ICHIMLIK SUVGA MAXSUS ISHLOV BERISHNI TAKOMILLASHTIRISH

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Annotatsiya. *Ushbu maqolada ichimlik suvga maxsus ishlov berishni takomillashtirish hamda suvni tiniqlashtirish bo‘yicha qilingan ilmiy yondashuvlar orqali erishishimiz mumkin bo‘lgan yutuqlar haqida yoritilgan.*

Kalit so‘zlar: *loyqa, tozalash usullari, tindirgich, filtrlarninh ishlashi, 2 bosqichli filtrlar.*

СОВЕРШЕНСТВОВАНИЕ СПЕЦИАЛЬНОЙ ОЧИСТКИ ПИТЬЕВОЙ ВОДЫ

Аннотация. *В данной статье представлены научные подходы к совершенствованию спецочистки питьевой воды и осветлению воды о достижениях, которых мы можем достичь.*

Ключевые слова: *мутность, способы очистки, отстойник, работа фильтров, двухступенчатые фильтры.*

IMPROVEMENT OF SPECIAL TREATMENT FOR DRINKING WATER

Abstract. *In this article, scientific approaches to improving the special treatment of drinking water and clarifying water are presented about the achievements we can achieve through*

Keywords: *turbidity, cleaning methods, clarifier, operation of filters, 2-stage filters.*

KIRISH

Suv loyqaligini tiniqlik degan tushuncha orqali ham belgilash mumkin. Suvning loyqaligini o’lchash uchun ma’lum miqdordagi suv qog’oz filtrdan o’tkazilib, 105^0 da quritilganidan keyin tarozida tortilib o’lchanadi, tiniqligini o’lchash uchun suv standart shaklda tayyorlangan shisha silindrga solinadi, silindr tagiga standart bo’yicha yozilgan qalinligi 1 mm lik harflar o’qiladi. Yuqoridan qaralganda shu harflar aniq ko’ringuncha suvni ko’paytirib kamaytirib boriladi. Harflarni suv ostidan o’qish mumkin bo’lgan va millimetrda o’lchangan qalinlik shu suvning tiniqligini bildiradi.

TADQIQOT MATERIALLARI VA METODOLOGIYASI

Suv tozalash usullari va suv tozalash inshootlarining tarkibi hamda o‘lchamlari manbadagi suv sifatiga qo‘yiladigan talab va mahalliy sharoitlariga qarab tanlanadi. Amalda suv tozalash stansiyasi kompleks vazifani (tindirish, zararsizlantirish, yumshatish va h.k.) bajarishni ko‘zda tutadi. Suv tozalash stansiyasining manbaga yaqin joylashtirilishi maqsadga muvofiqdir. Ko‘pincha suv tozalash stansiyalari o‘zi oqar suv harakati tartibiga asoslangan sxema bo‘yicha quriladi. Bunda birinchi nasos stansiyasi tomonidan berilgan suv barcha inshootlar bo‘ylab o‘z oqimi asosida o‘tib toza suv rezervuariga boradi va undan ikkinchi nasos stansiyasi yordamida vodoprovod tarmog‘iga uzatiladi.

Suv sifatini yaxshilash 2 - bosqichda bajarilishi mumkin: “suvni tozalash” va “suvga maxsus ishlov berish” bosqichlari. Suv tozalash deganda manbadagi suvning sifatini O‘zDst950: 2000 “Ichimlik suvi. Gigienik talablar va sifatini nazorat qilish” talablari darajasigacha yetkazish tushuniladi. “Suvga maxsus ishlov berish” deganda suv sifatini maxsus korxonalar talablari darajasigacha yetkazish yoki suvga yangi xossalar berish tushuniladi.

Suv sifatini yaxshilashning asosiy usullari

Suv tozalash inshootlari quyidagi maqsadlarga xizmat qiladi:

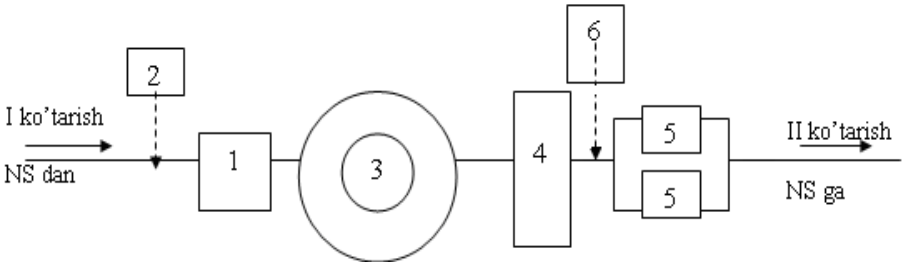
1. Suvni mayda suzib yuruvchi zarrachalardan tozalash (suvni tiniqlashtirish)
2. Suvga rang beruvchi moddalarni yo‘qotish - suvni rangsizlantirish
3. Suv tarkibidagi bakteriyalarni yo‘qotish - suvni zararsizlantirish
4. Suvdagi kalsiy va magniy kationlari miqdorini kamaytirish - suvni yumshatish
5. Suvdagi ortiqcha tuz miqdorini kamaytirish (ichimlik suvda tuz miqdori 1000-mg/l ko‘‘ bo‘lmasligi kerak) - suvni chuchuklashtirish.

Yuqorida keltirilgan tadbirlarning barchasi "suvni tozalash" tushunchasiga kiradi.

Suvni turg‘unlashtirish, talab qilingan ‘H miqdorini ta’minlash, koagulyatsiya jarayonini yaxshilash va shunga o‘xshash tadbirlar esa "suvga maxsus ishlov berish" deyiladi.

TADQIQOT NATIJALARI

Suv tozalash stansiyaning umumiy sxemasi:



1 rasm.Tozalash stansiyani umumiy sxemasi.

1 –aralashtirgich, 2 – reagent xo‘jaligi, 3 – vertical tindirgich 4 – tezkor filtr
5 – toza suv rezervuari, 6 – xlorlash moslamasi

Suvni tiniqlashtirish

Suvdagi suzib yuruvchi zarrachalarning cho,,kishi ancha murakkab jarayondir. Zarrachalarning cho,,kish tezligiga ularning o,,lchami, shakli hamda suvning harakat tartibi, suvning yopishqoqligi, harorat va boshqa omillar ta‘‘sir etadi. Loyqa suvda zarrachalar turli o,,lchamda bo,,lishi (polidispers sistema) mumkin. Suvga koagulyant (reagent) qushilganda zarrachalarning tuzulishini va o,,lchamlarini o,,zgartirib cho,,kishini tezlashtirishga erishiladi. Tindirgichlar o,,lchamlarini aniqlashga ta‘‘sir etadigan asosiy omil zarrachalarning cho,,kish tezligidir. Tinch holatdagi, t 10 C haroratli suvda zarrachalarning cho,,kish tezligi – zarrachalarning gidravlik yirikligi deyiladi. Suzib yuruvchi zarrachalarning cho,,kish tezligi quyidagi 1- jadvalda keltirilgan.

MUHOKAMA

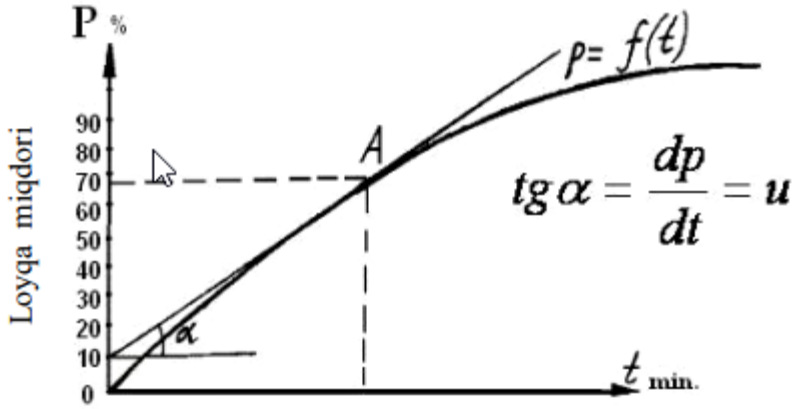
1-jadval. **Suzib yuruvchi zarrachalarning cho‘kish tezligi**

Zarrachalar nomi	Gidravlik yirikligi mm/s	1.0 m chuqurlikka cho‘kish vaqti
1. yirik zarrali qum, d = (0,5-1)mm	100	10 s
2. o‘rta zarrali qum, d = (0.25-0,5)mm	53	19 s
3. mayin qum, d = (0.1-0.25)mm	6,9	2.4 min
4. yirik loy zarrasi	1,7	9.8 min
5. o‘rta zarrali loy	0,07	3.9 soat
6. kichik zarrali loy	0,08	2.3 sutka
7. mayin loy zarrasi	0,0007	16.2 sutka
8. kolloid zarrachalar	0,000007	367 sutka

Suvni tindirish ikki yoki bir necha bosqichli tartib bo„yicha amalga oshirilishi mumkin. Odatda suvni sun‘‘iy tindirish 3 - bosqichda amalga oshiriladi. 1- bosqichda – tindirish jarayonini tezlashtiruvchi maxsus reagentlar bilan suvga ishlov beriladi.

2- bosqichda - suvdagi suzib yuruvchi mayda zarrachalar cho„ktiriladi.

3- bosqichda cho„ktirishni iloji bo„lmagan mayda zarrachalarni filtrlash yo„li bilan tutib qolinadi.



1 rasm.Zarrachalarni cho‘kish egri chizg‘i.

XULOSA

Tajribalar shuni ko'rsatdiki, nisbiy teshiklari maydoni 3.5 n bo'lgan qo'shaloq panjaralar bitta panjara bilan deyarli bir xil oqim taqsimotini ta'minlaydi. Shu bilan birga, b1 ning eksperimental qiymatlari mos ravishda 2,6 va 2,7 ni tashkil etdi, ya'ni. 5% dan ko'p bo'lmagan farqlanadi. Shuni inobatga olgan holda, reflektorli er-xotin panjaralarni o'rnatishda oqimning etarlicha samarali taqsimlanishiga ega bo'lgan teshiklarning nisbiy maydoni olinishi mumkin va bitta panjara uchun tavsiya etilgan n = 0,3-0,5 o'rniga = 0,06-0,2 ni tashkil qiladi, bu juda muhimdir. ularni tiqilib qolish xavfini kamaytirish va kanalizatsiya cho'kindi tanklarining ishonchliligini oshirish. Amaliyot uchun etarli aniqlik bilan olingan bog'liqliklar n = 2n1 qiymatlarida reflektorli qo'shaloq panjaralar va panjaralarni hisoblash uchun ishlatilishi mumkin, bu erda n1 - bitta panjaradagi teshiklarning nisbiy maydoni, shuningdek dumaloq bo'laklarni hisoblashda (kvadrat) teshiklar, natijada bsh = rres va nsh = nres formulalarini oladi.

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