

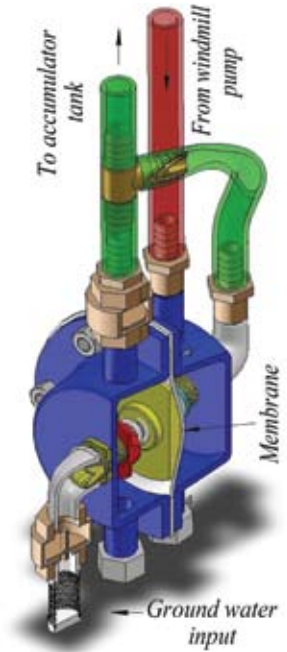
Wind turbine submersible membrane pumps from Russia

The theme of using renewed energy sources for lifting water from wells is developing more and more with time as we are witnessing a rise in the price of hydrocarbon raw materials. The certain renaissance of wind pumping systems confirms it. However modern windmill pumps at high efficiency are expensive. The installation of windmills, bucket rods, and the pump (bomb) in a supply well demands high qualification of the personnel.

The engineering bureau **LEK** (Kalinin-grad, Russia) specializes in designing very simple windmill pumps with small capacity based on a sailing wind turbine (patented) complete with an additional submersible membrane pump (also patented), suitable for personal water supply from wells with depth of 30 m. The basic change of design of the windwheel

has made it possible to refuse from the tail and the traditional mechanism of withdrawal of windwheel from under the wind and also to replace the material of blades from stainless steel or aluminum with pieces of a special textile. The starting speed of wind has been lowered to 1.9 m/s because of special balance. Now the additional submersible pump is connected with the windmill pump by means of two flexible hoses, therefore bucket rods are not necessary. The installation of a windmill pump plant can be carried out by 2 non-professional persons.

Thanks to small productivity there was a possibility to lift water from the exhausted wells. Also the additional submersible pump is easily taken out of a well for repair or replacement. The minimum capacity of the water accumulator amounts to about 15 liters.



Thus the problem of low-yield water supply wells can be eliminated by means of inexpensive sailing windmill pumps. ■

تتخصص شركة LEK الروسية في مجال تصميم مضخات تعمل بطاقة الرياح بواسطة ترابينة هوائية بالإمكان إضافة مضخة غاطسة تعمل بالأغشية إليها وهي مناسبة لتأمين المياه المنزلية من آبار يصل عمقها إلى ٣٠ متراً.

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