Легко адаптируемое ультразвуковое устройство для лабораторных исследований и промышленной обработки жидкостей UIP1000

Технические характеристики

По вопросам продаж и поддержки обращайтесь:

Алматы (727)345-47-04
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Саранск (8342)22-96-24
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35
Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

Россия +7(495)268-04-70
Казахстан +(727)345-47-04
Беларусь +(375)257-127-884
Узбекистан +998(71)205-18-59
Киргизия +996(312)96-26-47

эл.почта: hrv@nt-rt.ru || сайт: https://hielscher.nt-rt.ru/

UIP1000 versatile and powerful ultrasonic device

UIP1000 with accessories

The UIP1000 (1,000 watts, 20kHz) is a powerful and adaptable ultrasonic device for lab testing and industrial processing of liquids. Its is used for applications, such as emulsifying, dispersing & particle fine milling, extraction & lysis or homogenizing.

The UIP1000 is the powerful link between laboratory testing and the industrial processing of liquids. It combines the flexibility and easy handling required in the research and development with an outstanding performance in heavy-duty operation. For this reason, this single device is used for lab scale feasibility testing, process optimization, and process demonstration for ultrasonic liquid processes.

The flexibility of the UIP1000 results from an extensive list of various accessories, such as sonotrodes, boosters and flow cells. In combination with a sonotrode and the stand, you can sonicate sample beakers to test various liquid formulations for their response to sonication. For the processing of batches larger than 5 liters, we generally recommend to use a flow cell reactor in order to obtain a better processing quality. When used with a flow cell you can run larger samples in recirculation to establish the correlation between parameters, such as amplitude, pressure and liquid composition, and the process results and efficiency. The pictures to the right show alternative setups for the processing of liquids using a flow cell. For most applications, the UIP1000 can process approx. 0.5 to 4.0 liters per minute. As the UIP1000 is full industrial grade, it can be operated continuously (24h/7d). Hence, a UIP1000 can process approx. 1 to 5m³ per day.

Using only one device for lab testing, bench-top optimization and process demonstration saves time and is more cost effective. In addition to that, this single unit covers the widest range of possible ultrasonic configurations, e.g. in terms of amplitude and pressure. The standard accessories allow for:

- sonotrode amplitudes of up to 170 micron
- liquid pressures of up to 10 bars
- liquid flow rates of up to 10L/min (depending on the process)
- liquid temperatures of up to 80°C (other temperatures on request)
- material viscosity of up to 100,000cP

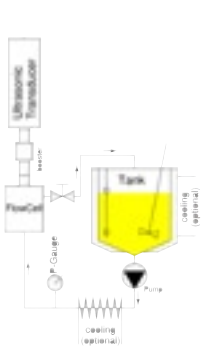
The input of ultrasonic power such parameter configurations creates intense cavitational effects. It is its versatility, why the same UIP1000 can be used in the process development for: Nanomaterials, paint & ink, coatings, food & beverage, cosmetics as well as chemical and biological processes.

The adaptability benefits in particular interdisciplinary R&D. Hence, much research done in universities in the field of ultrasonics is conducted with this versatile ultrasonic device. Another reason is the exact reproducibility and linear scalability of the obtained results. After testing various setups, the configuration found to be best can be used to run larger quantities under production conditions. The UIP1000 does not only give you full control of all sonication parameters; the PC-Control (optional software interface) also facilitates the recording of the individual trials.

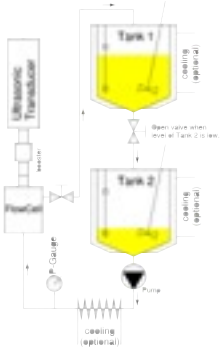
The UIP1000 is designed and built for commercial production. It proves its solid, durable design in more than thousand commercial installations worldwide where it is being used in everyday production. This ultrasonic processor requires little maintenance, is easy to setup and simple to clean and to sanitize. All items are available in food-grade or pharma-grade, too. The transducer of the UIP1000 is IP65 grade, so that it can be installed in demanding environments (dirt, dust, moisture, outside operation etc.), while the generator can be placed remotely in another area.

UIP1000 and sonotrode with flange

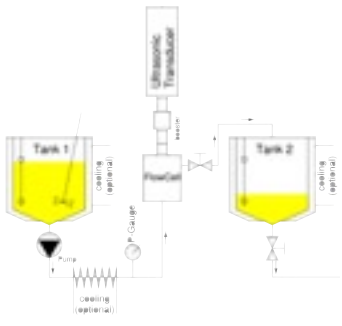
A very high efficiency in the conversion of electrical energy into mechanical oscillations of the sonotrode makes a closed transducer case without louvers possible. As the energy loss, which would cause a heat-up of the transducer is kept very low, no forced cooling, such as compressed air or water is needed. This means, that more energy is transmitted into the liquid, resulting in a better sonication. The overall energy efficiency of the UIP1000 is approx. 80-90% from the power plug into the liquid. You are welcome to put it to a test!



recirculation



discont. recirculation



single pass processing

По вопросам продаж и поддержки обращайтесь:

Алматы (727)345-47-04
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Саранск (8342)22-96-24
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35
Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

Россия +7(495)268-04-70
Казахстан +(727)345-47-04
Беларусь +(375)257-127-884
Узбекистан +998(71)205-18-59
Киргизия +996(312)96-26-47

эл.почта: hrv@nt-rt.ru || сайт: https://hielscher.nt-rt.ru/