VISOKA GOSPODARSKA ŠOLA

DIPLOMSKO DELO

TEHNIČNA POSODOBITEV MEDICINSKIH PLINOV IN KOMPIMIRANEGA ZRAKA ZA NEMOTENO DELOVANJE ODDELKOV BOLNIŠNICE TRBOVLJE

TECHNICAL UPDATE OF MEDICAL GAS AND COMPRESSED AIR PLANT FOR SMOOTH WORK OF DEPARTMENTS ON HOSPITAL TRBOVLJE

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POVZETEK

Diplomska naloga raziskuje moţnost izboljšave obstoječega stanja postrojenja medicinskih plinov z uvedbo sodobnega sistema. Le-to je sestavljeno z ločenimi sistemi na področju uporabe kisika, uporabe dušikovega oksidula, zraka in vakuum sistema. Vsi navedeni plini so nujni pri opravljanju ambulantnih in operativnih dejavnosti ter imajo pomembno vlogo za ohranjanje ţivljenjskih funkcij pacientov.
Pomembna izboljšava postrojenja medicinskih plinov je centralni nadzorni sistem z Can-Bus tehnologijo. Aplikacija je zasnovana tako, da omogoča zbiranje vseh podatkov o plinih na enem mestu in distribucijo podatkov po internetu ali preko mobilne telefonije. Sistem s svojim delovanjem omogoča, da na podlagi opozorilnih sporočil načrtujemo vzdrţevalne posege in jih odpravimo predno postanejo nujni.
Z uvedbo novega sistema tehničnih plinov in komprimiranega zraka se bosta povečala zanesljivost dobave in delovanje tehničnih sistemov. Za nemoteno delovanje se bo vgradil centralni nadzor, ki bo zagotavljal spremljanje delovanja in z alarmi javljal morebitne okvare.

Ključne besede: Medicinski plini, logistika, delovni proces, posodobitev sistema, nadzorni sistem

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ABSTRACT

The thesis explores the possibility of improving the current state of medical gases plant with the introduction of a modern system, which is made from separate systems in the use of oxygen, Nitrous oxide, air and vacuum system. All these gases are essential in the performance of outpatient and operational activities and play an important role in maintaning treating patient's vital functions.
An important improvement of medical gases plant is the central control system with CAN-BUS technology. The application is designed to allow the collection of data on gases in one place and distribution data over the Internet or mobile phone. On the basis of planned maintenance, system's operations enable warning messages and neutralize them before they become urgent.
With the introduction of a new system of industrial gases and compressed air, reliability of supply and operation of technical systems will increase. For smooth functioning, central control will be installed, which will provide monitoring and with the help of alarms, indicate any damage.

Key words: Medical gases, logistics, working process, system modernization, control system