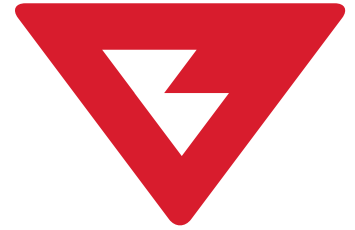


AC-5 wet shotcrete machine

Solutions for building, reconstruction
and refractory application



TORNADO
shotcrete equipment



Shotcrete — is the construction technique, where concrete pneumatically conveyed through a hose and projected layer by layer at high velocity onto a surface



Wet mix shotcrete is a versatile, flexible and economical method of construction and reconstruction. Properly chosen equipment allows to achieve good results in sprayed concrete application. TORNADO offers equipment, effective for the following types of work:

Applications

The optimal areas for the use of wet shotcreting are the objects with the need to apply large volumes in a constant mode, if possible, to provide the equipment with the necessary quantity of hydrated shotcrete:

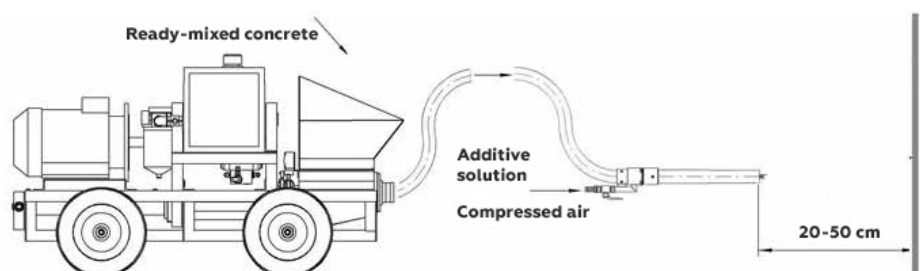
- repair of concrete and reinforced concrete structures
- construction of tanks and containers, basins, cones, shells
- slope protection in tunneling and mining construction
- application of refractory materials in metallurgy, chemical, glass, cement and other industries associated with high-temperature processes
- soil stabilisation (pits and storage facilities, strengthening of the slopes at construction of interchanges, bridges and so on.)
- erection of non-linear reinforced concrete structures (including decorative ones, on one-side formwork)

Method advantages:

- the reduced dust formation
- the possibility of final grouting
- minimum "rebound" of the material, minimization of material losses
- increased productivity of shotcrete works
- the ability to work in tight working space
- minimum costs for the site protection
- possibility of using the unit as a concrete pump
- the prepared shotcrete can be used for manual application
- the independence from concrete suppliers (the possibility of preparing mix on building site)
- the control of water-cement ratio

Working principle

The ready-made hydrated concrete mixture (aggregates, additives, binder substance, for example, cement) is fed through a hose into the nozzle to the placing point. In the nozzle, the material is entrained on the surface by the compressed air. Upon impact with the surface, significant concrete consolidation is achieved



Overview

The method of wet shotcreting was invented as a response to the need to increase the performance of work, to reduce the "bounce" and to facilitate the grouting of the finish surface. Thanks to the achievements of building chemistry, it became possible to obtain both high quality and thixotropic solutions, as well as highly mobile ones, for pumping over hoses. To achieve the aforementioned advantages of wet shotcreting, the equipment is technically complex, cumbersome and, therefore, expensive. The performance of the AC-5 TORNADO TORCRET wet shotcrete machine, by contrast, is extremely simple and reliable due to the use of the peristaltic principle

Features and benefits



1 Pneumatic large-diameter wheels allow the wet shotcrete machine to become unprecedentedly compact. Transportation and unloading can be carried out manually without the help of crane mechanisms



2 Simple and robust design. Due to the peristaltic principle of operation, there is no contact of the pumped medium with moving metal parts. The only wearing part - working hose - is replaced in 15-20 minutes without equipment removal



3 Minimum operating costs. The minimum consumption of electricity (fuel) due to the installation of low-power drives: electric, diesel, pneumatic Easy operation Easy maintenance and cleaning, the low noise level



4 Layout and configuration according to the tasks of the construction site – on a single frame with a mortar hopper, on a skid, wheels or self-propelled chassis. The structure of the pumped medium is not destroyed. Unlike piston pumps, there is no squeezing out of the mixing liquid

5 The pneumatic conveying nozzle (option) allows to increase the feed distance of the hydrated mixture to 100 m

The ability to change productivity and reverse operation, allows you to instantly adapt the machine to the required type of work

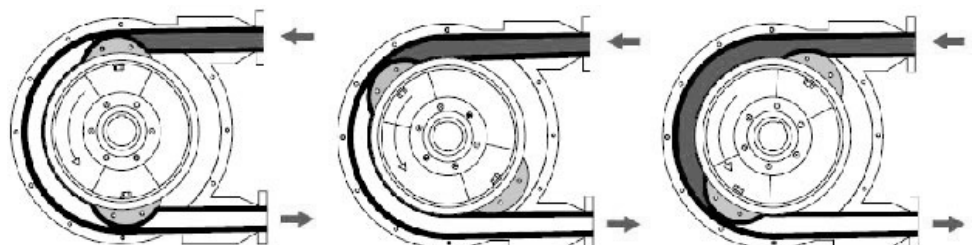
Uniform continuous feed of the mixture with minimal pulsations



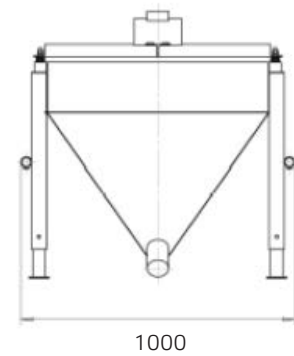
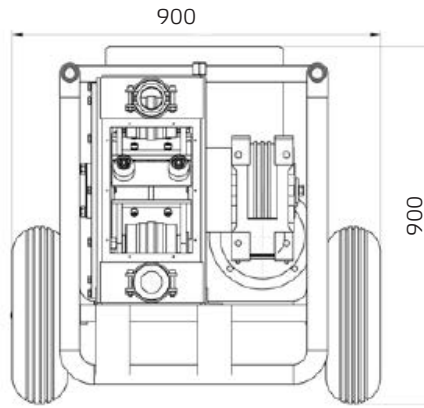
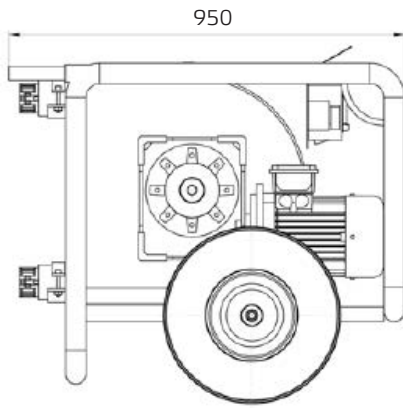
* AC-5 with electric drive without bunker 5

The principle of peristaltic pump operation

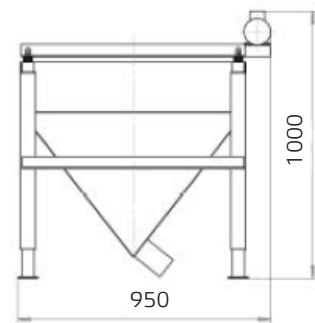
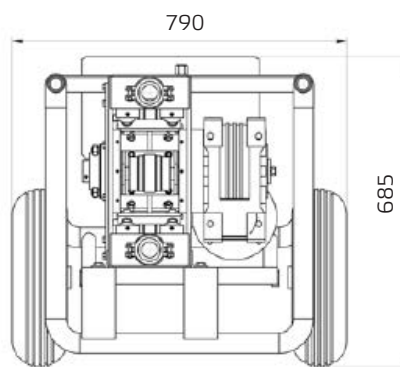
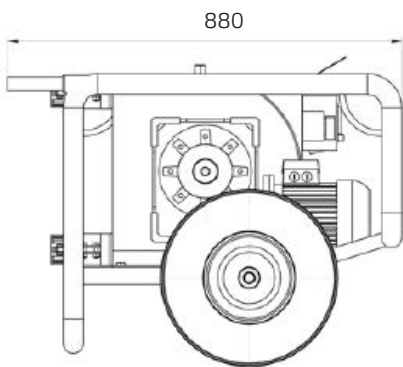
The pressure rollers press the working hose with the contents, and, moving along the tube, push the contents forward to the outlet



AC-5-3,5



AC-5-2



* AC-5 with electric drive

* independent mortar hopper

Recommended assembly:

		AC 5-2	AC 5-3.5
Theoretical output	m ³ /hour	1.8	3.5
Available diameter of material hose	mm	38	50
Engine		380V, 2.2 kW	380V, 4 kW
Maximum particle size of conveyed material	mm	5	8
Horizontal transport distance	m	up to 50 (70)*	
Vertical transport distance	m	up to 10 (25)*	
Required air pressure	mPa	0.4 – 0.5	
Air consumption	m ³ /min	3	3 – 5
Length	mm	880	950
Width	mm	790	900
Height with sieve	mm	685	900
Weight (without hopper and accessories)	kg	190	290

* with the use of a nozzle for pneumatic transport

Recommended assembly:

- AC-5 shotcrete machine with a peristaltic hose
- loading hopper with sieve and vibrator
- abrasion resistant hose, 20 meters
- assembled nozzle
- 1 spare nozzle tip
- 1 spare peristaltic hose

Available for order: mortar bunker, hoses of various diameters, remote control, nozzles for different materials, explosion-proof electric motor, diesel and pneumatic drive, skids, rail platform, automatic lubrication system

For operation of the AC-5 machine required: the compressed air at least 3 m³/min



TORNADO specialized in dry and wet shotcrete works and structures strengthening for more than 25 years. This unique work experience allows us to provide full-cycle services for shotcrete contractors. We strive to consider on-site conditions to get the best result for our Client.

Wearing parts are always available for shipment

Free onsite nozzleman machine operator training for wet and dry processes

Special equipment editions on demand: alternative versions of the drives, remote control, extra consumables, types of material hoses and nozzles

Full customer support

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