



Ex Image Presentation

Ex Image Presentation Rev. 08 | N. Palamut



A Phoenix Mecano Company

ROSE Systemtechnik GmbH

Germany Porta Westfalica

- Established in 1969
- Staff: 325
- Sales 2015: 67 M €
- Production area: 8.900m²



1. *Journal of Management Studies*, 1996, 33, 1, 1-14.

Phoenix Mecano AG, Suisse

- Sales 2015: 560 M €
- Number of employees: 5.911
- Worldwide representation with own subsidiaries
- Operations and sales companies
- Manufacturer of enclosures, electro-mechanical components





Hazardous Area Enclosures

Ex Equipment

- Ex e and Ex i enclosures
- Ex d IIB & IIC enclosures
- Ex e d control stations
- Ex components



Environment

Unrestricted use

Operating under arctic conditions
up to temperatures of -55°C



In environments where
aggressive chemicals
are found



Operating under tropical
conditions up to temperatures of
 $+90^{\circ}\text{C}$



Junction Boxes

Material



Stainless Steel 316 L



Glass fibre reinforced
duroplast polyester



Aluminium



Junction Boxes

Stainless Steel Ex Enclosure

Explosion protection:

Ex II 2G Ex e (ia) Gb

Ex II 2D tb IIIC Db

Temperature classes:

T6 (-20 ° to + 40°C)

T5 (-20° to + 55°C)

T4 (-20° to + 90°C)

up to -55°C on request

Material:

Stainless Steel 316 L

Approvals:

ATEX, IEC Ex, INMETRO, UL,

EAC(Russia, Belarus and Kazakhstan),...

Sizes :

from 100x100x61 up to 980x740x205mm

customized size possible (minimum lot 20 pcs.)



Junction Boxes

Polyester Ex Enclosure

Explosion protection:

Ex II 2G Ex e (ia) Gb

Ex II 2D tb IIIC Db

Temperature classes:

T6 (-20 ° to + 40°C)

T5 (-20° to + 55°C)

T4 (-20° to + 90°C)

up to -55°C on request

Material:

glass fibre reinforced plastic

Approvals:

ATEX, IEC Ex, INMETRO, UL,
EAC(Russia, Belarus and Kazakhstan),...

Sizes :

75x80x65 up to 600x405x252mm



Junction Boxes

Aluminium Ex Enclosure

Explosion protection:

Ex II 2G Ex e (ia) Gb

Ex II 2D tb IIIC Db

Temperature classes:

T6 (-20 ° to + 40°C)

T5 (-20° to + 55°C)

T4 (-20° to + 90°C)

up to -55°C on request

Material:

aluminium die cast DIN EN 1706 EN AC-ALSi 12 (Fe)

Approvals:

ATEX, IEC Ex, INMETRO,

EAC(Russia, Belarus and Kazakhstan),...

Sizes :

64x58x34 up to 600x600x202mm

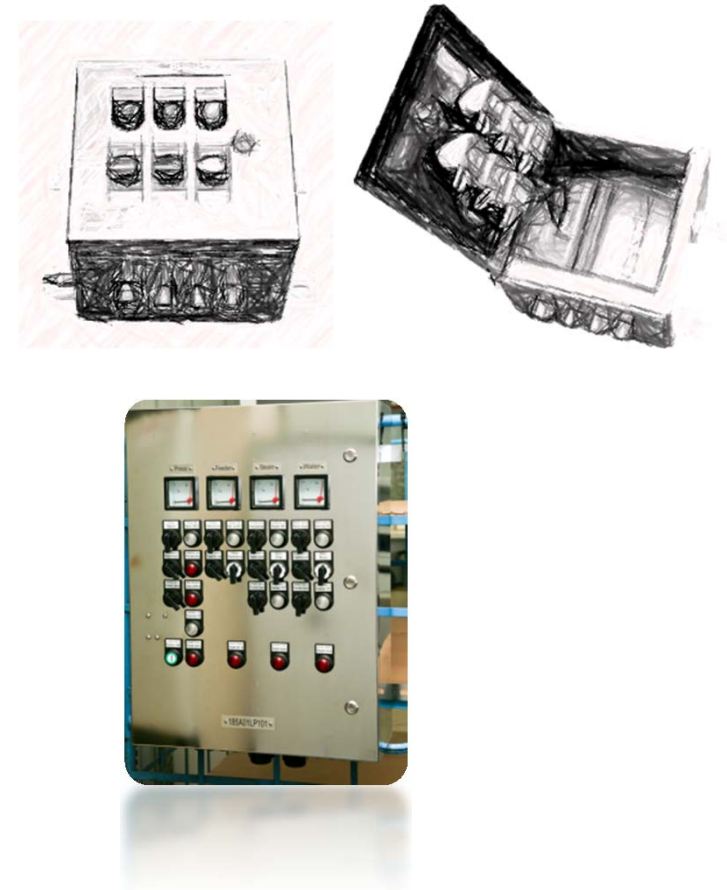


Ex ed Control Stations and LP

- Control station with Ex-e enclosure, Ex-d switches and Ex-m warning lights
- Designed specifically for application needs
- Engineered and machined
- Switches, push buttons, lamps etc.
- Enclosure materials:
Stainless steel 316L, GRP and aluminium
- Available from standard sizes

Application areas:

Offshore, onshore, petrochemical, marine



Ex d Enclosures

Flame proof Ex d

Explosion protection:

Ex II 2G Ex d (ia) Gb

Ex II 2D tb IIIC Db

Temperature classes:

T6/T5/T4/T3

up to -55°C on request

Material:

Aluminium(Cu <0.1%) and Stainless Steel 316L

Approvals:

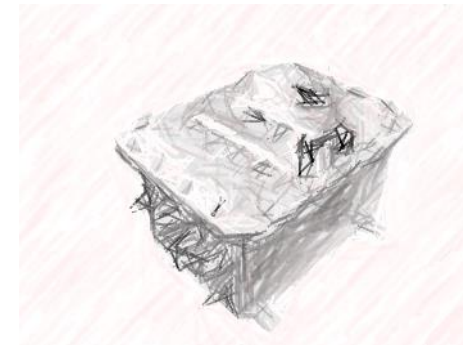
ATEX, IEC Ex, INMETRO,

EAC(Russia, Belarus and Kazakhstan),...

General:

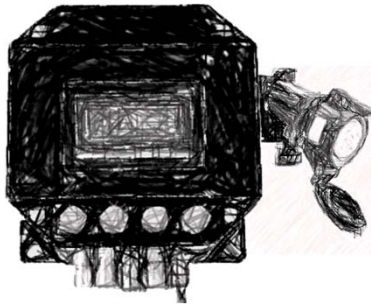
Ideal for Offshore, Onshore, petrochemical and marine applications

IP 66 Standard protection class



Customized solution

- Cable Glands and accessoires
- Plug & Socket solutions
- Ex Signal Units
- Control Equipment





Hazardous Area Applications

Esterer

Original version

- 4 different items
- time consuming assemblies on mounting plate
- separate protection of e- stop.
- larger space required



ROSE solution

- all functions within one panel
- compact customized standard version
- short delivery time

Esterer

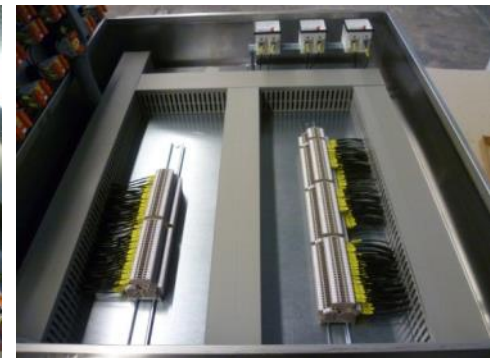
Schorch

Product:	Ex d and Ex e enclosures
Application:	Connection box for electric motors
Request:	Ex stainless steel enclosure with easy connection to moto
Solution:	Customized stainless steel enclosure with cut out in the base



Neuman & Esser

Product:	Ex ed Local Panel
Application:	Compressor control unit
Request:	customized stainless steel enclosure to place all required control elements including complete wiring and to provide factory acceptance test– FAT



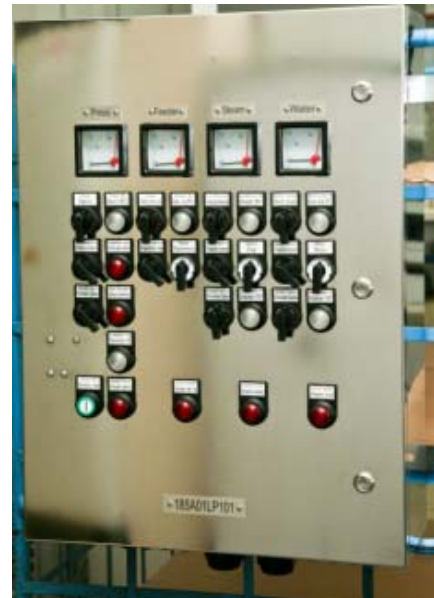
Tüpras Refinery in Kirikkale

Customer: AST Turkey
Product: Ex Stainless Steel Enclosure 316L
Application: Plug & Socket Cabinet



GEA

Customer: GEA Ettlingen
Product: Stainless Steel Local Panel
Project: Koronagro / Ukraine Bioethanol plant





Phoenix Mecano Operations



A Phoenix Mecano Company

ROSE Systemtechnik GmbH

Germany

- Established in 1969
- Staff: 353
- Sales 2014: 78 M €

Locations:

- Porta Westfalica (HQ & prod.)
- Finow (production site)

Operations:

- Custom made / bespoke enclosures
- CNC machining
- Powder coating
- Ex project department
- System technology, design & development



ROSE Systemtechnik GmbH

Production

- 2 and 3 shift operation
- 25 CNC machining centres (Chiron, Gildemeister, Datron)
- Automatic programming of machining
- Foaming of PU- gaskets (2 component foam)



Surface Treatment

- Chemical pre-treatment
- Coating (wet paint and powder paint facility)
- 25 employees
- State of art powder coating facility (over 200 colours available)
- Silk screen printing

ROSE Systemtechnik GmbH

Customer specific assembly

- Keypads
- Assembly of displays
- Wiring of Ex and non Ex Local Panels
- Adhesion of windows and keypads
- Assembly of Ex d products



Automated Warehouse

- Automated storage of small components e.g. terminals, cable glands, mounting plates ...
- Allocation of the components for the assembly- dept.
- dynamic space saving system
- 5.500 containers with up to 8 single modules
- 9.500 different articles

ROSE Systemtechnik GmbH

IP Rating Chamber



IP Test



IP X7 Test



Test Chamber- Dust Protection



Climate Test Chamber



Corrosion Test Chamber



Phoenix Mecano Kecskemét Hungary

- Established in 1993
- Staff: 900
- Production area: 2.665 m²
(Rose; total 32.000 m²)

Operations:

- Custom/ bespoke enclosures
- CNC machining
- Moulding
- Surface treatment
- Ex projects



Phoenix Mecano Singapore

- Staff: 42

Operations

- Manufacturing of specific product lines
- Milling and turning facilities plus assembly
- Manufacturing of special projects
- Ex-projects



Mecano Components (Shanghai)

- Staff: 202

Operations:

- Manufacturing of specific product lines for China market only
- Mechanical machining and assembly
- Ex-projects



Phoenix Mecano India

- Staff: 330

Wholly owned subsidiary of Phoenix Mecano AG

PM Group's total investment in PM India: 11 Mio Euro

Constructed area : 14.500 m²



Location:

- Dist. Pune, Village Bhare, Taluka Mulshi

Operations:

- Custom / bespoke enclosures
- Moulding
- CNC machining, Powder coating
- Ex projects



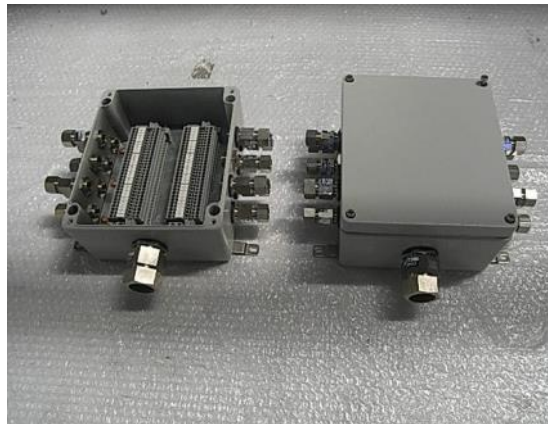
Phoenix Mecano India

Global Production site for ROSE enclosures made of

- Aluminum
- Polyester or GRP
- Stainless Steel



Standard Enclosures



Customized



Special

Phoenix Mecano India

Infrastructure

- Projectmanagement
- Aluminum die-casting
- Surface preparation
- Powder Coating



Assembly

- Possible to run series & batch production
- Trained work force for right quality (ATEX approved)
- Streamlined & controlled process

Quality Management

- Confirms to all requirement of ISO 9001 : 2008
- ATEX / IECEx approved production plant
- In – house spectrometer to check chemical composition of alloy



Phoenix Mecano India



Customer: Pentair (former Tyco)

Product:

- Value added Polyester enclosures with custom made mounting arrangement and terminal used in Heat tracing cable application
- Annual Demand: 140,000 pcs
- Shipped to 3 different customer sites around the world



Phoenix Mecano India

Customer: Siemens

Product:

- Customized aluminum pressure die cast enclosure
- Annual Demand: 100,000 pcs delivered to various plants across Siemens

The Siemens logo, consisting of the word "SIEMENS" in a bold, blue, sans-serif font with a slight shadow effect.

Phoenix Mecano India

Customer: Chevron Australia (Gorgon project)

Product:

- Value added Polyester enclosures with custom made continuity plates, terminals and blind-plugs
- Annual Demand: 5,000 pcs



Phoenix Mecano

Further manufacturing and design companies

- Phoenix Mecano Romania
161 staff



- ROSE Middle East
3 staff



PHOENIX MECANO

- Phoenix Mecano Belgium
20 staff



- Native Tyumen Russia
15 staff

- Phoenix Mecano Inc. USA
196 staff

- Phoenix Mecano Brazil
15 staff

- PM Komponenten Netherlands
20 staff

- Phoenix Mecano Australia
16 staff



Approvals



A Phoenix Mecano Company

Approvals

- in accordance to the European ATEX standards EN 60079, IECEx 60079
- EAC(Russia, Belarus and Kazakhstan)
- UL- Ex approval for US market NEC505 (Ex e – increased safety)
- INMETRO (Brazil)
- CCOE / PESI for India
- IA(explolabs) South Africa



- ISO 9001:2008
- Quality Assurance Notification as Ex production facility for all ROSE and Phoenix Mecano operations



Oil and Gas Project Business

ROSE Vendor Listing

Achilles FPAL

Achilles JQS

Achilles REPRO

ADNOC

AGIP KCO

Aibel

Aker Solutions

BW Offshore

ENAGAS

Foster Wheeler (Italy)

Gasco

GAZPROM

Intertek – Saso

KNPC

KOC

Linde

PDO

Petrobras

Qatar Petroleum

REPSOL

Sabir

Saipem

Sakhalin Energy

Saudi Aramco

Saudi Electricity

Shell

Sonatrach

Takreer

Total

and many others



Snamprogetti



Global Oil and Gas

Owners international

Company

Shell

Total

Exxon

ENI

Saudi Aramco

Chevron

AGIP KCO

Sonatrach

Project

Pearl GTL / Qatar

Leuna / Germany

Singapore Parallel Train / Singapore

Blacktip / Australia

Wasit / Saudi Arabia

Gorgon / Australia

Kashagan / Kazakhstan

Skikda / Algeria



EXXON



Global Oil and Gas Owners national



Company

Gazprom

KNPC

KOC

Surgutneftegaz

ROSNEFT

Petrobras

PDO

Petronas

Project

Tangage overfill protection / Kuwait

Security systems refinery / Kuwait

Kirsihi / Siberia

Qibschewski Refinery / Russia

P58 + P62 / Brazil

Marmul / Oman

Kumang / Malaysia

Global Oil and Gas EPCs

<u>Company</u>	<u>Project</u>
Technip	Bongkot / Thailand
Fluor	JBOG / Qatar
KBR	Gorgon / Australia
JGC	Donjji / Japan
CB&I	Kirishi / Siberia
Tecnicas Reunidas	Khabarovsk / Russia
Saipem	APLNG / Australia
Petrofac	Karachaganak / Kazakhstan



Uhde – Germany

Client	Project	Product
Wallraff/Uhde	Urea Revam EFC I+II	Poly Industry
Wallraff/Uhde	Eagrium	Poly Industry
Uhde	Eagrium	Poly Ex e, Ex i
Wallraff/Uhde	Sorfert	Poly Industry
Wallraff/Uhde	Sluiskil	Poly Industry
Uhde	EPPC	Poly Ex e, Ex i
Uhde	CUF/Portugal	Poly Ex e, Ex i
Uhde	Mopco	Poly Ex e, Ex i
Uhde	Helwan	Poly Ex e, Ex i
Uhde	Ammonia Urea Plant Suez II	Poly Ex e, Ex i
Uhde	Ammonia Urea Plant Suez II	Poly Ex e, Ex i
Uhde	VC-Zeus	Poly Ex e, Ex i



ThyssenKrupp Uhde

Saudi Aramco, Saudi Arabia

Business: Oil and Gas

Application: Junction Box and Fieldbus enclosures

Project: Wasit

EPC: SK E&C

Product: Customized Ex stainless steel enclosure



أرامكو السعودية
Saudi Aramco



GASCO, UAE



Business: Oil and Gas

Application: Junction Box

Project: HABSHAN / DCS (Direct Current Supply Systems)

EPC: Hyundai Heavy Industries

Product: Ex GRP enclosure



Technip / Abu Dhabi

Business: Refinery

Application: Junction Boxes

Project: Total Yemen LNG refinery

EPC: Technip

Product: Stainless Steel Protex Enclosures



Chevron / Australia

Business: Oil & Gas

Application: Junction Boxes

Project: GORGON

EPC: KBR/UK

Product: Ex GRP enclosures



Samsung / Korea



Business: Oil & Gas

Application: Junction Boxes
Local Control Panels

Project: Skikda refinery Sonatrach (Alg.)

EPC: Samsung / Korea

Product: Ex GRP enclosures

Technip / France

Business: Refinery

Application: Junction Boxes

Project: Refinery De Donge / France

EPC: Technip

Product: Aluminium Enclosures



Khabarovsk / Russia



Business:	Oil & Gas
Application:	Junction Boxes Local Control Panels
Project:	Khabarovsk Russia
EPC:	Biffi / Italy Tecnicas Reunidas Thermon / France
Product:	Ex Stainless Steel and GRP enclosures

Kirishi Hydrocracker Complex / Surgut, Russia

Business: Oil & Gas

Application: Junction Boxes
Local Control Panels

Project: Kirishi Hydrocracker complex

EPC: CBI

Product: Ex e and Ex d Stainless steel enclosures



Kashagan / Kazakhstan



Business:	Oil & Gas
Application:	Junction Boxes Local Control Panels
Project:	Kashagan Oil- and Gas extraction
EPC:	AGIP
Product:	Ex Stainless steel enclosures



Shell Pearl GTL

Purchaser	Country
Allweiler	Germany
CB&I	Netherlands
Cegelec	France
Cryostar	France
Sundyne	France
JGC	Japan
Linde	Germany
MAN	Germany
Mc Dermott	Middle East / UK
MW Kellog	UK
Donaldson	Belgium
SAIPEM	Italy / France

Business:

Oil & Gas

Application:

Junction Boxes and Fieldbus enclosures

Project:

Shell Pearl GTL Qatar

EPC:

MW Kellogg / JGC / several

Product:

Ex e and Ex i enclosures



Advantages ROSE

Medium sized company: Quick, reliable, flexible

Excellent delivery performance

Operations worldwide: Flexibility, competitive pricing

Integration of all production facilities in Rose QM-system

Availability of all necessary certificates/approvals: ISO 9001, ATEX, IECEx, UL, CSA, EAC(GOST), INMETRO, CCOE

Integrated IT-systems

Service, warehouses, logistics worldwide

- <http://www.rose-pw.de>





Thank you for your attention.



A Phoenix Mecano Company