

BRUNO PRESEZZI

SECTEUR FONDERIE
DYNAPRIME CASTING LINE
Preliminary



 BRUNO PRESEZZI		BRUNO PRESEZZI (ITALY)	DOCUMENT TITLE :			
			ELECTRICAL STUDY REPORT			
 DYNAMIC CONCEPT EUROPE		DYNAMIC CONCEPT EUROPE	PROJECT NUMBER :		REVISION	
			A25105-544		R00	
Rev.	Date	Description	Editor	Checker	Approver	Target public
00	5/22/2025	First issue	MEB	JUF	JUF	

TABLE OF CONTENTS

1.	INTRODUCTION.....	3
1.1	Abbreviations.....	3
1.2	List of figures.....	3
1.3	Liste of tables	3
1.4	Reference documents	3
1.5	Purpose of document	4
2.	DYANPRIME LEFT AND RIGHT	5
2.1	Electrical location	5
2.2	Power supply	5
2.3	Secured power supply.....	5
2.4	Additional equipment.....	5
2.5	Routing cable and cable tray.....	6
3.	CASTING LINE HEAT.....	7
3.1	Electrical location	7
3.2	Power supply	7
3.3	Secured power supply.....	7
3.4	Routing cable and cable tray.....	7

1. INTRODUCTION

1.1 Abbreviations

- DC Dynamic Concept
- DCE Dynamic Concept Europe

1.2 List of figures

Figure 1 : Galvanized steel cable trays	6
Figure 2 : Galvanized steel cable trays	7
Figure 3 : Cable tray under launder	8
Figure 4 : Cable tray under launder	8

1.3 Liste de tables

No illustration table entries were found.

1.4 Reference documents

Customer reference documents

[1] Document de référence client (cdc, etc.)

Dynamic Concept Europe reference documents

- [2] A25105_IO_List_R00 (preliminary)
- [3] A25105_Cables_List_R00 (preliminary)
- [4] A25105-544_Dynaprime_Casting_line_CasterBP_AIB_R00 (preliminary)
- [5] A25105_Power_Balance_R00 (preliminary)
- [6] A25105_PLC_Configuration_R00 (preliminary)

Applicable standards and norms

[7] Norme, convention, standard international, etc.

1.5 Purpose of document

The purpose of this document is to provide a brief description of electrical utilities and installations.

2. DYANPRIME LEFT AND RIGHT

The following description relates to one assembly Dynaprime Left en Right. Each line will be identical.

2.1 Electrical location

The caster is equipped with two Dynaprime, one on the left and one on the right. A single cabinet is provided for both pieces of equipment: containing a power panel and a control panel. The minimum size required is : 3000 mm x 1800 mm x 500 mm (W x H x D).

The same goes for the pneumatic and gas packages.

For the operator section, a single HMI is provided to control both Dynaprime.

Each dam will be equipped with a button box (x4).

2.2 Power supply

The power/control cabinet will be supplied with 400VA three-phase power from the customer's TGBGT. The minimum power required to operate the two Dynaprime is : 27Kva. A 400/230 voltage transformer is provided in the cabinet to manage the burner BCUs. There is also a 24VDC power supply for PLC management.

2.3 Secured power supply

An secure power supply is provided so that 230VAC power is not lost. This will keep the PLC powered, as well as the corresponding inputs and outputs.

2.4 Additional equipment

Certain electrical equipment is added to the Dynaprime and therefore brought back into the corresponding cabinet. This will have an impact on the size of the initial pneumatic assembly. These are :

- x3 laser distance
- x4 pneumatic dam

2.5 Routing cable and cable tray

Concerning the routing of cables and cable trays, you will find in the reference documents the document correspondent : which integrates a preliminary routing of the cable trays and therefore of the cables inside. The cable routes between the power/control cabinets and the Dynaprime (left and right) are estimated: for the moment, we don't know where to route them: overhead or on the ground.

In addition, we've considered that the cable length shouldn't exceed 30m, otherwise we'll have to rework the cable cross-sections to avoid too great a important voltage.

To protect the cables from falling or splashing liquid metal, they will be protected by a fireproof sheath and will be housed in solid galvanized steel cable trays (figure 1).



Figure 1 : Galvanized steel cable trays

3. CASTING LINE HEAT

The following description relates to one casting line heat. Each line will be identical to the execution of the number of resistors. But this has no influence for the moment.

3.1 Electrical location

The caster is equipped with a heated casting line. one on the left and one on the right. For this purpose, a power/command cabinet is provided next to the left and right Dynaprime cabinets. The minimum size required is : 1200mm x 2000mm x 500mm (W x H x D).

The Dynaprime HMI is used to control the heaters. A screen page will be dedicated to this.

3.2 Power supply

The power/control cabinet will be supplied with 400VA three-phase power from the customer's TGBGT. The minimum power required to operate the two Dynaprime is : 55kVA. A 400/230 voltage transformer is provided and there is also a 24VDC power supply for PLC management.

3.3 Secured power supply

Actually, there are no plans to install a UPS for the PLC of the casting line heat.

3.4 Routing cable and cable tray

Concerning the routing of cables and cable trays, you will find in the reference documents the document correspondent : which integrates a preliminary routing of the cable trays and therefore of the cables inside. The cable routes between the power/control cabinets and the casting line heat are estimated: for the moment, we don't know where to route them: overhead or on the ground.

In addition, we've considered that the cable length shouldn't exceed 30m, otherwise we'll have to rework the cable cross-sections to avoid too great a important voltage.

To protect the cables from falling or splashing liquid metal, they will be protected by a fireproof sheath and will be housed in solid galvanized steel cable trays (figure 2).



Figure 2 : Galvanized steel cable trays

The figure below shows an example of an installation using this type of cable tray. At present, the cable trays are vertical but can be positioned horizontally depending on the dimensions and layout of the supports.

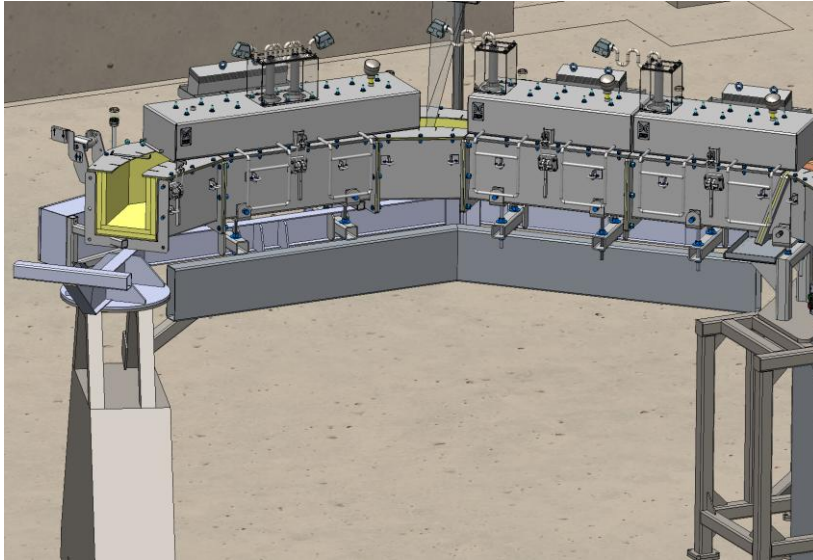


Figure 3 : Cable tray under launder

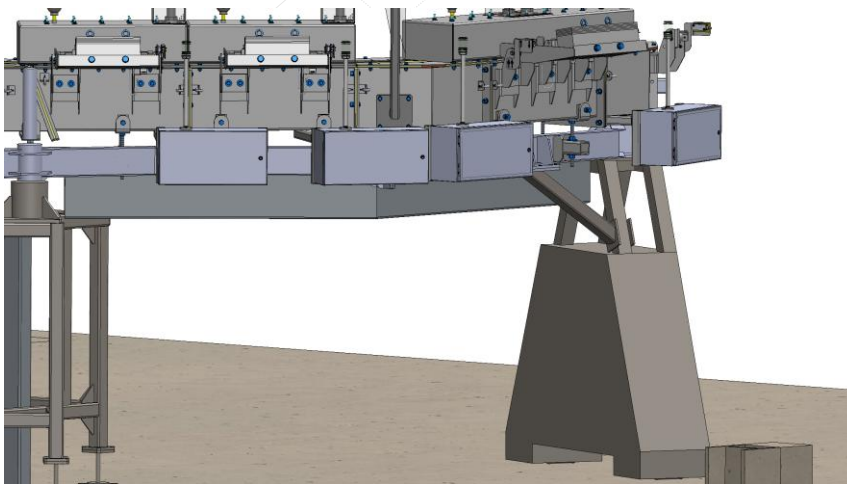


Figure 4 : Cable tray under launder