

DESCRIPTION

The SPIRAM PCSW Mobile Pumping Unit is a flexible pumping device developed through SPIRAM's research and development, tailored to meet specific customer requirements.

At the heart of the mobile pumping unit is the SPIRAM centrifugal pump, powered by a diesel engine, featuring a screw impeller designed for maximum spherical passage of solid materials. This design allows these pumps to achieve up to 100% impeller passage of the discharge flange diameter. The SPIRAM pump offers three key benefits: a high level of free passage, great hydraulic efficiency, and low energy consumption. In addition to the SPIRAM pump, the pumping unit consists of a self-priming system and a base frame.

The design allows for easy operation and maintenance of all pumping unit parts. Depending on customer requirements, the unit can be mounted on a homologated trailer, placed in a portable container, or soundproofed.

APPLICATION

- developed for the most demanding projects and applications, suitable for use in harsh operating conditions
- pumping of media with high solids content (e.g. wastewater)
- for intervention units (fire and rescue services)
- deal for handling emergencies (pumping, dewatering of flooded areas)
- provides mobility for various industrial applications
- for wastewater applications (reconstruction of pumping stations, inlet sections at WWTPs (bypass))
- pumping out sedimentation tanks during their reconstruction at WWTPs
- sewer redirection
- temporary pumping at sludge recirculation
- and many others

BENEFITS

SPIRAM Pump

High efficiency: Average hydraulic efficiency of 80.4%.

High solid particle passage: Handles particles ranging from 50 to 300 mm, minimizing the risk of clogging.

Quality materials

All pump components are made from highly durable alloys and noble metals, ensuring a long life cycle.

The eco-friendly motor features a STAGE V-compliant engine with low emissions.

Height adjustable drawbar allowing the unit to be transported behind a car, truck, or tractor.

Compact design - the entire diesel unit, including the fuel tank, is mounted on a single chassis and enclosed in a compact casing, with the option for soundproofing.

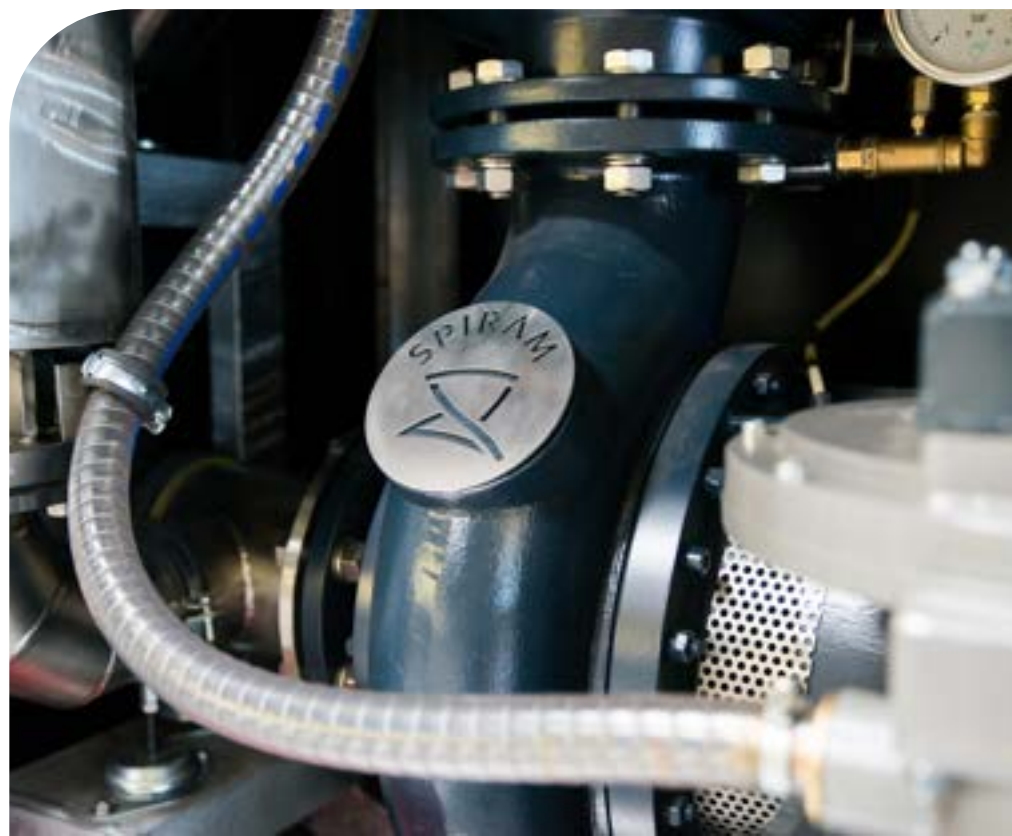
Self-priming system - allows automatic priming upon activation. The system is based on a diaphragm vacuum pump that creates a vacuum in the suction line. Automatic disengagement of the vacuum pump after priming is controlled by a priming device with sensors and an electromagnetic clutch. During the automatic priming cycle, the pump runs temporarily "dry" - an oil-lubricated seal protects the pump from damage during this period.

Clutch system - allows for motor disconnection from the pump for maintenance, especially in backup units.

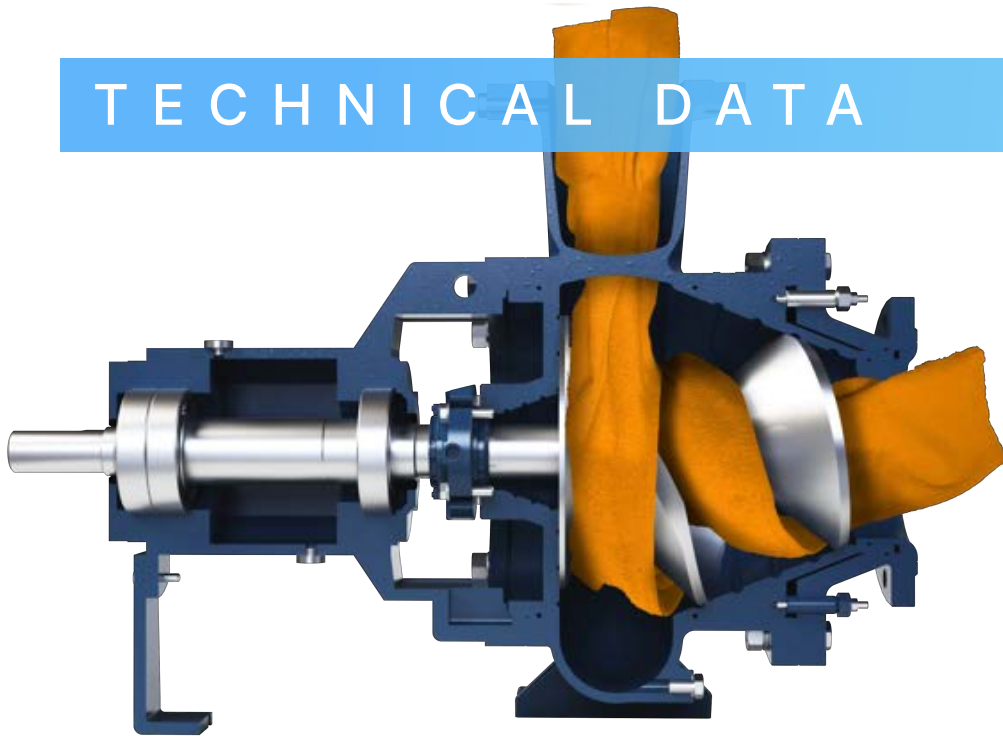
Design variability - customers can choose from a wide range of accessories (lighting, trailer, pipes, supports, etc.).

Made in Slovakia

The development, production, and assembly of the units are all carried out in Slovakia.



TECHNICAL DATA



PUMP PARAMETERS

DESIGNATION	SPIRAM 200-A-150-B	
CONFIGURATION	Horizontal with diesel drive	
IMPELLER TYPE	Screw	
DIRECTION OF ROTATION	CW	
MAX. OPERATING PRESSURE	[bar]	16
FLANGES	DIN EN 1092-1	
RPM IN BEP	[min ⁻¹]	1450
Q (MIN/MAX)	[l/s]	43,0/ 187,0
H (MIN/MAX)	[m]	6,0/ 39,0
OPERATING TEMPERATURE	[°C]	40
SOLIDS (MAX)	[mm]	115
SUCTION DIAMETER	DN/PN	200/16
DISCHARGE DIAMETER	DN/PN	150/16

PERFORMANCE PARAMETERS OF THE UNIT

MODEL		PCSW 200AB
FLOW (MIN/MAX)	Q[l/s]	43,0/ 187,0
TOTAL HEAD (MIN/MAX)	H[m]	6,0/ 39,0
SHAFT POWER (MIN/MAX)	P2[kW]	12,0/ 45,0
EFFICIENCY IN BEP	η[%]	81,5

DRIVE

MANUFACTURER	KOHLER
TYPE	KDI 2504
PERFORMANCE	55,4kW @ 2600 ot/min
VOLUME / NUMBER OF CYLINDERS	2482 cm ³ / 4
FUEL, EMISSION STANDARD	diesel / EU stage V (E9_EV4/O-V-3004)
EQUIPMENT	electric control, ECU, ERG, DOC, DPF
SPEED CONTROL	continuous electronic control: 1000 - 2600 RPM
CONTROL PANEL	Intel drive (RPM, Operating Hours, Error Messages)

If requested, it is possible to supply an engine from another manufacturer.



MATERIAL CONSTRUCTION

VOLUTE CASING	GGG40 / AISI 316 / SPIROHARD/ AL
IMPELLER	GGG40 / AISI 316 / SPIROHARD
FRONT DISC	GGG40 / AISI 316 / SPIROHARD
BACK PLATE	GGG40 / AISI 316 / SPIROHARD
SUCTION FLANGE	GGG40 / AISI 316 / SPIROHARD
DISCHARGE FLANFE	GGG40 / AISI 316 / SPIROHARD
SUCTION FLANGE INSERT	AISI 316
SHAFT	cast iron
DRIVE FRAME	mechanical seal with oil lubrication for dry operation, SiC/SiC/NBR
SEAL	

MAXIMUM ENCLOSURE DIMENSIONS

L	2800mm	*The specified dimensions are for informational purposes only
B	1400mm	
H	1900mm	

EVACUATION SYSTEM

DIAPHRAGM VACUUM PUMP	suction capacity 45m ³ /hod
DRIVE	belt from the pump shaft
PRIMING DEVICE	priming sensors float for closing the suction after priming
ELECTROMAGNETIC CLUTCH	disengagement of the vacuum drive after priming
OIL-LUBRICATED MECHANICAL SEAL	allows dry operation during the priming cycle

ACCESSORIES

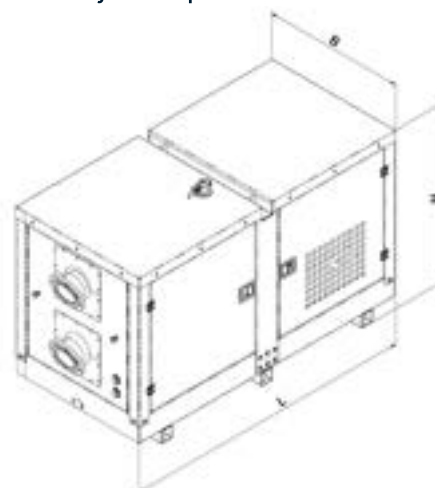
STANDARD EQUIPMENT

- A priming system consisting of a diaphragm pump, priming device, and electromagnetic clutch for the pump
- Control panel - automatic on/off and manual operation.
- 2 float switches
- Speed control
- Signal lights
- LCD display
- LED lighting (integrated into the container structure for night work)
- Lifting eyes + openings for handling with forklift forks
- 12V battery

OPTIONAL EQUIPMENT

- Suction hoses
- Discharge hoses
- Option for remote control and operation monitoring via a mobile application
- Enlarged fuel tank for 12 hours of continuous operation.
- Aggregate lighting to a minimum distance with height-adjustable LED lights, with the possibility of adjustment in 3 directions
- Box with basic tools
- Flow divider for discharge/suction hoses (for use with more than 1 hose for suction and discharge)
- OPTION 1 - Capotage
- Rigid structure to cover the engine, including soundproofing
- OPTION 2 - Homologated single-axle braked trailer
- Trailer floor made of aluminum sheet
- Height-adjustable drawbar with ball and eyelet
- Registration certificate for registration of the trailer on the DI
- The trailer allows transport on class 1 to 3 roads at a maximum speed of 90 km/h

Many other options are available



UNIT CHARACTERISTICS
