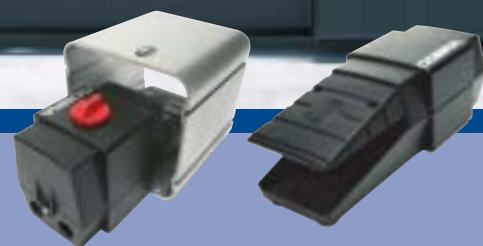


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*We switch the power!*



**ELEKTRA**  
TAILFINGEN  
SCHALTGERÄTE



*Foot operated switches* **COBRA**

**COBRA**



### General explanation



### Application

The foot-operated switches of series COBRA (FDC) have been developed for industrial application with high mechanical and electrical withstand. The foot-operated switches are used on wood processing machines, CNC machines, building machines and bending machines.

### Design

The COBRA safety foot switches include the two modular components, foot switch and safety cover. The various features of technical performance include the emergency opening of all contacts as well as an emergency shut-off switch integrated in the bottom side of the pedal, which immediately shuts off the machinery on quick pushing to the stop of the pedal. The housing design of both components has been defined in such a way that on addition of two or more switches in a row, a compact foot switch block is formed to constitute a single unit. A central innovation and unique feature in the field of industrial safety foot switches is the employment of an extruded aluminium safety cover, which does not break, even on high impact loads and therefore perfectly protects the foot from injuries. The cover is also an additional protection against unintentional operation.

### Benefits

- *with- or without protection cover*
- *aluminium extruded safety cover*
- *1,2 and 3-pedal execution*
- *New with cam switch or as contact block execution, optionally with standard or snap-action function*
- *direct motor control up to 25 amps*
- *special switching sequences available*
- *multiple pedal executions can be supplied pre-wired*
- *protection cover can be mounted easily afterwards*

### Switch insert

The mechanical concept admits two switching types:

#### Step switching:

(Progressive switching) Pedal is pressed and contacts are closed and stay in closed position even when the pedal is released. Only when the pedal is operated again, contacts are opened and go back into their initial position.

#### Key switching:

Pedal is pressed. Contacts are closed so long pedal is pressed. When pedal is released, contacts open again.

As switching device, a cam switch of switch size D1 is used with general control and motor characteristics up to 5,5 kW/400 V in AC-3 directly connected. The switch is built in accordance with EN 60204-1/VDE 0113 standard, the contacts have compulsory opening so the switch can be used as a main emergency switch. Using a cam switch allows a lot of electrical contact functions as control switch and also as motor switch.

As alternative can also a contact block with standard function or snap-action function be incorporated as NO/NC as switching element.





### Designs

#### Enclosure with flat-type cover

A cam switch insert with max. 4 contacts can be integrated in this enclosure size. For example 2 NO + 2 NC or 3- or 4-polar on-off switches with step or key switching are standard switching functions.



IP 65

#### Enclosure with high cover

The enclosure with high cover allows switching functions with max. 8 contacts respectively 4 contact chambers. Key and step function is possible as control and motor switches.



IP 65

### Details for ordering:



#### 1-pedal footswitch

All 1-pedal COBRA footswitches are supplied without safety-cover. The safety-cover can be ordered separated if needed. The safety cover can later on be easily fixed with 2 screws on the COBRA footswitch (see page 9).

Cover-Set 1-pedal footswitch  
Content: safety-cover and screws  
Reference No.: 305052  
Designation: FG10U1

## Designs

### Enclosure with safety cover

The safety cover protects against unintentional operation or falling parts. A switch insert with max. 8 contacts respectively 4 contact chambers can be integrated in this enclosure size.



IP 65

### Enclosure with safety cover double-pedal

The safety covers protect against unintentional operation or falling parts. It also prevents the possibility of pressing both pedals with one foot at the same time. A switch insert with max. 8 contacts respectively 4 contact chambers can be integrated in this enclosure size.



IP 65

## Details for ordering:

### 2-pedals footswitch

For ordering a 2-pedal footswitch please choose 2 of the corresponding 1-pedal footswitches with the requested switching-program.

In order to be able to combine both 1-pedal footswitches with each other you will need the cover-set for 2-pedals footswitch. You will just have to screw both 1-pedal footswitch into the 2-pedals cover-set.

**Remarks: 2-pedals footswitch can only be supplied with safety-covers.**




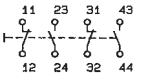
Cover-Set 2-pedals footswitch  
Content: 2 safety-covers combined with each other and screws  
Reference No.: 305053  
Designation: FG10U2





## Foot-operated switches FDC

### Foot-operated switches one-pedal

Circuit diagram	Rated permanent current $I_n$	Max. switching capacity Utilization categorie AC-3/400 V~		
	A	kW	IP 65 Standard execution without safety cover	
	Type			Best.-Nr. Ref. No.
	25	5,5	FDC A2U-G	305 059
	On-off switches, 2 poles – Progressive switching			
	25	5,5	FDC AU-G	305 060
	On-off switches, 3 poles – Progressive switching			
	25	5,5 <sup>1)</sup>	FDC A2T-G	305 061
	On-off switches, 2 poles – Key switching			
	25	5,5 <sup>1)</sup>	FDC AT-G	305 062
	On-off switches, 3 poles – Key switching			
	25	AC-15 6 A/230 V~	FDC 11U-G	305 063
	Change-over switches 1 NO/1 NC – Progressive switching			
	25	AC-15 6 A/230 V~	FDC 22U-G	305 065
	Change-over switches 2 NO/2 NC – Progressive switching			
	25	AC-15 6 A/230 V~	FDC 11T-G	305 064
	Change-over switches 1 NO/1 NC – Key switching			
	25	AC-15 6 A/230 V~	FDC 22T-G	305 066
	Change-over switches 2 NO/2 NC – Key switching			

<sup>1)</sup> AC-4 Key switching 2,2 kW/400 V

Motor switches

– Control switches  
– Master units


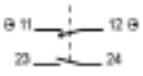
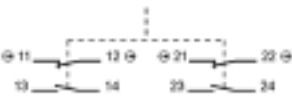
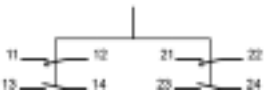
Cover-Set 1-pedalfootswitch  
Content: safety-cover and screws  
Reference No.: 305052  
Designation: FG10U1

Cover-Set 2-pedalsfootswitch  
Content: 2 safety-covers combined  
with each other and screws  
Reference No.: 305053  
Designation: FG10U2





Foot-operated switches one-pedal

Circuit diagram	Rated permanent current I <sub>n</sub>	Max. switching capacity Utilization categorie AC-15/230 V~	 IP 65	
			Standard execution without safety cover	
			Type	Best.-Nr. Ref. No.
	A	kW		
	10	6	FGC 1ÖS-G	305 116
	Change-over switches 1 NO/1 NC – Key switching with standard function			
	10	6	FGC 2ÖS-G	305 117
	Change-over switches 2 NO/2 NC – Key switching with standard function			
	10	6	FGC 2ÖSJX-G	305 235
	Change-over switches 2 NO/2 NC – Key switching with snap-action function			

Control switches

Cover-Set 1-pedal footswitch  
Content: safety-coverand screws  
Reference No.: 305052  
Designation: FG10U1

Cover-Set 2-pedals footswitch  
Content: 2 safety-covers combined  
with each other and screws  
Reference No.: 305053  
Designation: FG10U2





## Safety foot-operated switches FDC

### Safety foot-operated switches

In case of danger when the pedal is pressed over the standard switching position the contacts are switched off. Only after releasing the safety locking device the pedal can be operated again.





#### Operational sequence


1. The pedal (A) is in the upper position and is not operated. The contacts are open, the machine is not working.
2. The contacts will be closed when pushing down the pedal (A) until the contact point (B) is realized – the machine is working
3. In case of danger or emergency, the pedal is pushed over the with stand of the contact point. The contacts are opened and the machine stops immediately. The switch is mechanically locked so the machine can not be started again.
4. The lockout of the locked contact goes through the turnknob (C). First after the lockout, the contacts are released and the standard function can start again.




AC-4 Key switching  
2,2 kW/400 V  
Further switching  
functions on request  
Pedal with blocking-  
lever PV on request

Circuit diagram	Rated permanent current I <sub>n</sub>	Max. switching capacity Utilization categorie AC-3/400 V~	IP 65				
						Execution with lockout turnknob and contact point	
						Type	Best.-Nr. Ref. No.
A	kW						

	25	AC-15 6 A/230 V~	FDC AR-G	305 110
	On-off switch, 3 poles – Key switching, with emergency-stop			

	25	AC-15 6 A/230 V~	FDC K1R-G	305 111
	Control switch with 1 pulsed contact and 1 sealed contact – Key switching, with emergency stop			

	25	AC-15 6 A/230 V~	FDC K2R-G	305 112
	Control switch with 2 pulsed contacts and 2 sealed contacts – Key switching, with emergency stop			



## Foot-operated switches FDC/FGC

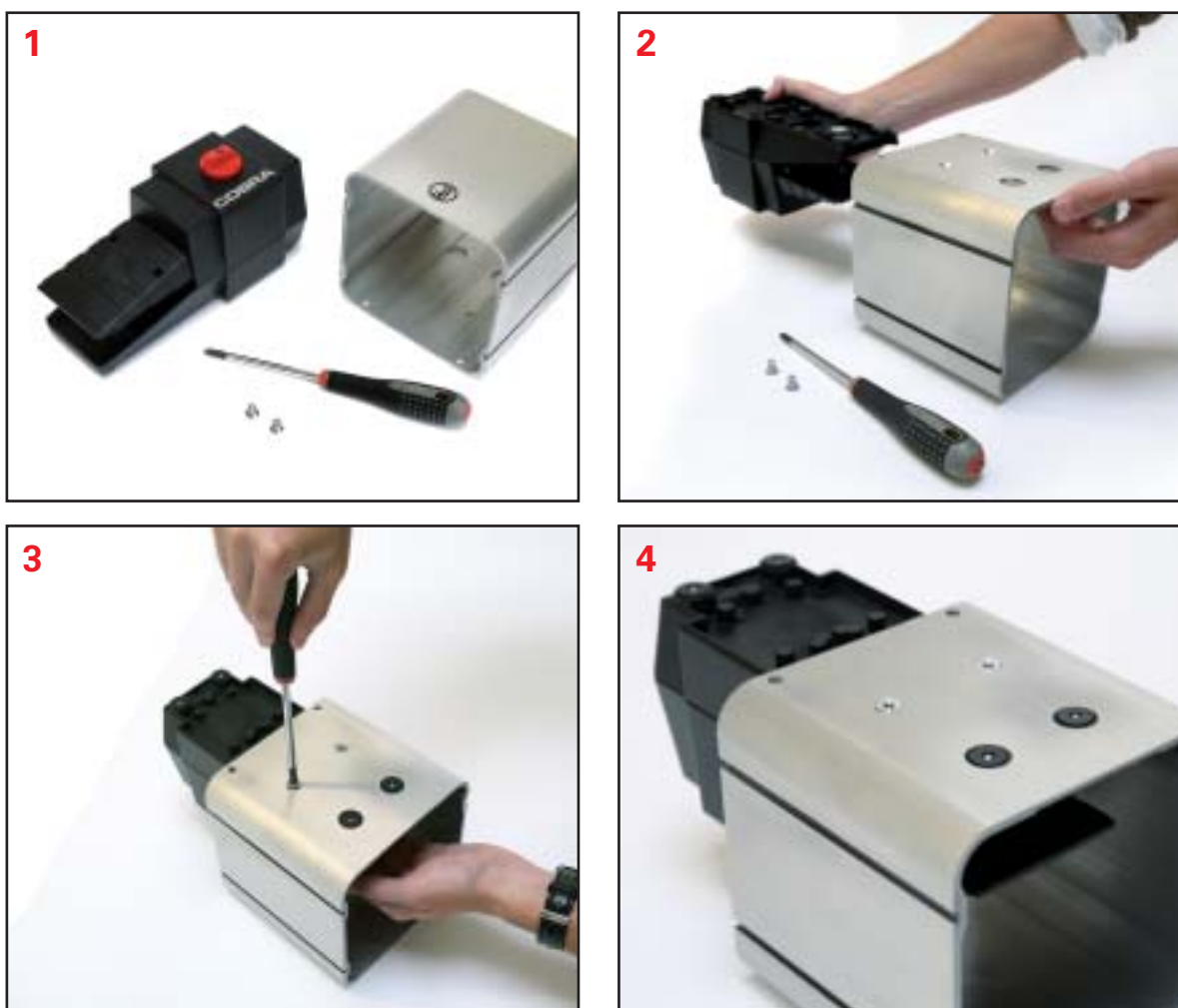
### Mounting safety cover

#### Safety cover

The prescriptions of different trade associations specify in many cases to use a complementary protection against any unintentional operation. The execution with safety cover protects the pedal against any unintentional operation and falling parts.

A destruction of the safety cover is impossible when operating under realistic conditions.

#### Description of mounting the safety cover



Cover-Set 1-pedal footswitch  
Content: safety-cover and screws  
Reference No.: 305052  
Designation: FG10U1

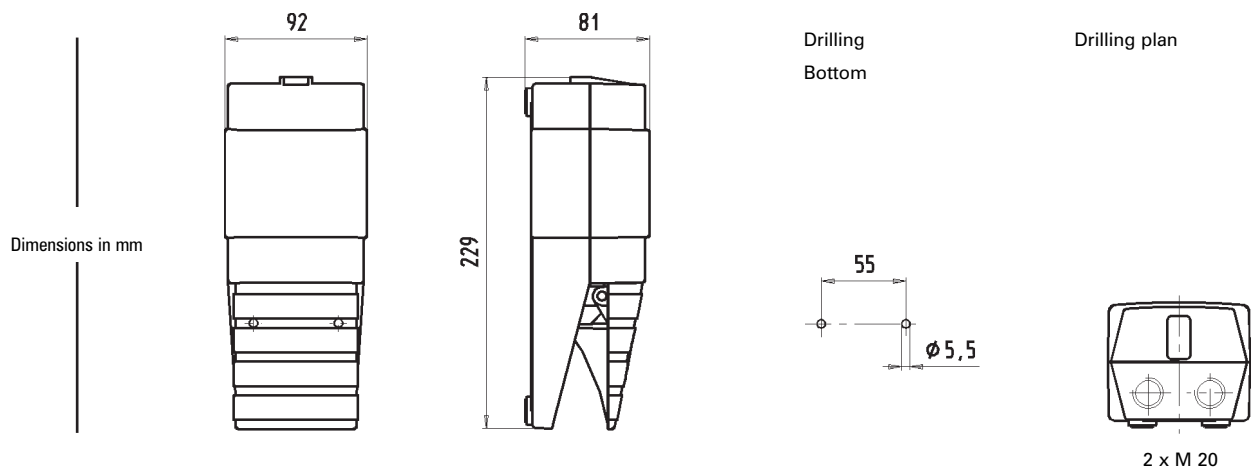
Cover-Set 2-pedal footswitch  
Content: 2 safety-covers combined with each other and screws  
Reference No.: 305053  
Designation: FG10U2



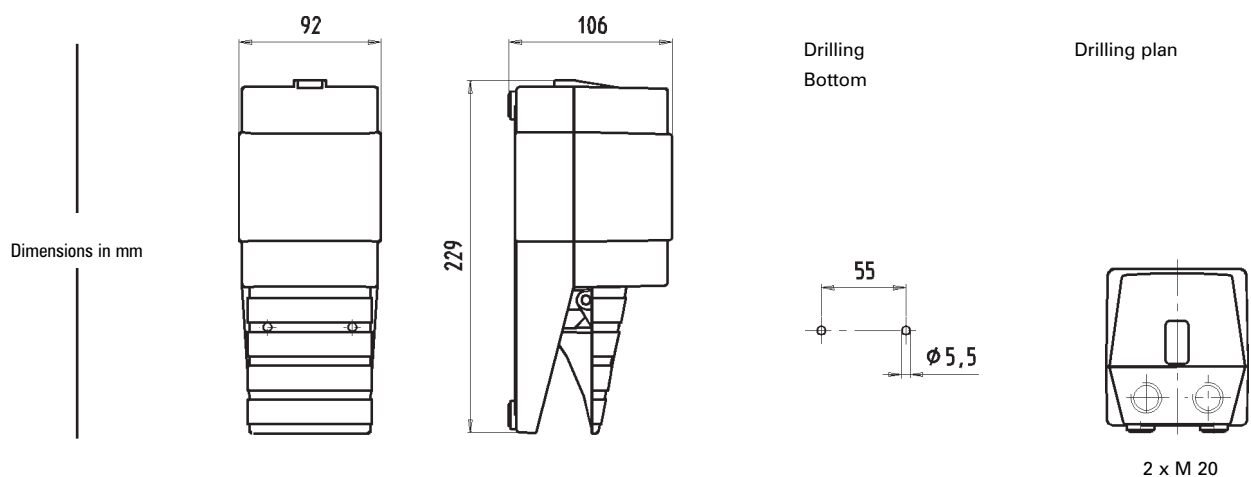
## Foot-operated switches FDC/FGC

### Foot-operated switches one-pedal

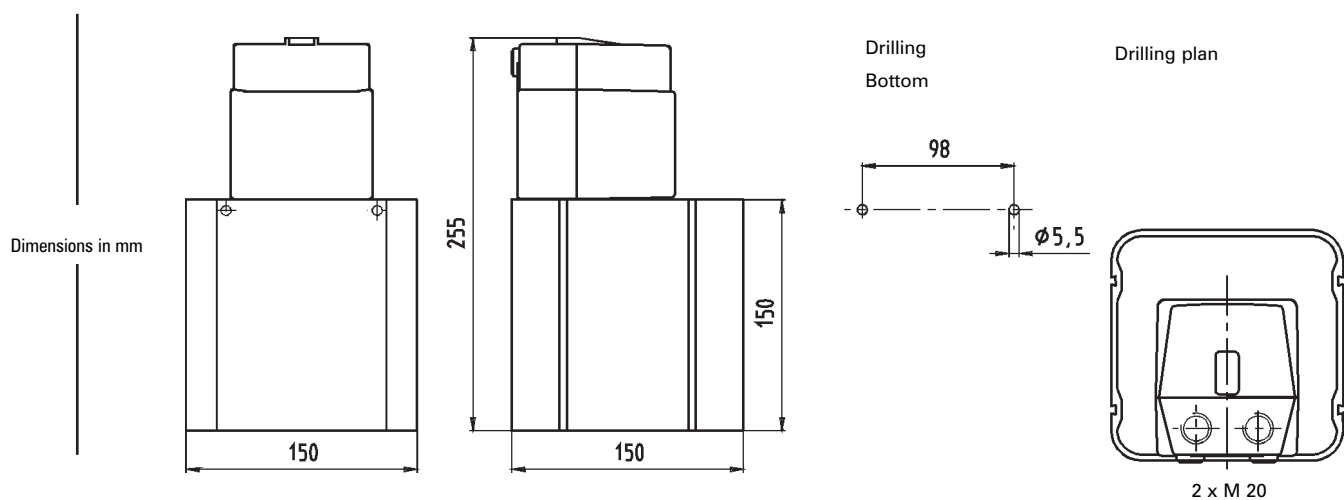
#### Enclosure with flat-type cover



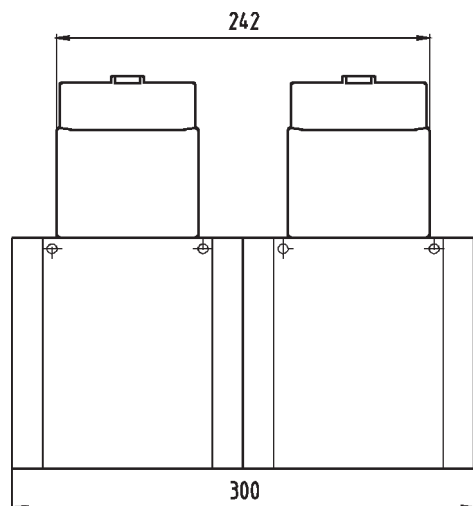
#### Enclosure with high cover



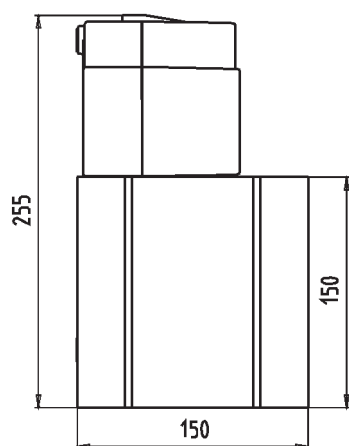
#### Enclosure with safety cover



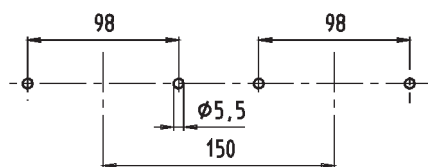
Enclosure with safety cover double -pedal



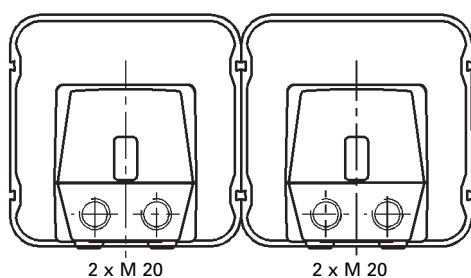
Dimensions in mm

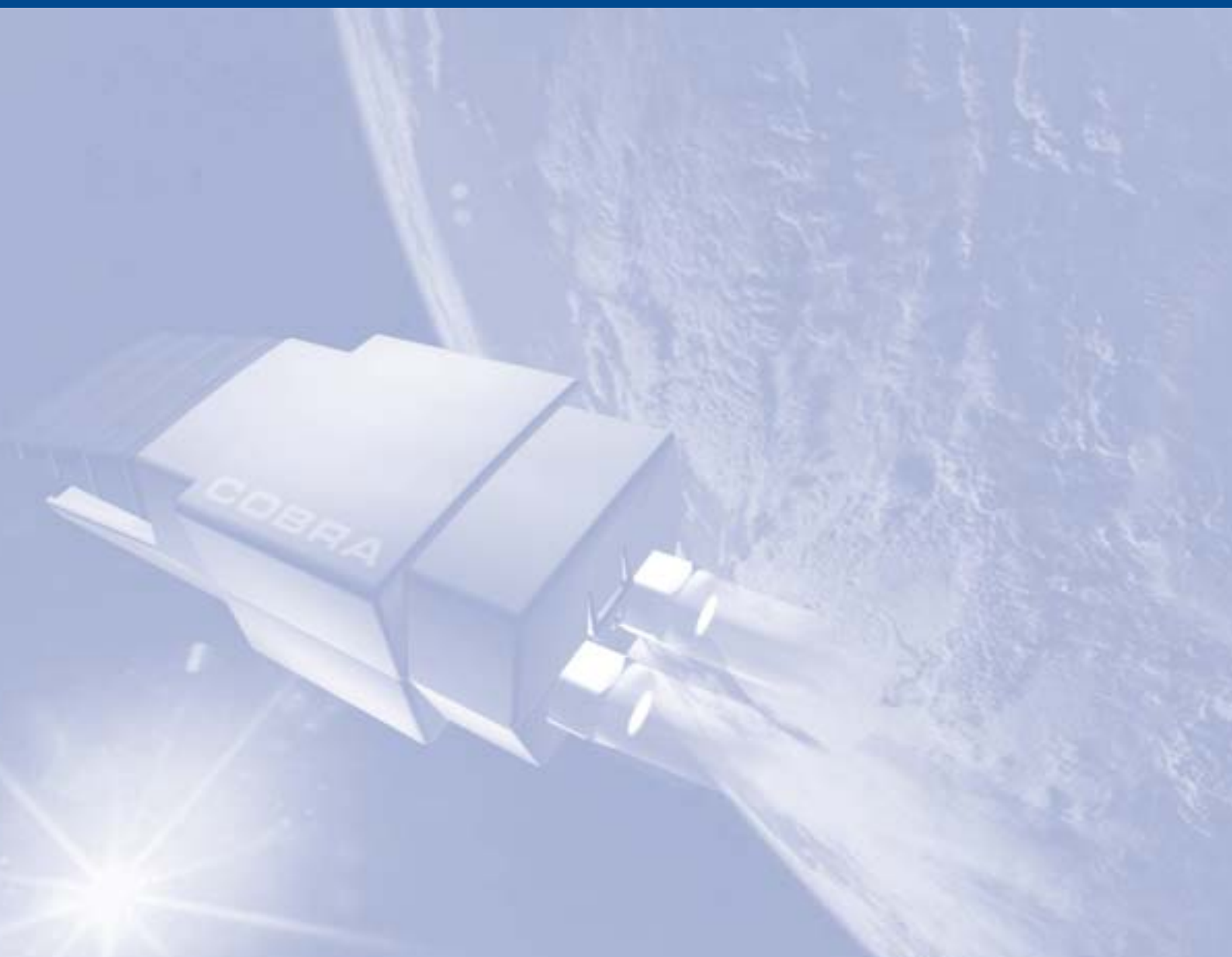


Drilling plan Bottom



Drilling plan





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