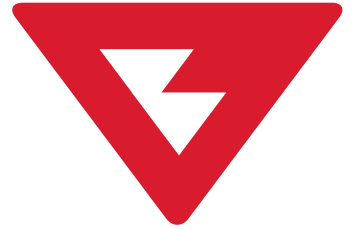


AC-3 dry and wet shotcrete machine

Solutions for mining, tunnelling, building, reconstruction, slope protection 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.



Shotcrete (dry and wet mixes) 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

- repair of concrete and reinforced concrete structures
- construction of tanks and containers
- 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 the construction of interchanges, bridges and so on.)
- conveying of loose materials (sand, gravel, etc.).
- as a sandblasting equipment
- sprayable membranes application
- house building incl. EVG 3d panel

Method advantages:

The use of combined equipment for dry and wet shotcreting combines the advantages of both methods, and is characterized by:

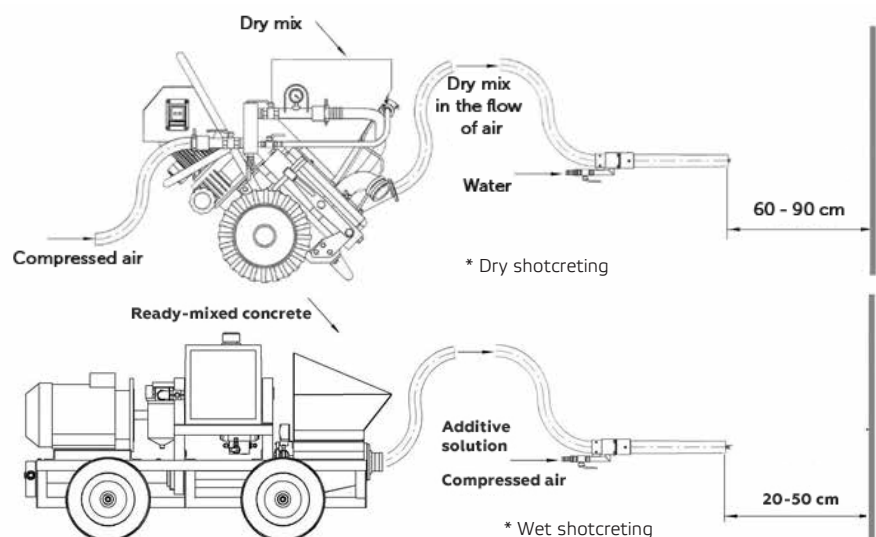
- improved characteristics of mechanical strength, higher concrete density, better frost-resistance and water resistance
- high initial strength of sprayed concrete layer (dry method)
- high level of adhesion to different surfaces (dry method)
- the possibility of conveying mixtures to long distances (up to 400 m; dry method)
- ability to work in the "start-stop" mode (dry method)
- the reduced dust formation (wet method)
- a minimum "rebound" of the material, minimization of material losses (wet method)
- the possibility of using the unit as a concrete pump

Working principle

Dry or hydrated mix (aggregates, additives, astringent e.g. cement) is loaded into a hopper, where it falls into the rotary dosing drum. Then followed by compressed air, mix is fed into the spraying nozzle.

In the dry method, at the base of the nozzle, the material is mixed with water and entrained by air onto the shotcrete surface. With a wet method, in the nozzle, the material is further accelerated by air.

Upon impact with the surface, significant concrete consolidation is achieved



Overview

TORNADO AC-3 shotcrete machine uses classical rotary principle. The performance of shotcrete equipment is characterized by a large safety margin for heavy duty operation, as well as the versatility of dry and wet methods. The machine is recommended for use to place large volumes of shotcrete in mines, tunneling, as well as for soil stabilization. AC-3 machines have been widely used at numerous objects in the CIS, European and Asian countries for 15 years and already proved their high reliability and maintainability level in the difficult operating conditions.

Features and benefits



Pneumatic large-diameter wheels ensure easy movement on the construction site



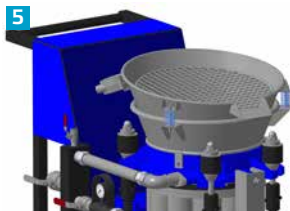
Massive design with a **three-fold safety factor** ensures trouble-free operation even in the most demanding conditions



The **multi-point fixing system of the metering head** with the cushioning system ensures a uniform constant pressing of the sealing plate that provides its uniform wear



The design with a double air supply and a powerful turbulent blower **makes it possible to use the unit both in dry and wet mode** and makes it the most versatile for any tasks on shotcreting. Fast cleaning and easy access to wear parts minimize downtime



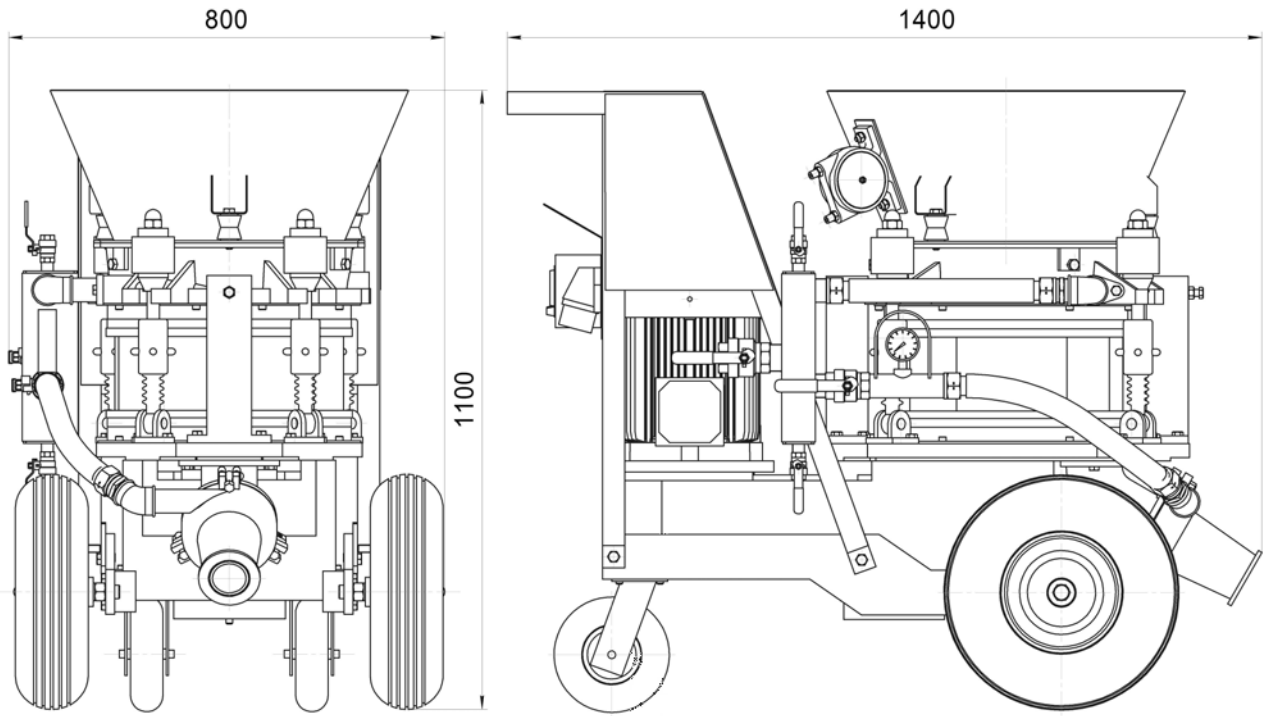
Different types of charging hopper provide maximum performance in the use of dry or wet shotcreting method

- Sieve prevents extra-large size pieces to get into the dosing rotor
- Simple and reliable vibrator provides the necessary exertion to deliver the mix into the machine

Protective apron protects the elements of machine from damage and contamination

Quick connection couplings are used. Construction site relocation takes a few minutes





AC-3 DRY AND WET MIX SHOTCRETE MACHINE

Technical data	unit	electric drive	explosion proof model	
			electric motor	air motor
Working temperature	°C	up +5°C to +50°C		
Dosing rotor volume	dm ³	9	9	9
Bunker volume	dm ³	70	70	70
Theoretical output*	m ³ /hour	3,0-6,5	6	3,0-6,5
Dosing rotor rotation speed	min ⁻¹	6-12		
Air compressor pressure	mPa	0,5		
Air consumption total	m ³ /min	8,0-10		18-20
Air consumption for pneumatic vibrator	m ³ /min	0,5 - 0,7		
Drive power	kW	7,5	5,5	13
Drive type		3 x 380B 50 Hz	3x380/660B 50 Hz	air motor
Transport distance horizontally, dry method	m	to 200		
Transport distance vertically, dry method	m	to 100		
Transport distance horizontally, wet method	m	to 60		
Transport distance vertically, wet method	m	to 40		

Machine dimensions

Length	mm	1510	1510	1510
Width	mm	800	800	800
Height	mm	1200	1200	1200
Weight with no accessories	kg	594	594	594

Recommended assembly:

- AC-3 dry shotcrete machine (incl. feeding hopper, sieve, vibrator) on pneumatical tyres
- Abrasion resistant hose, 20 meters, diameter 50 mm
- Assembled nozzle, diameter 50 mm
- 1 spare nozzle tip
- 2 spare sealing plates
- Air hose, 20 meters
- Water hose, 20 meters

Available for order: hoses of various diameters, remote control, nozzles for different materials, explosion-proof electric motor, skids, rail platform, automatic lubrication system.

For the operation of the AC-3 machine required: the water supply pressure not less than 2 atm (dry method), the compressed air at least 8 m³/min, 9 kW electricity



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

Contact

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