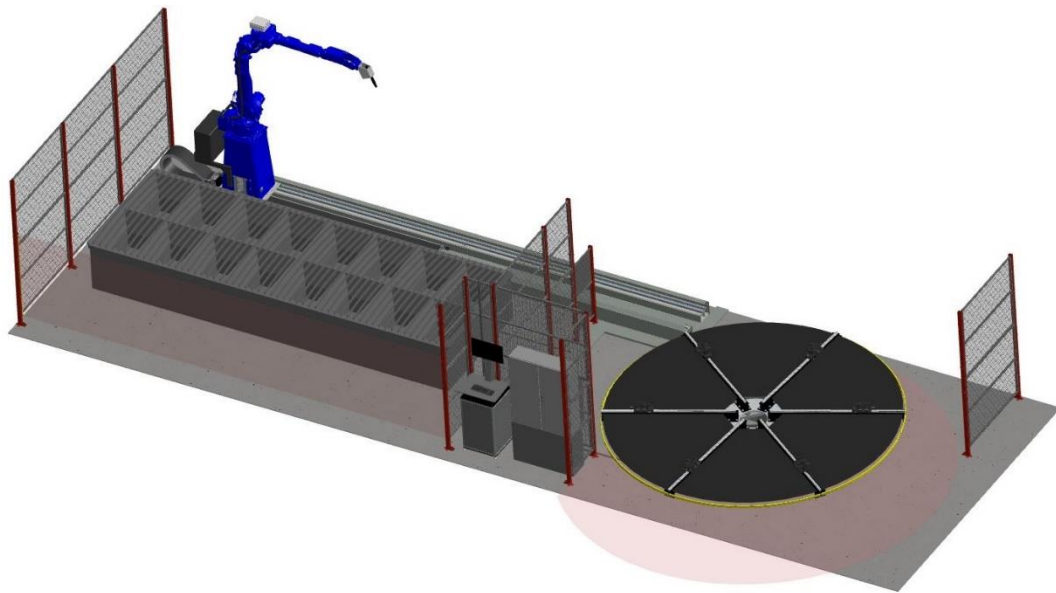


SARKKIS

ROBOTICS



Product Specification

DCS4000

Machine Description

DCS4000 (Figure 1) is a robotic setup design for cutting. This work cell is composed by an anthropomorphic robot, on top of a linear rail attached to a plasma cutting torch on its flange, with two work areas:

1. A plan cutting table equipped with an exhaust system, for 2D cutting.
2. An index ring for 3D cutting of domes and shells.



Figure 1 - DCS4000

The machine is controlled by a set of advance offline programming software developed by SARKKIS:

- **Metroid PlanCUT:** This software imports plate cuts and organize them into efficient and material saving cuts, through a nesting algorithm. Developed on top of a 3D visualization, the software enables the user to insert a custom plate and generate cutting vectors latter translated to robot operations.
- **Metroid PlanCAPTURE:** Enables non-standard plates recognition and consequent digitalization of such plates. This software ensures the correct identification of raw material on top of a planar cutting table. The software results in a drawing file to be used in the robot controlling software, promoting scrape reusage and material waste reduction.
- **Metroid CuppedCUT:** Cutting software for domes and vessels. This software generates robot operations following a set of 3D geometrical curves (cutting edges) and a 3D model of a vessel, dome and / or shell.

General Specs



Version 1, 21 september 2021

Dimension Data

Dimensions	Plan Cut Table Area (L x W)	7670 x 5000 mm
	Index Ring Area (L x W)	6390 x 5000 mm
	Total (H x L x W)	2600 x 15000 x 5000 mm

Specifications

Plate Length	from 100mm to 6000mm
Plate Width	from 100mm to 2000mm
Plate Thickness	from 2mm to 25mm
Dome / Vessel Diameter	from 500mm to 4000mm
Dome / Vessel Height	from 100mm to 3000mm
Dome / Vessel Thickness	from 2mm to 16mm

Electrical Power

Voltage	V_{in}	400 V 3-fases 50/60Hz
Current	I_n	125 A

Software

File Format	Powered by MetroID PlanCUT, CuppedCUT and PlanCAPTURE	
	.DXF, .DWG, .STEP, .IGS, .IFC, .PLATE, .PART	
	<i>Custom Parametric data format upon client request</i>	

Environment Restrictions

Working Temperature		from -20 °C to 60 °C
Protection Index	Electrical Cabinet	IP55

Control System

SARKKIS BrainBOX	Monitor	19.5"; 1920 x 1080 Multi-touch capacitive
	Processor	Octacore
	Memory	16 GB RAM
	Storage	128 GB SSD
	Operative System	Windows 10 Pro
	PLC	CODESYS Control Win V3 x64

Main Equipment

Robot	Yaskawa	GP20HL
	Payload	20kg
	Reach	3124 mm
External Axis	Yaskawa	TSL 1000SD 1020
Plasma Cutting Machine	Hypertherm	PowerMax 125