

The background of the image shows a large industrial facility, likely a power plant or manufacturing plant. On the left, there are large, curved metal components, possibly parts of a turbine or generator, with a ribbed texture. On the right, there is a long, flat metal surface with several circular holes, possibly a cooling plate or a part of a machine. The lighting is industrial, with some bright spots and shadows.

APPLICATION FIELD : “ POWER GENERATION ”

Steam/Gas/Hydro Generators & Turbines



MARIO CARNAGHI

MILLING & TURNING CENTERS

Power generation : machinings on turbine cases up to 80/120 MW



- Example of a semi shell of a turbine case on Mario Carnaghi gantry HGHM.50
- **COMPLETE TURN-KEY PROJECT** : the machine is fully tooled-up (tool-holders, tools, inserts and fixtures) for the complete machining of the piece from its casting to its finishing



FULL MACHINING

Our tooled-up gantry machine is able to perform the complete machining cycle of the turbine :

- FACE MILLING & DRILLING
- GROOVES ROUGHING & FINISHING
- HOLE BORING
- MILLING OF THE SLOTS
- FINISHING OF THE JOINT SURFACES





**VERSION WITH FIXED PICK-UP STATION
FOR THE ATTACHMENTS**

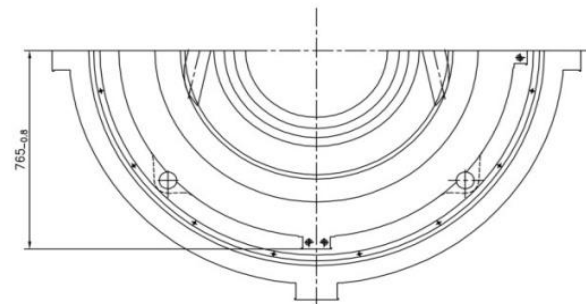
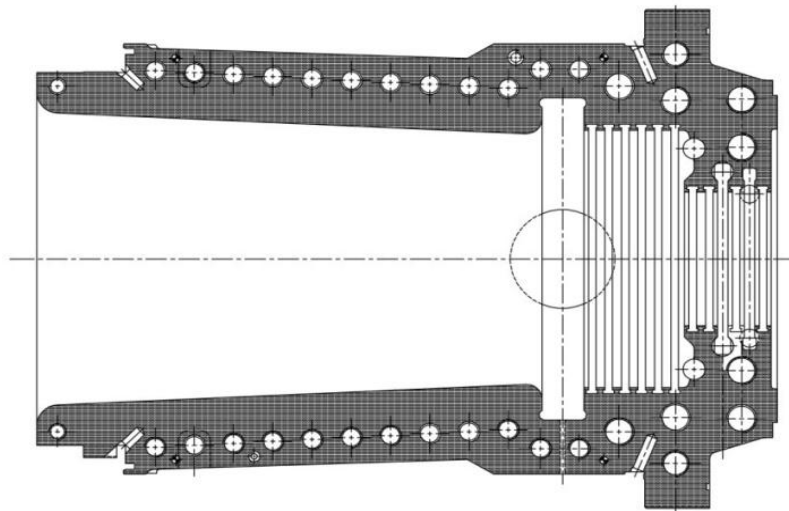
**Operations by gantry
milling machines, our
model HGHM.50/16.000
mm :**



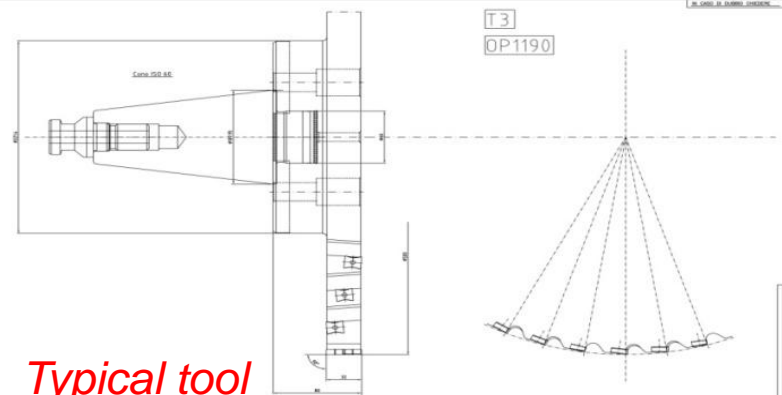
**VERSION WITH MOVABLE PICK-UP WITH
DISPLACEMENT ALONG THE X AXIS**

• Contouring by interpolation

Typical example of machining



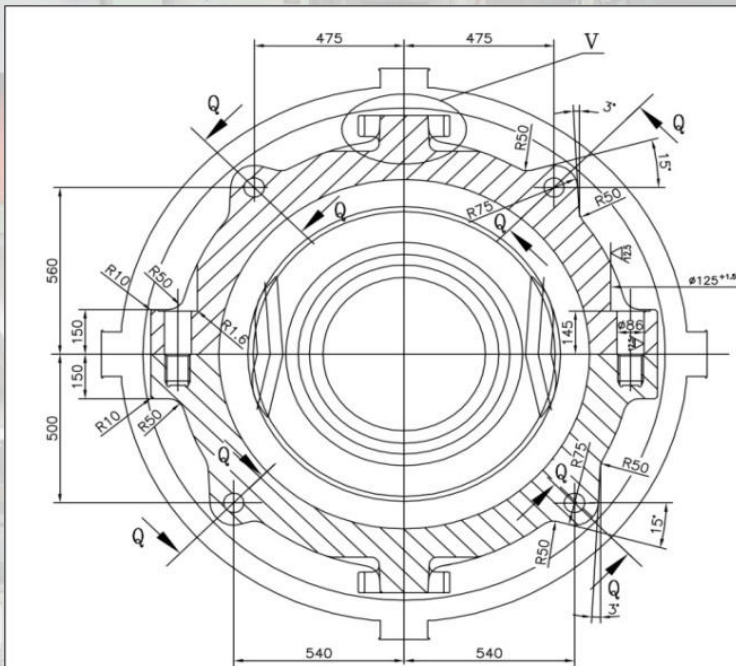
ROUGH-MILLING ON THE JOINT FACED OF LOWER PART



Typical tool

DATE	2010-01-10	BY	Y. KAWA	CHK	Y. KAWA
REVISION	1	DATE	2010-01-10	BY	Y. KAWA
DESCRIPTION	MACHINING INSTRUCTIONS				
OPERATION	ROUGH-MILLING ON THE JOINT FACED OF LOWER PART				
TOOL	T3				
OP	OP1190				
FEED	0.1				
SPINDLE SPEED	1000				
COOLANT	ON				
REMARKS	MACHINING INSTRUCTIONS				

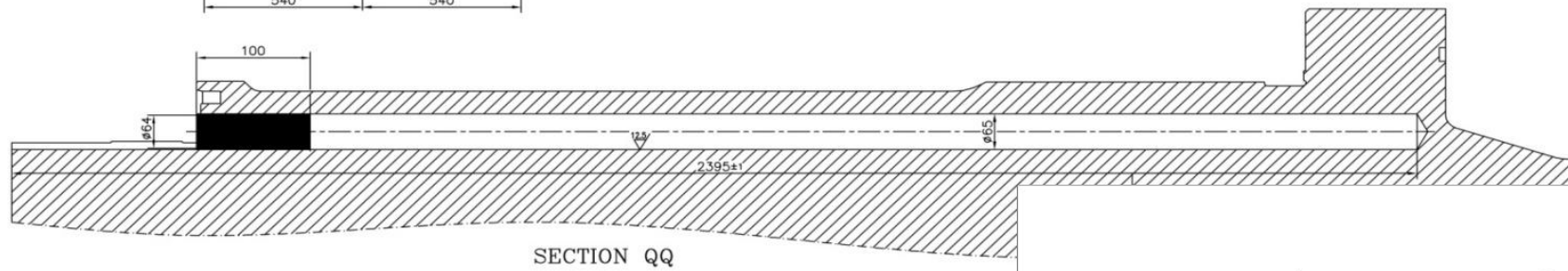
• Deep hole drilling



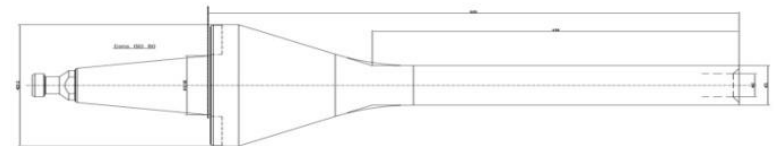
T6

□P1240

Typical example of machining



SECTION QQ



Typical tool

T1

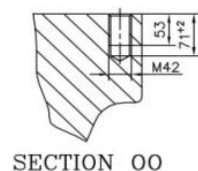
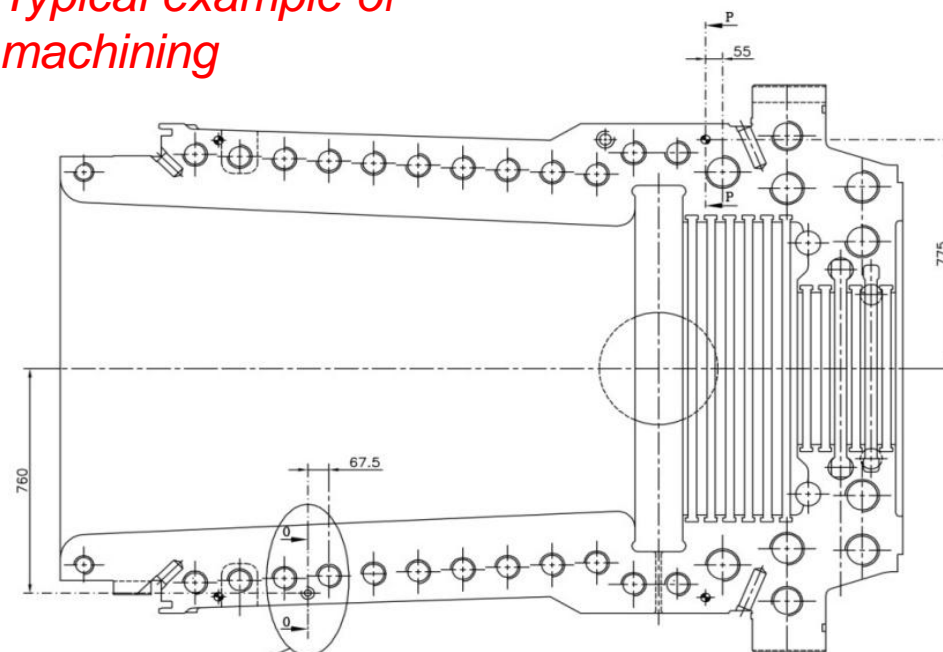
Technical drawing of a long, thin mechanical part, likely a cross-section of a deep hole drilled into a long cylinder. The drawing shows a central hole with a diameter of $\phi 64$. The outer diameter is 239.5 ± 1 . The total length is 100. The drawing includes various radii (R10, R50, R75, R1.6) and dimensions (150, 145, 15, 540). Section lines are indicated by 'Q' and 'V'.

• Coupling holes

T44

OP1350

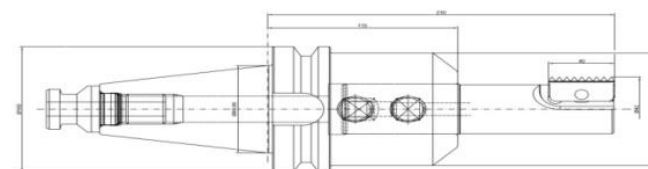
Typical example of machining



VIEW ON THE JOINT OF
LOWER PART
(SCALE 1:10)

NB! INCIDERE
IN CLASSE
PREP
DATA

T29



Typical tool

MT45 15.00 100	4	1	INSERT	AC 508	0000001
enduso 2-1 10000	3	1	THREAD MILL CUT	SPECIAL	
PS 1000 10.00 1000	2	1	PULL STUD	0011012	
ST01 00 00 110	1	1	TOOLHOLDER	0000000	
Descrizione	PS 1000 10.00 1000	Descrizione	Materiali	Codice	

DESCRIZIONE		DEL CLIENTE		CDS	
NOME		Cognome		NOME	
DATA		DATA		DATA	
FIRMA		FIRMA		FIRMA	
AUTORIZZATO		AUTORIZZATO		AUTORIZZATO	
FIRMA		FIRMA		FIRMA	

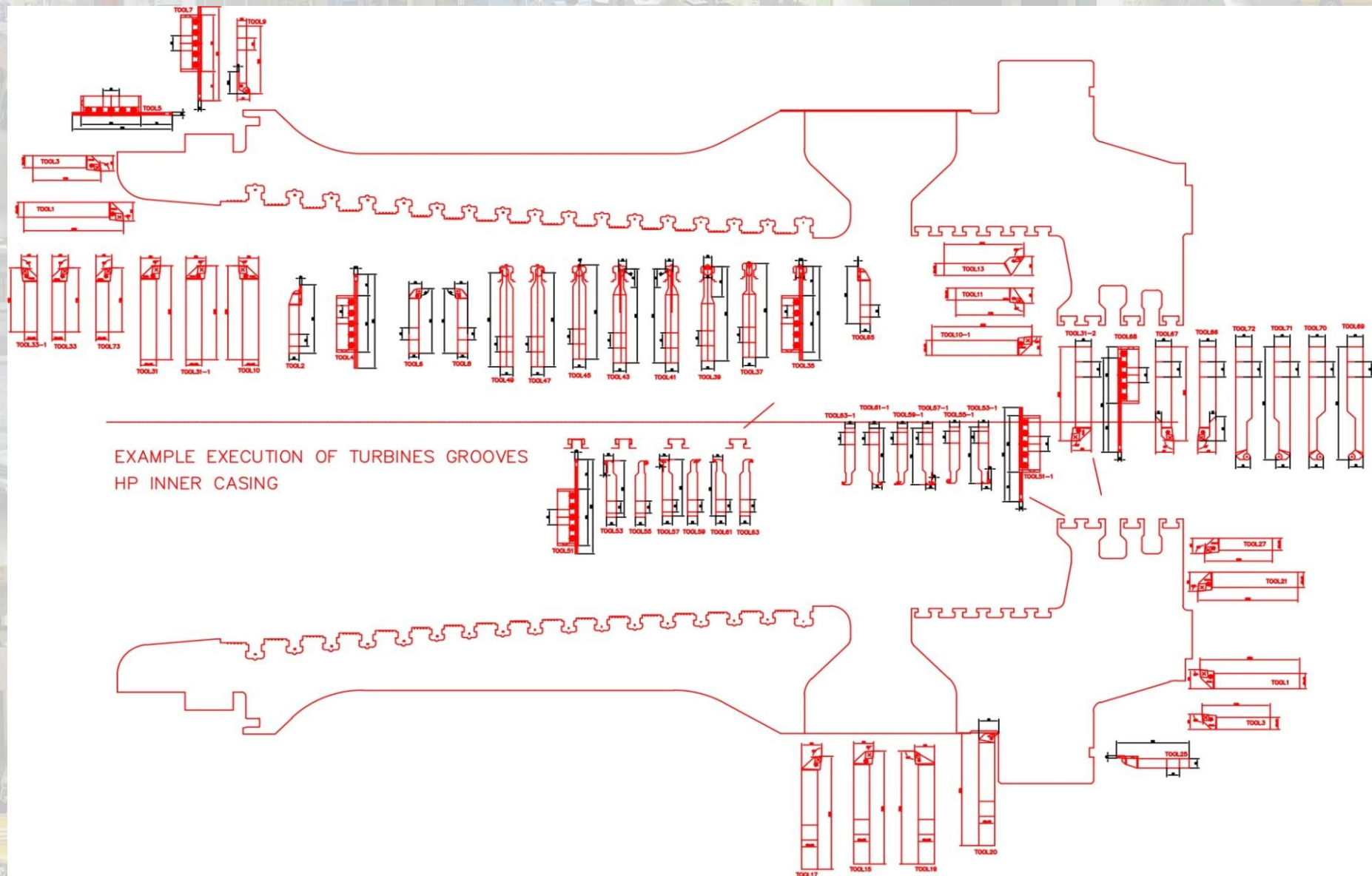
Turbine machinings on our Vertical lathe "TG.40.5500"



Example of turning operations



• Our tooled-up proposals



- Dedicated heads and attachments



- up to....."fixtures & clampings elements" to clamp your components in safety

