

COMBINING HYDROCYCLONE SIMPLICITY WITH RUGGED, DEPENDABLE SHAKER PERFORMANCE



COBRA 16/2 Mud Conditioner



KING COBRA 24/3 Mud Conditioner

COBRA and KING COBRA Mud Conditioners utilize a combination of hydrocyclones and a COBRA or KING COBRA shale shaker to separate solids from liquid. The combination of hydrocyclone cones utilized is dependent upon the specific application of duty. Cone combinations typically consist of desander cones (10-inch or 12-inch) and desilter cones (4-inch), which are properly sized to handle over 125% of the flow rate.

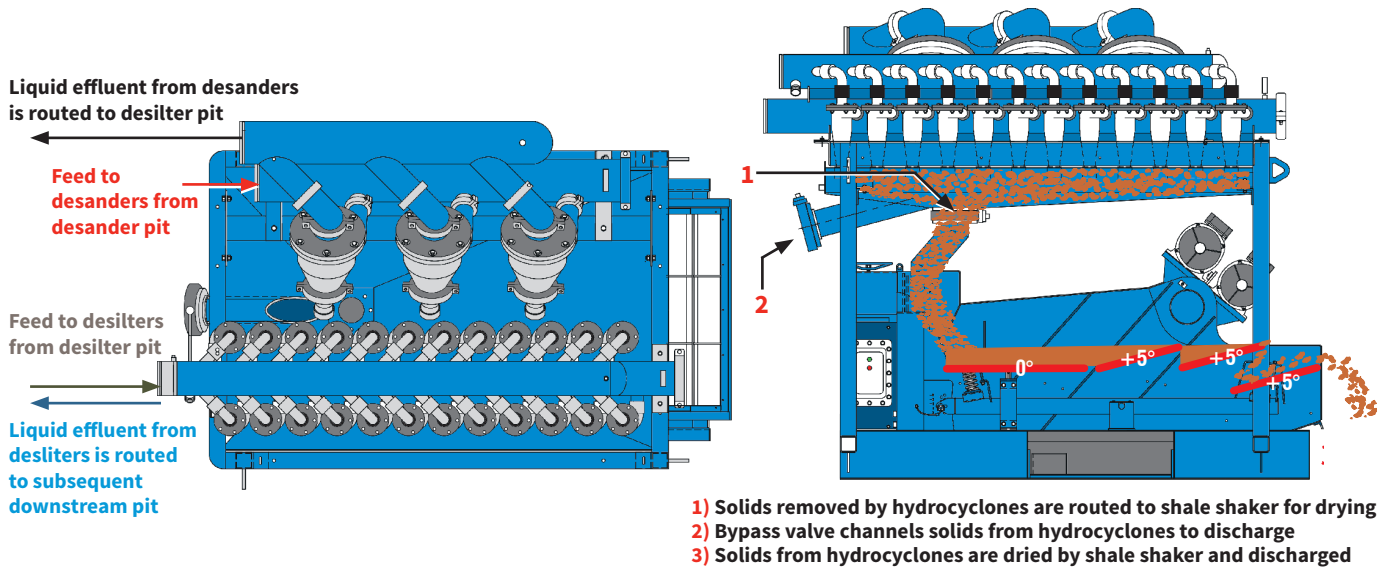
The cones are mounted above the screen deck of the shale shaker. The drilling fluid (mud) is fed first through the hydrocyclones, where the discharge cascades down over the shale shaker screens. This helps to reduce the amount of

mud attached to the discharged cuttings. To further increase separation efficiency, an optional VFD G-Force Controller is available for the KING COBRA shaker, which allows the operator to tune the G-forces exerted on the shaker bed to one of three settings: 6.1 (NORM), 6.7 (HIGH), and 7.3 (MAX).

The screens used on the shale shaker determine the cutpoint for the mud conditioner unit. When weighted muds are used, screens are selected in a manner that ensures that the majority of the weight material is returned to the mud system. Typically, API 170 screens (>82.5 to 98.0 microns) are utilized to reduce the amount of weight material discarded by the screens.

FEATURES	BENEFITS
Cones constructed of lightweight, durable, polymeric material	Provides high temperature tolerance, chemical and erosion resistance and low-cost replacement
Cones are connected to feed tube via preferred flange connections	Offer tight, leak-proof operation
Cones utilize involute feed entry	Separates solids more efficiently than conventional tangential entry, thus conserving fluid and reducing wear at the feed inlet
Wear-resistant ceramic insert molded into the underflow of 4-inch desilter cones	Resists abrasion to a degree many times higher than the standard polymeric material, thus ensuring long-lasting life
Customized cone configurations specific to customer needs	Ensures that customers receive the proper configuration for their application
Unique, rugged shaker basket design	Provides optimal mud coverage of screen surface
Few replacement parts for shaker	Provides a small parts inventory, thus enabling cost savings to be realized
Linear shaker motion	Separates and rapidly discharges solids
Patented drying deck of shaker	Reduces mud losses via a dry solids discharge
Exclusive shaker deck angles (0°, +5°, +5° for the COBRA and 0°, +5°, +5°, +5° for the KING COBRA)	Keeps the mud pool volume small, which helps to increase screen life
Utilization of repairable, pretension screens on shakers <ul style="list-style-type: none"> • Three (3) on the COBRA • Four (4) on the KING COBRA 	Offers 25.4 ft ² (2.4 m ²) of screening area for the COBRA and 33.4 ft ² (3.1 m ²) for the KING COBRA which is repairable, thus offering cost savings
Individual seals on every screen	Eliminate screen leakage
Patented pin-and-hole screen securing system	Secures screens to shaker basket snugly so they will not slip or slide once in place

BRANDT™ COBRA™ and KING COBRA™ Mud Conditioners



Typical Functioning of a Mud Conditioner
(KING COBRA 24/3 Mud Conditioner pictured)

Specifications and Dimensions

HYDROCYCLONES	12-inch	10-inch	4-inch
Nominal Inner Diameter	12 in (305 mm)	10 in (254 mm)	4 in (102 mm)
Material	Cast Urethane	Cast Urethane	Cast Urethane
Capacity	500 gal/min (1893 lit/min) to 600 gal/min (2271 lit/min)	400 gal/min (1514 lit/min) to 500 gal/min (1893 lit/min)	50 gal/min (189 lit/min) to 65 gal/min (246 lit/min)
D50 Cut Point in Water	60-80µm	50-70µm	15-20µm
D50 Cut Point in Drilling Fluid	>200µm	90-120µm	35-70µm
Weight Each	105 lb (48 kg)	85 lb (39 kg)	13 lb (6 kg)

All hydrocyclones require 75 feet of head; D50 is dependent on the feed particle size. 2-inch cones are also available upon request.

SHALE SHAKERS	COBRA	KING COBRA
Dimensions (L x W x H)	94 ⁵ / ₈ x 66 ¹ / ₈ x 61 in (2404 x 1680 x 1549 mm)	120 ¹ / ₄ x 66 ³ / ₈ x 66 in (3054 x 1686 x 1676 mm)
Weir Height	41 in (1041 mm)	41 in (1041 mm)
Weir Height Opt	37 in (940 mm)	37 in (940 mm)
Weight	3800 lb (1725 kg)	4800 lb (2179 kg)
Screen Quantity	3	4
Deck Angle	0°, +5°, +5°	0°, +5°, +5°, +5°
Basket Angle	Adjustable -7° to +3°	Adjustable -5° to +3°
Screen Type	Pretension, repairable	Pretension, repairable
G-Force	5.4 Nominal G's Standard, Up to 6.4 G's*	Up to 7.3 G's**
Deck Area	25.4 ft ² (2.4 m ²)	33.4 ft ² (3.1 m ²)
Motor Type	(2) Vibra-Motors	(2) Vibra-Motors
Motor Power (each)	2.0 hp (1.5 kw)	2.5 hp (1.9 kw)
Vibration Motion	Linear	Linear

*G-force dependent upon motor weight option.
**G-force dependent upon starter options.

TYPICAL MUD CONDITIONER CONFIGURATIONS	Quantity Desilter Cones (4-inch)	Quantity Desander Cones (12-inch)	Hydrocyclone Capacity
COBRA 16/2 Mud Conditioner	16	2	1000 gal/min (3785 lit/min)
KING COBRA 16/2 Mud Conditioner	16	2	1000 gal/min (3785 lit/min)
KING COBRA 24/3 Mud Conditioner	24	3	1500 gal/min (5678 lit/min)

DIMENSIONS AND WEIGHTS	L x W x H	Weight
COBRA 16/2 Mud Conditioner	106 in x 80 in x 101 in (2692 mm x 2032 mm x 2565 mm)	6200 lb (2815 kg)
KING COBRA 16/2 Mud Conditioner	120 in x 87 in x 106 in (3048 mm x 2210 mm x 2692 mm)	7900 lb (3587 kg)
KING COBRA 24/3 Mud Conditioner	138 in x 90 in x 118 in (3505 mm x 2286 mm x 2997 mm)	9100 lb (4131 kg)