



پایدار پارتو سپهر

سازنده تابلوهای برق

LV , MV

Knowledge & Validity

Constant Creativity

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PPS

PAYDAR PARTO SEPEHR was born in 2016, when its CEO and founders after a great experience in electro-mechanical assembly of Low and Medium Voltage switchgears and systems, for Iranian leader companies electrical, starts in Karaj, his activity of Design, assembly, wiring and construction of switchgears and plants.

Switchgear Factory

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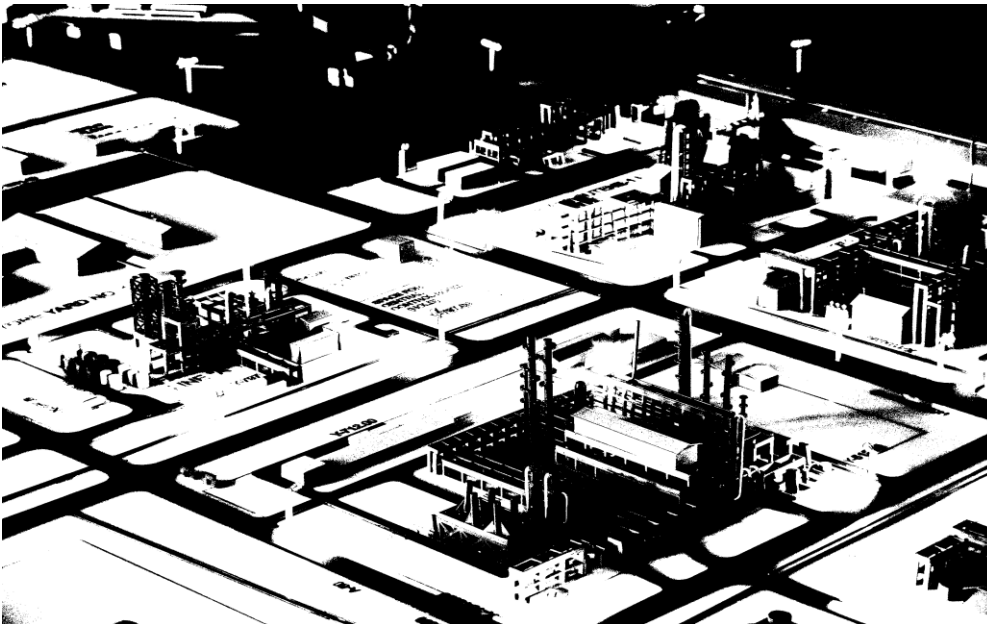
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About Switchgear Factory



PAYDAR PARTO to continue the constant development of the company and in order to enlarge the company potentiality, in 2017, PAYDAR PARTO increases his staff with technicians and Project manager coming from Iranian leader companies and specialized in switchgears and in energy sector. PAYDAR PARTO is specialized in development, project, construction and installation of switch- boards. It gives lots of attentions to quality, reliability and design of products. The intervention on existing switchgears or on its components is part of the activity as well, PADAR PARTO take care of finding the better solution to answer customers' needs in the following sectors:

- ✓ Industry consists of industrial structures, steelworks, cement factory, desalinization and metallurgical systems etc...
- ✓ Power & Energy includes grids, alternative energy, etc...
- ✓ Sewerage & Water Pumping System
- ✓ Oil & Gas consists of refinery, extraction and distribution of hydrocarbons etc...
- ✓ Infrastructure includes the tertiary, malls, subways, airports, telecommunications etc...



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- ✓ Medium Voltage Switchgear (Withdrawable and FIX up to 36KV/4000A)
- ✓ Low Voltage Switchgear (Withdrawable and FIX) MNS3.0 and Sivacon type up to 7000A Power center, Distribution, MCC
- ✓ Low Voltage Switchgear FIX Rittal type
- ✓ Control and Automation panel
- ✓ Power Factor Correction (CAPACITOR BANK)
- ✓ Compact Substations

- تابلوهای فشار متوسط فیکس و کشویی تا ۴۰۰۰ آمپر ۳۶ کیلوولت
- تابلوهای فشار ضعیف فیکس و کشویی طرح ABB و سیواکن SIEMENS تا ۷۴۰۰ آمپر
- تابلوهای فشار ضعیف فیکس طرح Rittal
- تابلوهای کنترل و اتوماسیون
- تابلوهای اصلاح ضریب توان (بانک خازنی)
- پست کمپکت

Engineering / Project management



In purpose of giving suitable and innovative answer to the requests of the market, PAYDAR PARTO management and technical staff gives significant resources to the design and development branch. This staff consists of qualified personnel with a large experience in plant design and electromechanical field.

The technical office, further than the progression of single order, is constantly focused on the research of technical and economic solutions to respond to all the customer's requests.

In addition, the technical office supports the sales office to suggest specific and functional solution for each offer.

A core role is played by the recurrent training. PAYDAR PARTO staff is constantly updated with professional course about project management, productive process control and recent IT support.

The company offers a complete and qualified consultancy service giving also a technical support for any kind of request (the staff support the customer from the starting phases of project study).

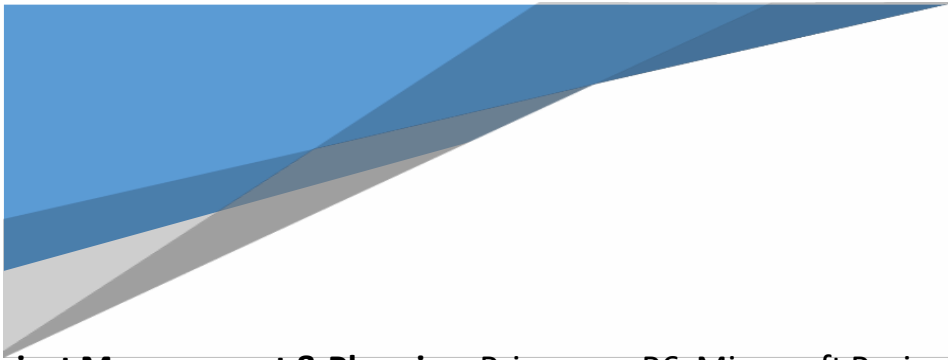
About engineering contracts, PAYDAR PARTO has the skills for the following activities:

- Study, analysis and development of technical specifications and verification of compliance with in force laws.
- Development of mechanical drawings related to the switchgears and electric wiring supplied.
- Development of wiring diagrams.
- Analysis of systems of protection and implementation of coordination studies (selectivity and calibration tables).
- Writing of manuals necessary for the use and maintenance of the equipment supplied.



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Software



Project Management & Planning: Primavera P6, Microsoft Project

Electrical: Auto cad (2010) , SIMARIS SIVACON 6.2, EPD unit design , E-Plan (control circuit diagram)

Mechanical: Solid works (2010) , Auto cad (2019) , CNC CAD/CAM Software, SIMARIS SIVACON 6.2

Furthermore, NPE enlarged its research and development department. This Dept. has to develop new products to expand the range following the market demand.



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	mtx flex
	1250/30-1300
	1250/30-2250
	1250/30-2500
Max. punching force (kN)	300
Y axis with Multitool/Monopunch (mm)	
Y = 1250	1300 / 1250
Y = 1500	-
X axis (mm)	1300 / 2250 / 2500
Automatic repositioning in X (mm)	up to 10.000
Numerically control stroke depth (mm)	from 0.1 to 31
Hydraulic servomotor controlled system	standard
Position accuracy (mm)	+/-0.05
Precision in forming repeatability (mm)	+/-0.1
Bidirectional Autoindex stations	3
Opening of clamps (mm)	11
Automatic positioning clamps	2
Max. hit rate (1/min): Punching with 20 mm pitch	375
Nibbling with 1 mm pitch	1000
Marking	2000
Thickness range (mm)	0.6-6
Max weight at reduced axis speed (kg)	150*
USB port	6
installed power (kW)	8.5
Average consumption (kW/h)	4.5
Approx. weight (kg) X = 1300	6500
X = 2250	7000
X = 2500	7800
Overall dimensions (mm) X = 1300	2240 x 3630
X = 2250	3980 x 3630
X = 2500	4840 x 3630



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Production Facilities

Dener Model DMMH NC 3106, 3120mm x 6mm, Hydraulic Swing Beam Guillotine Shear with Maper NC Back Gauge Control Unit with 100 PCS Program, 1000mm Flip Up Back Gauge, Manual Blade Gap Adjustment, Cutting Length Adjustment, Shadow Line Illumination, Hydraulic Hold Down System, Front Support Arms, (2 x 1m), 1m Scaled Squaring Arm, Front Finger Protection, Rear Protection with Photocells, Foot Pedal Control.



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Production Facilities

Dener DMP Smart CNC 120-30, 120-TON x 3020mm Over Bed Downstroke Hydraulic Syncro CNC Press Brake, Admit 2555mm between Side Frames, Throat Depth: 450mm, Open Height: 540mm, Cybelec DNC60 3-Axis Control (X,Y1,Y2), (2) Pieces Back Gauge Fingers, Euro type Upper Tool Clamping, Segmented Euro type Top Tool, Euro type 4-Way Segmented Die Block, Bottom Die Holder, Aluminium Moveable Fron Support, Machine Mounted Operator Light Protection, Side Fences, Rear Protection Photocells, Foot Pedal with Emergency Stop



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Painting Unit

- immersion in a five-stage washing system
- powder electrostatic paint spray system
- Tunnel Ovens



Test Equipment

Routine Tests Facilities

Insulation Test :

Voltage test by 250/5000 VDC on L.V. switchgears with adjustable time (1s - up to 30 min) and printable report by 5000/75000 VDC on M.V. switchgears with adjustable time (MEGER Test)

Power frequency Test :

Withstanding voltage test by 250/5000VAC on L.V. switchgears with - adjustable time (HIPOT Test)

Primary Current injection :

primary current injection up to 4000 A on protection relays and circuit breakers.-

Measuring earth leakage current for electrical equipments up to 25 A.- Electrical and mechanical function test according to IEC standard.-

AC TEST SYSTEMS (170kV)

AC test systems consist of modular transformers units able to be cascaded up to three stages to get higher voltages ranging from 100kV. Our AC test systems can be provided with low or high power ratings. Small AC test systems with low power are mainly suitable to perform dielectric tests. Whereas large systems with high power can be used to carry out additional tests such as high power voltage withstand test.

IMPULSE TEST SYSTEMS (170kV)

Impulse test systems are based on the Marx generator. They provide the standard lightning and switching impulses to test various test objects such as transformers, bushings, cables, insulators, switchgears, etc.

DC TEST SYSTEMS (170kV)

DC test systems are based on voltage multipliers, in which an AC voltage transformer charges HV capacitor with DC voltage through HV diodes and resistors. They provide DC high voltage HVDC facilities, long AC cables, capacitors, etc.



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MV Switchgear

Rated voltage	kV	12	17.5	24
Rated insulation voltage	kV	12	17.5	24
Test voltage at power frequency	kV 1min	28	38	50
Impulse withstand voltage	kV	75	95	125
Rated frequency	Hz	50-60	50-60	50-60
Rated short-time withstand current	kA 1s	...50	...50	...25
Peak current	kA	...125	...125	...63
Rated short-time withstand current	kA 3s	...40	...40	...25
Peak current	kA	...100	...100	...63
Internal arc withstand current	kA 1s kA 0.5s	...40 ...50	...40 ...50	...25 -
Main busbar rated current	A	...4000	...4000	...2500
Rated current of the branch connections	A	630 1250 1600 2000 2500 3150	630 1250 1600 2000 2500 3150	630 1250 1600 2000 2500 -
Rated current of the branch connections with forced ventilation	A	3600 4000	3600 4000	2500 -



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Characteristics of UniSafe type switchgear

- Metal-clad air-insulated switchboard
- Studied for medium voltage distribution
- Factory-tested for installations inside rooms
- Guaranteed arc-proof units
- Compartments segregated by means of metallic partitions openly connected to earth
- Limited use of insulating materials
- Complete with mechanical safety interlocks
- Structure made of pre-galvanized sheet
- Putting into service, maintenance and service operations can be carried out from the front
- Complete set of apparatus: gas and vacuum circuit breakers, contactors and switch disconnectors
- Equipped with conventional instrument transformers or new generation sensors
- Wide range of functional units for any all installation solutions
- Easy-to-assemble modular structure

Sivacon type

it's ideal for:

Main Switchboards
Distribution switchboards
Motor Control Centers (MCC)
Fixed or Fully Withdrawable

-
- Power Factor Correction Centers
- to 7100A UPS Applications

Key Features:

Modular system based on 200mm grid
Smooth powder coated finish
Suitable for extreme climate conditions
High strength, low weight

-
- Design Verified and type tested up
- IP55 is standard



SIMARIS Design & Estimation

The first step in designing a successful distribution or motor control center is planning with simaris .

Basic information

First, enter the information about the customer & project . Then the numbers & sizes of incoming breakers , outgoing Breakers & internal componets .

Cost calculation

The software will now automatically generate a panel .
Cost calculation will tell the exact price for the complete package .

Part List

The system will give you all information about Sivacon Item , as well as electrical items . Our software engineers are constantly updating with new products .

Technical info

Drawing generated in 2D .
Temperature rise calculations & diagrams .



LV Switchgear

Standards and specifications	Type-tested switchgear and control gear assembly (TTA) Testing of response to internal faults (arcing faults)	IEC 60439-1, DIN EN 60439-1 (VDE 0660 part 500) IEC 61641, VDE 0660 part 500, supplement 2	
Creepage distances and clearances	Rated impulse withstand voltage (U _{imp})	8 kV	
	Overvoltage category	III	
	Pollution degree	3	
Rated insulation voltage (UI)		1000 V	
Rated operational voltage (U_e)		up to 690 V	
Rated currents (I_n) Busbars (3-pole and 4-pole)	Main horizontal busbars	Rated current	up to 7400 A
		Rated peak withstand current (I _{pk})	up to 375 kA
		Rated short-time withstand current (I _{sw})	up to 150 kA, 1 s up to 120 kA, 3 s
	Vertical busbars for circuit breakers	Rated current	up to 6300 A
		Rated peak withstand current (I _{pk})	up to 250 kA
		Rated short-time withstand current (I _{sw})	up to 100 kA, 1 s up to 80 kA, 3 s
	Vertical busbars for fixed-mounted design	Rated current	up to 1400 A
		Rated peak withstand current (I _{pk})	up to 163 kA
		Rated short-time withstand current (I _{sw})	up to 65 kA*, 1 s up to 50 kA, 3 s
	Vertical busbars for in-line plug-in design (3N/6)	Rated current	up to 2100 A
		Rated peak withstand current (I _{pk})	up to 110 kA
		Rated short-time withstand current (I _{sw})	up to 50 kA*, 1 s
	Vertical busbars for withdrawable-unit design	Rated current	up to 1200 A
		Rated peak withstand current (I _{pk})	up to 163 kA
		Rated short-time withstand current (I _{sw})	up to 65 kA*, 1 s up to 50 kA, 3 s
Switchgear rated currents	Circuit breakers	up to 6300 A	
	Outgoing feeders	up to 630 A	
Internal separation	Form 1 to Form 4	IEC 60439-1, section 7.7, DIN EN 60439-1	
Surface treatment	Frame parts	galvanized/powder-coated/wet-painted	
	Enclosure	galvanized/powder-coated/wet-painted	
	Doors	galvanized/powder-coated/wet-painted	
Degree of protection	to IEC 60529, EN 60529	IP 30 to IP 54	
Dimensions		Height: 2200, 2600 mm (with busbar top unit)	
		Width: 400, 600, 800, 1000, 1200 mm	
		Width: 600, 800, 1000, 1200 mm	

*Rated conditional short-circuit current I_{cc} up to 100 kA

Sustainable
development

Innovation

Technology

Ecology

Environment

Success



**GREEN
BUSINESS**

Management

Improvement

Growth

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