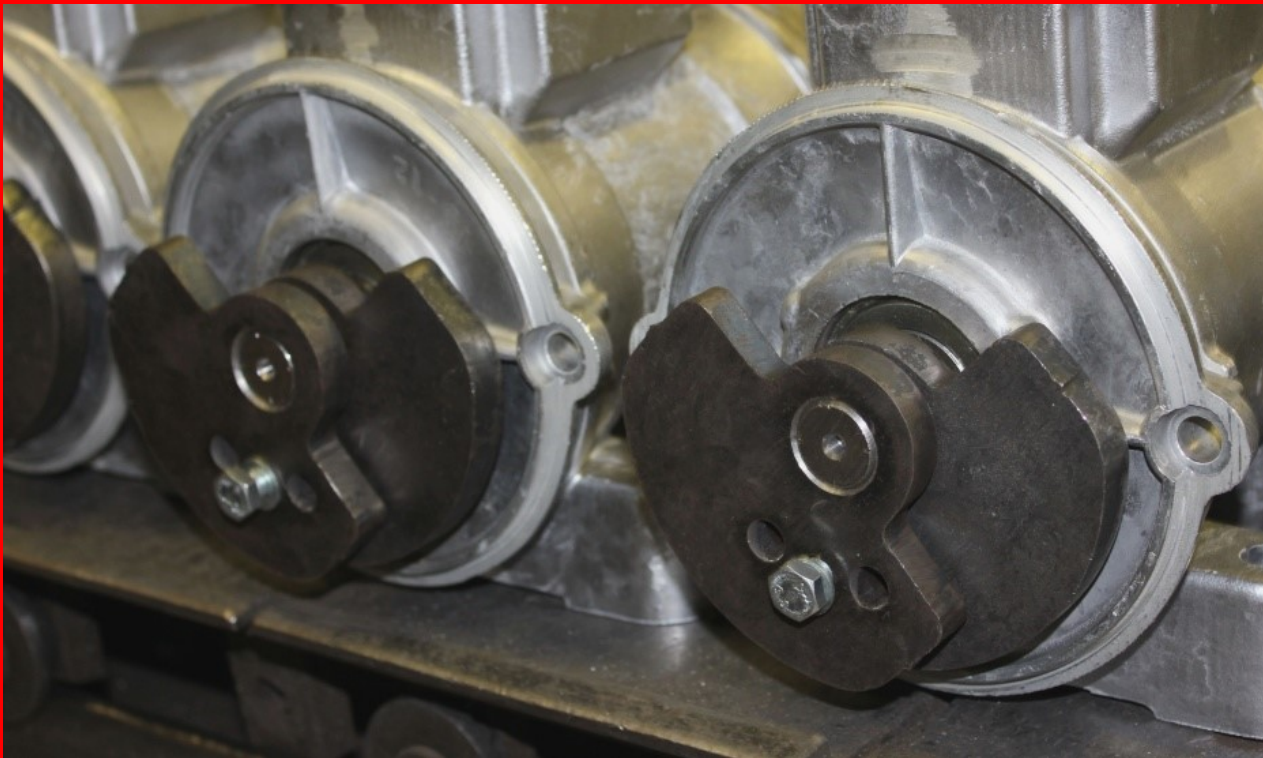




PC «Lighthouse YF»



2016-
-2017



Product catalog

**VIBRATORS AND
VIBRATION
EQUIPMENT**





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Introduction



Public joint-stock company “Lighthouse YF” is one of the oldest production companies not only in Yaroslavl, but also in the whole Russia.

We produce vibrators for over 70 years since 1936, covering **70% of internal Russian demand** for such equipment. Based on the vast experience gained by our professionals, a wide range of vibrators for various purposes was designed, as well as different kinds of vibration equipment, which technical level corresponds to the **best world producers** of such equipment.

Development of both new product versions and fundamentally new products always comes in **close cooperation with our customers**, directly exploiting our technology, as our primary aim is to establish **long-term partnership** with our loyal clients.

The company has created a **full production cycle**: molding, stamping, manufacturing of stators and rotors of vibrators, a full range of machining, heat treatment, welding and painting works.

In addition, we produce all the necessary output tooling (molds, stamps, etc.). This allows us to guarantee the **highest quality** of all components of the vibrator and **quickly respond** to any customer's requirements.

The company is certified according to **ISO 9001:2008**, which is **proved annually**.

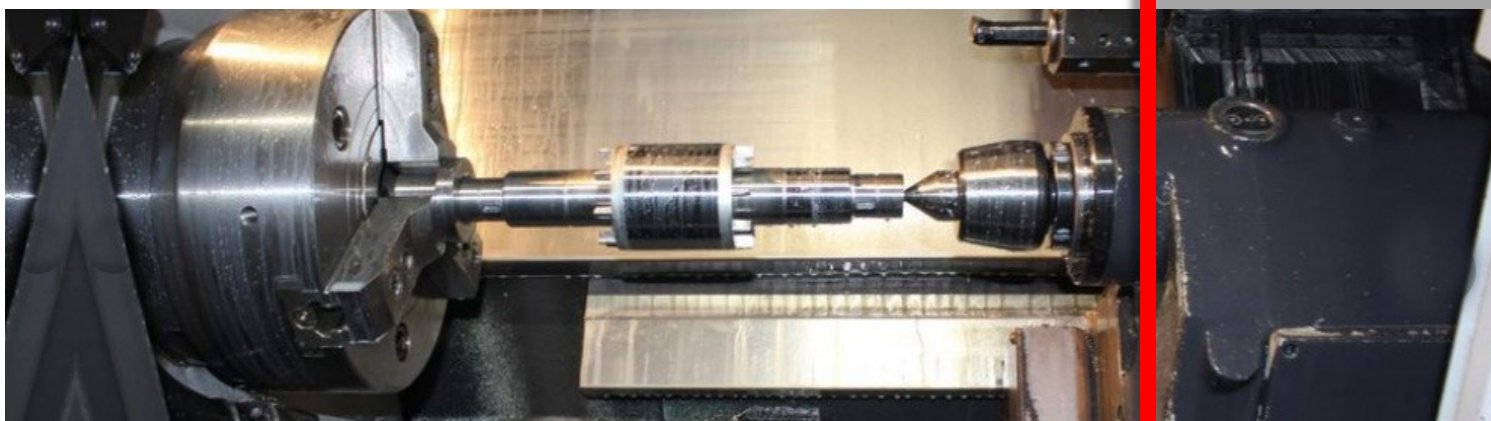




Quality management

Quality management system consists of:

1. **Initial Control Service** checks the parameters of various materials and components.
2. **Chemical Laboratory** carries out full control of steel and alloys.
3. **Quality Control Department** controls the parameters of parts and components in production. Monitoring is carried out by special measuring tools, manufactured for specific details.
4. **Metallographic Laboratory** controls parameters of details hardening.
5. **Laboratory of Dimensional Measurements** controls snap, accessories and measuring tools, ensuring the accuracy of Quality Control Department work.
6. **Laboratory of Measurement Technologies** monitors equipment and measurement instruments, conducts control over the electrical parameters of all incoming wires and aluminum for rotor package filling, ensuring high quality of produced engines.
7. **Testing Station** conducting tests on 10 points of technical specifications for all finished products before they are sent to the consumer.
8. Periodically, all the models are tested in the **Test Center** for compliance with paragraph 31 of technical specifications.





Classical series

IV-98B



WHAT IS IT?

Three-phase induction squirrel-cage motors with eccentric masses at the end of the rotor shaft. The eccentric masses, while rotating with the rotor shaft, generate the exciting force.

IV-99B, IV-99N,
IV-99E



To generate vibration in facilities for compaction of concrete mixes and soils, transportation, discharge and screening of loose materials, for driving of vibrating tables, vibrating feeders and other processing operations, inclusive of mini-units for brick manufacturing.

HOW IS IT USED?

OPTIONS:

The **IV-98N**, **IV-99N** vibrators feature **enhanced reliability** due to increased dust and damp protection, cast iron panels, increased durability of windings, selective assembly. Increased life cycle – up to 3000 hours.

One more option - the DC vibrators EV-401 and EV-401-01 designed to operate using the power of a car's 24V electrical system. The set consists of a 18V vibrator and the converter of the battery DC current into AC current – ISP-11, which is required for the vibrator operation.

IV-107A, IV-107A-
1.5, IV-107N, IV-
107N-1.5, IV-107



Model	Rated input, kW	Synchronous rotation speed, min ⁻¹	Exciting force, kN	Static moment, kg.cm	Voltage, V	Current frequency, Hz	Overall dimensions, mm	Mounting dimensions, mm	Time to failure (hours)	Weight, kg
IV-98B	0,90	3000	5,6...11,3	5,7...11,4	42; 380	50	365x235x250	130x190	700	20,0
IV-98N	0,90	3000	5,6...11,3	5,7...11,4	42; 380	50	365x235x250	130x190	3000	20,0
IV-98E	0,90	3000	5,6...11,3	5,7...11,4	220(1ph)	50	365x235x250	130x190	700	22,5
IV-99B	0,50	3000	2,5...5,0	2,55...5,1	42; 380	50	300x180x200	100x145	700	12,0
IV-99H	0,50	3000	2,5...5,0	2,55...5,1	42; 380	50	300x180x200	100x145	3000	12,0
IV-99E	0,50	3000	2,5...5,0	2,55...5,1	220(1ph)	50	300x180x200	100x145	700	14,5
IV-107A	1,50	3000	9,9...20,0	10,0...20,0	42; 380	50	460x300x280	130x240	700	40,0
IV-107A-1,5	2,05	3000	9,9...20,0	10,0...20,0	42; 380	50	460x300x280	130x240	700	41,0
IV-107N	1,50	3000	9,9...20,0	10,0...20,0	42; 380	50	460x300x280	130x240	3000	46,0
IV-107N-1,5	2,05	3000	9,9...20,0	10,0...20,0	42; 380	50	460x300x280	130x240	3000	46,5

Model	Analog	Rated input, kW	Synchronous frequency, min ⁻¹	Exciting force, kN	Voltage, V	Weight, kg
EV-401-01	IV-99B	0,50	3000	2,5...5,0	24V (dc current)	15,0
EV-401	IV-98B	0,90	3000	5,6...11,3	24V (dc current)	23,0

New series



External vibrators of the new series have been designed for replacement of conventional vibrators, being similar in mounting dimensions in case:

PURPOSE?

**IV-05-50,
IV-05-50E**



**IV-11-50,
IV-11-50E,
IV-20-50**



**WHAT
CASES?**

1. The vibrators are required to have a longer service life (service life of conventional vibrators amount to 700-900 hours; the new series vibrators' service life reaches 5000 hours);
2. There is a need for adjustable or high-speed vibration; the new series vibrators are able to operate at frequencies up to 100 Hz;
3. It is necessary to set a vibrator at an angle to a horizontal surface or in upright position.

In their performance characteristics, such as exciting force, static moment, and supply voltage the new series vibrators are absolutely similar to their conventional, similarly designed models.

Model	Analog	Rated input, kW	Synchronous rotation speed, min ⁻¹	Exciting force, kN	Static moment, kg.cm	Voltage, V	Current frequency, Hz	Overall dimensions, mm	Mounting dimensions, mm	Time to failure (hours)	Weight, kg
IV-05-50	IV-99	0,50	3000	2,5...5,0	2,55...5,1	42; 380	50	280x187x208	100x145	5000	15,0
IV-05-50E	IV-99E	0,50	3000	2,5...5,0	2,55...5,1	220 (1ph)	50	280x187x208	100x145	5000	17,5
IV-11-50	IV-98	0,97	3000	5,6...11,3	5,7...11,4	42; 380	50	363x234x248	130x190	5000	29,0
IV-11-50E	IV-98E	0,97	3000	5,6...11,3	5,7...11,4	220 (1ph)	50	363x234x248	130x190	5000	31,5
IV-20-50	IV-107	2,05	3000	9,9...20,0	10,0...20,0	42; 380	50	405x300x270	130x240	5000	42,0

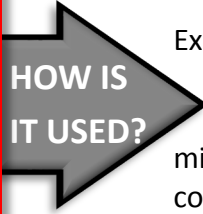
PLEASE NOTE

ONLY THE MOST POPULAR models of external vibrators for general purposes are presented in this catalogue. For more information, please visit www.vibrators.ru/en



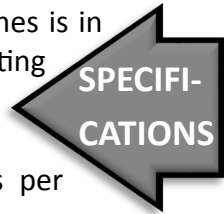
Explosion-proof

2-pole vibrators



Explosion-proof vibrators are used to generate vibration in machinery and equipment utilized in **explosion-hazardous types of production** in chemical, natural-gas and oil-refining industries, where explosive gas mixtures and steam with air, categorized as IIA, with the temperature code class T4 as per **GOST R 51330.0-99, GOST R 51330.5-99, GOST R 51330.11-99***, can be generated.

4-pole vibrators



- The range of vibrators application in explosion-hazardous zones is in compliance with the **chapter 7.3** of the Installation Operating Procedures (PUE)-86.
- Type of explosion protection – “flame-proof” enclosure as per **GOST R 51330.1-99**.
- Special vibration-resistant rollers bearing SKF, ensuring long operational life are used in the vibrators design: explosion proof-mark **1ExdIIAT4** as specified in **GOST R 51330.0-99**.

Model	Rated input, kW	Synchronous rotation speed, min ⁻¹	Exciting force, kN	Static moment, kg.cm	Voltage, V	Current frequency, Hz	Overall dimensions, mm	Mounting dimensions, mm	Time to failure (hours)	Weight, kg
2- pole- vibrators										
EVV-0,5-50	0,5	3000	2,5...25	2,5...5,0	380	50	306x187x208	100x145	5000	15,0
EVV-11-50	0,97	3000	5,6...11,3	5,7...11,4	380	50	397x234x250	130x190	6000	29,0
EVV-20-50	2,05	3000	9,9...20,0	10,0...20,0	380	50	500x300x270	130x240	17000	46,0
4- pole- vibrators										
EVV-2,5-25	0,27	1500	1,3...2,5	5,1...10,2	380	50	306x187x208	100x145	42000	16,0
EVV-0,6-25	0,53	1500	3,1...6,2	12,5...25,0	380	50	397x234x250	130x190	56000	34,0
EVV-12-25	1,07	1500	6,1...12,3	25,0...50,0	380	50	500x300x270	130x240	179000	56,0
EVV-25.0-1500	1,8	1500	12,5...25,0	50,0...100,0	380	50	585x360x345	90x300	35000	125,0

*GOST—Russian national industry standard

Vibrators for puncheons



IV-462

IV-462-01



WHAT IS IT?

The vibrator includes a hermetically sealed enclosure with the outer side having a collet clamp, which is firmly fixed inside the puncheon. The vibrator is able to be fastened on the inside of the puncheon with an inner diameter of from 145 to 150 mm.

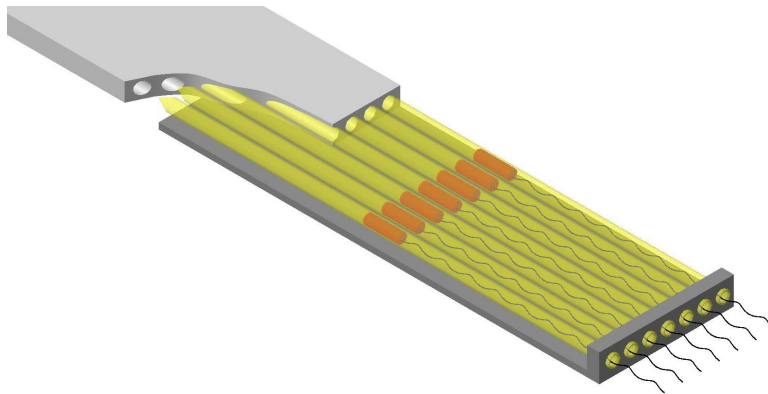
Vibrator with a puncheon key



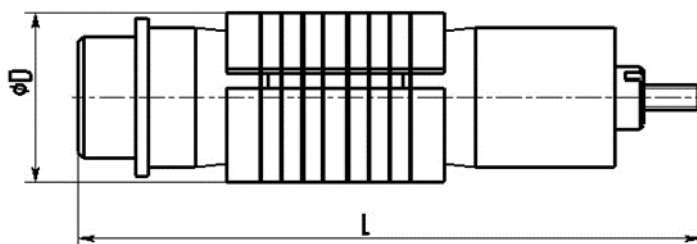
HOW IS IT USED?

Electromechanical vibrators for puncheons with circular vibrations are designed to excite vibration in the punches while manufacturing hollow core slabs.

The application of these vibrators in the manufacture of hollow core slabs will allow to significantly improve product quality and reduce forming time.



Model	Rated input, kW	Synchronous rotation speed, min ⁻¹	Exciting force, kN	Static moment, kg.cm	Voltage, V	Current frequency, Hz	Diameter, mm	L	Weight, kg
IV-462	0,5	3000	5	5,1	380; 3ph	50	143...147	565	30,5
IV-462-01	0,75	3000	6	5,1	380; 3ph	50	143...147	610	34





Flanged vibrators

A flanged vibrator



HOW IS IT USED?

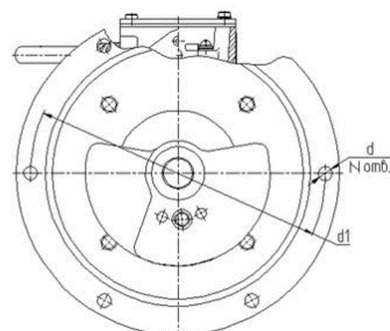
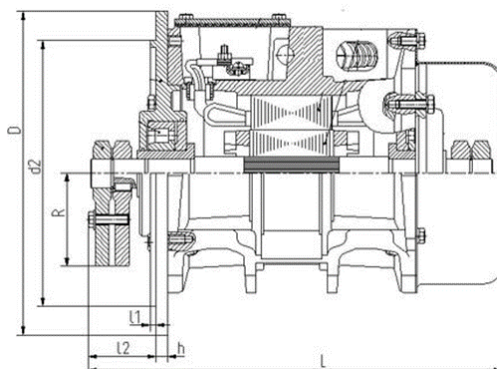
Flanged vibrators are designed for operation as a part of vibratory units, which require vibration in parallel to the vibrator attachment.

The flanged vibrators are used effectively in such tools as vibrating screens, vibratory conveyers. The sifting process runs quicker and smoother, if the screening surface of the vibrating screen vibrates not in a vertical plane (as in the case of an ordinary surface vibrator), but in horizontal (in case the flange vibrator is used).

Model	Rated input, kW	Synchronous rotation speed, min ⁻¹	Exciting force, kN	Static moment, kg.cm	Voltage, V	Current frequency, Hz	Time to failure (hours)	Weight, kg
4-pole- vibrators								
IVF-2,5-25	0,27	1500	1,25...2,5	5,1...10,2	42; 380 3ph	50	5000	17,6
IVF-3-25	0,53	1500	1,4...3,0	5,7...11,4	42; 380 3ph	50	5000	30,5
IVF-0,6-25	0,53	1500	3,1...6,2	12,5...25,0	42; 380 3ph	50	5000	33,0
IVF-12-25	1,07	1500	6,10...12,25	25,0...50,0	42; 380 3ph	50	5000	65,5
2-pole vibrators								
IVF-05-50	0,50	3000	2,5...5,0	2,55...5,1	42; 220; 380 3ph	50	5000	17,6
IVF-11-50	0,97	3000	5,6...11,3	5,7...11,4	42; 220; 380 3ph	50	5000	30,5
IVF-20-50	2,05	3000	9,9...20,0	10,0...20,0	42; 220; 380 3ph	50	5000	53,6

Overall and mounting dimensions

Vibrator type	L	D	d	d1	d2	N	R	h	l1	l2
IVF-3-25, IVF-11-50	357	279	14	254	229	4	80	10	5	58.5
IVF-06-25	362						92			63.5
IVF-05-50	268	260	15	230	160	5	65	12	5	42
IVF-2,5-25	290						71			48
IVF-12-25	490	350	21	305	270	6	90	20	5	109
IVF-20-50	395									65





Internal vibrators

The working set of a submersible vibrator with a flexible shaft consists of an electric asynchronous squirrel-cage motor or a gasoline drive that generates rotational movement, a flexible shaft, transferring rotational motion and a vibration head, generating vibration.

WHAT IS IT?

An internal vibrator set

Depending on the engine model, the internal vibrator could be powered from in-home 220V, 1 phase network, (engine EPK-1300); through step-down transformer from industrial network 380V, 3 phase, (engines IV-117 and IV-116-1.6) or could be driven by an internal combustion engine (engine BP-5,5).



The vibrator with a flexible output shaft and a vibration head is used for compaction of concrete mixes poured into small areas, cast-in-situ constructions with dense and medium reinforcement and spacing of reinforcement exceeding 1,5 of the head diameter.

HOW IS IT USED?

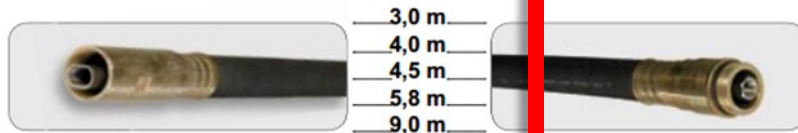
The immersion vibrators are used to achieve a stronger adhesion between concrete and reinforcement as well as to enhance consistency of the concrete mix. Application of immersion vibrators has a positive effect on quality, strength and life of concrete products.

Parameters	IV-75	IV-113	IV-117A	IV-116A	IV-116A-1,6	EPK-1300	BP-5,5
Motor type	Asynchronous electric motor						gasoline-
diameter of the vibro-head working section, mm	28	38	51	76	76	28, 38, 51, 76	28, 38, 51,76
Flexible shaft length	3; 4; 4,5; 6; 9	3; 4; 4,5; 6; 9	3; 4; 4,5; 6; 9	3; 4; 4,5; 6; 9	3; 4; 4,5; 6; 9	3; 4; 4,5; 6; 9	3; 4; 4,5; 6; 9
Motor output capacity, kW	1,00	1,00	1,00	1,40	1,60	1,30	4
Current frequency, Hz	50	50	50	50	50	50	
Power supply	42V, 3ph	42V, 3ph	42V, 3ph	42V, 3ph	42V, 3ph	220V, 1ph.	AI 92 gasoline



VIBRATION HEADS

FLEXIBLE SHAFTS





Internal vibrators

WHAT IS IT?

The hermetically sealed body of the vibration head comprises a 3-phase electric asynchronous squirrel-cage motor and unbalanced masses, which rotations generate exciting force. The bearings are lubricated with spindle oil from the bottom part of the vibration head.

Due to particularities of its design, the vibrator has to be powered with 200Hz voltage. In order to meet this requirement and provide the voltage, frequency invertors are used. The invertors can be either external (connected) or integrated.

HOW IS IT USED?

These vibrators are designed for compaction of concrete mixes poured into cast-in-situ constructions with various reinforcement density in hydraulic engineering as well as for manufacture of concrete and reinforced concrete articles for precast concrete construction with the minimum spacing of reinforcement exceeding 1,5 of the head diameter.

THE LINEUP



1. Electrical immersion hand-operated vibrator with an integrated electric motor. Several vibrators can be connected to one inverter.

2. IVAI-38, IVAI-50, IVAI-60, IVAI-75— manual electrical immersion vibrators with a built-in electrical motor and an inverter.



with build-in motors



3. IVAR-38, IVAR-50, IVAR-60, IVAR-75. A vibrator of this series consists of a vibration head and a plastic box with a switch, which are connected by a rubber-metal sleeve. A power cable with a euro-plug is connected to the box. Several vibrators can be connected to one inverter.

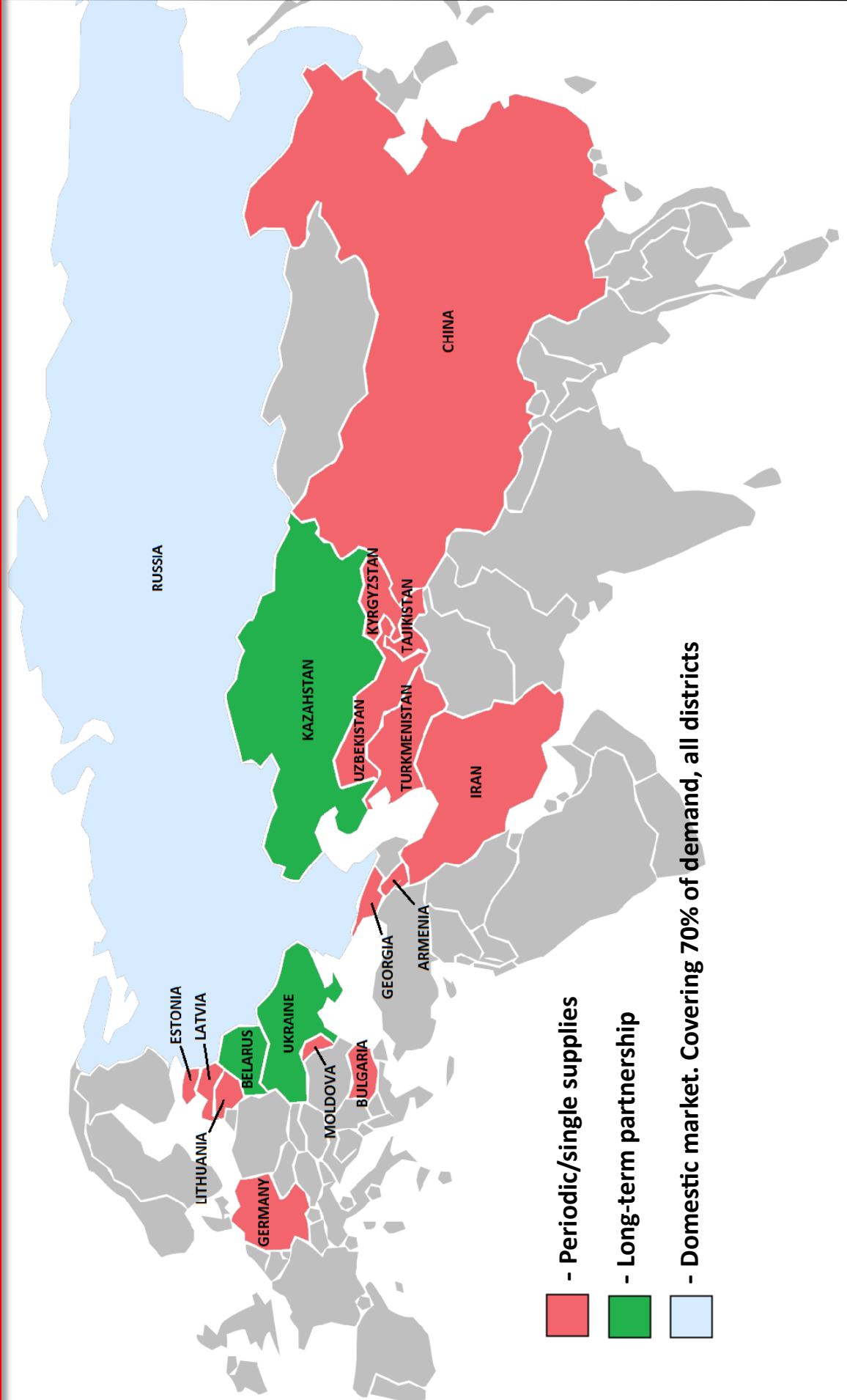
4. Invertors for high-frequency vibrators. An inverter is basically a microprocessor device with free-convection-cooling, designed for power supply of manual electrical immersion vibrators with integrated electric motor; they can be also used for power supply of high-frequency manual tools.



PARAMETERS	IV-78	IV-102A	IV-103	IVAI-38	IVAI-50	IVAI-60	IVAI-75	IVAR-38	IVAR-50	IVAR-60	IVAR-75
Diameter of the vibro-head working section, mm	50	75	114	38	50	60	75	38	50	60	75
Length of the vibro-head working section, mm	412	440	480	280	412	410	440	280	412	410	440
Sleeve (Fabric hose) length, mm	at the customer's request			at the customer's request				at the customer's request			
Electric motor capacity, kW	0,38	1,0	1,1	0,3	0,38	0,92	1,0	0,3	0,38	0,8	1,0
Current frequency, Hz	200	200	200	50	50	50	50	200	200	200	200
Voltage, V	42; 3Ph			220 (+10% -15%)				42; 3ph			
Frequency, min ⁻¹	12000	12000	6000	12000				12000			
Working range (radius of operation), mm	320	530	605	200	320	430	530	200	320	430	530
Production capacity, m ³ /hour	8,3	19,0	34,5	3,5	8,3	15,2	19,0	3,5	8,3	15,2	19,0
Weight, kg	10,0	15,0	27,5	7,0	10,0	13,5	15,0	7,0	10,0	13,5	15,0
Mean time to failure, according to technical requirements, hours	200	200	300	1500	200	800	200	1500	200	800	200



Sales map



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