

Technical description

Plaster and Mortar Screw Pumps

Series C, CM, CA



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I. Field of Application

The plaster and mortar machines are used for transporting, plastering (spraying), grouting and injecting of fine wet mixtures, in particular fine plaster mixtures, injecting mixtures, paint putty, putty coats, insulating coats etc. Plaster and mortar machines can be used widely not only in the construction industry, for underground and above-ground constructions, but also in the metallurgy and foundry industries.

These are universal machines based on the principle of the worm transport spindle. Their fields of application are determined by the selected transport spindle establishing the maximum transport output and pressure, and by the choice of transport accessories.

The machines with a higher transport output and lower pressure are, in particular, used as plastering machines, whilst machines with a lower output but higher pressure are used, in particular, as mortar machines for the injection of low granularity mixtures. These machines are also useful for transporting wet mixtures to the place of delivery.

More powerful plaster and mortar machines (18-50 dm³/min) can be equipped with an activation mixer or compulsory mixer which enables immediate processing of the mixture and simplifies the entire working procedure.

It is necessary to consult the applicability of the transported mixtures with the producer of the mixtures or test it out in advance.

II. Working Principle

The plaster and mortar machines are filled with a wet, premixed mixtures. At the bottom of the vat there is a mixing spindle with blades which move the mixture towards the exit where the metal worm placed in a rubber casing pushes it further along into the transport hoses. Based on the required field of application, relevant accessories can be attached to the end of the transport hose, for example plastering jet, grouting or injecting needle.

Due to health and safety requirements, the mixture is filled into the tub via a protective screen or a sieve. This safety feature also enables the relevant granularity of the mixtures reflecting the transport spindle used.

Machines are equipped with a one speed or two speed motor depending on the specific model. The models with one speed motor work in one output mode (STANDARD model) and they enable a smooth regulation of the output using the variator or frequency transformer (COM-V, COM-F). The two speed motor has two output modes which can be selected by a switch (DUO).

The models equipped with the activation mixer or compulsory mixer have a mixing vessel situated directly above the vat which enables perfect mixing of the mixture without any delays. The mixture is mixed to the desired consistency and then it is released to the vat by opening the outlet cock at the bottom of the mixer. In order to secure the safety of the service personnel, the mixer is equipped with a terminal switch which switches off the motor once the cover is opened.

The machines are transported on wheels, front wheel has a brake. For carrying are the machines equipped with telescopic or stationary grab bars.

Air supply is to the nozzle from a separate source, which is not a part of the machine.

III. Technical Data

Series - C

PARAMETER	C-6 Standard	C-8 DUO	C-8 COM-F	C-18 COM-F	C-20 Standard	C-50 Standard	C-20 COM-V	C-50 COM-V
Max. output [dm ³ /min]	6	8	8	18	20	50	20	50
Max. pressure [MPa]	1,3	1,3	1,3	3,5	3,5	3,5	3,5	3,5
Max. granularity [mm]	2	2	2	4	4	6	4	6
Max. transport distance [m]	20	20	15	30	40	40	40	40
Wattage [kW]	1,5	1,5/1,9	1,5	2,2	3	5,5	3	5,5
Voltage [V]	400	400	230	400	400	400	400	400
Weight [kg]	58	70	90	87	150	230	200	245
Length [mm]	860	1200	1065	1315	1885	2590	2045	2440
Height [mm]	585	715	800	640	690	740	720	740
Width [mm]	490	485	550	520	790	790	845	700

Series - CM, CA

PARAMETER	CM-18 Standard	CM-50 Standard	CM-20 COM-V	CM-50 COM-V	CA-20 COM-V	CA-40 COM-V
Max. output [dm ³ /min]	18	50	20	50	20	40
Max. pressure [MPa]	3,5	2,5	3,5	3,5	3,5	3,5
Max. granularity [mm]	4	6	4	6	2	2
Max. transport distance [m]	40	40	40	40	40	40
Wattage [kW]	3+1,5	5,5+2,2	3+1,5	5,5+2,2	3+2,6/3,1	5,5+2,6/3,1
Voltage [V]	400	400	400	400	400	400
Volume of the mixer [l]	65	100	65	100	65	100
Weight [kg]	255	360	305	375	355	375
Length [mm]	1885	2450	2045	2440	2045	2440
Height [mm]	1190	1230	1190	1280	1210	1300
Width [mm]	790	790	845	700	840	700

Note:

C – screw pump

A – activation mixer

M – compulsory mixer (cyclone mixer)

Drive and output regulation

STANDARD – one speed motor – one output position

DUO – two speed motor – two output positions

COM-F – one speed motor with smooth output regulation – frequency transformer

COM-V – one speed motor with smooth output regulation – variator

Max. deviation of voltage system: $\pm 10\%$
Temperature of working environment [°C]: $5 \div 40$

Kind of external impacts is in compliance with CSN 33 2000-3.

Environment: AA5, AB5, AE6, AF2

Usage: BA4, BE1

IV. Accessories

Accessories	Series C	Series CM, CA
DN 20	C-6 Standard C-8 DUO C-8 COM-F	X
DN 25	C-20 Standard C-18 COM-F C-20 COM-V C-50 COM-V	CM-18 Standard CM-20 COM-V CA-20 COM-V CA-40 COM-V CM-50 COM-V
DN 35	C-50 Standard C-50 COM-V	CA-40 COM-V CM-50 Standard CM-50 COM-V

Each type of accessories differs from each other by an inner diameter of transport hose. (Marking DN xx; e. g. DN 25 = 25 mm of inner diameter of transport hose).

Standard accessories set consist of:

- delivery hose – 15 - 20 m (depending on model)
- plastering jet, grouting needle, injecting needle (alternatively)
- air hose – 15 -20 m (depending on model)
- cleaning ball
- pressure gauge
- (remote control - model C-8 COM-F)

End device (plastering jet, grouting needle, injecting needle) is chosen according to the required field of application.

End

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