

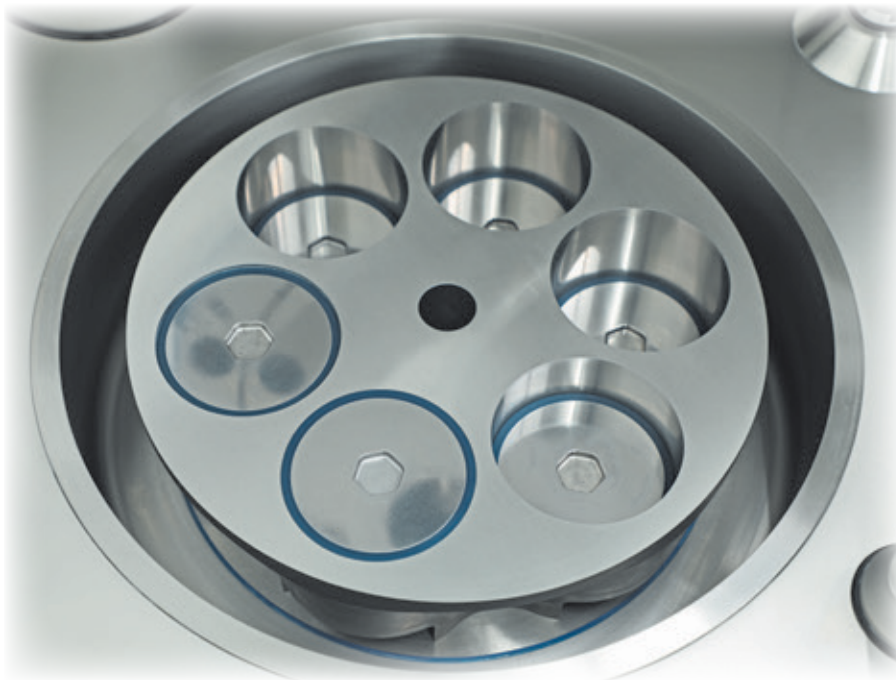


K-Line KK500 / KK500 DV

Continuous piston stuffer for the industry

The customer of today expects a larger product diversity than in former times. With K-LINE you are well prepared for the future. The continual rotary piston system from Frey in connection with the integrated cutting edge guarantees a high care for the sausage meat. You can fill all kind of sausages - independent on the sausage meat - e.g. warm and liquid liver sausage, sausage with big meat pieces, tough raw sausage meat at minus degrees, you always get the highest quality of your products. The K-Line is particularly suitable for coarse and sensitive products.

K-Line KK500 Innovative piston transport technology



KK500 rotary system

The KK500 works with a unique rotary piston system. After charging, six rotating pistons transport the product to the large dimensioned cover outlet. The patented FREY rotary piston system is actually the system which cares most for the product. The advantage of this construction lies in the gentle treatment of the product. While the rotor is turning, the whole chamber is also moving, therefore there is only minimal friction between the mechanical parts and the product. The product is sucked into a pre-vacuumed cylinder through two vacuum zones, following one after the other; as a result the mixing proportionality of the product remains uniform throughout. With the seals of the piston cover, easy to dismount and to exchange, the annular gap for the pre-vacuum can be adjusted and every product, with big inlays or liquids, can be filled. Due to the minimum stress on the product sensitive products can be filled or portioned. A further advantage of this type of construction is the low lateral efficiency acting between piston and cylinder, whereby a high efficiency with low wear is achieved. The result is an excellent finish. The KK500 achieves a filling performance of max. 8.200 kg/h and a filling pressure up to 25 bar.



Ergonomic operation

The operating zone has been arranged with a big operating comfort. The machine is controlled with a sensor so that no product can penetrate into the internal vacuum system.



Clear advantages for KK500 users



- *Best product quality due to the FREY - rotary piston system.*
- *Highest hygienic standard, no screws or dirty corners in the direct food area.*
- *Best quality free from smearing with maximum filling performance.*
- *Filling and portioning of complete meat pieces.*
- *Gentle filling while maintaining the structure of sensible products.*
- *Low maintenance costs due to the maintenance-free servo-drive.*
- *Fast and easy change of sorts*
- *Low noise level due to the FREY servo-drive.*
- *High energy efficiency thanks to a most-modern control technology.*
- *Easy cleaning of the vacuum system*
- *Multiple combinations with C-LINE accessories and external devices.*

Cleaning and hygiene

A simple cleaning is the basic requirement for best hygienic conditions in the production. FREY-stuffers therefore have smooth external contours. KK500 is conforming to the CE-standard. The machine -housing is completely made of high-quality stainless steel. The expenditure for cleaning and maintenance is very low due to the easy disassembling and neat contours between the parts. The machine was consigned considering a hygienic design.





Servo-drive with positioning controller

Drives

The servo drives are featuring by a high moment of rotation and a quick reaction. So e.g. the acceleration of the rotor system during the start and stop process can individually be adjusted. Depending on the conveyor system the spiral stirrer is driven by a separate computer controlled drive. The rotating speed can be adjusted to the product and the filling speed.

Energy

Due to the high efficiency the KK500 requires extremely few energy. Considering the increasing energy prices a lower consumption of energy becomes more and more important. This drive technology is especially wear-resistant and maintenance-free.

Control

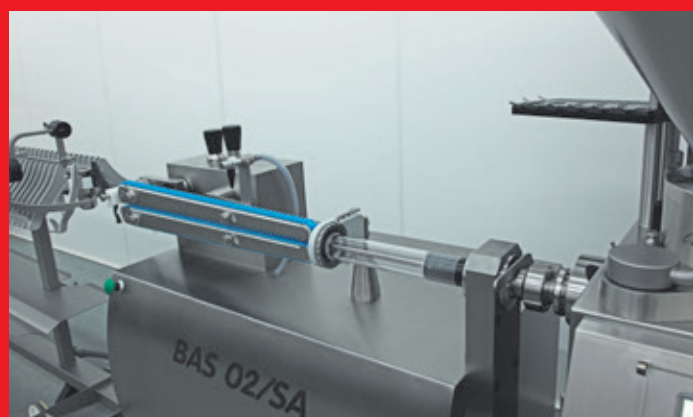
Simple and safe connection of all additional appliances at a strike guarded place. The digital drive and communication between the FREY-filler touch control and external devices with CAN-Bus system ensure highest processing security.



Additional appliances

KK500 can flexibly be used, semi or fully automatic clipping machines can be adapted.

In connection with the conveyor linking system BAS02/SA, the chain linking system KAS 01 and the automatic hanging line AHL02 the performance of the sausage production enormously can be increased.



Powerful, practical and conforming to CE- standard

FREY
Maschinenbau

Target groups KK500

- Producers of air-dried raw sausage
- Producers with high demands on the filling performance without smearing
- Productions running fully automatic clipping machines
- Production of ham
- Production of long and half long keeping food
- Production of Convenience Food and ready-made meals
- Productions with attachments, demanding high conveying capacity



Lifting device

KK500 can be delivered with a hydraulic lifting device for 200 or 300-liter-trolleys. The stirring device which is controlled by the transporting capacity and the meat guiding in the neck of the hopper ensures a continuous charging of the cylinders. A fast emptying of the machine as well as a quick change of sorts is guaranteed.

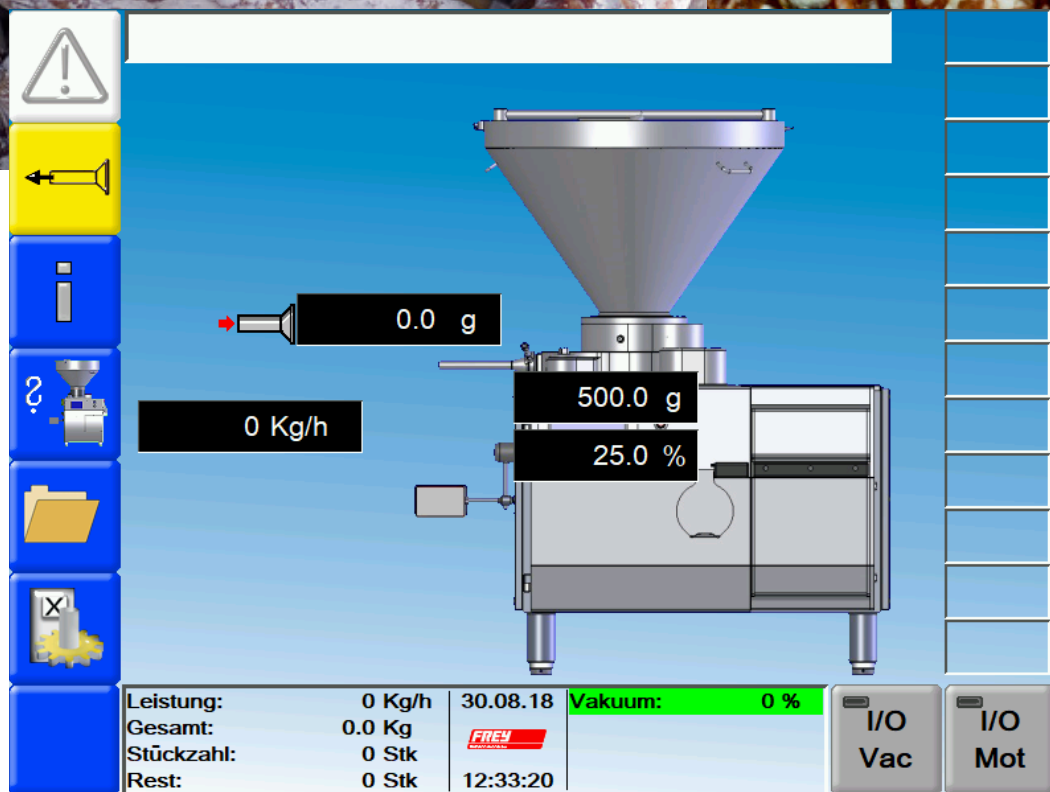
Filling hopper

KK500 is delivered with a 300-liters- hopper which is charged by means of a lifting and dumping device.

For product change and intermediate cleaning the footstep of the machine can be opened. The hopper and cover can hydraulically be opened and closed.



IPC control TC 733 with touch screen operation



The ultimate stuffer control system with all variety of functions consists of an industrial personal computer and a touch screen panel in the front door of the filling machine.

- Solid hardware
- Industrial PC with 733 MHz and an ergonomic 12" touch screen panel
- Interfaces: CF Card, USB, Ethernet 10/100 Mbps
- Online connection with your office PC via TCP/IP network connectivity, Ethernet or WLAN are available
- Powerful software without limits
- Logbook for the filling process and errors
- K-Line in connection with TC733 meets the BDE standard of WS Food.



LAN/WLAN/VNC

Online connection



Internet remote maintenance

FREY-Service

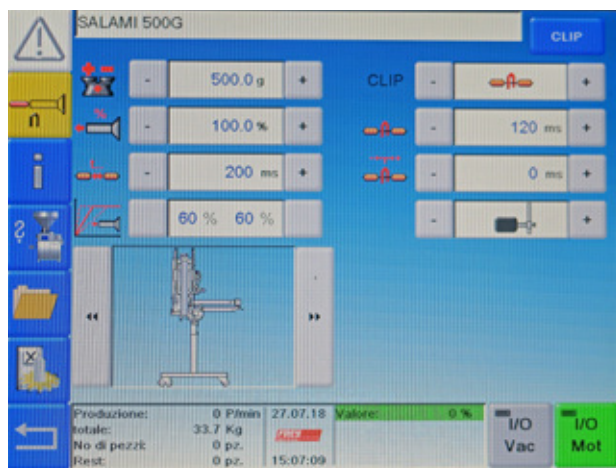


Variety of functions - TC733

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Survey of functions

- Weight input can be chosen between 50 and 100.000g (from 50 - 999 g in 0,1g - steps)
- Clip time is adjustable
- Pre-selection of pauses for portioning
- Filling programs with table of contents
- Service- and maintenance programs
- Diagnosis programs
- Counter of quantity and pieces, pre-selection of pieces
- Twist delay / twist advance of the linker
- 1st portion makeweight
- Speed control is infinitely adjustable also during the filling process
- Digital vacuum regulation, optionally available is an electronic control valve for the stop of the machine and an automatic cleaning of the vacuum pump.
- Automatic pressure regulation and torque control
- Digital control of half- and fully automatic clippers and other external devices.
- Relieve/sucking back mechanism
- Control of C-Line attachments
- Different languages & backgrounds adjustable
- Program management with automatic data backup
- Software update per USB stick
- Interfaces: USB, Ethernet 10/100 Mbps
- Online connection with your office pc via VNC network connectivity
- Visualizing of linking process
- Logbook of the filling process and errors



Interface/Connection

The filling machines will be integrated in your computer network. By this way you control your filling machines from your office. The connection is done via the Freeware Software VNC which offers a full functional diversity per telecontrol. You can do all settings on the machines from your office. Programs can be loaded or stored. Only the starting and stopping function of the machine can be activated via the operating bar.



KK500 DV + silo + feeding for silo



SILo KK500: Optionally a silo can be used for loading the KK500 DV with a content of 600 liters, the connection to a suction pipe with a diameter of 200 mm is included. The silo can be reached over a cleaning footstep, adjustable in height and connectable to the model KK500, Completely made of stainless steel.

Loading of silo: hydraulically driven loading system for 200 or 300 liters normed trolleys, loading from back or from the filling side.

Construction / Function

In the dual vacuum system additional vacuum is built up in the hopper. Hereto the hopper is closed with a vacuum cover. Through a suction tube the product is directly sucked out of the bottom hopper. The loading process of the upper hopper is controlled from the machine control. The filling level is permanently controlled by a filling level sensor. The opening gap can infinitely be adjusted from 0 - 100 mm via the manual valve controller. Especially with cooked sausage a small gap prevents the product from tearing. Thereby air bubbles get to the surface and are being completely eliminated. With a large gap, for example cooked ham with large pieces can carefully be sucked in without any further grinding.

Dual vacuum technology for best product quality

FREY
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The use of two vacuum systems in meat pump and hopper brings important advantages to the user compared to the ordinary loading over an open filling hopper.

Evacuation of rest air

Already during loading the product is placed under vacuum, thereby importantly more rest air is removed from the product. The optical appearance of the first cut is more homogeneous and the shelf life of the product is increased.

Portioning exactness

The feeding supply process of the product to the meat pump is more regular and gentle. Thereby at the same time the portioning exactness is improved and a high filling performance is achieved.

Product variety

The dual vacuum generates highest bond and homogeneity of products with whole muscle pieces.

Suitable products:

- Cooked sausage with or without inserts
- Cooked ham with pieces up to 800 g
- Cooked salami

A further advantage results from the automatic loading of the filling hopper combined with the continual filling process.



Filling hopper with double stirrer, feeder screw and feed opening for vacuum loading



Casing for DV vacuum pump

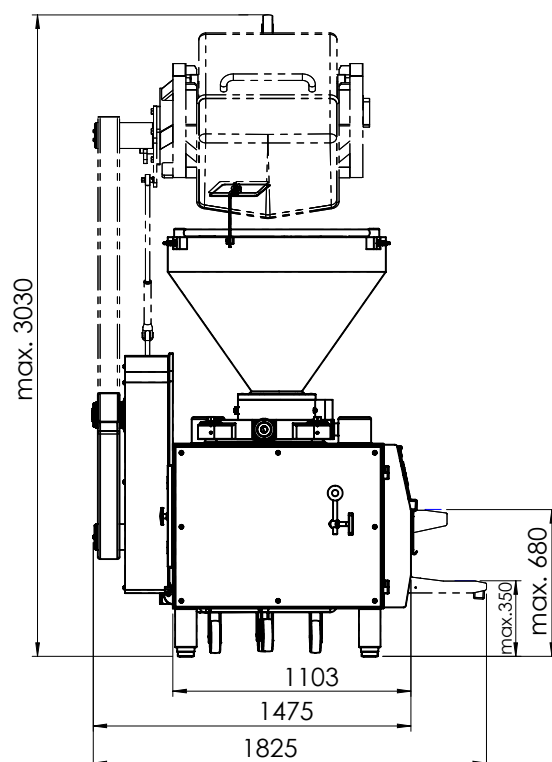
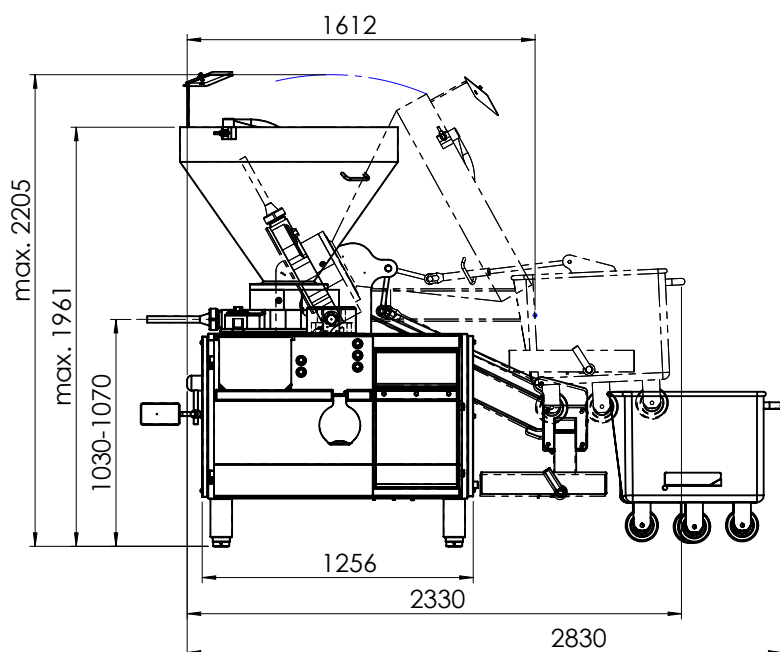
Filling hopper

The product is sucked into the hopper through a 200mm suction tube with adjustable flap valve. A double-sided feeding ensures an especially constant loading of the cylindrical filling cylinders of the external vacuum. If connected to an external vacuum system, the loading is controlled by a vacuum valve block. The suction tube is cleaned with a cleaning pig. The vacuum cover can be swivelled to the side. Now the filling hopper can hydraulically be swivelled backwards.





Drawing of KK500



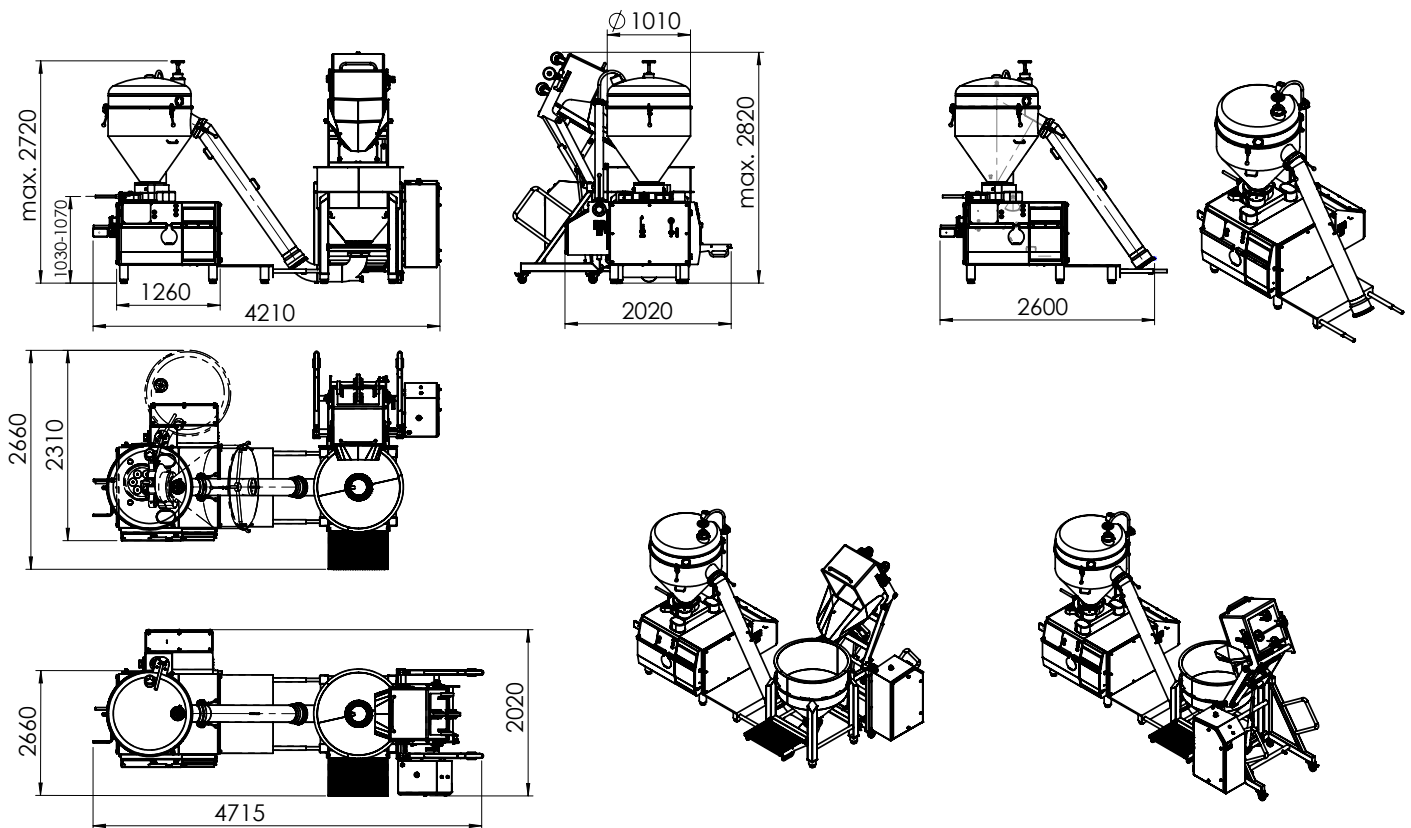
Special accessories

In order to come up to your product diversity, you can receive special filling tubes or other additional equipment from us, individually made for you. On the Frey accessories trolley all accessories find their place.



Drawing of KK500 DV

Configurations of KK500 DV - loading of silo



Handling

Prior to let built up vacuum in the hopper, the bottom hopper must be charged with the product. If vacuum for the filling hopper is pending, which before has been set on the control, the working hopper is automatically sucking the product through the suction tube out of the bottom hopper. An electronic sensor for the filling level hereby controls constantly the degree of temperature in the working hopper. By achieving the filling level, which before has been set, the filling valve is automatically closed. Now the filling process can be started. If the filling level in the working hopper sinks due to the constant decrease of the material under a certain value preset on the control, the filling valve automatically starts to refill. By pressing a button, if the cover is completely opened, the hopper can be swivelled into the cleaning position.

Technical data

K-Line KK500:

Capacity of the filling hopper	300 liters
Maximum filling performance	8.200 kg/h
Filling pressure up to max	25 bar
Max. volume of filling cylinders	500 cm
cylinders	6
Portioning range	50-100.000 g
Type of drive	Servo
Connected load	10,9 kW
Voltage/tension	3Ph./PE 400V, 50/60Hz
Stirrer drive:	AC motor
Control type:	TC733
TCP/IP interface	for virtual network Computing (VNC)

Sucking performance of vacuum pump	40m/h
Machine weight (net)	2.000 Kg
max. portioning speed	350 port/min.

Special voltage on request (augmentation of weight up to 80 kg). Optionally available: electronic control valve of the vacuum system

Accessories:

Outlet cleaner, operating instructions, counter snake, accessories trolley

Filling tubes flange Ø 73: 24/30/42/60 mm

K-Line KK500 DV:

Capacity of the filling hopper	500 liters
	with automatic sucking loading with vacuum
Maximum filling performance	8.200 g/h
Filling pressure up to max	25 bar
Max. volume of filling cylinders	500 cm
cylinders	6
Portioning range	50-100.000 g
Type of drive	Servo
Connected load	13,2 kW
Voltage/Tension	3Ph./PE, 400V, 50/60Hz
Compressed air	6 bar / 10 L/min.
Stirrer drive:	AC motor
Control type:	TC733
TCP/IP interface	for virtual network Computing (VNC)

Vacuum pump (internal)	40m/hour
Vacuum valve block for external vacuum	
Optionally available: Vacuum system for DV	100 cbm/h, 2,2 KW
Machine weight (net):	abt. 2.500 Kg
max. portioning speed	350 port./min.
Suction tube:	200 mm with adjustable flap valve

Manual swivel opening mechanism.

Compressed air is necessary DIN ISO 8573-1 class 2, digital measuring and control of the filling level, Double stirrer unit

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Technical modifications are subject to change