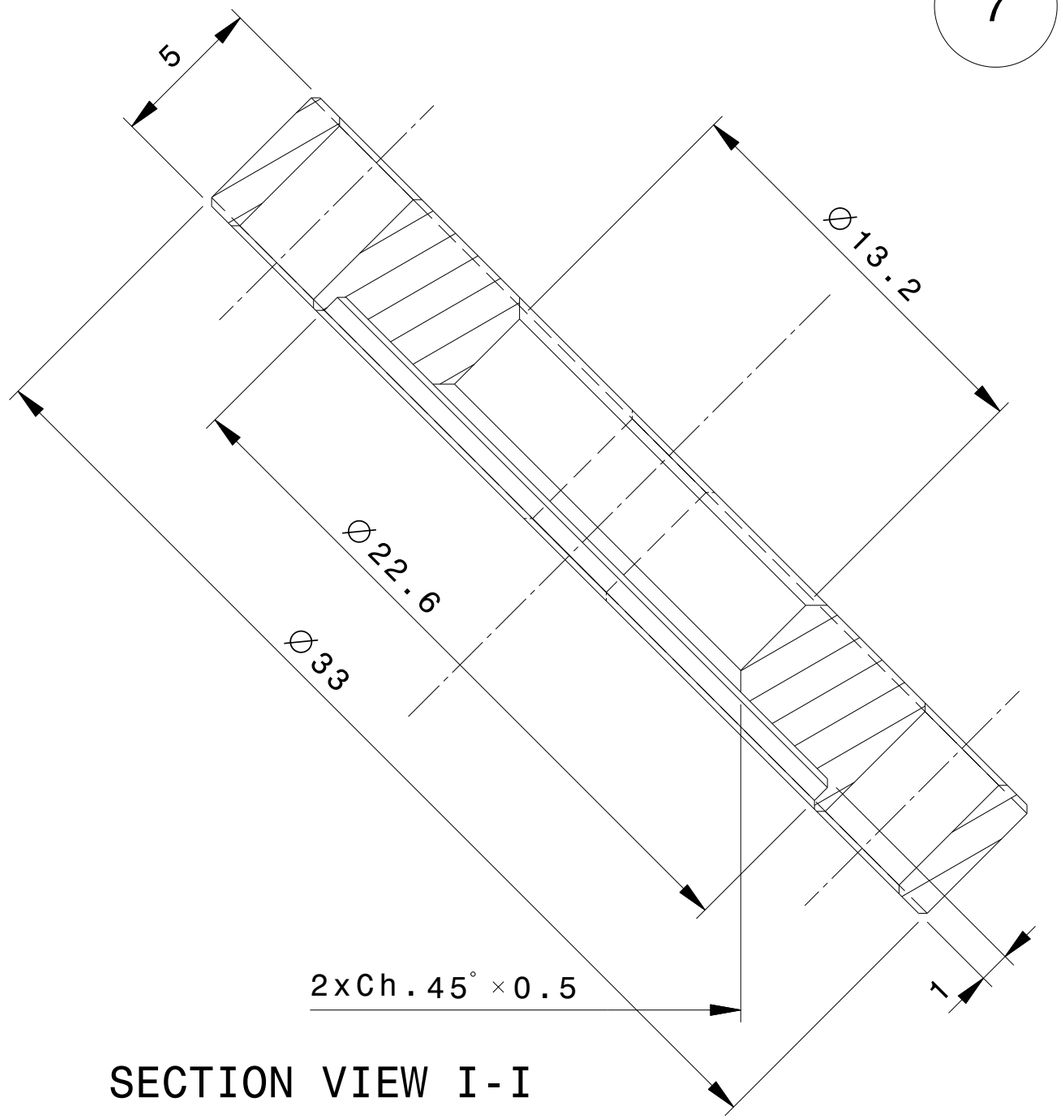
NOTES :
- The general dimension without specification must respect the ISO 2768 - mK
- Break sharp edges
- Inner Diameters to be defined (tested on prototype)

DRW CAD ID: AWP7AH			APPROVED BY: HUYGENS	ITER Organization	LEGAL OWNER
LINKED EV5 PT ID: AV3L55			TECHNICAL REF: RODZIEJ	INTERNAL USE When received pursuant to a contract or agreement, the confidentiality clause therein shall be applicable. When received during tender phase treat as confidential.	iter china EU india japan korea russia USA
LINKED 3D ID: AUV4RY			DRAWN BY: BLANVIT	DRAWING TITLE: SD_SUPPORT_CHAMBER_ASSY_DRW HV_WIRES_GASKET	
PBS TITLE: ITER Magnet System . .			SAFETY CLASS: NSR		
DATE OF ISSUE: 29 Mar 24	PT MATURITY: CD	PT VERSION: --B	QUALITY CLASS: ---	DOCUMENT TYPE: Assembly Drawing	
DR STATUS: D	SCALE: 5:1	PT STATUS: D			
THIRD ANGLE PROJECTION			FORMAT: A3	PBS NUMBER: 11 -- --	DRAWING NUMBER: 072218	SHEET: 10	N°OF SHEETS: 14	REVISION: ---

Spacereservation for the banner



FRONT VIEW



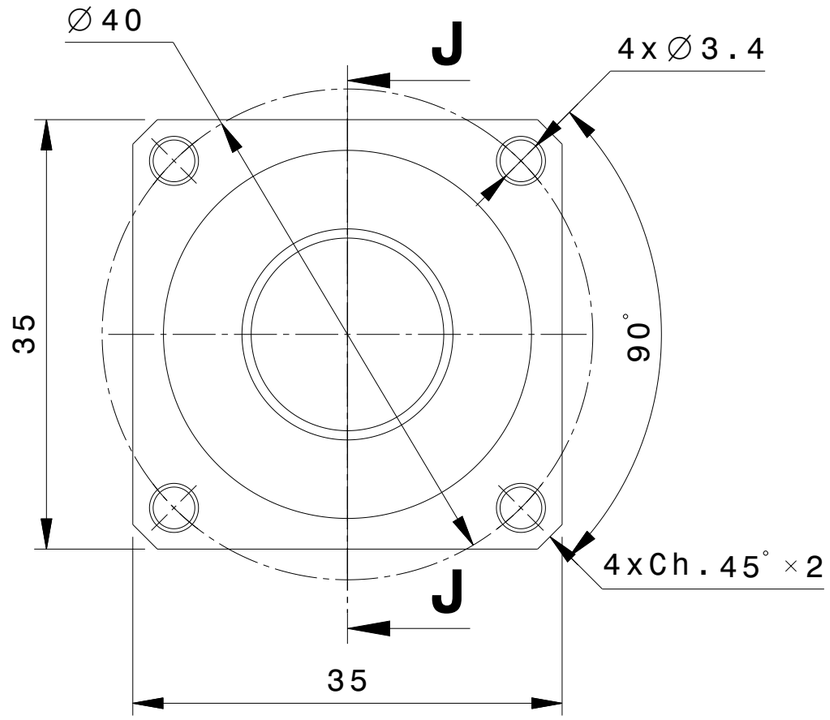
SECTION VIEW I-I

NOTES :
- The general dimension without specification must respect the ISO 2768 - mK
- Break sharp edges

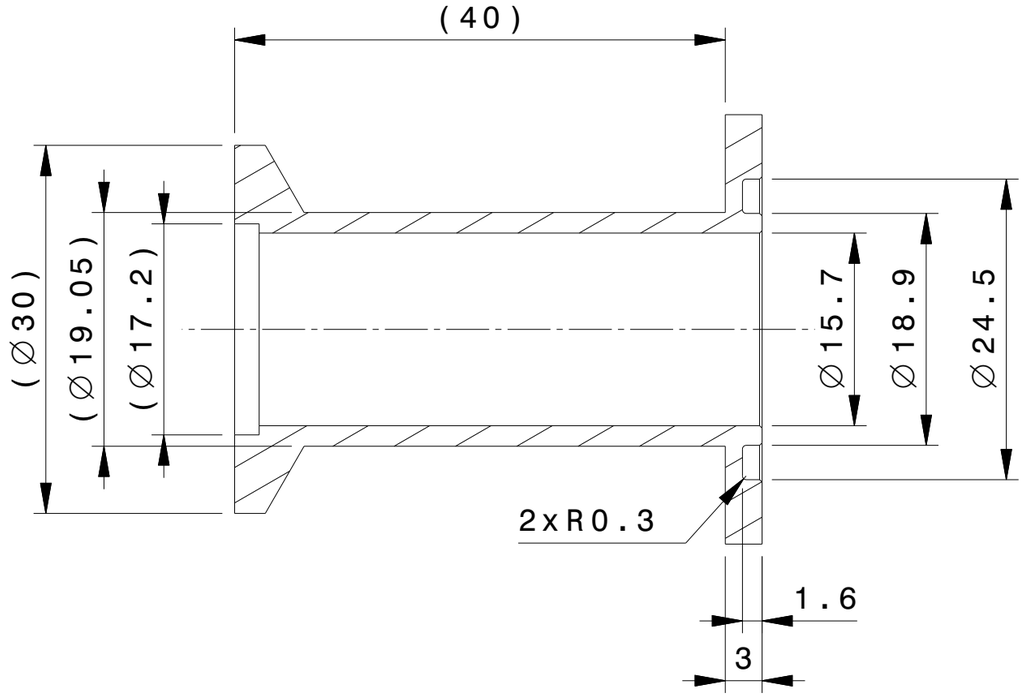
DRW CAD ID: AWP7AH			APPROVED BY: HUYGENS	ITER Organization: INTERNAL USE — When received pursuant to a contract or agreement, the confidentiality clause therein shall be applicable. When received during tender phase treat as confidential.	LEGAL OWNER: iter — china EU india japan korea russia USA
LINKED EV5 PT ID: AV3L55			TECHNICAL REF: RODZIEJ		
LINKED 3D ID: AUV4RY			DRAWN BY: BLANVIT	DRAWING TITLE: SD_SUPPORT_CHAMBER_ASSY_DRW CABLE_GASKET_CAP	
PBS TITLE: ITER Magnet System . .			SAFETY CLASS: NSR		
DATE OF ISSUE: 29 Mar 24	PT MATURITY: CD	PT VERSION: --B	QUALITY CLASS: ---	DOCUMENT TYPE: Assembly Drawing	
DR STATUS: D	SCALE: 5:1	PT STATUS: D			
THIRD ANGLE PROJECTION			FORMAT: A3	PBS NUMBER: 11 -- --	DRAWING NUMBER: 072218 / SHEET: 11 / N°OF SHEETS: 14 / REVISION: ---

Spacereservation for the banner

Spacereservation for the banner



FRONT VIEW
Scale: 2:1



SECTION VIEW J-J
Scale: 2:1

NOTES :
- The general dimension without specification must respect the ISO 2768 - mK
- Break sharp edges
- Welded Flange KF 16/19/40

DRW CAD ID	AWP7AH	APPROVED BY	HUYGENS
LINKED EV5 PT ID	AV3L55	TECHNICAL REF	RODZIEJ
LINKED 3D ID	AUV4RY	DRAWN BY	BLANVIT
PBS TITLE	ITER Magnet System . .	SAFETY CLASS	NSR
DATE OF ISSUE	29 Mar 24	QUALITY CLASS	---
PT MATURITY	CD	PT VERSION	--B
DR STATUS	D	SCALE	2:1
PT STATUS	D	THIRD ANGLE PROJECTION	

ITER Organization

INTERNAL USE

When received pursuant to a contract or agreement, the confidentiality clause therein shall be applicable. When received during tender phase treat as confidential.

LEGAL OWNER

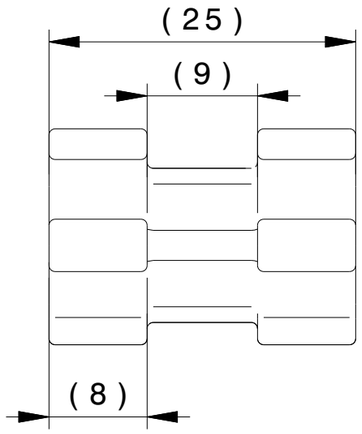
iter
china EU india japan korea russia USA

DRAWING TITLE
SD_SUPPORT_CHAMBER_ASSY_DRW
SD_SUPPORT_KF16-19-40_NOZZLE

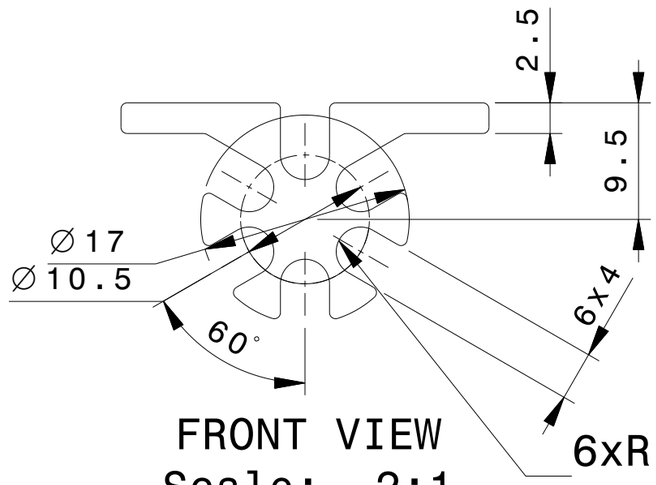
DOCUMENT TYPE
Assembly Drawing

FORMAT	PBS NUMBER	DRAWING NUMBER	SHEET	N°OF SHEETS	REVISION
A3	11 -- --	072218	12	14	---

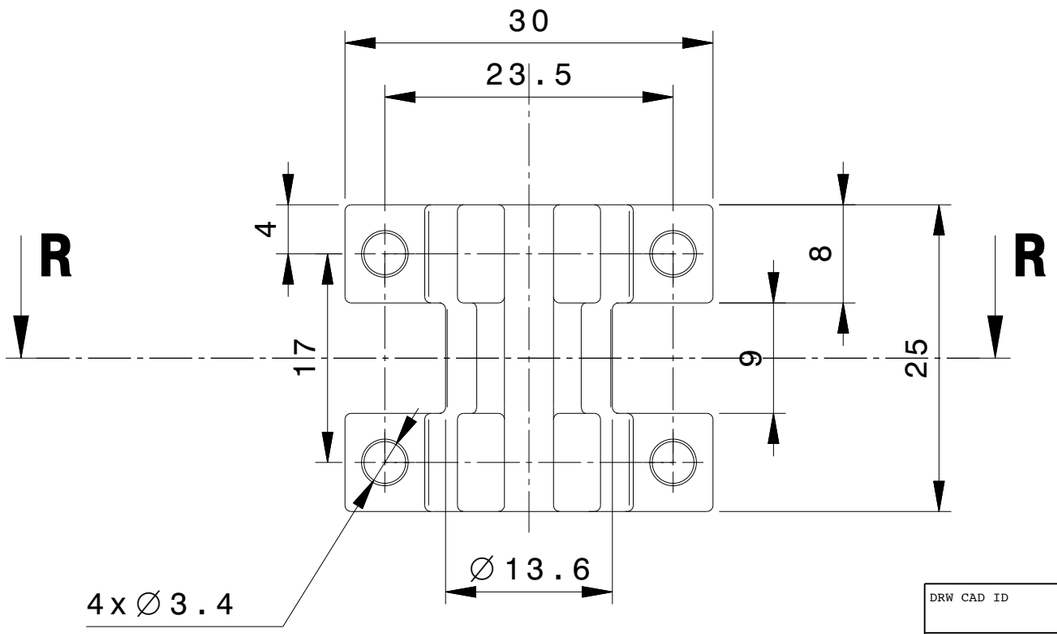
Spacereservation for the banner



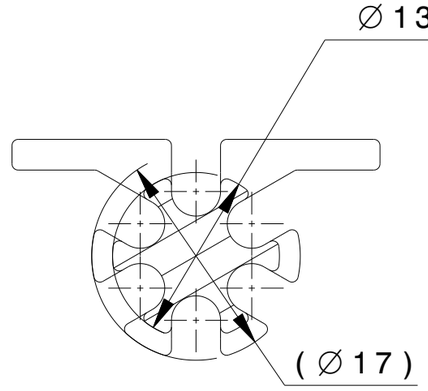
LEFT VIEW
Scale: 2:1



FRONT VIEW
Scale: 2:1



BOTTOM VIEW
Scale: 2:1



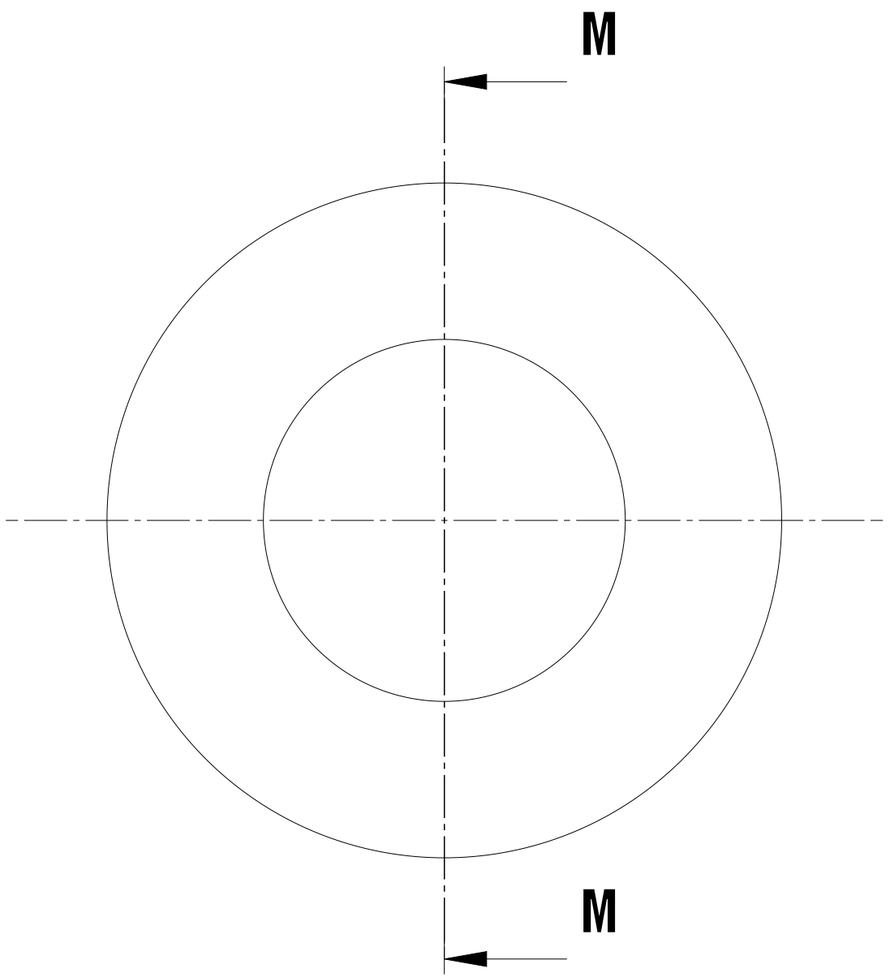
SECTION VIEW R-R
Scale: 2:1

NOTES :
- The general dimension without specification must respect the ISO 2768 - mK
- Break sharp edges

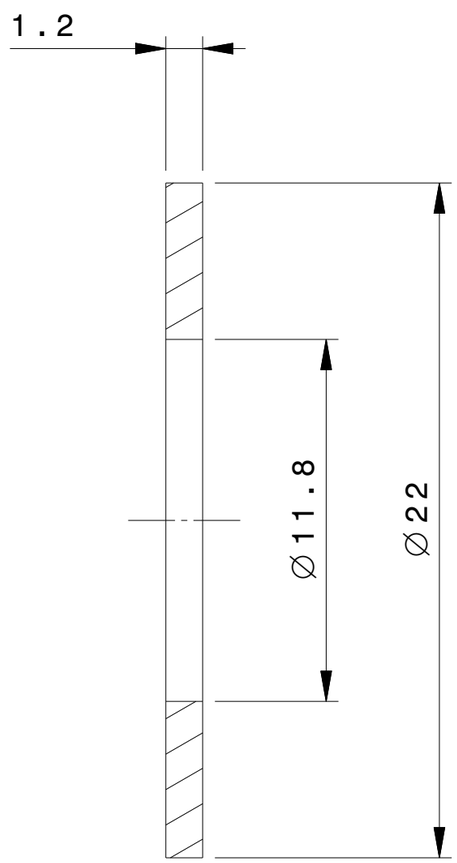
DRW CAD ID: AWP7AH			APPROVED BY: HUYGENS	ITER Organization: INTERNAL USE	LEGAL OWNER
LINKED EV5 PT ID: AV3L55			TECHNICAL REF: RODZIEJ	When received pursuant to a contract or agreement, the confidentiality clause therein shall be applicable. When received during tender phase treat as confidential.	iter china EU india japan korea russia USA
LINKED 3D ID: AUV4RY			DRAWN BY: BLANVIT		
PBS TITLE: ITER Magnet System . .			SAFETY CLASS: NSR	DRAWING TITLE: SD_SUPPORT_CHAMBER_ASSY_DRW HV_WIRES_SHIELD_CONNECTOR	
DATE OF ISSUE: 29 Mar 24	PT MATURITY: CD	PT VERSION: --B	QUALITY CLASS: ---	DOCUMENT TYPE: Assembly Drawing	
DR STATUS: D	SCALE: 2:1	PT STATUS: D			
THIRD ANGLE PROJECTION			FORMAT: A3	PBS NUMBER: 11 - - - -	DRAWING NUMBER: 072218

SHEET	N°OF SHEETS	REVISION
13	14	- - -

Spacereservation for the banner



FRONT VIEW
Scale: 5:1



SECTION VIEW M-M
Scale: 5:1

NOTES :
- The general dimension without specification must respect the ISO 2768 - mK
- Break sharp edges
- Inner Diameter to be defined (tested on prototype)

DRW CAD ID	AWP7AH	APPROVED BY	HUYGENS
LINKED EV5 PT ID	AV3L55	TECHNICAL REF	RODZIEJ
LINKED 3D ID	AUV4RY	DRAWN BY	BLANVIT
PBS TITLE	ITER Magnet System . .	SAFETY CLASS	NSR
DATE OF ISSUE	29 Mar 24	QUALITY CLASS	---
PT MATURITY	CD		
PT VERSION	--B		
DR STATUS	D		
SCALE	5:1		
PT STATUS	D		
THIRD ANGLE PROJECTION			

ITER Organization

INTERNAL USE

When received pursuant to a contract or agreement, the confidentiality clause therein shall be applicable. When received during tender phase treat as confidential.

LEGAL OWNER

iter
china EU india japan korea russia USA

DRAWING TITLE
SD_SUPPORT_CHAMBER_ASSY_DRW
CABLE_GASKET

DOCUMENT TYPE
Assembly Drawing

FORMAT	PBS NUMBER	DRAWING NUMBER	SHEET	N°OF SHEETS	REVISION
A3	11 -- --	072218	14	14	---

Spacereservation for the banner

china eu india japan korea russia usa
Route de Vinon-sur-Verdon - CS 90 046 - 13067 St Paul Lez Durance Cedex - France

Annex II – Request for Information (RFI) Questionnaire

Ref. IO/MS/25/YSA/SA

Splicer Assembly - Market Survey

Please return a completed questionnaire, no later than 24 February 2025, to the following email address Yuki.Suyama@iter.org with CC to Guillaume.Retaillaud@iter.org.
Due to mailing system reason, when attaching a large file such as the company's brochure exceeding 20MB, please use a cloud service or other means.

1. *General information about the Company / Institute compiling the questionnaire*

General information

Company / Institute Name	
Nationality*	
Principle Adress	
Years in Operation	
Web site URL	

* Companies/Institutions/Entities established within an ITER Member State (the European Union, Japan, the People's Republic of China, India, the Republic of Korea, the Russian Federation and the USA) are eligible for participating this procurement.

china
eu
india
japan
korea
russia
usa

Contact Information

Contact person	***Name + Title***	***Email address***	***Telephone***
Commercial Matters:			+
Technical Matters:			+

Primary Industrial Focus

Main activities	***Description***
1.	
2.	
3.	
.....	

Turnover of recent three years and Workforce

Please indicate the year	***Turnover 202X***	***Turnover 202X***	***Turnover 202X***	***Number of employees***
All activities				
In the field of design and/or manufacturing of similar product				

2. *Survey A - Technical Competence and Experience*

2.1 Do you have any past experience in designing and/or manufacturing similar products (used for high-voltage connections or vacuum chambers)?"

YES ☐ **NO** ☐

If YES, please provide a brief overview of the experience and/or examples of past projects/contract that demonstrate your expertise in this area.

2.2 Are you certified ISO 9001 or equivalent?

YES ☐ **NO** ☐

Please specify your certifications relating to Quality Assurance.

Quality Assurance Certifications	*Comments*

2.3 Please provide information that demonstrate your manufacturing capacity.

Please also attach the company's brochures or other materials introducing your products and manufacturing capacity (if any).

a) Main location of manufacturing facility (City, Country)

b) Main products and the manufacturing capacity (e.g. Name of products, maximum manufacturing quantity per month)

c) Name of the port for shipping the product (if applicable)

d) Other information demonstrating your manufacturing capacity

e) Do you have capacity to manufacture the product object for this Market Survey (i.e. Splicer Assembly)?

YES ☐ (if Yes, please answer the following) **NO** ☐

i) Manufacturing capacity (e.g. No. of units per month)

ii) Part of works to be subcontracted (if any, specify)

iii) Any other information demonstrating manufacturing capacity of Splicer Assembly

2.4 Of the specified technical requirements, excluding To-Cost Design Optimization, are there any particular specifications or requirements that you consider especially challenging to achieve? If so, please identify these areas and explain the potential obstacles, as well as how your team would approach addressing these challenges during the design and manufacturing phases

YES ☐ **NO** ☐

If YES, please identify these areas and explain the potential obstacles, as well as possible solutions and countermeasures.

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3. *Survey B – Pricing and Procurement*

3.1 ***Please provide your non-binding price estimation for manufacturing of the following deliverables based on the IO's preliminary design as per attached drawing of the kit #072218 (Annex-I, Appendix-1). The price shall be quoted in EUR per unit, shall include packing cost for shipment and shall not include VAT and customs duties. The Price shall be quoted on Incoterms 2020 EX Works (EXW) basis. If available, please also provide the price on Incoterms 2020 Delivered at Place (DAP) – the IO site basis.***

No.	Deliverable	Planned Overall Quantity	Timeline (T0=Contract signature)	Price per unit EXW (EUR)	Price per unit DAP-IO Site (EUR), if available
a)	Splicer Assemblies (Pre-series manufacturing)	18 units	T0 + 6 Months		
b)	Splicer Assemblies (Series manufacturing)	450 units	T0 + 15 Months		

Please indicate below the assumptions and/or conditions for the above pricing, if any.

3.2 As mentioned in Annex-I, the preliminary design of the Splicer Assembly must be optimized before series production, to meet the target price of below 1kEUR per unit by taking into account of the supplier's manufacturing facility and its work method to be taken (To-cost Design Optimization). The scope of this work will be limited to non-physical design only, with the 3D model and 2D drawing serving as the basis for evaluation by IO.

Do you think your company is capable to do this To-cost Design Optimization work?

YES ☐ **NO** ☐

If YES, please provide necessary work duration to complete the To-cost Design Optimization excluding the IO's evaluation and validation time. Also please provide estimated cost for this work.

Overview of work plan for To-cost Design Optimization

Necessary work duration for To-cost Design Optimization (in month) :
Estimated cost for To-cost Design Optimization (in EUR) : (Please provide cost elements such as estimated work hours and unite rate(s), as justification of the above amount)

If NO, please provide the reason or any comment.

3.3 ***Please provide your non-binding price estimation for manufacturing of the following deliverables based on the IO's preliminary design as per attached drawing of the kit #072218. The price shall be quoted in EUR per unit, shall include packing cost for shipment and shall not include VAT and customs duties. The transport to the IO site and associated cost such as marine insurance shall be separately quoted if available.***

No.	Deliverable	Planned Overall Quantity	Timeline (T0=Contract signature)	Price per unit (EUR)	Transport cost per unit (EUR), if available
a)	Splicer Assemblies (Pre-series manufacturing)	18 units	T0 + 6 Months		
b)	Splicer Assemblies (Series manufacturing)	450 units	T0 + 15 Months		

Please indicate below the assumptions and/or conditions for the above pricing, if any.

4. General Comments

Please indicate any other information that may be relevant for this market survey.

Thank you very much for your valuable feedback!