



HP-CD

**“WE HIT HARDER SO YOU
DRILL FASTER”**



CLUSTER DRILL

**HEAVY DUTY DESIGN COUPLED WITH HARD HITTING CS8
HAMMERS AND 10" QUICK-CHANGE BITS MAKES THE
KEYSTONE HP SUPERIOR FOR LARGE HOLE APPLICATIONS**

CHANGE BITS IN THE FIELD

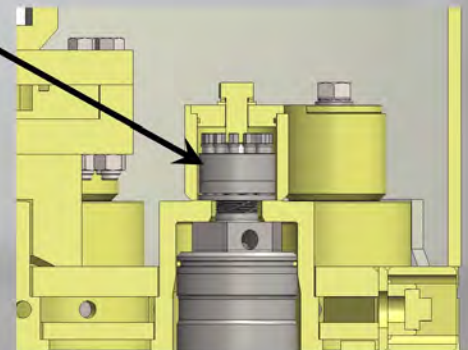
- **PATENTED QUICK CHANGE TECHNOLOGY ALLOWS BITS TO BE REPLACED IN THE FIELD**
- **BIT INSTALLATION WITH ALL-THREAD AND WRENCH**
- **BIT REMOVAL WITH AIR POWERED HYDRAULIC POWER PACK**



**POWERFUL CS8
8" HAMMER**

SUPERNUT

- **NO NEED FOR TORQUE MULTIPLIER**
- **SUPERIOR HAMMER RETENTION SYSTEM**

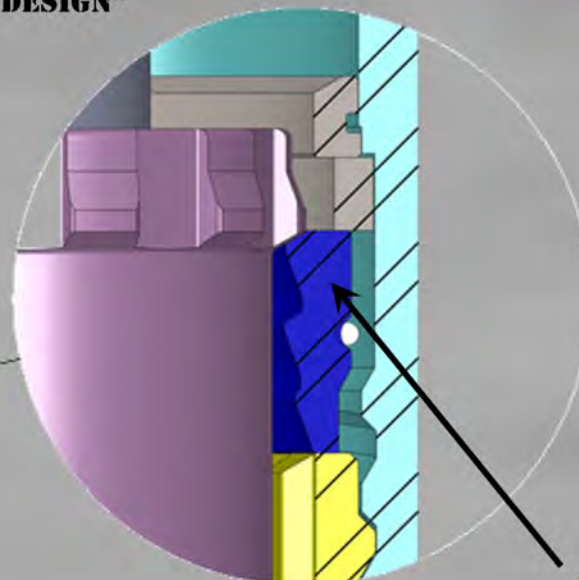


BACKHEAD →

**"LESS PARTS,
SIMPLE DESIGN"**

**100 LB
REVERSIBLE
PISTON =
GREATER IMPACT**

SPLINED CHUCK →



**QUICK CHANGE
BIT RETAINER**

**10" BIT
SELF INDEXING**

**EASY
ACCESS TO
HAMMERS**

**CHIKSAN
SWIVEL**

**CALYX
BASKET**

**INTEGRATED
"RATCHET"
AIR INLET**

**CLEAN-OUT
PORTS**

SUPERNUT

**KELLY
BOX**

**KELLY BOX
ADAPTER
PLATE**

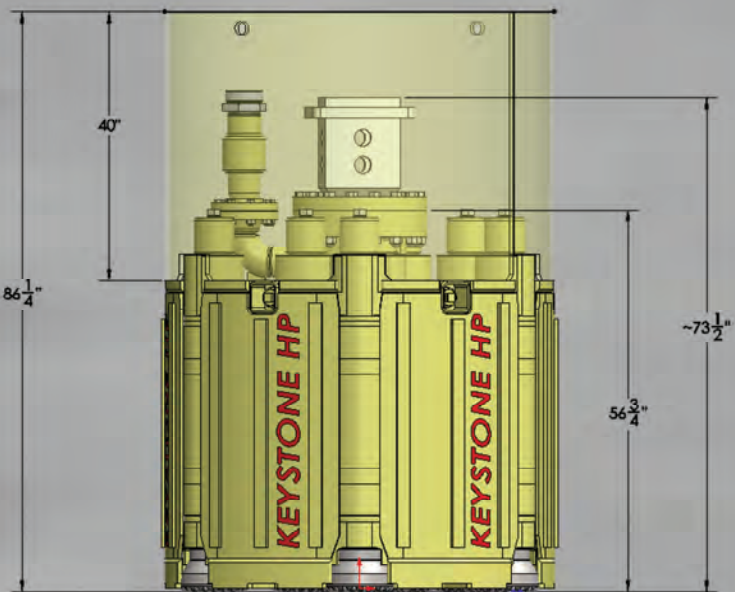
8" HAMMER

**OPTIMIZED BIT
LAYOUT FOR
MAXIMUM
PERFORMANCE AND
MINIMUM TOOL
WEAR**

10" BIT

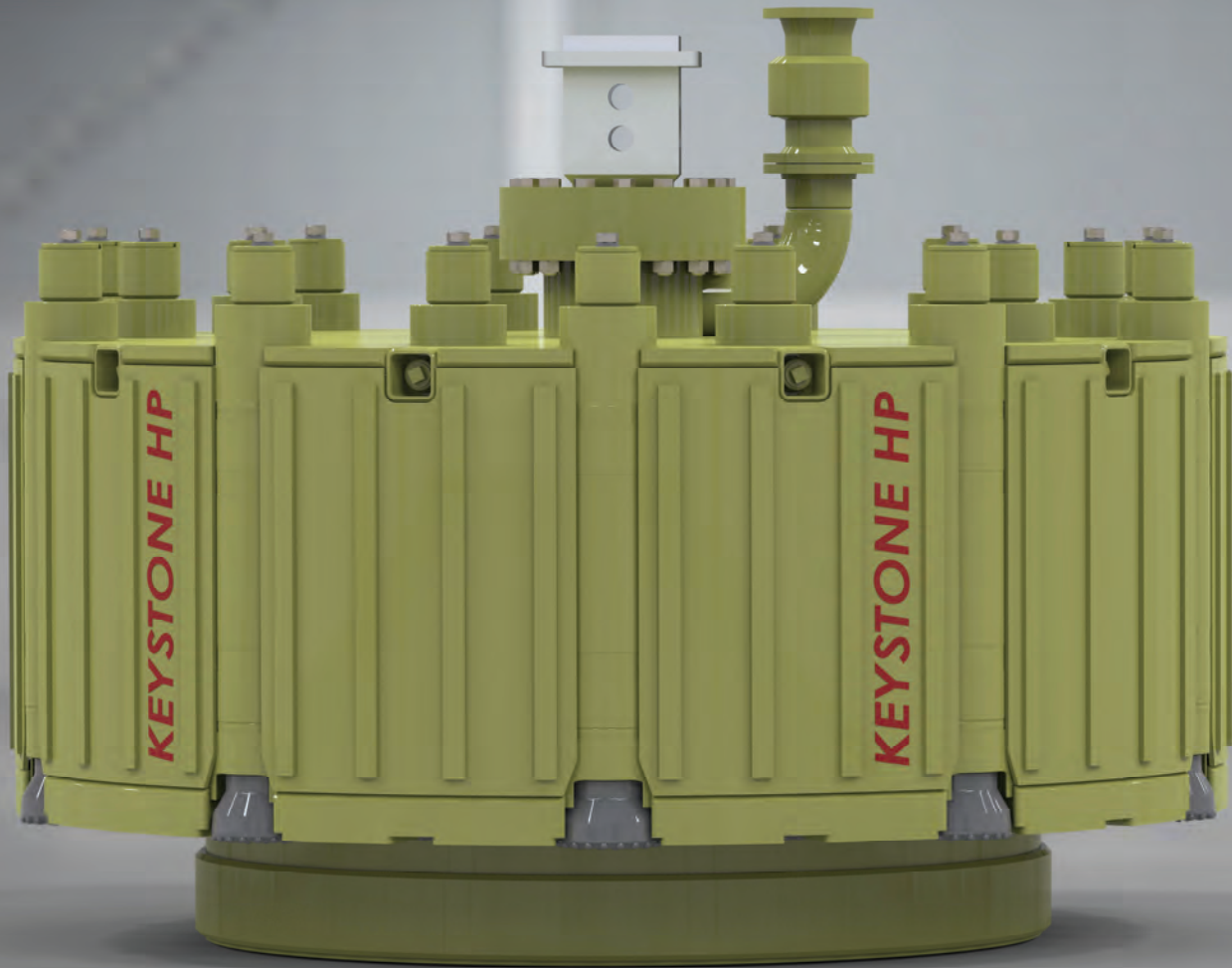


**SHORTEST
CLUSTER DRILL
IN ITS CLASS**





HP-CR

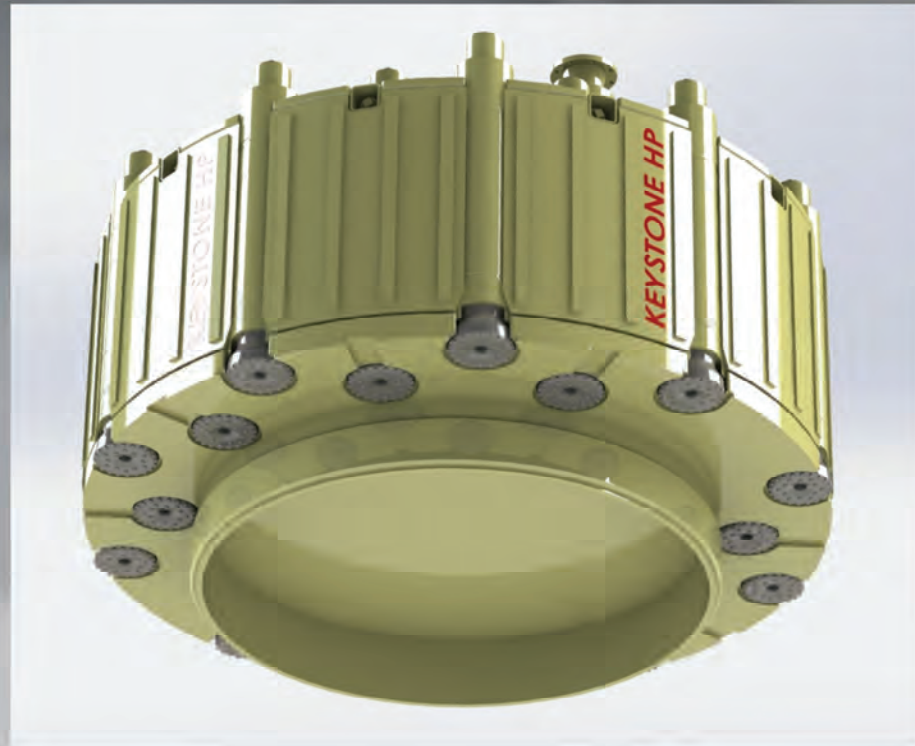


CLUSTER REAMER



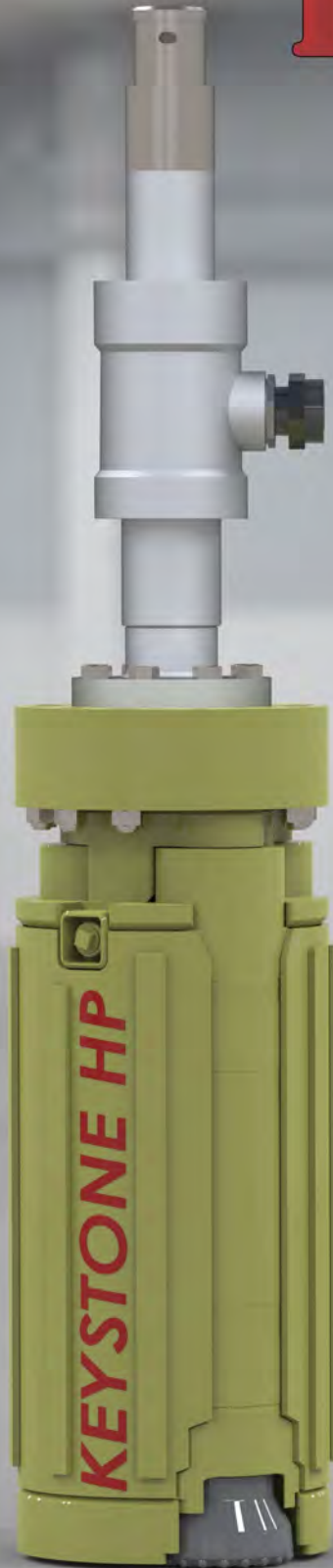
CLUSTER REAMER

- **DRILL LARGE DIAMETER HOLES WITH LESS BITS/HAMMERS AND AIR COMPRESSORS**
- **SIZES UP TO 144" (CONSULT FACTORY FOR LARGER REQUIREMENTS)**
- **CLUSTER REAMERS HAVE A GUIDE RING DESIGNED TO FOLLOW A SMALLER PILOT HOLE**
- **DIVIDE HOLE DRILLING INTO PROGRESSIVE STEPS WITH THE SAME BITS, HAMMERS, AND AIR REQUIREMENTS**
- **CLUSTER REAMERS ARE ALSO AVAILABLE IN REVERSE CIRCULATION CANISTERS**





HP-PD



CLUSTER POLE DRILL

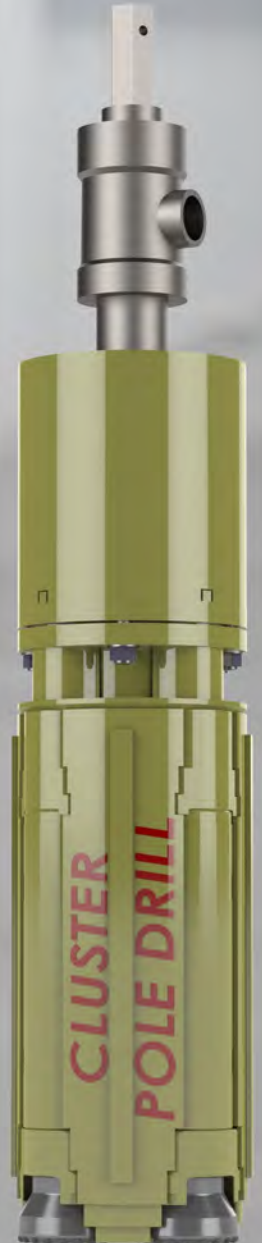


CLUSTER POLE DRILL



- **CONTINUOUS ROTATION SWIVEL DRILLING**
- **MARK VI, SIDE INLET SWIVEL INCLUDED (4" NPT INLET)**
- **4,700 LBS FULLY LOADED (24")**
- **APPROXIMATELY 9-1/2' TALL**
- **AVAILABLE IN 24", 30", AND 36" DIAMETERS**

- **ADAPTER TO WELD HEX CONNECTION OR KELLY BOX (KEYSTONE OR CUSTOMER SUPPLIED)**
- **6' STANDARD DRILLING DEPTH**
- **ADD CUSTOM PIPE STRINGS TO INCREASE DRILLING DEPTH TO YOUR SPECIFICATION**





HP-CB



PERCUSSION CORE BARREL



PERCUSSION CORE BARREL

- **REDUCE NUMBER OF COMPRESSORS, BITS, AND HAMMERS NEEDED TO DRILL HOLE**
- **EX. 48" CORE BARREL – 3 BITS / HAMMERS, 48" CLUSTER DRILL – 7 BITS / HAMMERS**



- **3-1/2' DRILLING DEPTH UNTIL STUB REMOVAL (GREATER DEPTHS ARE POSSIBLE UPON REQUEST)**

- **INTEGRATED "RATCHET" AIR INLET**
- **10" WIDE KERF (48" CORE BARREL LEAVES 28" STUB)**
- **SAME LOW HEIGHT AS TRADITIONAL CLUSTER DRILL**
- **REDUCED OVERALL WEIGHT**
- **REDUCED OVERALL WEIGHT ON BIT REQUIREMENT**
- **REDUCED OPERATING TORQUE**
- **CUSTOM SIZES AVAILABLE**



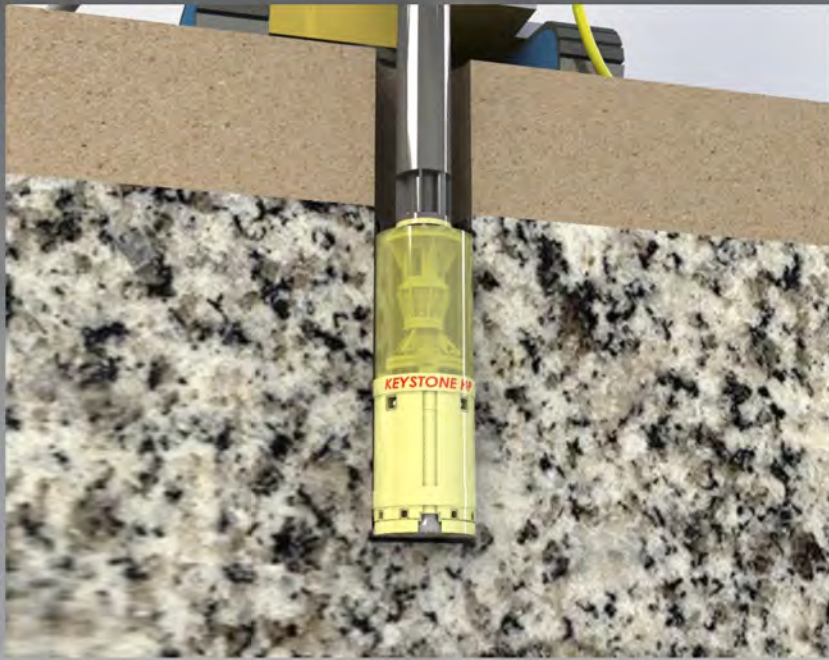


HP-RC



REVERSE CIRCULATION

REVERSE CIRCULATION



- **CONTINUOUS ROTATION DRILLING**
- **NO NEED TO TRIP OUT OF THE HOLE**
- **FASTEST, MOST EFFICIENT WAY TO DRILL**

- **SPECIALLY DESIGNED CANISTER TO ROUTE CUTTINGS THROUGH TUBES INTO INTERCHANGE**
- **REQUIRES RC - INTERCHANGE, PIPE, AND SWIVEL**
- **COMPLETE CONTAINMENT AND CONTROL OF CUTTINGS**
- **PERFECT FOR FLOODED HOLES**



- **USE A CONVENTIONAL CLUSTER DRILL IN A REVERSE CIRCULATION APPLICATION**
- **ADD REVERSE CIRCULATION INTERCHANGE / CROSSOVER**
- **ADD SEALING PLATE TO DIRECT CUTTINGS INTO INTERCHANGE**
- **ALL THE BENEFITS OF RC WITHOUT A SPECIALIZED CANISTER**



HP-AC



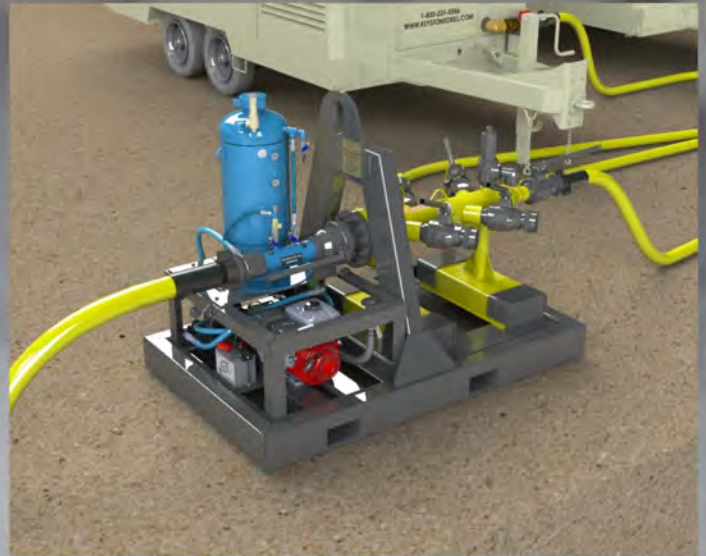
ACCESSORIES



ACCESSORIES

KEYSTONE SUPPORT MODULE

- COMBINATION OF AIR MANIFOLD, LUBRICATOR, AND WATER INJECTION ON A SINGLE PLATFORM
- HEAVY DUTY FRAME WITH FORKLIFT POCKETS
- SINGLE POINT LIFT
- MOVE ALL YOUR ACCESSORIES IN ONE TRIP!
- ELIMINATES 4" HOSE BETWEEN MANIFOLD AND LUBRICATOR



5-INLET AIR MANIFOLD

- (5) 3" INLETS W/VALVES, (1) 4" OUTLET VALVE
- CAN ADD A 6TH INLET IF REQUIRED
- RECONFIGURABLE FOR EITHER A 6" OUTLET OR 2" INLETS
- FORKLIFT POCKETS
- 600 PSI RELIEF VALVE (FULL FLOW)
- ASME CERTIFIED PRESSURE VESSEL (NATIONAL BOARD REGISTERED)



5-21 GPM WATER INJECTION

- SILICA DUST CONTROL
- 8.4 HP HONDA ENGINE W/ ELECTRIC START
- FLOW/PRESSURE CONTROL VALVE
- 500 PSI RELIEF VALVE



17-GALLON LUBRICATOR

- VENTURI STYLE (NO MOVING PARTS)
- NEEDLE VALVE TO ADJUST FLOW
- ASME CERTIFIED PRESSURE VESSEL (NATIONAL BOARD REGISTERED)
- 1000 PSI RELIEF VALVE



HP-AIR



AIR RENTALS



RENTALS / SERVICE



AIR COMPRESSOR SALES AND RENTAL

- 750 – 1600 CFM / 150 PSI COMPRESSORS
- 1170 – 1250 CFM / 350 PSI COMPRESSORS
- AIR HOSE AND ACCESSORIES
- TIER 3 AND TIER 4F DIESEL PACKAGES
- ELECTRIC AND NATURAL GAS DRIVEN PACKAGES



IN-HOUSE HAMMER AND BIT REPAIR

- INDIVIDUAL BROKEN CARBIDE REPLACEMENT
- ROBOTIC ARM DRESSING OF WORN CARBIDE
- TOTAL BIT FACE RECONSTRUCTION
- DTH HAMMER ANALYSIS, SERVICE AND REPAIR

SERVICE

- CUSTOMER SUPPORT AND FIELD SERVICE AVAILABLE 24 / 7
- STARTUP SERVICE AVAILABLE



KEYSTONE **HP** DRILL SPECIFICATIONS - STANDARD SIZES

DIAMETER (IN)	HAMMERS/ BITS	AIR REQUIREMENTS ⁽¹⁾ (SCFM)	RATCHET AIR INLET SIZE	FULLY LOADED WEIGHT (LBS)	OIL REQUIRED PER HOUR ⁽²⁾ (GAL)
24	3	1,605	2"	4,600	1.0
30	4	2,140	3"	6,100	1.0
34	5	2,675	4"	7,600	1.5
36	5	2,675	4"	8,300	1.5
40	6	3,210	4"	10,100	2.0
42	6	3,210	4"	10,600	2.0
46	7	3,745	4"	12,400	2.0
48	7	3,745	4"	12,800	2.0
52	9	4,815	4"	14,600	2.5
54	9	4,815	4"	15,100	2.5
58	11	5,885	4"	17,600	3.0
60	11	5,885	4"	18,000	3.0
66	13	6,955	4"	21,693	3.5
70	15	8,025	6"	24,200	4.0
72	15	8,025	6"	24,900	4.0
78	18	9,630	6"	28,600	5.0
84	19	10,165	6"	31,400	5.0
96	22	11,770	6"	38,600	6.0

**CUSTOM SIZES (24"-144") MADE TO ORDER IN ANY CONFIGURATION OF CLUSTER
DRILL/CLUSTER REAMER/PERCUSSION CORE BARREL. ALL OPTIONS AVAILABLE IN REVERSE
CIRCULATION.**

(1) AIR REQUIREMENTS PER HAMMER - 535 SCFM @ 150 PSI OR 763 SCFM @ 200 PSI

**(2) OIL REQUIREMENTS - 0.5 GALLON/HOUR PER 1,000 SCFM WHEN DRY DRILLING (DOUBLE
LUBRICATION RATE WHEN INJECTING WATER)**

(3) TORQUE REQUIREMENT - 1,000 FT-LBS PER INCH DIAMETER

24 HOURS A DAY/ 7 DAYS A WEEK

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