
Dear Sirs,

we thank you for your purchase order no. 03687 and confirm the supply and delivery details as below, in accordance with our terms and conditions of sale.

<u>Item</u>	<u>Qty</u>	<u>Description</u>	<u>Unit Price / EUR</u>	<u>Total / EUR</u>
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Machinery line SLAB-FLEX Wet - Line

**Production plant wet-cast, especially for
the manufacture of concrete stones in
elastic moulds on wooden or plastic pallets
in multiple production:**

Key features of the production plant:

See in our worked out drawing

No. 18/16582

length approx. 22.000 mm

width approx. 1.700 mm

height approx. 2.500 mm

cycle time per pallet approx. 20 sec.

Item	Qty	Description	Unit Price / EUR	Total / EUR
		<p>cycle interval approx. 1.600 mm width of the pallet 1.400 mm length of the pallet 1.100mm in moving direction height for product: standard max. 100 mm</p> <p>The basic equipment of the machine is designed for one pallet occupancy with measurements of one mould, max. 6 products per cycle To be able to produce different products with this plant we offer additional elements which can be exchanged easily. With these elements several moulds can be deposited and produced on one pallet.</p> <p>The machine is equipped with the following:</p>		
01	1	<p>Timing conveyor, which is transporting the pallets through the complete production plant, consisting of:</p> <p>1 Transport frame, which is conducted by guiding rolls with linear movements and which is transporting the pallets to the next station by means of hydraulic cylinders, the pallets are gripped by engaging dogs, which guarantees an exact positioning of the relevant production station</p> <p>The conveying equipment has as cycle time of approx. 20 sec., whereby on the run in and run out of a mould stack a change to a slower translators motion is effected, to assure that this stack is ejected safely. The movement will be controlled by a proportional controlled hydraulic solenoid valve to have a smooth starting and stopping of the pallets. incl. the extension 2 inspection stations</p>		59.860,00

<u>Item</u>	<u>Qty</u>	<u>Description</u>	<u>Unit Price / EUR</u>	<u>Total / EUR</u>
02	2	<p>Destacking and stacking of moulds; (incl. 1 loading and 1 unloading station) the mould stacks on the timing conveyor are to be cycled</p> <p>into the destacker system by means of a fork-lift One mould is left on the timing conveyor and the remaining mould stack is lifted. After the transportation of the mould by the timing conveyor the complete mould stack is deposited on the timing conveyor and again the mould stack is lifted without the mould on bottom; the actuation is effected hydraulically. Concerning the mould stacking the operational function is reverse, the stacking equipment is designed for max. 10 pallets,</p> <p>incl. control part, hydraulic cylinder</p>	24.200,00	48.400,00
03	1	<p>Cleaning station for moulds, the moulds with pallet are held down by a special holding down appliance and are completely swivelled out of the unit, whereby the impurities are completely tilted into a box next to the unit. complete unit</p>		19.090,00

Item	Qty	Description	Unit Price / EUR	Total / EUR
04	1	Oiling station (<i>Special BFS - System</i>) for the spraying of stripping agents in the concrete area, for an easy stripping of the finished parts of the PUR-moulds. The spraying equipment is designed as an overhead gantry above the timing conveyor; the nozzles are to be adjustable concerning quantity and direction The spraying device is equipped with a collecting basin for the excess stripping agent as well as with a housing, incl. tank for the stripping agent, incl. electric control part incl. 5 spraying pistols		36.240,00
05	1	Concrete feeding unit (type MII), for screw discharge. The feeding unit is fixed on an overhead gantry above the timing conveyor as well as above the vibrating table. 3 adjustable metering chambers are fixed to the funnels of the hoppers for the <u>filling</u> of the concrete. These metering chambers are <u>consisting</u> of a rectangular hopper actuated by means of hydraulic cylinders. The metering chambers correspond to the volume of the moulds to be filled. Beneath the metering chambers there is each one discharge opening which is filling the green concrete into the prepared mould frames. When changing the moulds the feeding unit can easily be exchanged by a crank handle, incl. cylinder, incl. control part for the automatic function		63.500,00

Item	Otv	Description	Unit Price / EUR	Total / EUR
06	2	Hoppers with concrete screw, capacity approx. 750/ 750 l, incl. electric control	15.590,00	31.180,00
07	2	Special vibrating tables; both vibrating tables are on separate frames with vibration isolators. During the compaction the mould is fixed to the vibrating table by two tensioning devices. The vertical <i>directional vibrations</i> are transferred to the mould by each two vibrators with a vibrating force of 12 kN, incl. base frame, 4 vibrators, control unit	23.825,00	47.650,00
08	1	Special levelling device; (under the Feeder.) incl. base frame, 1 vibrator, control unit		4.775,00
09	2	Frequency converter, for the adjustment of the vibrating frequencies via potentiometer, whereby both vibrating tables can work with different frequencies	2.263,00	4.526,00

Item	Qty	Description	Unit Price / EUR	Total /EUR
10	1	Electric control for Wet - Line, logic control, SIEMENS Simatic S7 with power part, integrated in control desk including control panel with all elements for manual/automatic operation		38.500,00

Machinery equipment **SLAB-Flex** Wet - Line EUR 353.721,00

*Handling around Slab-Flex - machine is planned **by forklift.***

Item	Qty	Description	Unit Price / EUR	Total / EUR
SLAB-FLEX Dry - Line				
11	1	<p>Timing conveyor, which is transporting the pallets through the complete production plant, consisting of:</p> <p>1 Transport frame, which is conducted by guiding rolls with linear movements and which is transporting the pallets to the next station by means of hydraulic cylinders, the pallets are gripped by engaging dogs, which guarantees an exact positioning of the relevant production station.</p> <p>The conveying equipment has as cycle time of approx 20 sec., whereby on the run in and run out of a mould stack a change to a slower translators motion is effected, to assure that this stack is ejected safely. The movement will be controlled by a proportional controlled hydraulic solenoid valve to have a smooth starting and stopping of the pallets.</p> <p>incl. the extension 2 inspection stations</p>		39.940,00
12	2	<p>Destacking and stacking of moulds ; (incl. 1 loading and 1 unloading station) the mould stacks on the timing conveyor are to be cycled</p> <p>into the destacker system by means of a fork-lift One mould is left on the timing conveyor and the remaining mould stack is lifted. After the transportation of the mould by the timing conveyor the complete mould stack is deposited on the timing</p>		

Item	Qty	Description	Unit Price / EUR	Total / EUR
		conveyor and again the mould stack is lifted without the mould on bottom; the actuation is effected hydraulically. Concerning the mould stacking the operational function is reverse, the stacking equipment is designed for max. 10 pallets,		
		incl. control part, hydraulic cylinder	24.200,00	48.400,00
13	1	<p>Stripping device; the concrete elements are gripped simultaneously by a vacuum suction unit over a portable linear lifting grip, are lifted out of the mould and are deposited on a roller conveyor vertical to the timing conveyor.</p> <p>For the stripping the moulds are hold over a holding down appliance on the plank and the lateral mould walls are opened so that the concrete products can be taken out. The holding down appliance is exchangeable to guarantee a quick change of pallets with other products.</p> <p>The holding down appliance is included, but not the holding frames for the different products; the pick-up device as well as the vacuum aspirator are included, but not the suction bells,</p>		
		incl. control part and or hydraulic cylinder incl. Air-Blowing equipment for dust		57.510,00

Item	Qty	Description	Unit Price / EUR	Total / EUR
14	1	Holding down appliance for the quick exchange of pallet with up to six moulds		1.538,00
15	6	Vacuum suction bell with fixing devices	870,00	5.220,00
16	1	Turning station for concrete plates, consisting of: 1 conveyor equipment for the positioning of the plates by the stripping device 1 turning unit 1 conveyor for the transportation of the plates to the taking off position of the BFS stacking robot incl. control unit and pneumatic or hydraulic cylinder		29.840,00
17	1	Handling Module to move the products from in a pick up position prepared for to pick up for packing with robot consisting of 1 roller conveyor with drive app. 31fm 1 lateral axis 1 lateral guide 1 base frame		25.320,00
18	1	Electric control for Dry - Line , logic control, SIEMENS Simatic S7 with power part, integrated in control desk, including control panel with all elements for manual/automatic control		38.500,00
Machinery equipment SLAB-Flex Dry - Line				EUR 246.268,00
TOTAL Dry Line and Wet Line				EUR 599.989,00

Item	Otv	Description	Unit Price / EUR	Total / EUR
BFS - SLAB-FLEX - PACKING - Line				
19	1	Pallet magazine Pallet magazine is suitable for A pile of one-way pallets (up to 15 pieces one above the other) delivered by means of a fork-lift available at site, is separated in the magazine and delivered, pallets transport.		15.964,80
20	1	Pallets transport Pallets delivered from pallet magazine, to BFS robot, plastic placer, strapping device to connect with the collecting conveyor,.		18.758,40
21	1	BFS Stacking Robot; the concrete elements are gripped simultaneously by vacuum suction units over a linear lifting grip, from the handling module are lifted out and are deposited on stacking position. incl. control part and pneumatic or hydraulic cylinder incl. autom. stacking stroke incl. height control sensor incl. safety switch off incl. vacuum suctions with pump incl. compl system		64.972,80
22	1	Turning device, for the BFS stacking robot, to change the stacking positions straight or 90° turned, with this device the stacking robot is able to change the take off position of the products every second situation, or time by time.		8.755,20

Item	Qty	Description	Unit Price /EUR	Total / EUR
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23	1	Additional costs for, the possibility of stacking , also nine products of 350 x 350 mm, with the BFS stacking robot		4.771,20
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24 1 Intermediate-layer feeder 954

to insert protection layers for horizontal
packing of tiles and slabs.
The intermediate-layers made of PVC-foils
or similar material are winded off from a roll,
cut and inserted in adequate length inbetween
the product layers.

Electrical equipment:

according to CE-regulation with control panel,
control elements, PLC-control, machine internally
completely wired

Technical data:

electrical power demand:	0,8 kW	
supply voltage:	3 x 400 V/ 50 cps	
air demand:	60 l/ min.	
width of layer:	≤ 1.300 mms	
working space vertical:	970 mms	
working space horizontal:	1.500 mms	
length:	2.600 mms	
width:	2.100 mms	
height:	2.500 mms	
weight:	approx. 850 kgs	34.003,20

Item	Qty	Description	Unit Price / EUR	Total / EUR
27	1	Thermo shrinking, <i>type AT 53, manufacturer OMS</i> combined machine for the hooping and thermo shrinking operations incl. Festo and Sew parts incl. autom. announcement: foil end at the AT unit everything is fully automatic, to place the hoops and to shrink them to change the foil rolls is the only manual		90.470,40
28	1	Turntable, built-in the pallet transport conveyor, to turn the transport pallet 90°		10.963,20
29	1	Collection conveyor Collection conveyor, receives the pallets from Strapping / shrinking device, cycles on one pallet size plus intermediate space and positions pallets for being collected by the fork lift available at site.		19.632,00
30	1	Electric control for packing handling Programmable logic control, SIEMENS Simatic S7 with power part, integrated in control desk, including control panel with all elements for manual/automatic operation.		26.688,00
BFS Robot Packing Line				346.077,20

Technical data of installation

Electric equipment

service voltage:	400 V
control voltage:	24 V
frequency:	50 Hz
power installed:	Kw
type of control:	Siemens
manufacturer of electric parts:	Siemens
manufacturer of motors:	SEW
language of operating instructions, control desk, electric diagram: German / English	

Pneumatic /hydraulic equipment

manufacturer of pneumatic parts:	Rexroth / Festo
operating pressure pneumatics:	6 bar
air consumption:	
manufacturer of hydraulic parts:	Bosch/MSK
operating pressure hydraulics:	max. 200 bar

Accessories

various parts depending on product size

Item	Qty	Description	Unit Price / EUR	Total / EUR
Additional costs				
31	1	Security equipment, for Wet and Dry -Lines, and Packing Lines. approx. 10 pair of light barriers incl. layout for the fixed guarding (if we use only 8 pair of light barriers, we will reduce the price of this item)		18.624,00
32	1	Water dosing system, Fabr. Ludwig acc. to offer no. A040308B, item 1 - 6		11.713,92
33	1	Documentation for the compl. plant		4.870,00
34	1	Transport (for the transport of production line and the packing line) from Blaubeuren/Germany (Transport is an information price, actual costs by dispatch)		25.000,00
35	1	Erection for production lines and 1 packing line by Atlas employee with the help of 1 BFS technician(including hotel and catering) up to the point when the machine is running with all functions without concrete		18.000,00
36	1	Commissioning / Training for production line and 1 packing line, until the time when the plant is running with concrete. For a max. time of 3 weeks with 2 BFS technicians. After that time all employment will start by daily costs regarding to our normal installation costs.		45.000,00
Total additional costs				123.207,92

Item	Qty	Description	Unit	Price	/	EUR	Total/EUR
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SUMMARY

BFS Robot Wet Line Installation (without option)	353.721,00
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BFS Robot Dry Line Installation (without option)	246.268,00
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BFS Robot Packing Installation (without options)	346.077,00
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Additional costs	123.207,92
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TOTAL	EUR 1.069.273,92
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TERMS AND CONDITIONS:

Delivery time: approx. 5 - 6 months after receipt of order,
clarification of all technical and commercial details,
opening of L/C and receipt of advance payment

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Conditions of payment: 300.000,00 EUR advance payment with the order
(already received)

Balance against irrevocable and confirmed
Letter of Credit in our favour and
payable to: Deutsche Bank Ulm, Germany,
SWIFT-Code: DEUTDESS 630,
payable against presentation of
shipping documents **(B/L)**

Partial shipment allowed

Yours sincerely,

BFS
Betonfertigteilesysteme GmbH

Encl.
Conditions of Sale and Delivery
