



**Изолятор из компаунда**

Усовершенствована конструкция сильфонного компенсатора. В настоящее время применяется компенсатор из 8-слойной листовой нержавеющей стали, что допускает ежегодную утечку элегаза (SF6) не более 0,5% в год от общей массы.

Привлекательным для заказчика стало изготовление корпусов КРУЭ, ТТ, ТН из алюминия, и на сегодня ячейка с двойной системой сборных шин на 110 кВ весит 3,5 т, габариты ячеек по ширине составляют в настоящее время 1200 мм, что позволяет применение КРУЭ не только в контейнерном исполнении, но и многократно снижает динамические и статические нагрузки на фундаменты, а соответственно многократно снижает затраты на материалы при строительстве подстанций и доставку КРУЭ к месту монтажа и самого монтажа. Большое внимание научно-техническим отделом завода уделяется изготовлению ячеек с параметрами отключения токов КЗ: на 110 кВ – 50 кА и на 220 кВ – 63 кА и на сегодня в производстве опытные образцы ячеек с такими параметрами. По желанию заказчика КРУЭ производства ЭМЗ также может быть дополнено опцией безопасности эксплуатации обеспечения «видимого разрыва» и изготавливает смотровой «лючок», что способствует КРУЭ быть в одной линейке с мировыми лидерами производства КРУЭ.

Большая потребность применения в России КРУЭ обязывает наш завод шагать в ногу со временем и тем самым обеспечить российский энергетический рынок качественным КРУЭ, комплексом всех услуг, необходимых для его своевременного гарантийного и послегарантийного сервисного обслуживания.

Производить и поставлять не в той комплектации – что производится, как это делают многие «производители», а производить и поставлять, то, что требуется заказчику, при этом выполняется весь комплекс межотраслевых требований к КРУЭ. Россияне начинают понимать, что размещение заказов на российских предприятиях положительно влияет на экономику страны в целом, что способствует не только сохранению технологий и рабочих мест, но и их увеличению.



**Компенсатор**

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The new technologies used by Power Mechanical Plant JSC (Saint-Petersburg) in producing complete switchgears ensure the economic effectiveness of power enterprises of Russia.

Incorporation of rich intellectual, innovation resources into the economic mechanisms is one of the conditions of the development of Russian economy. Russian power engineering also faces this problem that seems to be even more important in the situation of Russia.

High technologies are needed to solve the main tasks of the modern power engineering. In the period of its transformation it is very important to thoroughly analyze, carefully select and introduce in the market the most promising and effective high technologies. One of the main tasks in the process of the power engineering development is to develop and promote the high technologies that can be used in the power generating and power network systems of Russia and be valuable for other branches, including nonspecialized power engineering (oil and gas industries, metallurgy, etc.).

In the near future, due to the transformation of power engineering, it will be required to have modern knowledge of high power technologies to be able to select required equipment and technological workflows, to train power engineering specialists and to solve other tasks. In 2009 Power Mechanical Plant JSC that specializes in the production of switchgears reconsidered some technical and employment aspects of its activity, having taken into consideration the great competition in the energy market. A. V. Glushkov, a specialist in non-standard engineering solutions, has been invited to provide technical consultations and support (open arrangement, performance in a container form, use of switchgears underground, use of gas-insulated lines, etc.). Mr. Glushkov introduces innovations in the process of switchgear cells production, in the bundling and service systems, in the components production system.

A great attention is devoted by the management of the company to the strict conformity to the standard-technical documentation effective in Russia – GOST, Electrical Installations Code, Operational Regulations as well as to attestation of the conformity of the workflow to the branch standards.

A program of training engineering personnel and of setting-up the largest Service Center for Russia and CIS has been worked out. The Board of Directors has approved of the Program of the Company Development till 2020. A lot has been made, and we wish to share the information about the advantages and special features of the switchgears produced in Russia.

We plan to supply the products that can be used in the power engineering and at Russian Railways to our «key clients», such as network companies of United Energy System, branches of Holding MRSK JSC, branches of RusHydro; the warranty period has been extended to 60 months (it cannot be afforded by any other producer of



**КРУЭ-220**

switchgears in the world). Since 1998 we persistently have been improving the technology of producing the insulator, an important component of the switchgear.

The composition has been changed, and now it is made of compound material, which ensures the quality that is higher than that of any European produce. The design of the expansion joint has been improved. Now we use the joint made of eight-ply sheet stainless steel, which allows for the annual insulating gas (SF6) escape of not more than 0,5 percent of the total weight. Production of switchgear cases of aluminum seems to be attractive for customers, and now a cubicle with the double busbar system of 110 kV weights 3,5 tons, the width of a cubicle is 1,200 mm, which makes it possible to use the switchgears not only in a container form; it results in lower dynamic and static load on the basement many times and, hence, in lower cost of the materials for the substation construction and of the transporting a switchgear to the site of assembly as well as lower cost of assembly.

A great attention is paid by the Research Department to the production of cubicles with the short current interruption parameters: 50 kA for 110 kV and 63 kA for 220 kV. Development types of cubicles with such parameters are produced now. At a customer's request the switchgear can be delivered with the operation safety option ensuring a «visible gap». An inspection door is made, which allows the switchgear to stand in a line with the produce of the world leaders in the switchgear manufacture.

The great demand for the switchgear application in Russia makes our plant match in step with time and supply the Russian energy market with switchgears of high quality as well as a set of timely warranty and post-warranty services. Our motto is to produce and deliver what the customer needs, not what we just have to offer, as many other suppliers do. And we observe the inter-branch requirements to switchgears. Russian customers realize now that placing orders with Russian enterprises is beneficial for the country's economy and not only ensures preservation of technologies and jobs but helps increase their number.



**ПС КРУЭ-500**