

CONCRETE SPRAYING MACHINE

FILAMOS
Construction and Mining Technology

SSB 14

STANDARD
DUO
COM-F
COM-V
COM-A



Concrete spraying machine SSB14 have been designed for spraying concrete and refractory mixtures in the so-called dry way when the transported mixture gets moistened at the moment of spraying. SSB concrete spraying machines are used, in particular, to reinforce surfaces of engineering structures, and the construction of water works, to reinforce the vaulting of tunnels and collectors in underground engineering and to maintain concrete constructions.

CONSTRUCTION

SSB 14 ALTERNATIVES



SSB 14.1 STANDARD



SSB 14.1 COM-F



SSB 14.1 COM-V



SSB 14.1 DUO



SSB 14.1 COM-A

WORKING PRINCIPLE

SSB machines work on the principle of pneumatic transport.

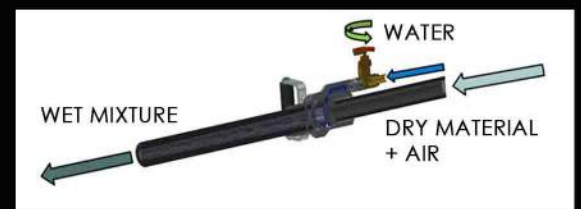
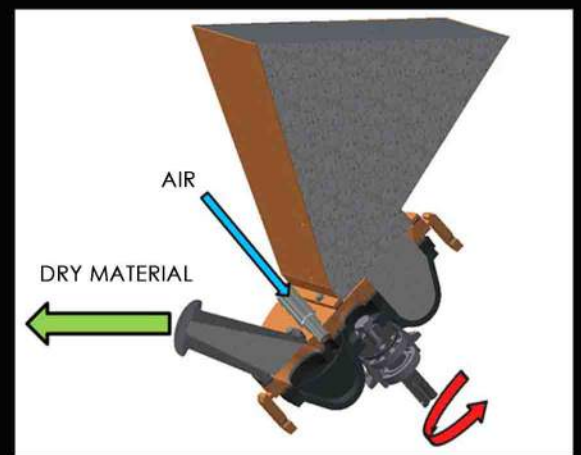
Dry mixture (the natural moisture content of the transported mixture can be 7 % max.) for spraying or transport is poured into the hopper and the pockets of the one sided dosing drum located underneath the filling hopper are filled in evenly. To enable a smoother transport of the mixture into the drum, the machine is equipped with a vibrator and rippling device. The rotating movement of the dosing drum moves the mixture along to the blower, and the stream of air pressure blows it further along to the transport hose. A spraying nozzle is mounted onto the end of the hose. Gauge water is led to the nozzle and the transported mixture gets moistened here.

The required moistening is regulated by an inlet cock.



SSB 14.1 STANDARD

Visit FILAMOS Youtube channel for practical demonstration of the machine by clicking on Youtube picture or [here](#).



Tightening bolt



Air inlet DN 40



Air vibrator

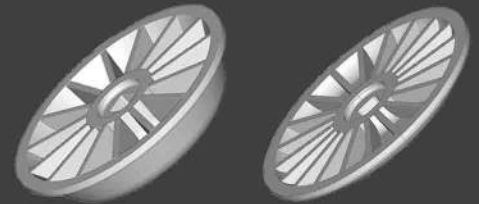


Rippling device

OPTIONAL EQUIPMENT

ADDITIONAL

- different sizes of dosing rotor
- automatic central lubrication system for greasing of rotor and sealing plates
- possibility of remote control of the machine in the length of 60 meters
- water separator (to separate excess water from the air supplied)
- solid frame modification (standard delivery - wheel frame)



Dosing drum I
(3,0 l)

Dosing drum II
(1,2 l)



Wheel chassis for mines



Firm frame with eyes for crane



Rail chassis



Automatic lubrication



Remote control



Water separator

The machine is delivered with optional accessories set corresponding with required output. Each type of accessories set differs from each other by an inner diameter of transport hose. Marking DN xx (e.g. DN40 = transport hose with an inner diameter 40 mm).

Recommended set of accessories consists of :

- End hose with the nozzle + coupling – 20 m
- Extension hose + coupling – 20 m
- Water hose – 20 m
- Sealing plate - 3 pcs
- Nozzle ending (rubber) – 2 pcs

Above mentioned set is recommended when buying a new machine. It is possible to order individual components according to requirements (hoses, sealing plates, etc.) additionally.

Model	Dosing drum	Accessories set
SSB 14	II	DN 25
	II	DN 32
	I	DN 40
	I	DN 50



End hose with nozzle



Extension hose



Water hose



Coupling (type II)



Coupling (type I)



Sealing plate

SSB 14.1 COM-F

DESCRIPTION

Large hopper

includes built-in sieve for safety and is equipped with a special tearing comb

Manometer

Control box equipped with frequency converter allowing fluent change of machine output by lowering or increasing revolutions of the drum

Manual lubrication

is an alternative to optional **Automatic lubrication**. It allows perfect greasing of rotor and sealing plates

Blower is connected to a reduction referring required diameter of transport hoses (DN 32, DN 40). The blower is DN 50

Air inlet with required air pressure of 0,5 - 0,6 MPa, air hose is connected either to one **DN 40**

or 2 x DN 25 air inlets

Tightening bolt

Powerful drive 2,2 kW

SSB 14.1 STANDARD

Air vibrator

with a smooth vibration, it allows fluent flow of the material into the rotor

Air inlet to vibrator

Air valves

enabling regulation of the air supplied from the compressor

Coupling for material hose

Variator pulley control lever

allows fluent manual regulation of rotor rpm, thus regulating the output of the machine

			STANDARD	DUO	COM-F	COM-V	COM-A					
Drive motor			Electric motor	Electric motor {4/6 poles}	Electric motor	Electric motor	Pneumatic motor					
Motor output [kW]			1,5	1,87 / 1,35	2,2	2,2	3,5					
RPM of the drum [min-1]			11 - 16	11 / 16	5 - 16	5 - 16	5 - 16					
Regulation			smooth	two speed motor	smooth	smooth	smooth					
Means of regulation			variator pulley	two output valves (low / high output)	frequency converter	variator	air turbine					
Output* [m ³ x h ⁻¹]			MIN rpm	MAX rpm	MIN rpm	MAX rpm	MIN rpm	MAX rpm	MIN rpm	MAX rpm		
			Dosing drum I (3,0 l)		Dosing drum I (3,0 l)		Dosing drum I (3,0 l)		Dosing drum I (3,0 l)		Dosing drum I (3,0 l)	
			2,0		3,0		0,9		3,0		0,9	
[m ³ x h ⁻¹]			Dosing drum II (1,2 l)		Dosing drum II (1,2 l)		Dosing drum II (1,2 l)		Dosing drum II (1,2 l)		Dosing drum II (1,2 l)	
			0,8		1,2		0,4		1,2		0,4	
Transport distance horizontal max [m]			300	300	300	300	300					
vertical max [m]			100	100	100	100	100					
Ø of transport hose / Granularity of transported material max	Dosing drum II - DN 25 [mm]		8	8	8	8	8					
	Dosing drum II - DN 32 [mm]		8	8	8	8	8					
	Dosing drum I - DN 40 [mm]		16	16	16	16	16					
Air consumption (distance 40 m) [m ³ x min ⁻¹]			4 - 5	4 - 5	4 - 5	4 - 5	6 - 9					
Air pressure [MPa]			0,5 - 0,6	0,5 - 0,6	0,5 - 0,6	0,5 - 0,6	0,5 - 0,6					
Remote control	Motor - START/STOP		Optional	Optional	Included in base price	Optional	Optional					
	RPM of the rotor change +/-		N/A	N/A	Included in base price	N/A	N/A					
	Air - START/STOP		Optional	Optional	Optional	Optional	Optional					
Ø of water hose [mm]			DN 20	DN 20	DN 20	DN 20	DN 20					
Dimensions	Length [mm]		1000	1000	1000	1000	1000					
	Width [mm]		780	780	780	780	780					
	Height [mm]		980	980	980	980	980					
	Weight [kg]		271	298	330	300	330					
Electricity	Mains connection		3 NPE ~ 50 Hz ; 3 x 400/230 V/TN-S	3 NPE ~ 50 Hz ; 3 x 400/230 V/TN-S	3 NPE ~ 50 Hz ; 3 x 400/230 V/TN-S	3 NPE ~ 50 Hz ; 3 x 400/230 V/TN-S	X					
	Max. deviation of voltage [%]		± 10	± 10	± 10	± 10	± 10					
	Coverage		IP 55	IP 55	IP 55	IP 55	IP 55					

* The actual output depends on the design and moisture of transported mixture, the volume and pressure off the compressed air, the transport distance, the diameter of the transport hose and the way of filling the material.

WORKPLACE PREPARATION

WORKPLACE PREPARATION

MATERIAL

- granularity: max. 8 mm (hose DN 25 / DN 32)
max. 16 mm (hose DN 40 / DN 50)
- moisture: max. 3 - 5 %



MAINS CONNECTION

- 3xPEN 400, 50Hz
- input: 3 kW
- power take-off: cca. 7A
- plug: 16A (5 Pin)

WATER HOSE
- pressure min. 0,3 MPa



COMPRESSOR

- output - 5-8 cbm/min (valid for horizontal material conveying - 40 m)
- pressure: 0,5 - 0,6 MPa

REDUCER 2 X DN 20/25 - DN 40

- compressor with an air outlet DN 40 is connected directly - without a reducer

NOZZLES



Nozzle DN 40 AL

Nozzle built from aluminium body, water inlet and rubber ending is being standardly used with SSB 14. The nozzle is equipped with aluminium handle for easier manipulation. Construction of the nozzle allows perfect wetting of the mixture.



Nozzle DN 40 POLY

Complete one-piece POLY nozzle made of polyurethane is used alternatively.



Depending on customers specific requirements, it is also possible to supply special types of nozzles according to the character of application.

MATERIAL HOSE
- DN 25 / DN 32 / DN 40 / DN 50
(depending on rotor type)





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