EN

WETMIX® V05

MORTAR MIXERS FOR SILO APPLICATIONS

1

TECHNICAL CATALOGUE

Manual No. SIN.161.--.T.EN Issue: A1 Latest update: January 2013
ORIGINAL INSTRUCTIONS IN ENGLISH

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WAMGROUP®

WAM®

All the products described in this catalogue are manufactured according to **WAMGROUP S.p.A. Quality System procedures**. The Company's Quality System, certified in July 1994 according to International Standards **UNI EN ISO 9002** and extended to the latest release of **UNI EN ISO 9001**, ensures that the entire production process, starting from the processing of the order to the technical service after delivery, is carried out in a controlled manner that guarantees the quality standard of the product.

SUMMARY

WETMIX® V05 is a continuous single-shaft horizontal mixer with its mixing chamber made of wear-proof **SINT®** engineering polymer.

These machines are designed for use in the building sector exclusively for mortar production obtained from premixed products and finishing products feeded directly from silo/non-pressurized hopper (product descends due to gravity). The maximum permitted product particle size is 4 mm.

The use of **SINT®** engineering polymers ensures both longer durability of the mixing tools in comparison with traditional carbon steel equipment and extremely short cleaning time.

Thanks to its modularity, the **WETMIX® V05** is found to be particularly suitable for handling by a single person and also to being loaded on motor vehicles.

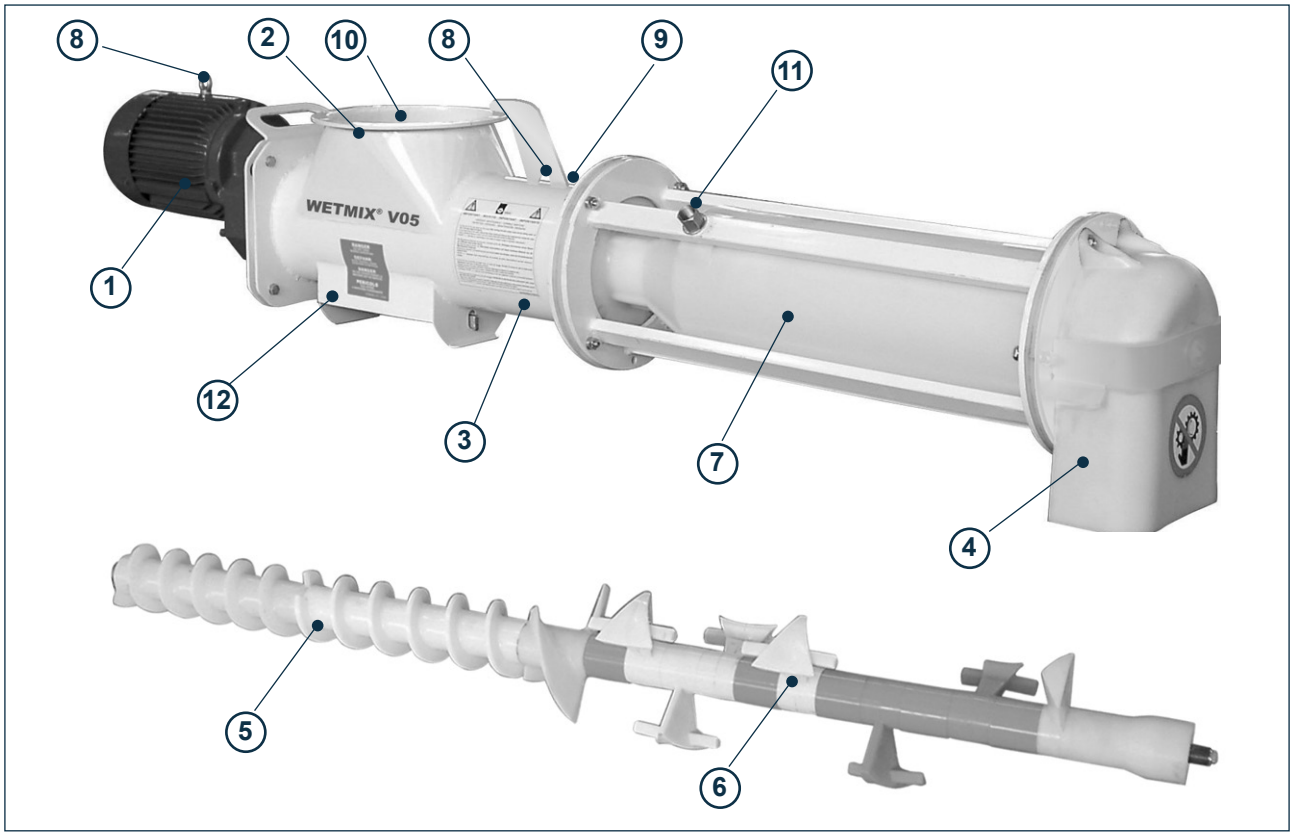
MAIN BENEFITS:

- Homogeneous wet mortar in a few seconds;
- Self-cleaning machine;
- No waste dry material;
- Modular shaft for different types of mortar;
- Reduction of maintenance and cleaning costs;
- Quick return on investment.

The machine is designed for use in the building sector exclusively for the production of mortars obtained from premixed products and finishing products by direct feed from silo/non-pressurized hopper (product falls due to gravity).

The maximum permitted product grain size is 4 mm.

3.1 Description of the standard machine



1) Drive unit
2) Inlet spout
3) Horizontal housing
4) Outlet spout
5-6) Screw and mixer shaft
7) Mixing chamber
8) Lifting eye
9) Serial number
10) Silo connection flange
11) Water supply point
12) Inspection hatch

3.2 Order code

WML ☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Configuration
S = Standard
L = Long

Screw Pitch (mm)
1 = 1/1
2 = 2/3
3 = 1/2

Shaft Configuration
1 = Standard
4 = Performance mix
3 = Long mix
2 = Short mix

Agitator Tool
+ = Without
1 = Standard version
2 = High resistance version

Inlet type
A = Standard
F = Turnable flange with shifted lilting eye

Outlet type
X = 1/1 outer bushing
Y = 2/3 outer bushing
W = 1/1 outer bushing with quick outlet assembly kit
Z = 2/3 outer bushing with quick outlet assembly kit

Frequency
50 = 50 Hz
60 = 60 Hz

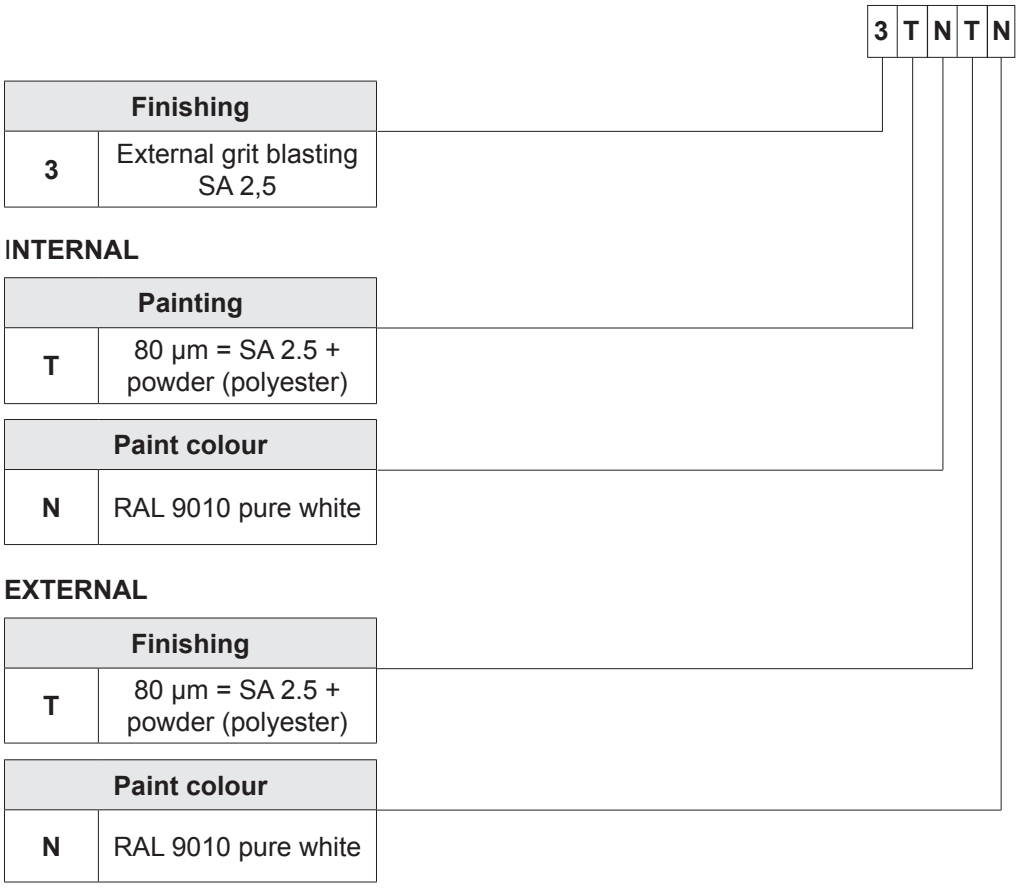
Motor Power

0400 = 4.0 kW
0550 = 5.5 kW
040N = prepared for 5 HP motor (NEMA)
055N = prepared for 7,5 HP motor (NEMA)
040S = prepared for 4 kW motor (IEC)
055S = prepared for 5,5 kW motor (IEC)

Voltage and Frequency
1 = 220-240 / 380/420 V 50 Hz; 440-480 V 60 Hz for Gr. ≤ 132
D = 220-240 / 380/420 V 50 Hz; 440-480 V 60 Hz for Gr. ≤ 132 IE2
E = 210-230/360-400 V (60Hz) for Gr. ≤ 132 IE2
+ = without motor

Electric cable
A = plug 3 pins + earth (3P+T)
B = plug 3 pins+earth+neutral (3P+T+N)
+ = no cable

3.3 Finishing



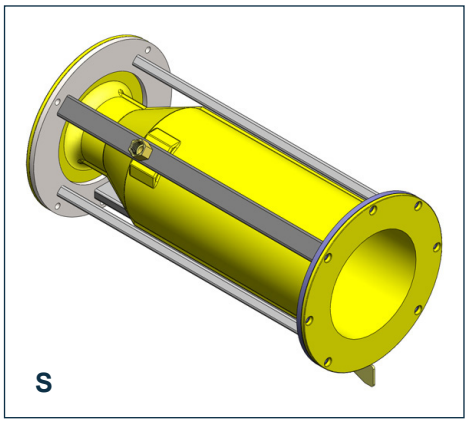
NOTE: The gear reducers are painted with HS RAL 5010 (gentian blue) paint.

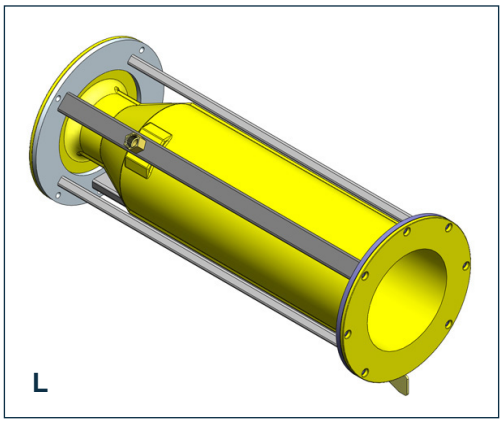
3.4 Options

WETMIX® V05 CONFIGURATION

The configuration changes on the basis of the different mixing chamber and shaft lengths. Different lengths provide different mixing time.

In the box 2 of the order code, there can be selected the configuration of **WETMIX® V05** as follows:
S = Standard
L = Long

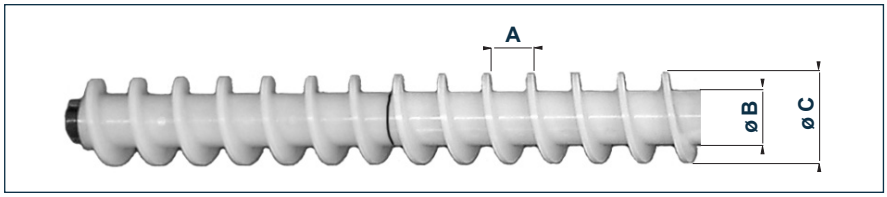




SCREW PITCH

In the box 3 of the order code, there can be selected the batching screw pitch among the versions available:
1 = 1/1
2 = 2/3
3 = 1/2 (Std.)

To determine the rated throughput, refer to the related data in the Table.



Order code Ref.	A	ΦB	ΦC	kg
1	100	60	100	2.5
2	62.5	60	100	2.8
3	50	60	100	3

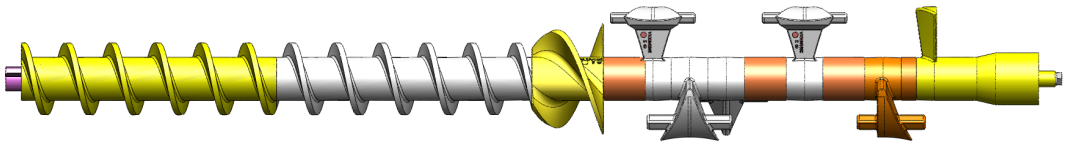
Dimensions in mm

SCREW PITCH	THEORETICAL CAPACITY [l/min]
1/2	40
2/3	60
1/1	100

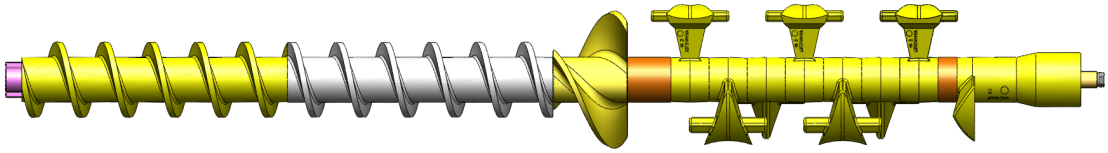
SHAFT CONFIGURATIONS

In the box 4 of the order code, it is possible to select from among four different mixer shaft configurations:
Standard - standard mixing time for masonry mortar (low/medium flowability).
Performance mix - high performance mixing for special mortars (medium/high flowability).
Long mix - longer retention time for special mortars with additives (low/medium flowability).
Short mix - short retention time for high quality mortar with high percentage of additives (medium/high flowability).

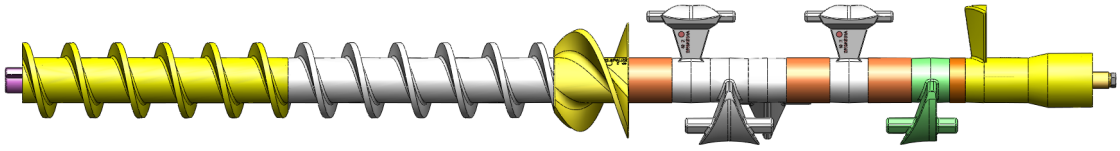
Standard



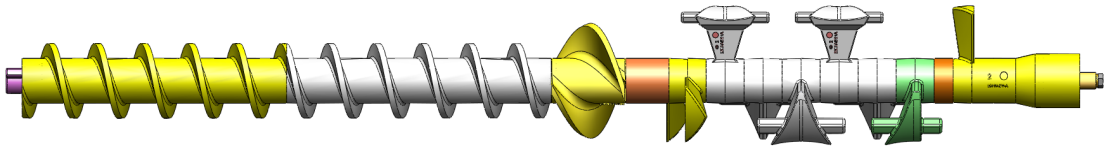
Performance



Long Mix



Short Mix



NOTE: Thanks to the modularity of the mixer shaft, its configuration can be customized by selecting the number and type of tools.
For further information, please contact our local Engineering-Commercial Dept.

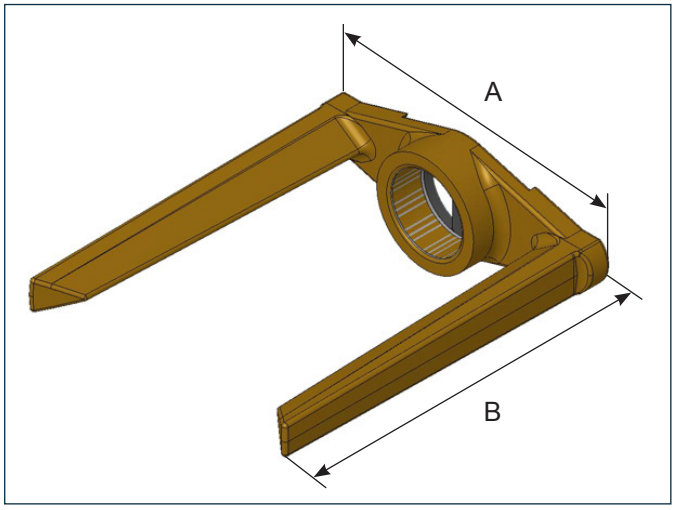
AGITATOR TOOL

In the box 5 of the order code is possible to select the agitator tool.

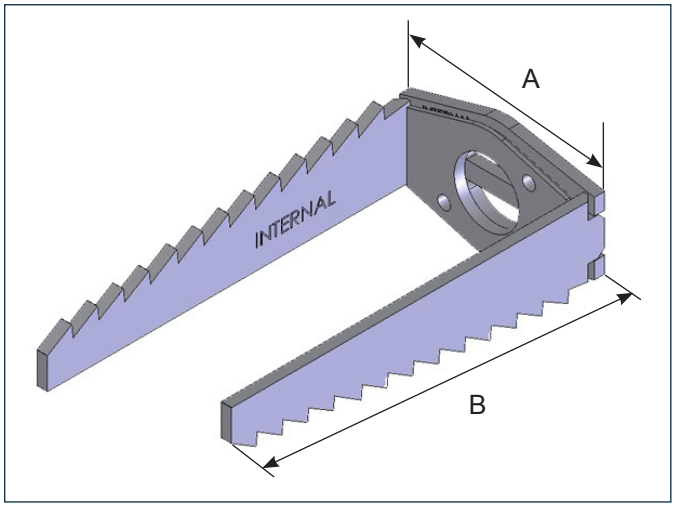
The agitator tool delumps the material helping its flowing into the **WETMIX® V05**. The generated turbulence avoids material stagnation and potential screw abrasion.

High resistance version is stronlgy suggested with highly abrasive premixed material.

Standard version



High resistance version



A	B	kg	Material
287	134	2.54	Hardox 400

Dimensions in mm

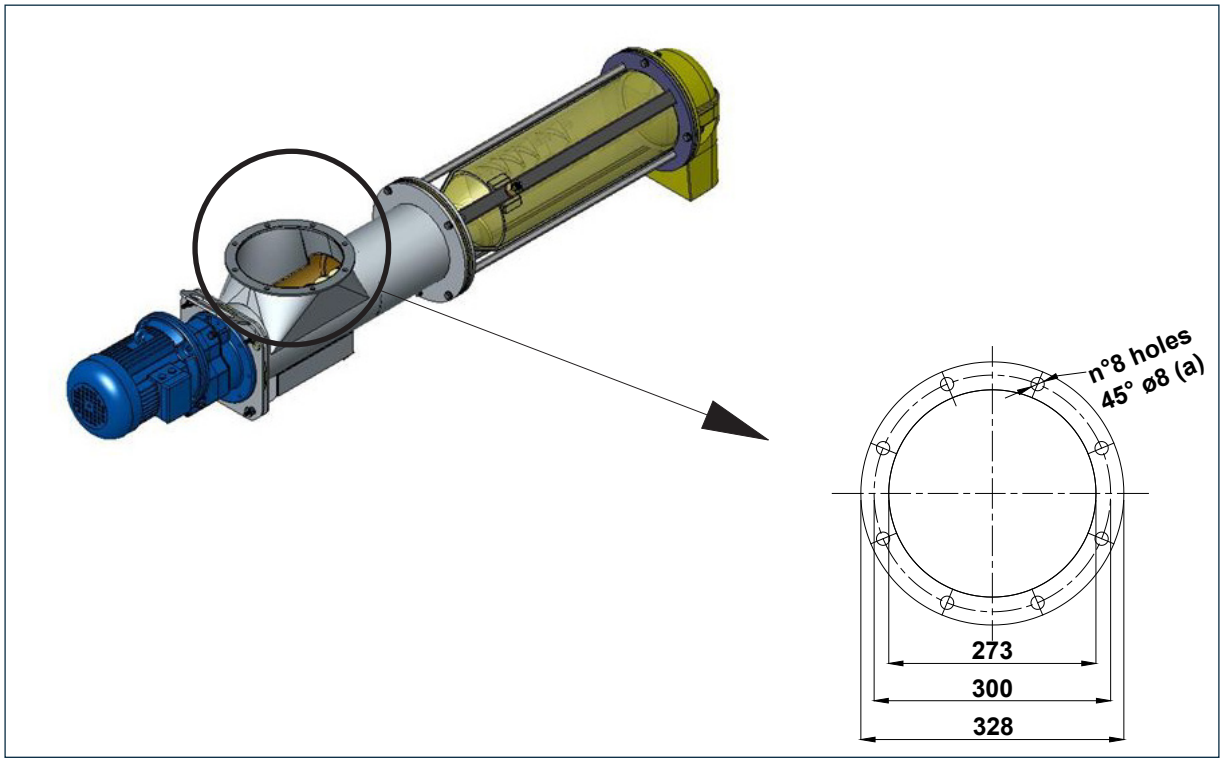
The standard version is manufactured in **SINT®.**

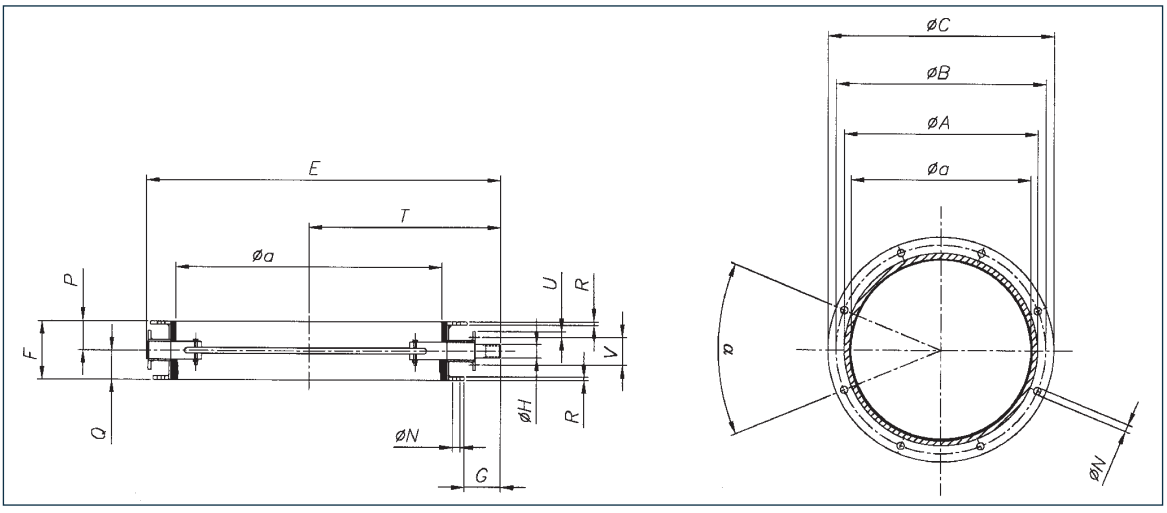
INLET TYPE

In the box 6 of the order code it's possible to select the INLET spout options.

Standard dimension: 273 mm.

Revolving flange with shifted eyelift: to be used when the operator needs to turn the operating **WETMIX® V05** to fill large trolleys or bins.





Type	Φ a	Φ A	Φ B	Φ C	Φ D	F	G	Φ H DIN 5482	N Holes		P	Q	R	□	T	U	V	kg
									0	N°								
V2FF 250 G34N (with adjustable flange)	240	265	300	328	400	100	50	22x9	13.5	8	50	50	6	45°	214	M12	50	8.6

Dimensions in mm

OUTLET TYPE

Outlet shapes allow different material retention time inside the mixing chamber. 2/3 outlet improves the mixing time, 1/1 help the material flow when application requires it.

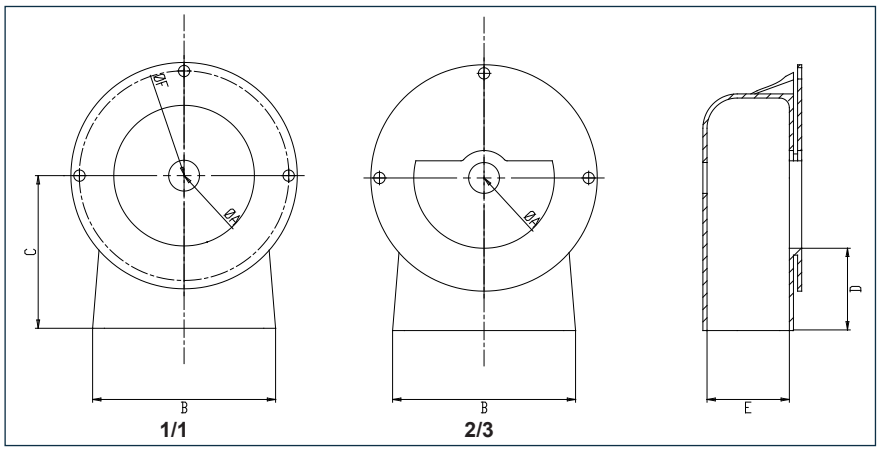
In the box 7 of the order code, it is possible to choose among:

X: outlet spout 1/1

Y: outlet spout 2/3 (STD)

W: 1/1 outer bushing with quick release outlet kit

Z: 2/3 outer bushing with quick release outlet kitt



Outlet section	Φ A	B	C	D	E	kg
2/3	205	267	223	120	120	4.6
1/1	205	267	223	120	120	4.5

Dimensions in mm

The bushing is on the outside of the mixing chamber and therefore increases its durability.

Item	Description	Material
1	Bushing support	Aluminium alloy
2	Bushing	PTFE

The quick release outlet kit allows a quick and safe opening for an easy maintenance.

MOTOR

In the box 8-9-10 of the order code, it is possible to select the motor power among:
0400: 4.0 kW (STD)
0550: 5.5 kW
040N = prepared for 5 HP motor (NEMA)
055N = prepared for 7,5 HP motor (NEMA)
040S = prepared for 4 kW motor (IEC)
055S = prepared for 5,5 kW motor (IEC)

There are used three-phase **WAM**® motors.

All these motors are manufactured according to IEC as well as DIN standards as regards junction box connections.

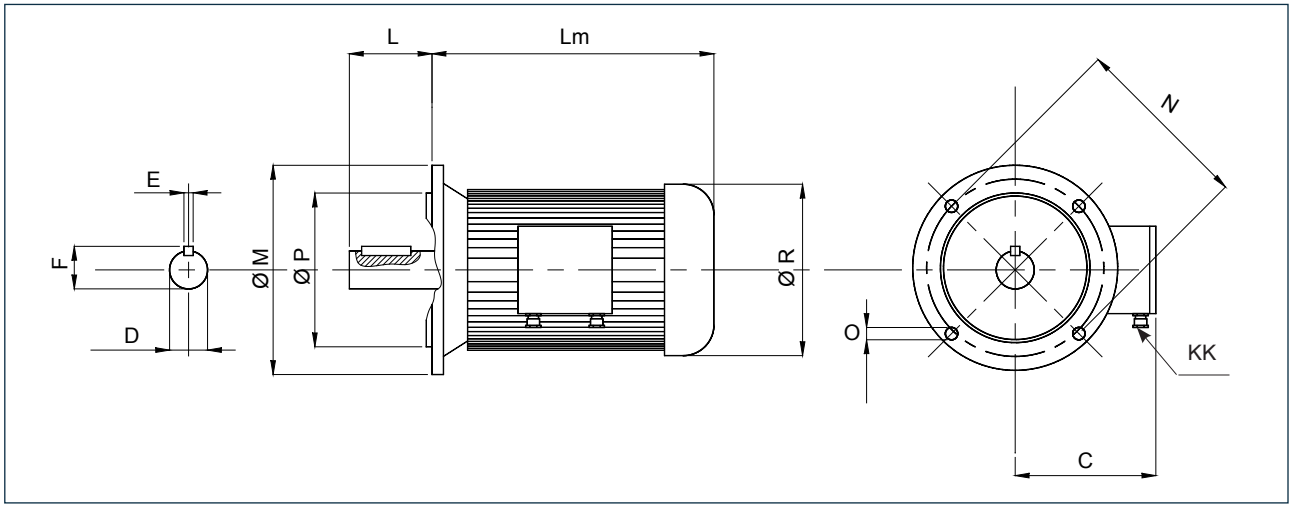
This means, that there can be used other electric motors providing they comply to the above-mentioned standards without need of changing the gear reducer.

If motors with special technical characteristics are required (voltage, cycles etc.), please contact a **WAM**®. Sales Office.

Standard features:
- B5 flange mounting;
- Voltage 230/400 V (4.0 and 5.5 kW);
- Frequency 50/60 Hz (4.0 and 5.5 kW);
- Efficiency Classes: IE2;
- 4 poles for shaft speed of 1450 rpm;
- Insulation class F;
- Motor protection IP 55, junction box protection IP 55.

Cable glands made of plastic.
Junction box on left side of the motor when looking from behind fan.
Cable glands below.
* ALLOW FOR ± 50 mm TOLERANCE WITH DIFFERENT MAKES.

N.B.: When fitted on a machine, the motor has to be painted Gentian Blue RAL 5010. As spare part, on primer coating.
For spare parts, refer to the section concerned.



Frame Size	kW	Voltage (V)	C	D	E	F	L	Lm*	M	N	O	n°	P	Q	R	kg	kk
112 M	4	MT1120M041452	190	28	8	31	60	410	250	215	15	4	180	4	225	53	2-M32x1.5
132 S	5.5	MT1320S041452	210	38	10	41	80	400	300	265	15	4	230	4	275	78	2-M32x1.5

Dimensions in mm

Electro-mechanical features of WAM motors												
Standard motor 50Hz winding use 50Hz 4 Poles												
Frame size	Rated power (kW)	Speed (rpm)	Voltage (V)	Current (A) (400 V)	Efficiency			Cos φ	Cn	Cs/Cn Locked rated torque (Nm)	Is/In Locked rotor current / rated torque	C max/Cn Breackdown torque / rated torque
					100%	75%	50%					
112M	4.0	1425	230/400	8.13	86.6	87.5	87.5	0.82	26.81	2.3	7.70	2.30
132S	5.5	1425	230/400	11.00	87.7	87.9	87.0	0.82	36.86	2.0	7.50	2.30

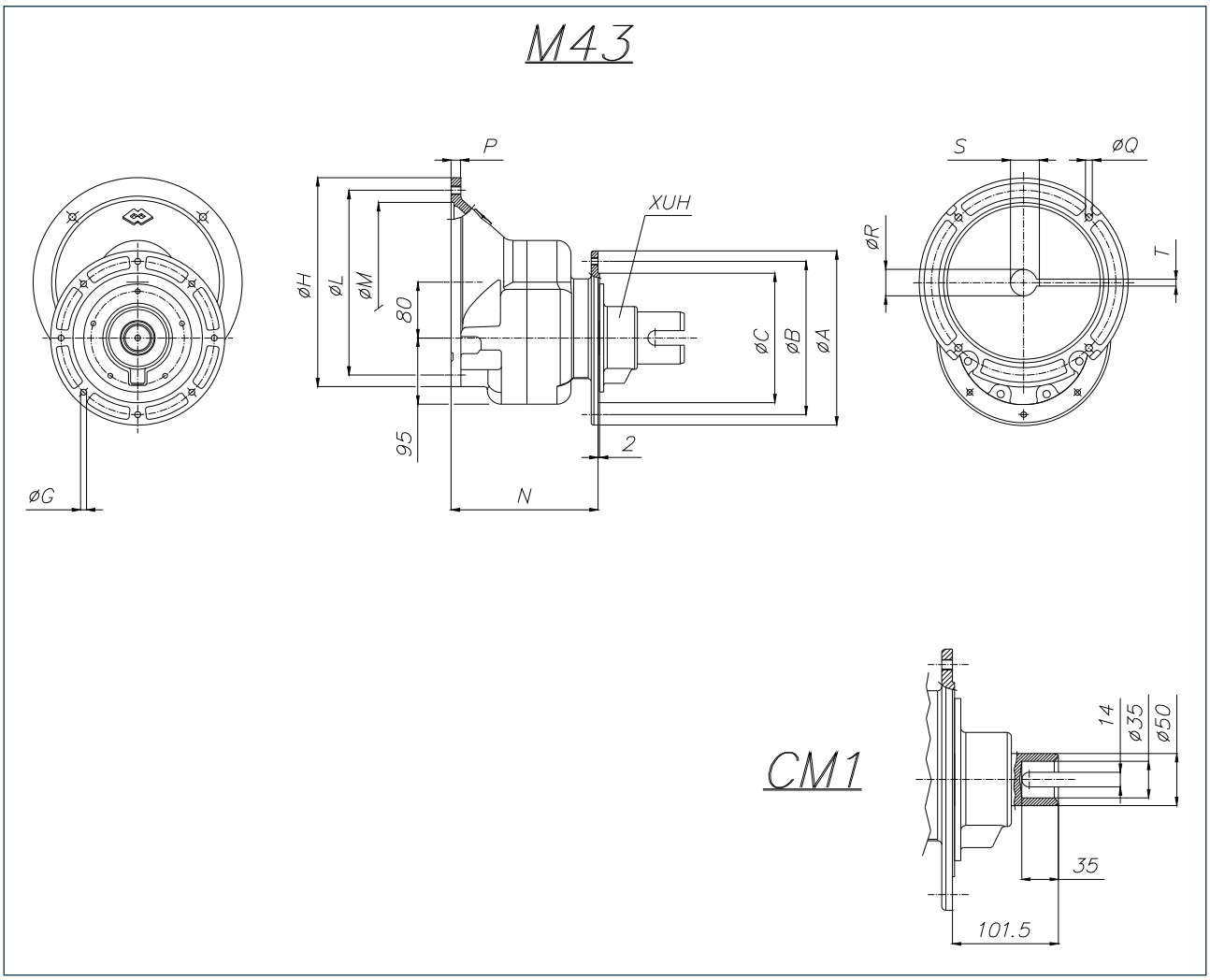
NOTE: The values in the Table refer to continuous service S1.

Electro-mechanical features of WAM motors												
Standard IEC motor 60Hz winding use 60Hz South America 4 Poles												
Frame size	Rated power (kW)	Speed (rpm)	Voltage (V)	Current (A) (400 V)	Efficiency			Cos φ	Cn	Cs/Cn Locked rated torque (Nm)	Is/In Locked rotor current / rated torque	C max/Cn Breackdown torque / rated torque
					100%	75%	50%					
112M	4.00	1734	220/380	8.47	87.5	88.4	88.4	0.82	22.0	1.85	7.7	2.26
132S	5.50	1734	220/380	11.40	89.5	89.7	88.8	0.82	30.3	1.75	7.5	2.15

NOTE: The values in the Table refer to continuous service S1.

The motors indicated in the Table comply to the class of high efficiency for S1 IE2 Continuous Duty, as required by the International Standard IEC 60034-30.

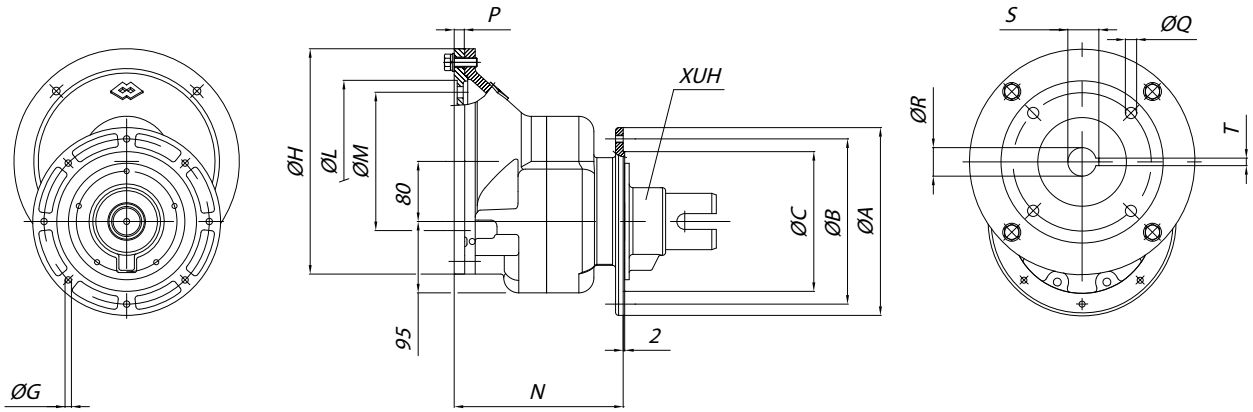
The **WETMIX® V05** fits M43 standard gear reducer. The output shaft has a quick-release “bayonet” coupling specially designed to speed up the shaft extraction and insertion for the machine cleaning and maintenance.



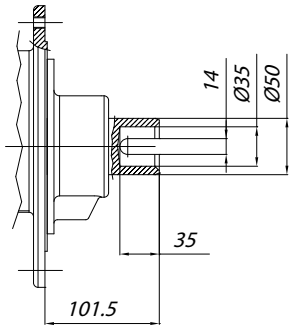
Gear reducer	Output		Φ Feeder	Φ B	Φ B	Φ C	Φ D DIN 5482	E	F	Φ G	
										N°	Φ
M43	CM	1	168	250	220	162	/	/	/	8	M 10

Motor size	Φ H	Φ L	Φ M	N	P	Φ Q	Φ R	S	T	Weight kg
				CM1						CM1
112	250	215	180	191	14	M 12	28	31	8	26
132	300	265	230	211	14	M 12	38	41	10	29

M43 NEMA



CM1



Gear reducer	Output		Φ Feeder	Φ A	Φ B	Φ C	Φ D DIN 5482	E	F	Φ G	
										N°	Φ
M43	CM	1	168	250	220	162	/	/	/	8	M 10

Motor size	Φ H	Φ L	Φ M	N	P	Φ Q	Φ R	S	T	Weight kg	
										/	CM1
NEMA 182 TC	300	215,9 (81/2")	184,15 (71/4")	225	14	225	28,575 (11/8")	31.7	6.35	/	34
NEMA 213 TC	300	215,9 (81/2")	184,15 (71/4")	225	14	15	34,925 (13/8")	38.7	7.93	/	34

ELECTRIC MOTOR CABLE

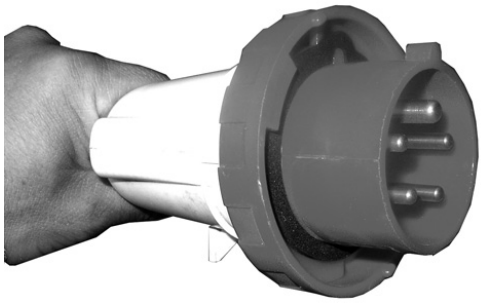
In the box 11 of the order code, select the type of motor power cable and plug:
+: no electric cable
A: with 3P+T plug (16A, 380-415V, IP 67)
B: with 3P+T+N plug (16A, 380-415V, IP 67)

Three-phase motors

A

3P+T (16A, 380÷415V, IP 67)

B



3P+T+N (16A, 380÷415V, IP 67)

3.5 Accessories

The control panel is the hydroelectric device meant for handling the operation of the **WETMIX® V05** mixer.
It is indispensable for correct use of the machine.
It can also handle other accessories, such as, VIBRATOR SILO, WATER PUMP, ETC.
It can be installed on board the machine or set up for attachment to the silo cross.
For more information concerning the WMPC control panel, consult the relevant catalogues available on our website www.wamgroup.com.

CODE 3848001215
Electrical Cable Extension

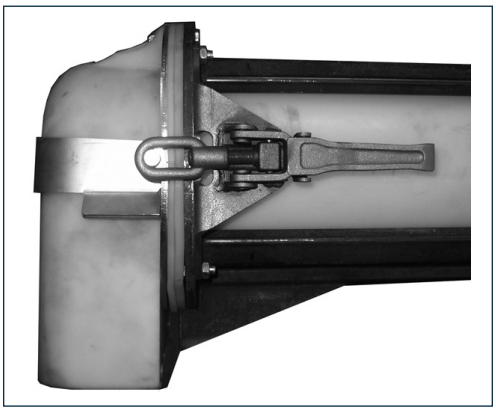
Cable
H07RNF 4x 2.5 cm

Plug and socket
CE 3P + T 16A 380-415
IP 67
L= 50 m

CODE 4536020025
Water Hose Pipe

Di= 19
De= 27
PN20
Quick release couplings **L**=20 m

CODE KWMT00
Quick outlet release kit



Code 452027929
WETMIX® V05 TOOLS KIT FOR SHAFT CONFIGURATION AND REPLACEMENT

Thanks to the modularity of the mixer shaft, its configuration can be customized by selecting the number and type of tools. This kit allows the possibility to test different configuration according to the different mortar type to be prepared.

4.1 Intended use

The **WETMIX®V05** mixer operates within the following limits: these equipments are designed for use in the building sector exclusively for mortar production obtained from premixed and finishing products gravity-flood fed by a silo/non-pressurized hopper. The maximum permitted product particle size is 4 mm.

Products used:

- Water;
- Dry mortar premixed products.

Operating temperature MAX.: 80° / MIN.: 1° C.

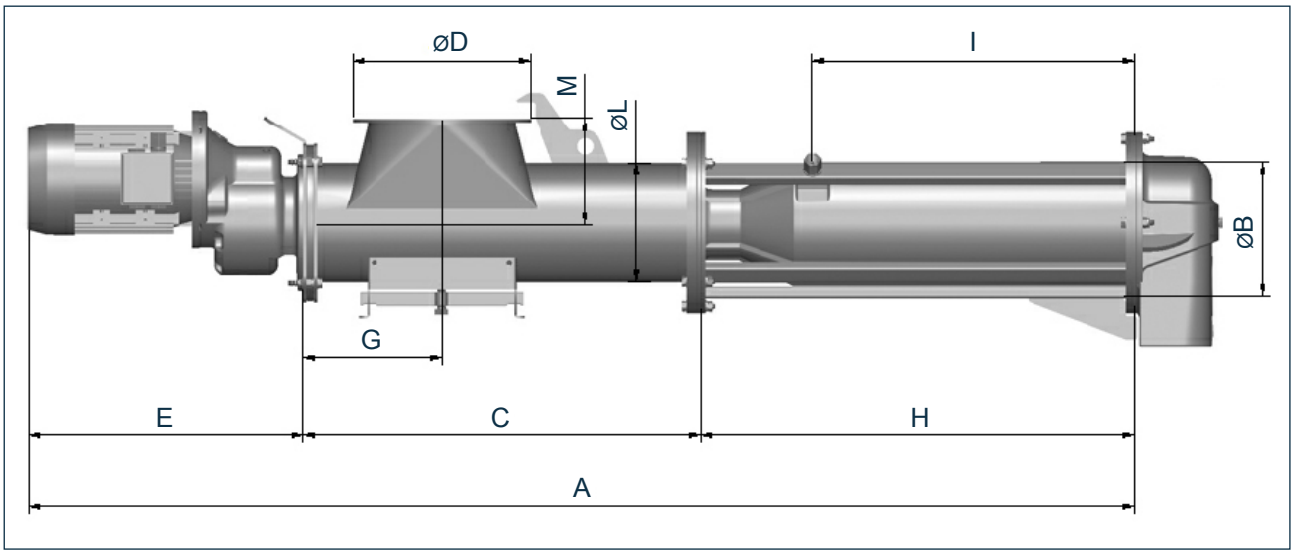
Mixer water pressure 2.5 bar.

4.1 Improper use not permetted

These machines are NOT SUITABLE for handling food products.

The **WETMIX®V05** is designed and manufactured exclusively for the purposes indicated in this Manual.

IT IS STRICTLY FORBIDDEN TO USE PRODUCTS OTHER THAN THOSE INDICATED IN THIS MANUAL.



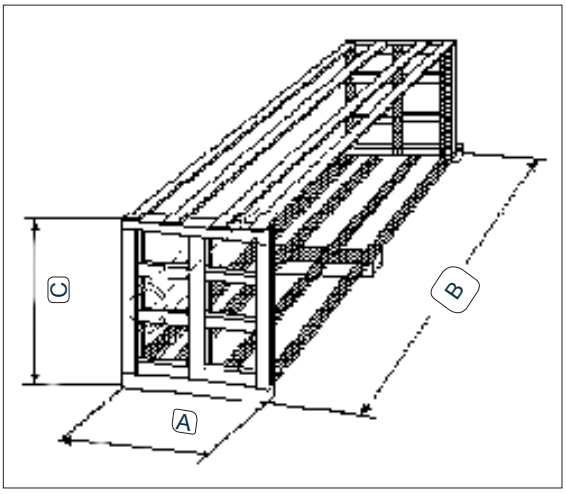
Code	A	Φ B	C	Φ D	E	G	H	I	Φ L	M	kg
WML1S_ _ _ _ (4.0 kW)	2085	273	700	273	540	226	650	442	219	186	158
WML1S_ _ _ _ (5.5 kW)	2155	273	700	273	610	226	650	587	219	186	180
WML1L_ _ _ _ (4.0 kW)	2235	273	700	273	540	226	800	442	219	186	163
WML1L_ _ _ _ (5.5 kW)	2305	273	700	273	610	226	800	587	219	186	185

Dimensions in mm

The packaging will match the number of equipments ordered. (*).

The following table supplies information regarding dimensions and weigth (empty) of the packaging (order code IM xx).

(*) The equipment is not provided with a control panel.



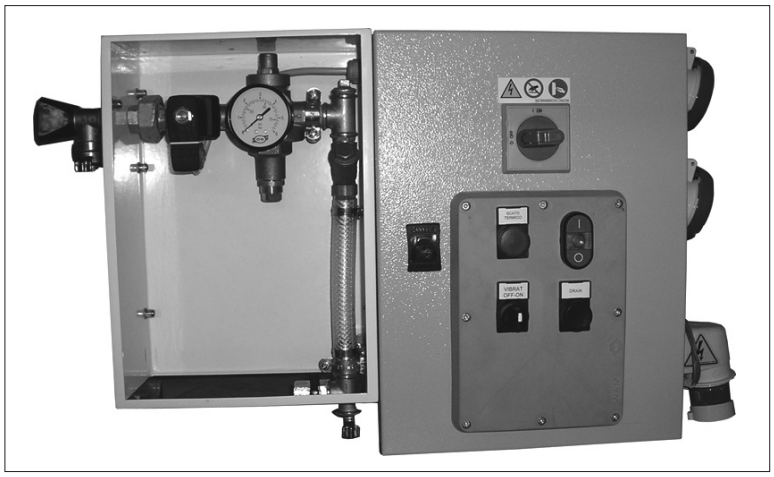
Code	Description	Q.ty	A	B	C	kg
IM60	Wood packaging	1	400	2300	500	20
IM61		2	800	2300	500	30
IM62		3-4	800	2300	1000	40
IM63		5-6	800	2300	1000	50

Dimensions in mm

6.1 Electrical requirements

If the mixer is supplied c/w the control panel, the following configuration is provided:

Electric panel power supply line (excluded from the supply; for connections, refer to the WMPC electro-hydraulic panels catalogue).



CONTROL PANEL

MIXER
(cable supplied)

VIBRATOR
(cable and plug for panel excluded)

PUMP
(if supplied, c/w connecting cable)

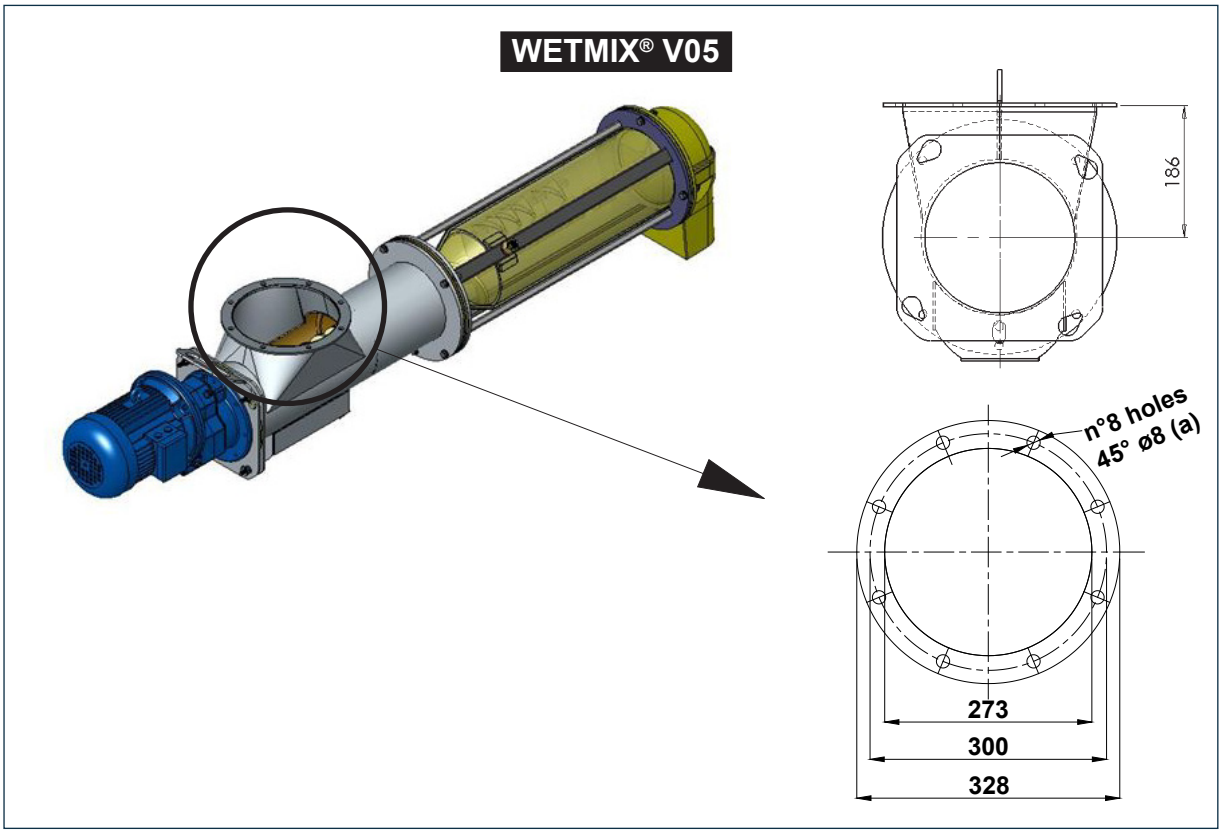
WATER CONNECTION PANEL TO MIXER (option)
(included in panel supply c/w silo or mixer mount)

Electric motor data

USER	DRIVE POWER (kW)		NOMINAL POWER ABSORPTION (A)
MIXER	4.0	230/400V	9.0
	5.5	230/400V	11.0
VIBRATOR	0.33		1.1*
	0.25		0.8
PUMP	0.33		1.1

6.2 Mechanical requirements

The following drawing show the mechanical interface with the silo flange panels catalogue.



6.3 Hydraulic requirements

The **WETMIX® V05** mortar mixer requires a water pressure of 2.5 bar. In case this water pressure and flow rate could not be ensured, it is reccomanded to install of a water pump and eventually a flow meter. Both water pump and flow meter are available as accessories of the standard WMPC electro-hydraulic control panel supplied separately.