

MKS DEVO
 for the attn. of Mr. Tunc Tulu Cetinkaya
 Bacesehir 2. Kisim Ardicili Evler Sitesi

Istanbul / Turkey

Quotation No.	Your Reference	Our Reference	In Charge	Phone	Date
8460/10		Neu/--	A. Neupert	+49 2646 941312	08.04.2010

We would like to thank you for your inquiry and shall be pleased offering to you according to our delivery and payment terms:

Item	Quantity	Description	Individual Price in EURO	Total Price in EURO
------	----------	-------------	--------------------------	---------------------

Design Data:

Slurry:	nature/origin unknown
Quantity:	m ³ /d
Solids content in slurry:	g/l
Total solids:	kg/d
Solids content in filter cakes:	%
Weight of filter cakes:	kg/d
Density:	kg/dm ³
Filter cake volume:	dm ³ /d
No. of cycles	per day
Filter cake volume:	dm ³ /cycle
Plate size:	1500 x 1500 mm
No. of chambers:	95
No. of filter presses:	1

1 1 **FILOX- Chamber Filter Press**

type	KF150.095.030 FAG 2EH-PV-LS-TB-WR
plate size	1500 x 1500 mm
frame size	1500.110
max. working pressure	16 bar

Item	Quantity	Description	Individual Price in EURO	Total Price in EURO
------	----------	-------------	-----------------------------	------------------------

consisting of:

Feed- and Hydraulic End

in rigid, static designed steel construction. The hydraulic end will accommodate the closing ram.

Connections at the feed end:

Quan.	Designation	Arrangement	Size
1	Inlet	centre	DN 150 PN 10
4	filtrate outlet	corners	DN 80 PN 16

Piping of the filtrate outlets in PP is included. Flange size DN 150. The inlet as well as the release valve is installed.

Pressure Head

movable supported by the side bars and designed with a high bending strength, in order to get an equal sealing force all over the plate sealing area.

Connections at the pressure head:

Quan.	Designation	Arrangement	Size
1	core blowing	bottom	DN 25 PN 10

Side Bars

in rectangular design, fabricated from high grade steel and covered with stainless steel sheets at the sliding surfaces to avoid corrosion, wear and tear.

Surface Protection

of the steel parts will be executed after sand blasting degree SA 2 ½ according to DIN 55928.

Item	Quantity	Description	Individual Price in EURO	Total Price in EURO
------	----------	-------------	-----------------------------	------------------------

The varnishing layers will be applied as following:

Quantity	Description	Colour Shade	Thickness in μm
1	prime coat	EP3105	min. 40
1	intermediate coat	EP3210	min. 40
1	Top coat	PUR3353 RAL5012	min. 40

Hydraulic Closure

via double acting cylinder giving an opening gap of 500 mm and a 2-stage motor driven hydraulic pump.

Closing pressure	max. 380 bar
Motor rating	5,5 kW

Filter Plate Packet

consisting of:

94 chamber plates and 1 head- and end plate each; this will add up to 95 filter chambers.

The filter press frame can accommodate a maximum of 95 filter chambers.

The difference in length between the installed and the maximal possible number of filter plates will be compensated by a spacer.

filtering area installed	355,5 m ²
cake volume installed	5130 dm ³
chamber depth	25 mm
material of filter plates:	Polypropylene
maximum filtration pressure:	16 bar at 20°C

The filtrate will be discharged closed via outlet channels.

Filter cloth set

consisting of:

94 bottle-neck type filter cloth and one head- and end cloth each .

filter cloth material:	Polypropylene
kind of weaving:	mono-/multifilament
filter cloth type:	PPS (to be confirmed)

Item	Quantity	Description	Individual Price in EURO	Total Price in EURO
------	----------	-------------	-----------------------------	------------------------

Plate shifter

with hydraulically driven tooth belts and with a shifting slide on each side, running on adjustable speed and force. Due to its special design the plate shifter is almost free of maintenance and wear and tear. A special greasing system is not necessary.

Light Barrier

at the operating side of the filter press. Any time the light beam is interrupted, the actual movement at the press will be stopped. The opposite side of the filter press will be protected by a guard.

Hinged Drip Tray

in two pieces, with a steel frame and a PP drip plate and with hydraulic cylinders for automatic actuation. The drip trays will collect leakage water from the filter plates and direct it into the filtrate chute.

Electrical Control System

The PLC and all the other necessary relays and contactors will be built into a mild steel control box casing, which is fitted to the filter press. The system is completely wired and tested. When fabricating this control system, all applicable German and/or European codes, standards and regulations will be taken into consideration. A moveable control box for the plate shifter is included.

Power supply: 400 V / 50 Hz / 3 phases

Price 217.200,00 217.200,00

2 Feed Pumps

2.1 1 Sludge Feed Pump for fast filling at low pressure

incl. frequency converter

Type EP 400-12

capacity 5 to 40 m³/h

working pressure up to 8 bar

motor rating 15 kW

Item	Quantity	Description	Individual Price in EURO	Total Price in EURO
2.2	1	<u>High Pressure Sludge Feed Pump</u>		
		incl. frequency converter		
		type	KMP 200-16	
		Brand	Abel	
		capacity	2 to 20 m ³ /h	
		working pressure	up to 16 bar	
		motor rating	11 kW	
		Price of item 2	34.300,00	34.300,00
3	1	<u>Filter cloth cleaning system</u>		
		for filter presses consisting of:		
		- spraying device each press running along the filter press on rails which are attached to the side bars. The spraying device will be horizontally moved by the plate shifter. For cleaning the filter cloths the nozzle pipe is tilted down from its horizontal position above the filter plates. When the vertical position is reached, high pressure water flow is started and the pipe is moving fore- and backward across the whole plate width.		
		- one high pressure water pump with:		
		discharge pressure	max. 100 bar	
		capacity	approx. 380 l/min	
		motor rating	75 kW	
		Price	39.050,00	39.050,00
4	1	<u>Double Screw Conveyor</u>		
		Incl. cake hopper		
		Material of construction	mild steel, painted	
		Screw diameter	400 mm	
		Capacity	approx 40 m ³ /h	
		Motor rating	2 x 7.5 kW	
		Length	12 m	
		Budget-Price	28.500,00	28.500,00
		Total Price		319.050,00

Item	Quantity	Description	Individual Price in EURO	Total Price in EURO
------	----------	-------------	-----------------------------	------------------------

Delivery and Payment Terms

Manuals: The scope of supply includes 3 copies of the technical manual in English. For each further copy we will charge you 100,00 EURO

Guarantee Period: 12 months after commissioning, but not more than 14 months after delivery, whatever is earlier.

Guarantee Conditions: The guarantee covers any mechanical, design, fabrication and functioning defect of the equipment, as long as no unauthorised repair has been done and original **FILOX®** spare and wear parts were used.

Validity: 3 months from date of quotation

Prices: net, ex works

Delivery Time approx. 4 to 5 months

Terms of Payment: 50% with purchase order
50% prior shipment

Limitation: The scope of this quotation is limited to the explicit mentioned items

Remarks: It is policy of our company to insure all our orders against indemnity risk. In case the coverage is not granted for any reasons, the goods will be delivered against pre-payment or safety bond only.

FILOX® Filtertechnik GmbH



i. V. Adolf Neupert