

	EN	RU	UA
5	Agate, jasper, onyx, sapphire	Агат, яшма, онис, сапфир	Агат, яшма, онис, сапфир
10	Glazed ceramic tiles, glass	Глазурованная керамическая плитка, стекло	Глазуovaná керамична плитка, скло
15	Soft marble, hard limestone	Мрамор мягкий, известняк твердый	Мармур м'який, твердий вапняк
20	Hard marble, dolomite, travertine	Мрамор твердый, доломит, травертин	Мармур твердий, доломіт, травертин
25	Hard ceramic, ceramic granite	Твердая керамика, керамогранит	Тверда кераміка, керамограніт
30	Hard and medium-hard granites, quartzites	Граниты твердые и средние, кварциты	Граніт тверді і середні, кварцити
35	Soft granites, gabbro, labradorite, basalt	Граниты мягкие, габбро, лабрадорит, базальт	Граніт м'які, габбро, лабрадорит, базальт
40	Highly-reinforced and hydraulic concrete	Высокоармированный бетон, гидротехнический бетон	Високоармований бетон, гідротехнічний бетон
45	Fine-grained concrete, paving slabs	Мелкозернистый бетон, тротуарные плиты	Дрібнозернистий бетон, тротуарні плити
50	Concrete, reinforced concrete	Бетон, бетон армированный	Бетон, армований бетон
55	Masonry, clinkers	Кирпич полнотелый твердый, клинкер	Цегла повнотіла тверда, клинкер
60	Non-reinforced concrete, concrete pipes	Неармированный бетон, бетонные трубы	Неармований бетон, бетонні труби
65	Hard sandstone, facing bricks	Песчаный твердый, кирпич облицовочный	Пісковий твердий, цегла облицовальна
70	Ceramic tiles, refractory abrasives	Черепица керамическая, огнеупоры абразивные	Черепица керамічна, вогнетриві абразивні
75	Cement-sand tiles, fireclay bricks	Черепица цементно-песчаная, шамотный кирпич	Черепица цементно-піщана, шамотна цегла
80	Silicate bricks, limestone	Кирпич силикатный, известняк	Цегла силікатна, вапняк
85	Abrasive sandstone, tuff	Песчаный абразивный, туф	Пісковий абразивний, туф
90	Shell limestone, sand-cement screed	Ракушечник, цементно-песчаная стяжка	Черепашник, цементно-піщана стяжка
95	Green concrete	Свежий бетон	Свіжий бетон
100	Asphalt	Асфальт	Асфальт

**Table 1. Applicability of Diamond Tools according to Material Type.**  
**Таблица 1. Применение алмазного инструмента по материалу.**  
**Таблица 1. Застосування алмазного інструмента за матеріалами.**

Power, kW	Abrasivity scale/Шкала абразивности/Шкала абразивності																			
	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
3.0 >								•••	•••	•••	•••	••								
2.0-2.9								•••	•••	•••	•••	•••	•••	•••	•••	•••	•••	•••	•••	•••
< 1.9								•••	•••	•••	•••	•••	•••	•••	•••	•••	•••	•••	•••	•••

••• optimally applicable / оптимально применимо / використується  
••• rarely applicable / иногда применимо / іноді використовується  
□ not applicable / не применимо / не використовується

**Table 2. Recommended drilling modes.**  
**Таблица 2. Рекомендуемые режимы сверления.**  
**Таблица 2. Рекомендовані режими свердління.**

Drilling method/ Способ сверления/ Спосіб свердління	Ø Drill/ Ø Сверла	Working Shaft Rotational Rate, rpm. Частота обертання робочого валу, об/хв./ Частота обертання робочого валу, об/хв.		Linear drilling Speed, m/sec. Линейная скорость, м/сек/ Лінійна швидкість, м/сек		Recom- mended water flow rate, l/min./ Рекомен- дуемый расход воды, л/мин./ Рекомендо- вані витрати води, л/хв.	< 1,9 power, kW/ < 1,9 мощность, кВт/ < 1,9 потужність, кВт.		2,0-2,9 power, kW/ 2,0-2,9 мощность, кВт/ 2,0-2,9 потужність, кВт.		3,0 > power, kW/ 3,0 > мощность, кВт/ 3,0 > потужність, кВт.	
		Hard solid bricks, Concrete/ Кирпич силикатный, Бетон/ Цегла силікатна, бетон	High-reinforced concrete/ Высокоармированный бетон/ Кирпич силикатный, Бетон/ Цегла армований бетон	Hard solid bricks, Concrete/ Кирпич силикатный, Бетон/ Цегла силікатна, бетон	High-reinforced concrete/ Высокоармированный бетон/ Кирпич силикатный, Бетон/ Цегла армований бетон		Hard solid bricks, Concrete/ Кирпич силикатный, Бетон/ Цегла силікатна, бетон	Reinforced concrete/ Армований бетон/ Армований бетон	High-reinforced concrete/ Высокоармированный бетон/ Кирпич силикатный, Бетон/ Цегла армований бетон	Hard solid bricks, Concrete/ Кирпич силикатный, Бетон/ Цегла силікатна, бетон	Reinforced concrete/ Армований бетон/ Армований бетон	High-reinforced concrete/ Высокоармированный бетон/ Кирпич силикатный, Бетон/ Цегла армований бетон
Drilling without stand allowed/ Допускается сверление без станины/ Допускається свердління без станини	16	2400-3600	1430-2150			2	•					
	18	2120-3180	1270-1910			2	•					
	20	1910-2860	1150-1700			2	•					
	25	1530-2290	920-1380			2	•	•				
	32	1190-1790	720-1070			2	••	••				
	42	910-1360	550-820			2	••	••	•	•		
	52	730-1100	440-660			2	••	••	•	•	•	
	62	620-920	370-550			2	••	•••	••	••	••	•
	72	530-800	320-480			3	••	•••	••	••	••	•
	82	470-700	280-420			3	••	•••	••	••	••	•
	92	420-620	250-370			3	••	•••	••	••	••	•
	102	370-560	220-340			3	••	•••	••	••	••	•
	112	340-510	200-310			4	••	•••	••	••	••	•
	122	310-470	190-280			4	••	•••	••	••	••	•
	Drilling only with stand/ Свердління тільки зі станою	132	290-430	170-260	2,0-3,0	1,2-1,8	4	••	•••	••	••	••
142		270-400	160-240			5	••	•••	••	••	••	•
152		250-380	150-230			5	••	•••	••	••	••	•
162		240-350	140-210			5	••	•••	••	••	••	•
172		220-330	130-200			5	••	•••	••	••	••	•
182		210-310	130-190			5	••	•••	••	••	••	•
200		190-280	110-170			6	••	•••	••	••	••	•
220		170-260	100-150			6	••	•••	••	••	••	•
250		150-230	90-140			6	••	•••	••	••	••	•
302		130-190	80-110			8	••	•••	••	••	••	•
350		110-160	70-100			8	••	•••	••	••	••	•
400		100-140	60-90			8	••	•••	••	••	••	•
450		80-130	50-80			10	••	•••	••	••	••	•
500		70-120	45-70			10-12	••	•••	••	••	••	•
600		60-100	40-60			10-12	••	•••	••	••	••	•

# DDS (CAMC), DDR (CAMK) L 450 mm



# EN USER MANUAL SEGMENTED DIAMOND DRILLS TYPE DDS (CAMC), DDR (CAMK) L 450 MM WITH COOLING Ø 25-600 MM



## EN USER MANUAL SEGMENTED DIAMOND DRILLS TYPE DDS (CAMC), DDR (CAMK) L 450 MM

### RU ИНСТРУКЦИЯ ПО ЭКСПЛУАТАЦИИ СВЕРЛ АЛМАЗНЫХ СЕГМЕНТНЫХ ТИПА DDS (CAMC), DDR (CAMK) L 450 MM

### UA ІНСТРУКЦІЯ З ЕКСПЛУАТАЦІЇ СВЕРДЛ АЛМАЗНИХ СЕГМЕНТНИХ ТИПУ DDS (CAMC), DDR (CAMK) L 450 MM

**Manufacturer:** Di-Star Ltd, Ukraine, 45\* M. Biryuzova street, Poltava. Phone: +38 (0532) 508 720, 508 721

**Производитель:** ООО "Ди-Стар" Украина, г. Полтава, ул. М. Бирюзова, 45\*. Тел.: +38 (0532) 508 720, 508 721

**Виробник:** ТОВ "Ді-Стар" Україна, м. Полтава, вул. М. Бірюзова, 45\*. Тел.: +38 (0532) 508 720, 508 721

Date of manufacture: Дата производства: Дата виготовлення:	
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**Dear Customer!**  
Thank you for choosing the products manufactured by „Distar“. The use of high-quality raw materials, the precise choice of components, and the use of modern technologies as well as the implementation of strict control make our products use-worthy for a long time.  
To ensure all of the following, please adhere to the recommendations that you will find in this brochure. This is the only way you can preserve the quality of your „Distar“ diamond drill.

**Purpose:**  
Segmented diamond drill bits are designed for wet core drilling of artificial building materials using a diamond drilling system (portable drilling machine on a frame).  
Segmented diamond drills of DDS, DDR L 450 mm type are manufactured with 1 1/4 UNC and 1/2 GAS fittings.

**Warning:**  
Before starting the work, please read the following instructions carefully.  
Strictly observe the safety precautions when using the diamond disk and the corresponding equipment.

Before starting any work with electrically driven tools (movement, replacement of tools etc.) pull the plug out of the wall socket or, respectively, remove the battery from the device.

Before each use, perform a visual check for possible damage of the diamond tool.  
Never use damaged diamond tools.  
Damaged, improperly installed, or improperly operated diamond tools can pose an extremely high risk when used!

Wear safety goggles with side protection (a safety mask with full protection), a respirator, gloves, and earmuffs when using the tools. Always wear safety shoes.  
The processed material must be securely attached.

Work without protective equipment is prohibited (refer to the manufacturer's operation manual for the equipment)!  
Do NOT use the lateral surface of the diamond layer when working (only use it for grinding operations).

Attention! During through-hole drilling, remember to restrict access for people and equipment to the zone where the core may fall!

**Recommended use:**  
Make sure that the purchased diamond tool can be used to treat the selected material. Note the material instructions that are contained on the label, the packaging, and in this manual. (See Table No. 1 "Applicability of Diamond Tools according to Material Type").

The outer diameter and tool mounting hole of the diamond tool must match the characteristics of your equipment.  
If the drill fitting is different from that of your equipment's shaft, use an adapter (available separately).

To increase the drilling depth, we recommend using an extension rod (available separately). Its fitting should correspond to that of the diamond drill and the drilling machine's shaft.

Important! Maximum drilling depth is specified in the operation manual for your equipment. The maximum allowable length of the extension rod equals the difference between the diamond drill length and the maximum drilling depth recommended by the equipment manufacturer. Failure to satisfy this requirement may adversely affect the performance of the diamond drill.

**Proper installation:**  
Securely fix the drill stand on the work piece with an anchor, stud, brace or vacuum suction cup, (not supplied). Failure to satisfy this requirement may adversely affect the performance of the diamond drill and is extremely dangerous!  
Before attaching the diamond drill (extension rod), check its fitting as well as that of your equipment for chipping, dimples or other damage; if necessary, clean it from contaminants and dust.

Screw on the diamond drill (extension rod) until its butt end is securely held against the end-face of your equipment shaft's fitting and tighten it with a wrench. Failure to do so may cause excessive radial motion variation!  
Check your equipment's spindle assembly for end play. Presence of the latter is dangerous—it may result in drill bit radial motion variation, possibly leading to its failure and destruction!

Perform a test run without load for, at least, 30 seconds. Make sure that there is no vibration, axial and radial run out, or extraneous noise during the run at no load. In case is detected of the above-mentioned deviation, it is necessary to troubleshoot your equipment or the diamond tool.

Attention! Some manufacturers equip drilling machines shafts with special devices (chucks) for quick attachment of diamond drills (with a flexible fitting). In such situations the rigid attachment of the drill to the drilling machine's shaft is impossible and these devices serve as a drill self-centering tool during drilling. In drilling machines with such devices, it may be difficult to evaluate the presence of spindle assembly end-play. Furthermore, during the no-load test run, the radial motion variation of the diamond drill may occur.

If your equipment has no drill bit cooling functionality, you must use a special adapter to feed water inside the drill bit (available separately).

**Application:**  
Carefully read the manufacturer's operation manual for the electrical equipment you are using, paying particular attention to the requirements to the maximum permitted drill bit diameter, power supply, and the recommended drilling speed depending on the material!

Important! To estimate the power rating of your drilling machine (kW), use the watts-out figure, not watts-in!

Attention! Important! Using a drill bit with a maximum permitted diameter (as indicated in the operation manual for your equipment) may cause its abnormal operation! For best results, use the drill of the diameter 50 mm smaller than the maximum permitted. Such diameter is considered optimum applicable and lets you have a power margin in case it is needed. In this case, use drill bits with soft segments (see Table 1)!

Before drilling, check that the equipment manufacturer's recommendations match those of the diamond drill bit producer!

Before drilling, it is recommended to attach a conductor template (available separately), to the material with screw clamps, suction cups or any another way that securely holds it against the latter. Drilling without

#### Most common problems:

#	Problem	Cause	Solution
1	Core bit segment detachment or breakdown	Core bit overheating due to poor cooling or lack of water coolant. Core bit jamming	Increase cooling water feed. Check boring machine state and how it is fixed
2	Core bit overheating, discoloration	Core bit overheating due to poor cooling or lack of water coolant. High rotation speed	Increase cooling water feed. Reduce torque. Change to a cycle boring mode
3	Segment outboard inclination	Abrupt start. High-torque boring with grease on the segment. Selected segment is too hard	Operate more smoothly. Open up the segment as per the instruction. Use core bit with a softer segment material
4	Segment inboard inclination	Abrupt start. A rebar tangent to bit diameter. Bore-out diameter is too big	Operate more smoothly. Displace the hole, if possible. Otherwise, set the lowest torque and feed the core bit as smoothly and slowly as possible
5	Fracture or cracks in core bit body	Uneven body wear due to wobbling, lateral loads, beating. Load increase while boring, core bit jamming	Change to smoother operation or cycle boring mode. See <b>Operation</b> section for more information about core bit jamming and core extraction
6	Increased wobbling	Looseness and play in core bit to boring machine coupling. Uncleaned seats. Core bit body deformation	See <b>Proper Installation</b> section for more information. Replace the core bit
7	Core bit body deformation (ellipse, dents)	Body wobbling. Core bit jamming	See <b>Operation</b> section for more information about core bit jamming and core removal

conductor template may lead to the destruction of the diamond drill bit and is extremely dangerous!  
Before drilling, switch your equipment into the drill mode (switch off hammer action). If your equipment is incapable of that, use minimum torque and minimum feed without applying pressure. When 10 mm deep in the material, stop the drilling machine, set the required torque (see Table 2) and continue drilling as usual.

The coolant flow rate should be no less than indicated in Table 2.  
Important! The cooling liquid must be fed inside the drill.

When drilling a hollow material or drilling horizontally, it is recommended to increase the cooling liquid flow rate by 20–30% from that indicated in Table 2.

The insufficient flow rate or lack of coolant will inevitably lead to diamond drill bit failure, its jamming, and destruction, and are extremely dangerous!

The recommended spindle assembly shaft torque and the required drilling machine power rating are provided in Table 2. Failure to comply with these recommendations may impair operation of the diamond drill bit!

Pay particular attention to the fact that the drilling diameter depends on drilling machine power rating and shaft torque! The smaller the drill diameter, the lower the power rating and the higher the shaft torque must be, and, conversely, the larger the drill diameter, the higher the power rating and the lower the shaft torque are required.

Do not increase the drilling depth rapidly or apply hammer action during drilling. The regular drill bit feed must be smooth, without thrusts.

While drilling, be sure to avoid drill bit bending or jamming. Pay special attention to securely fastening the machine frame! In addition, try to prevent core breakage or degradation and catching the longitudinal or loose rebar! Failure to do so will inevitably lead to the destruction of the drill bit and is extremely dangerous!

If the drill bit catches rebar (metal) switch your equipment into metal drilling mode. If your equipment is incapable of that use minimal feed without applying pressure. After going through armature (metal) continue drilling as usual.

If your equipment has no metal drilling and torque switching functionality, use drill bits with soft segments!

If the diamond drill is jammed, you can release it by way of the following procedure:  
Releasing the drill with a wrench

- Stop the drilling machine and unplug it.
- Grab the diamond drill shank with a matching wrench and release it by unscrewing.
- Remove the drill bit from the base with the cross handle.
- Remove the core.
- Plug the machine back in.
- Continue drilling.

Always remove the core formed inside the drill bit, do it if the core was broken (split). Remember—a drill core can be very heavy!

To remove the core, carefully remove the drill from the material. If the core remains in the material, remove it. If the core is stuck in the drill bit, detach the drill from the drilling machine. Wash insides of the drill with water. Carefully take out the core by lightly tapping on the body with a rubber hammer. Avoid hitting the drill bit hard so as not to deform its body or diamond segments. Attention! Negligence during removal of the core may damage or destroy the drill bit! Attach the drill bit back on the drilling machine and continue drilling as usual.

After the core is removed, all its residues (crushed stone and rebar pieces) should be carefully extracted. Having removed the core, make sure there is no misalignment between the drill and the hole before turning the drive on and continuing to drill. Failure to do so may inevitably lead to the drill destruction and is extremely dangerous!

Exposure to excessive loads during operation is prohibited this may reduce the cutting ability of the diamond drills, lead to diamond drills destruction, and is extremely dangerous!

The optimal pressure during operation can be tracked on the drilling machine's power (load) indicator. If your equipment has no functionality of this kind, use the sound of working electric drive to guide you. For optimum operation, the electric drive torque loss should not exceed 5–10%!

In order to avoid damage during transport of the equipment, diamond drills must be removed and transported separately. Always provide for careful transportation diamond drills and keep them away from external impact.

**Sharpening:**  
If the diamond drill bit loses its cutting properties, it must be sharpened. For that, you will need to drill several holes in a highly abrasive material—brickwork, fresh concrete, porous concrete, etc.

If the drill bit's cutting ability decreases or it reaches the heavily reinforced portion of the material, increase water feed, reduce pressure and pull out the drill bit by 1–2 cm periodically until the bit regains its cutting ability or passes the heavily armed material.

If your equipment has no metal drilling or torque switching functionality, use drill bits with soft segments (see Table 2)!

The frequency of re-sharpening of the diamond layer depends on the hardness and the degree of machinability of the material.

**Warranty**  
Claims for quality of purchased diamond tools must be made on the basis of the completed Claim Report in the established form and availability of the reclamation product.

Consideration of the claim is implemented:

- if the manufacturer's recommendations for the operations of the tools have not been violated;
- if the wear of the diamond layer does not exceed 1/3 of its initial height.

The manufacturer does not provide warranty against defects of tool performance if the buyer has independently changed the design of the tool (Changing the mounting hole, using self-made adapters (extensions), drilling additional holes, etc.).

The segmented diamond drills have a segmented diamond-bearing layer on a metal base. The diamondiferous layer is attached to a steel body and does not contain harmful substances.

Shelf life: unlimited. Store at a temperature from -50° C to + 50° C and a relative humidity of 80 pct.



## **ОФИЦИАЛЬНЫЙ ДИЛЕР В УКРАИНЕ:**

[storgom.ua](http://storgom.ua)

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Пн. – Пт.: с 8:30 по 18:30

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## **КОНТАКТЫ:**

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Детальное описание товара: <https://storgom.ua/product/distar-177048.html>

Другие товары: <https://storgom.ua/almaznye-sverla.html>