



Federal State Company, created in 1975
Start of operation in 1980

Total area: 1.000.000 m²
Constructed area: 95.000 m²

Handling capacity: 600 t



Ministry of Science,
Technology, Innovations
and Communications
(MCTIC)

Brazilian Nuclear Energy
Commission
(CNEN)

NUCLEP

Nuclear Energy Agency Seminary
Rio - March 20, 2018



MINISTÉRIO DA
CIÊNCIA, TECNOLOGIA,
INOVAÇÕES E COMUNICAÇÕES



OUR MISSION

To design, develop, manufacture and market heavy components for nuclear power plants and other projects.



NUCLEP – STRATEGIC LOCATION



NUCLEP – STRATEGIC LOCATION



NUCLEP – STRATEGIC LOCATION



NUCLEP – STRATEGIC LOCATION

PRIVATE MARITIME TERMINAL

Distance from NUCLEP: 3 km

Cargo capacity: 10 tf / m²

Type: ROLL-ON ROLL-OFF (Ro-Ro)



NUCLEP – STRATEGIC LOCATION

PRIVATE MARITIME TERMINAL



QUALITY CERTIFICATES

ASME III – Nuclear Components | Stamps: NA, NPT and NS

 **CERTIFICATE OF AUTHORIZATION**

The named company is authorized by the American Society of Mechanical Engineers (ASME) for the scope of activity shown below in accordance with the applicable rules of the ASME Boiler and Pressure Vessel Code. The use of the certification mark and the authority granted by this Certificate of Authorization are subject to the provisions of the agreement set forth in the application. Any construction stamped with this certification mark shall have been built strictly in accordance with the provisions of the ASME Boiler and Pressure Vessel Code.

COMPANY:
Nuclebrás Equipamentos Pesados S.A. - NUCLEP
Avenida General Euclides de Oliveira Figueiredo, 200
Itaguaí, Rio de Janeiro 23825-410
Brazil

SCOPE:
Class 1, 2 & 3 shop assembly at the above location only

AUTHORIZED: September 18, 2015
EXPIRES: June 24, 2018
CERTIFICATE NUMBER: N-3349


Richard Rotterson
Board Chair, Conformity Assessment


Joseph Lencina
Director, Conformity Assessment



The American Society of Mechanical Engineers

 **CERTIFICATE OF AUTHORIZATION**

The named company is authorized by the American Society of Mechanical Engineers (ASME) for the scope of activity shown below in accordance with the applicable rules of the ASME Boiler and Pressure Vessel Code. The use of the certification mark and the authority granted by this Certificate of Authorization are subject to the provisions of the agreement set forth in the application. Any construction stamped with this certification mark shall have been built strictly in accordance with the provisions of the ASME Boiler and Pressure Vessel Code.

COMPANY:
Nuclebrás Equipamentos Pesados S.A. - NUCLEP
Avenida General Euclides de Oliveira Figueiredo, 200
Itaguaí, Rio de Janeiro 23825-410
Brazil

SCOPE:
Class 1, 2 & 3 fabrication without design responsibility and fabrication without design responsibility for Class 1, 2 & 3 supports (supports limited to the 1998 edition, 1998 addenda, and earlier editions and addenda of the Code) and as a Material Organization supplying ferrous & nonferrous material at the above location only

AUTHORIZED: September 18, 2015
EXPIRES: June 24, 2018
CERTIFICATE NUMBER: N-3350


Richard Rotterson
Board Chair, Conformity Assessment


Joseph Lencina
Director, Conformity Assessment



The American Society of Mechanical Engineers

NS **CERTIFICATE OF AUTHORIZATION**

This certifies the named company as having had the adequacy of their quality assurance program verified for the scope of the activity shown below in accordance with the applicable rules of the Boiler and Pressure Vessel Code of the American Society of Mechanical Engineers (ASME). This certificate does not include authorization to use the ASME certification mark. The certification granted by this certificate is subject to the provisions of the agreement set forth in the application.

COMPANY:
Nuclebrás Equipamentos Pesados S.A. - NUCLEP
Avenida General Euclides de Oliveira Figueiredo, 200
Itaguaí, Rio de Janeiro 23825-410
Brazil

SCOPE:
Class 1, 2 & 3 fabrication without design responsibility for supports at the above location only

AUTHORIZED: September 18, 2015
EXPIRES: June 24, 2018
CERTIFICATE NUMBER: N-3351


Richard Rotterson
Board Chair, Conformity Assessment


Joseph Lencina
Director, Conformity Assessment



The American Society of Mechanical Engineers

NUCLEP – CERTIFICATES

ASME VIII – DIV. 1 & DIV. 2 - Stamps U & U2 Non-nuclear pressure vessels

 **CERTIFICATE OF AUTHORIZATION**

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COMPANY:
Nuclebras Equipamentos Pesados S.A. - NUCLEP
Avenida General Euclides de Oliveira Figueiredo, 200
Itaguaí, RJ 23825-410
Brazil

SCOPE:
Manufacture of pressure vessels at the above location and field sites controlled by the above location (This authorization does not cover impregnated graphite)

AUTHORIZED: July 29, 2013
EXPIRES: September 13, 2016
CERTIFICATE NUMBER: 34,829

Boyan A. Rubin
Vice President, Conformity Assessment

Janet D. W. Johnson
Director, Conformity Assessment

 The American Society of Mechanical Engineers

 **CERTIFICATE OF AUTHORIZATION**

The named company is authorized by the American Society of Mechanical Engineers (ASME) for the scope of activity shown below in accordance with the applicable rules of the ASME Boiler and Pressure Vessel Code. The use of the certification mark and the authority granted by this Certificate of Authorization are subject to the provisions of the agreement set forth in the application. Any construction stamped with this certification mark shall have been built strictly in accordance with the provisions of the ASME Boiler and Pressure Vessel Code.

COMPANY:
Nuclebras Equipamentos Pesados S.A. - NUCLEP
Avenida General Euclides de Oliveira Figueiredo, 200
Itaguaí, RJ 23825-410
Brazil

SCOPE:
Manufacture of pressure vessels at the above location and field sites controlled by the above location

AUTHORIZED: July 29, 2013
EXPIRES: September 13, 2016
CERTIFICATE NUMBER: 34,830

Boyan A. Rubin
Vice President, Conformity Assessment

Janet D. W. Johnson
Director, Conformity Assessment

 The American Society of Mechanical Engineers

NUCLEP – CERTIFICATES

DEFENSE STRATEGIC COMPANY – Issued by Ministry of Defense



NUCLEP – CERTIFICATES

Other certificates



**THE NATIONAL BOARD
OF
BOILER & PRESSURE VESSEL INSPECTORS**

Certificate of Authorization



This is to certify that

NUCLEBRAS EQUIPAMENTOS PESADOS S.A. - NUCLEP
AVENIDA GENERAL EUCLYDES DE
OLIVEIRA FIGUEIREDO, 200/500
ITAGUAI, RIO DE JANEIRO, 23825-410
BRAZIL

*is authorized to use the "R" SYMBOL in accordance with the
provisions of the National Board.*

The scope of Authorization is limited as follows:

**METALLIC REPAIRS AND/OR ALTERATIONS AT THE
ABOVE LOCATION AND EXTENDED FOR FIELD REPAIRS
AND/OR ALTERATIONS CONTROLLED BY THIS LOCATION**

CERTIFICATE NUMBER: R-6564
ISSUE DATE: AUGUST 14, 2013
EXPIRATION DATE: SEPTEMBER 13, 2016

Executive Director 



NU 240 Rev. 4



**THE NATIONAL BOARD
OF
BOILER & PRESSURE VESSEL INSPECTORS**

Certificate of Authorization



This is to certify that

NUCLEBRAS EQUIPAMENTOS PESADOS S.A. - NUCLEP
AVENIDA GENERAL EUCLYDES DE
OLIVEIRA FIGUEIREDO, 200
ITAGUAI, RIO DE JANEIRO, 23825-410
BRAZIL

*is authorized to apply the "NB" mark and register boilers, pressure
vessels, or other pressure retaining items with the National Board in
accordance with its provisions.*

*The scope of Authorization is limited to items manufactured in
accordance with:*

ASME Designator(s): U-2

ISSUE DATE: September 9, 2013
EXPIRATION DATE: September 13, 2016

Executive Director 



NU 127 Rev. 8



**BUREAU VERITAS
Certification**



**NUCLEBRÁS EQUIPAMENTOS PESADOS S.A.
NUCLEP**
Av. 036 - Parques de Oliveira Figueiredo, 200 - Itaguaí, 23825-410 -
Itaguaí, RJ - Brasil

Bureau Veritas Certification certifica que o Sistema de Gestão de
organização acima foi avaliado e encontrado em conformidade com
com os requisitos da Norma desta Rede abaixo.

Norma

ISO 9001:2008

Âmbito de Certificação

**PROJETO, DESENVOLVIMENTO, FABRICAÇÃO, COMERCIALIZAÇÃO E
INSTALAÇÃO DE VASOS DE PRESSÃO, TROCADORES DE CALOR,
TANQUES, REATORES COLONAR, SUBCONJUNTOS DE TUBULAÇÃO E
ESTRUTURAS METÁLICAS PARA TODO TIPO DE INDÚSTRIA, E CARGOS
RESISTENTES PARA APLICAÇÕES SUBMARIAS.**

Data de Emissão do Certificado: 08 de Novembro de 2017
Efeito de renovação automática contínua do Sistema de Gestão da Organização,
este certificado é válido até: 15 de Setembro de 2018
Validade do certificado anterior: 14 de Outubro de 2017
Data da avaliação de re-certificação: 07 de Setembro de 2017
Data de Avaliação Original: 18 de Outubro de 2014

Certificado Nº: BR927048 Versão: 2 Data de Revisão: 05 de Fevereiro de 2018

Lucia Maria Mendes Frenco
Coordenadora de Avaliação de Conformidade
Av. Lamer de Sá, 100 - Torre C - 1º andar -
Rua Guaporé, 1073-110 - São Paulo, SP - Brasil



009_0004

Este certificado só tem validade se o cliente cumprir os requisitos da Norma ISO 9001:2008 e
se o sistema estiver em conformidade com a Organização.

Para mais informações, consulte o site ou o departamento de atendimento ao cliente: 0800 010 1000
ou envie um e-mail para: bvt@bv.com.br



MAIN NUCLEAR COMPONENTS ALREADY PRODUCED



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NUCLEP – MAIN NUCLEAR COMPONENTS ALREADY PRODUCED



REPLACEMENT STEAM GENERATORS FOR ANGRA 1 NPP - ASME III 330 t

(Angra 1, 2008)

NUCLEP – MAIN NUCLEAR COMPONENTS ALREADY PRODUCED

REPLACEMENT STEAM GENERATORS FOR ANGRA I NUCLEAR POWER PLANT
DESIGN: AREVA / MANUFACTURER: NUCLEP



ANGRA 1 NPP:
LIFE EXTENSION: 20 YEARS
POWER INCREASE: 6%

NUCLEP – MAIN NUCLEAR COMPONENTS ALREADY PRODUCED

AUTOCLAVE (INB, 2012)



NUCLEP – MAIN NUCLEAR COMPONENTS ALREADY PRODUCED

CONDENSERS - manufacturing and on site assembly
(Angra 2 NPP, 1988 and Angra 3 NPP, 2018)



NUCLEP – MAIN NUCLEAR COMPONENTS ALREADY PRODUCED

ACCUMULATORS

(Angra 2 NPP, 1984 and Angra 3 NPP, 2018)



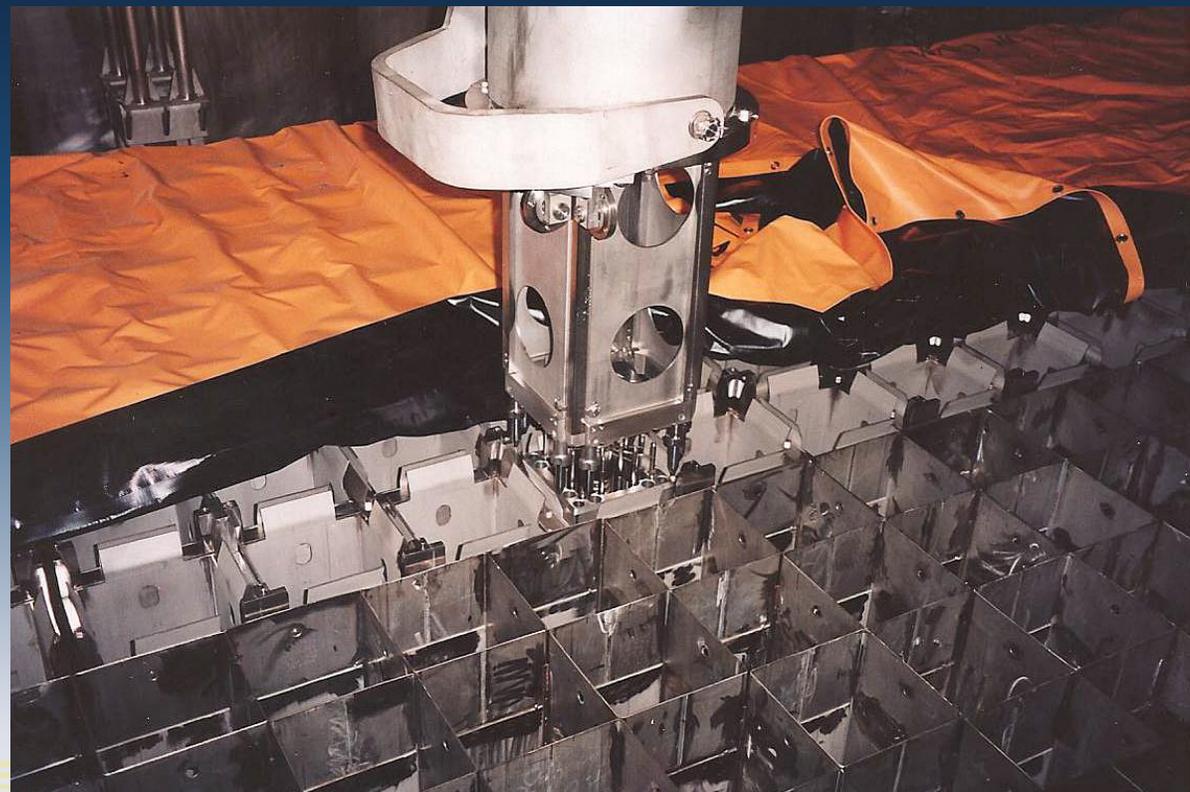
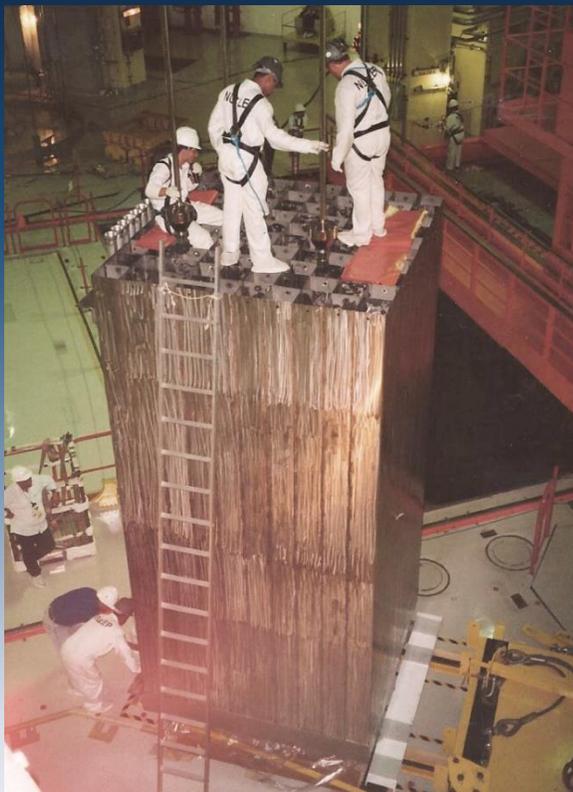
NUCLEP – MAIN NUCLEAR COMPONENTS ALREADY PRODUCED

PRESSURIZER (Angra 3 NPP, 1990)



NUCLEP – MAIN NUCLEAR COMPONENTS ALREADY PRODUCED

SUPER COMPACT STORAGE RACKS (Angra 2 NPP spent fuel storage, 2007)



NUCLEP – MAIN NUCLEAR COMPONENTS ALREADY PRODUCED

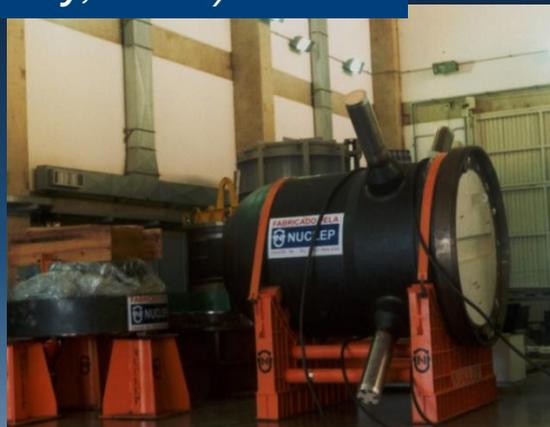


LOWER PART OF ATUCHA II REACTOR PRESSURE VESSEL
(ATUCHA II, 1990) - ARGENTINA

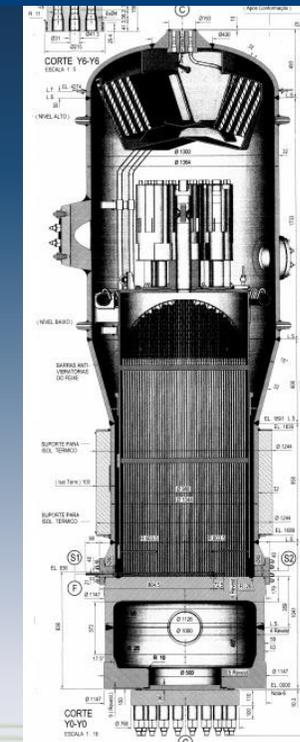


NUCLEP – COMPONENTS FOR NUCLEAR PROPULSION OF SUBMARINES

REACTOR PRESSURE VESSEL (Brazilian Navy, 2003)



STEAM GENERATORS



MAIN DEFENSE INDUSTRY COMPONENTS ALREADY PRODUCED



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NUCLEP – MAIN DEFENSE INDUSTRY COMPONENTS ALREADY PRODUCED

SUBMARINE PRESSURE HULLS (IKL CLASS) *(Brazilian Navy, 1994)*

GERMAN
TECHNOLOGY
HDW



S31-SB TAMOIO

S32-SB TIMBIRA

S33-SB TAPAJÓ

S34-SB TIKUNA

NUCLEP – MAIN DEFENSE INDUSTRY COMPONENTS ALREADY PRODUCED

SUBMARINE PRESSURE HULLS SCORPÈNE CLASS *(Brazilian Navy, 2015)*



FRENCH
TECHNOLOGY
DCNS

4 UNITS



MAIN OIL & GAS COMPONENTS ALREADY PRODUCED



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INOVAÇÕES E COMUNICAÇÕES**



NUCLEP – MAIN OIL & GAS SECTOR COMPONENTS ALREADY PRODUCED

PONTOONS AND COLUMNS FOR SUBMERSIBLE PLATFORMS P-51 AND P-56 (Petrobras, 2005 and 2010)



NUCLEP – MAIN OIL & GAS SECTOR COMPONENTS ALREADY PRODUCED

PROCESS MODULES FOR FPSO (Petrobras, 2013)



NUCLEP – MAIN OIL & GAS SECTOR COMPONENTS ALREADY PRODUCED

PROCESS MODULES FOR FPSO (SBM - The Netherlands, 2011)



NUCLEP – SOME EXAMPLES OF OTHER EQUIPMENT ALREADY PRODUCED

HYDROPOWER PRE-DISTRIBUTORS
(IMPSA – Argentina, 2010)



HYPERBARIC CHAMBER
(Petrobras - CENPES, 2001)

Simulates a pressure of 3.000 m of water column



MAIN FACILITIES AND MACHINES



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NUCLEP – MAIN FACILITIES AND MACHINES

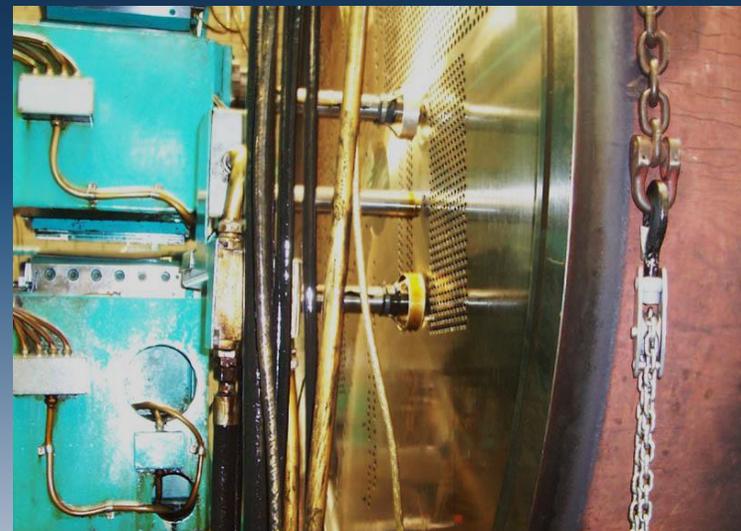
HEAT TREATMENT FURNACE

Automatic control
Temperature: 750 °C
Accuracy: ± 10 °C
Width: 10.000 mm
Height: 10.000 mm
Length: 16.000 mm
Trolley width: 8.000 mm
Load on trolley: 600 t



NUCLEP – MAIN FACILITIES AND MACHINES

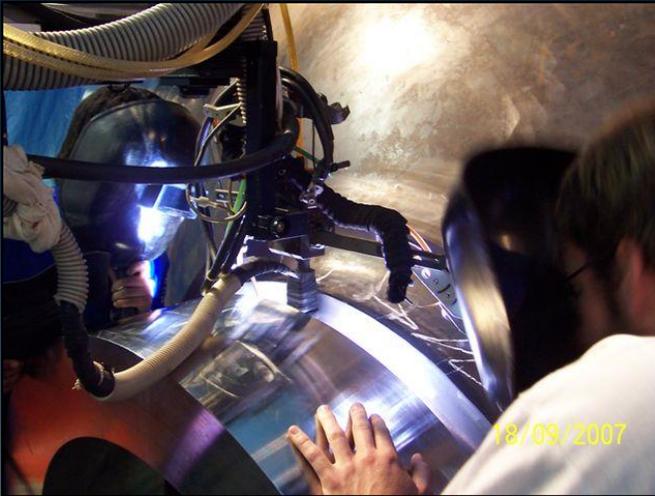
HIGH PRECISION DEEP DRILLING MACHINE



Vertical displacement: 3.000 mm
Horizontal displacement: 5.000 mm
Depth : 1.100 mm

NUCLEP – MAIN FACILITIES AND MACHINES

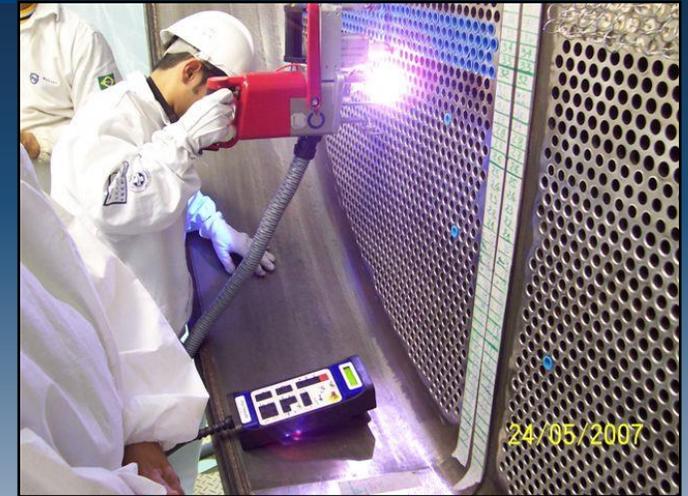
WELDING TECHNOLOGY



Automatic TIG
Hot Wire Technique



Submerged Arc Welding
(SAW)
Narrow Gap Technique



Orbital TIG

NUCLEP – MAIN FACILITIES AND MACHINES

BENDING AND ROLLING MACHINE



Top roll pressure: 55.000 t

Bending capacity:

cold work: # 150 mm (thickness) x 4 m (width)

hot work: # 300 mm (thickness) x 4 m (width)



NUCLEP – MAIN FACILITIES AND MACHINES

CLEAN CONDITION ROOM



Area: 1.800 m² / Class: 100.000 ppm / Certified by ISO 14644-1:2015 Class: 8

NUCLEP – MAIN FACILITIES AND MACHINES

VERTICAL LATHE



Maximum Machining diameter = 16.000 mm
Diameter of the plate = Ø 7.500 mm
Load on the plate = 500 t
Working height = 10.500 mm

NUCLEP – MAIN FACILITIES AND MACHINES

MILLING AND BORING MACHINE

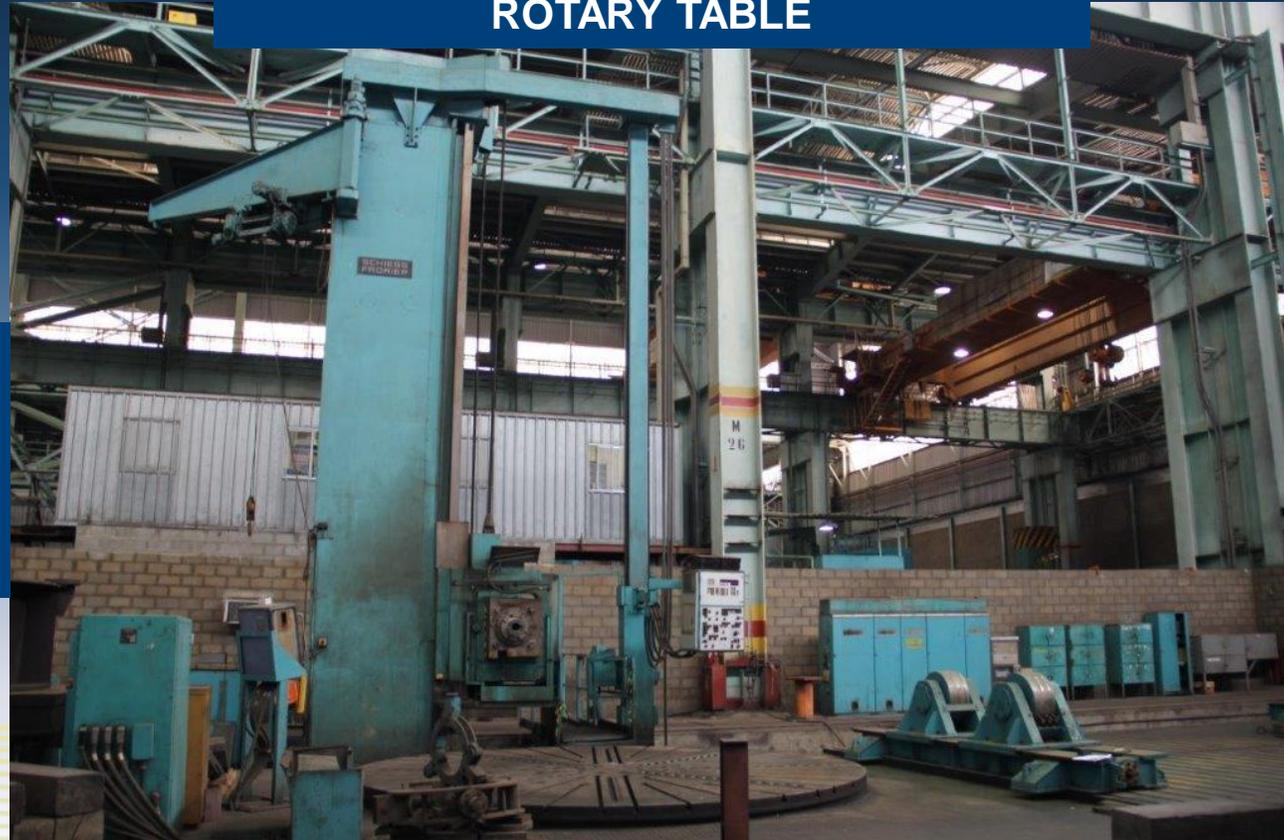


Vertical displacement = 6.000 m
Horizontal displacement = 18.000 mm
W axial depth displacement = 1.600 mm
Z axial depth displacement = 1.400 mm

NUCLEP – MAIN FACILITIES AND MACHINES

MILLING AND BORING MACHINE WITH ROTARY TABLE

Vertical displacement = 6.000 mm
Horizontal displacement = 26.000 mm
W axial depth displacement = 1.600 mm
Z axial depth displacement = 1.250 mm
Rotary table = 5.000 mm



NUCLEP – MAIN FACILITIES AND MACHINES

HYDRAULIC PRESS



Capacity = 1.000 t

NUCLEP – CUSTOMERS AND PARTNERS



CTMSP
Centro Tecnológico da Marinha em São Paulo
MARINHA do BRASIL



IMPESA



ALSTOM

TenarisConfab



SIEMENS



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CIÊNCIA, TECNOLOGIA,
INOVAÇÕES E COMUNICAÇÕES





OBRIGADO! THANK YOU!

diretoria.comercial@nuclep.gov.br

www.nuclep.gov.br



MINISTÉRIO DA
**Ciência, Tecnologia,
Inovações e Comunicações**

