



YOUR DRILLING EXPERT



# PRODUCT CATALOGUE

[www.halco.uk](http://www.halco.uk)



# Our commitment to you

At Halco we pride ourselves on providing exemplary levels of customer service, support and training no matter what your drilling requirements are.

Having manufactured drilling consumables for over seventy years, our support team are well placed to provide accurate and timely solutions to optimise your drilling performance.

Halco is a world class manufacturer of Down The Hole (DTH) drilling equipment with manufacturing locations in The United Kingdom and Australia . Our headquarters are in the North of England, where Halco pioneered the development and distribution of DTH hammers and bits in the 1950's

Produced for more than seventy years, our products continue to be regarded as some of the most reliable and durable available today. This is due to our commitment to meet our customers needs, design expertise, and rigorous product testing in extreme drilling conditions.

We offer a wide range of specialist products necessary for the rigours of every drilling application.

- Mining
- Quarrying
- Oil and Gas
- Exploration
- Waterwell
- Geotechnical/Civil Engineering

Our team of specialists, together our dedicated dealer network are available to help you select the optimal product for your drilling application and equipment.

To find you nearest Halco dealer contact our sales teams at one of our sales locations shown on the back page of this document.

### Further Learning Aids:

- A-Z of DTH Drilling
- DTH Maintenance Manual
- DTH Users Guide
- [www.halco.uk](http://www.halco.uk)

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# Hammer Selection Guide

Choosing the right hammer is essential to your productivity and operating cost.

All Halco hammers are built to last and manufactured to an exceptional standard. Our hammers provide the outstanding performance and productivity expected by drillers worldwide.

Versatility and variety are key to Halco products and you can be assured that all Halco hammers are suitable for a wide range of rock drilling applications.

All our high performance hammers are built at our state-of-the-art lean manufacturing plant using the highest quality heat treated nickel chrome alloy steels and processes that meet ISO 9001:2008 standards. It is imperative to Halco that every hammer we produce surpasses your expectations and we constantly strive to improve our service and product quality.



## Our hammer range includes:

### Superior Range

Halco's Superior range are the obvious choice for the Oil & Gas industry where both maximum speed and reliability are expected.

Standard features of the Superior range include diamond enhanced drill bits and a bit catcher system. Variable bypass ports have been added to the top adaptor as well as live air bleed pistons. Together these features give the driller the ability to inject greater volumes of air and drilling additives to increase the uphole velocity required to drill deeper holes.

### RC Range

The Halco reverse circulation (RC) product range has been designed to give maximum performance in Exploration and Grade Control applications.

Unlike standard DTH hammers, RC hammers return the rock cuttings back to the surface through the internals of the hammer and drill string.

Geologists worldwide trust Halco RC products to help them explore prospects and identify mineral lithologies.

### Dominator Range.

The Dominator range of hammers offer higher performance and are ideally suited for medium to higher air pressures in blast-hole applications.

This design is simple with fewer components, which makes servicing and on-site maintenance easy. With a range of heavy duty models on offer this extends the life of the hammer considerably.

### Mach Range

This is a proven hammer which has been around for over 35 years. Designed for all kinds of drilling conditions but excels in overburden drilling due to the high frequency with less blow energy, particularly in unstable ground conditions. This hammer can drill smaller diameters than the standard range and is ideal for civil engineering applications.

### GP Range

The GP series offers breakthrough performance across some of the most challenging applications. The robust non ported piston design dramatically improves drilling performance when operating under a column of water.

A built-in choke facility allows the driller to adjust the volume of air through the hammer to optimise cutting evacuation.



# Hammers



# 1" Dominator 10

## DOMINATOR 10

The Dominator 10 is designed for small diameter drilling operations.

The Dominator 10 provides high performance at both low and high pressures. The strong robust design withstands heavy duty applications and includes an N.R.V (Non Return Valve) which is fitted into the hammer to prevent flooding where ground water is present.

### AT A GLANCE:

|  SIZE |  SHANK |  AIR PRESSURE |
|--|---|--|
| 55mm - 64mm<br>2 1/8 - 2 1/2"  | Halco 1   | 100 - 250 psi<br>(7 - 17 bar)  |

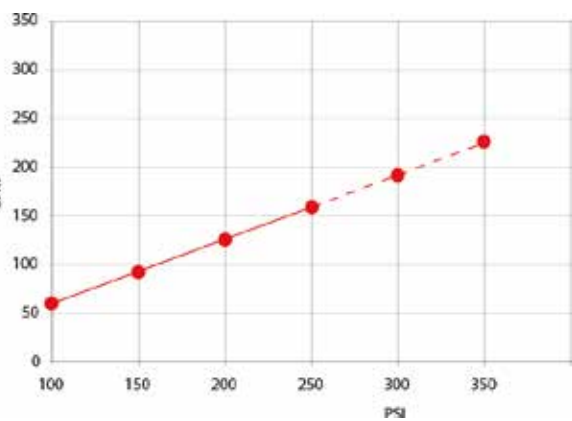
### Hammer Overview

|                               |                        |
|-------------------------------|------------------------|
| Hammer Model                  | Dominator 10           |
| Part Number                   | 600422                 |
| Shank                         | Halco 1                |
| Thread connection             | 40mm DIN 405 6 TPI Box |
| Minimum bit diameter          | 55 MM                  |
| Hammer flat size              | 38mm (1.5")            |
| Weight                        | 7.0 Kg (15.4 lbs)      |
| Outside diameter              | 47mm (1 7/8")          |
| Length (shoulder to shoulder) | 772mm (30.9")          |
| Maximum weight on bit         | 120 Kg (264 lbs)       |

### Parts List

| Hammer type | Dominator 10          | Maintenance Kits |            |
|-------------|-----------------------|------------------|------------|
| Shank       | Halco 1               | Service Kit      | Repair Kit |
| Part number | 600422                | SK31             | RK54       |
| Item        | Description           | Part No.         |            |
| 1           | Thread Protector      | 200005           |            |
| 2           | Snap Ring             | 783041           | 1          |
| 3           | Non Return Valve Seat | 603448           | 1          |
| 4           | O-Ring                | 768174           | 1          |
| 5           | Non Return Valve      | 603447           | 1          |
| 6           | N.R.V. Spring         | 760100           | 1          |
| 7           | Top Adaptor           | 603413           |            |
| 8           | O-Ring                | 768168           | 1          |
| 9           | O-Ring                | 768175           | 1          |
| 10          | Cylinder              | 603410           |            |
| 11          | Piston                | 603450           |            |
| 12          | Snap Ring             | 783037           | 1          |
| 13          | Bit Retaining Ring    | 603449           | 1          |
| 14          | Chuck Spacer          | 603412           | 1          |
| 15          | Chuck                 | 603411           | 1          |

### Air Consumption

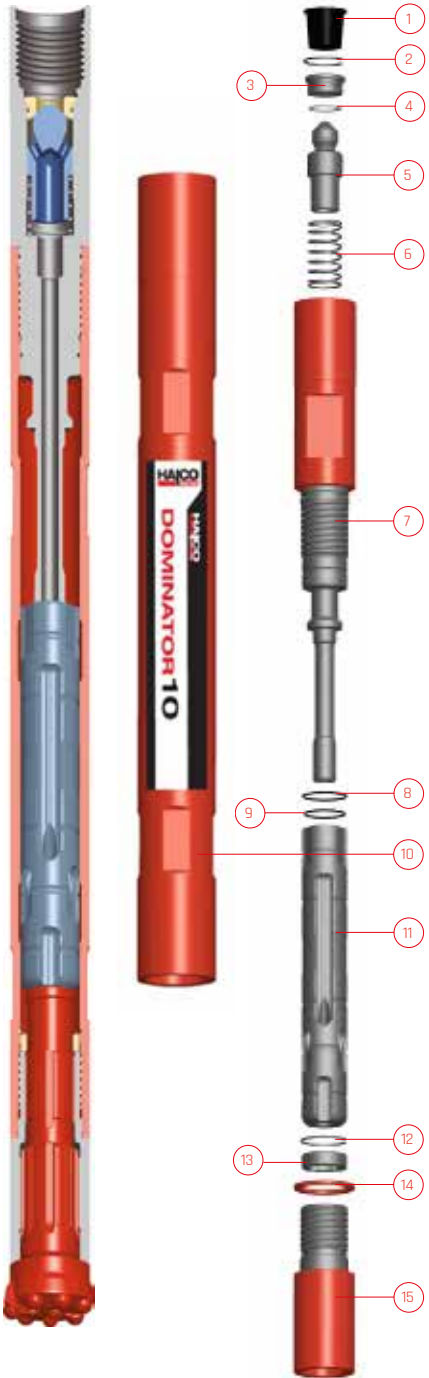


One piece top adaptor reduces internal parts. No makeup required. External N.R.V. for easy maintenance.

Revised chamber volumes and cycle timing to optimize performance.

Simplified piston geometry for improved balance and location within cylinder.

The Halco shank reduces contact stress and wear rates.



### AT A GLANCE:

|  SIZE |  SHANK |  AIR PRESSURE |
|--|---|--|
| 70mm - 76mm<br>2 3/4 - 3"  | Halco 2   | 100 - 250 psi<br>(7 - 17 bar)  |

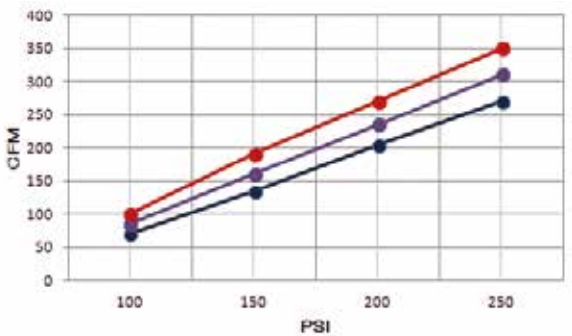
### Hammer Overview

|                               |                       |
|-------------------------------|-----------------------|
| Hammer Model                  | Mach 20               |
| Part Number                   | 600169                |
| Shank                         | Halco 2               |
| Thread connection             | 50mm DIN405 6 TPI Box |
| Minimum bit diameter          | 70 MM                 |
| Hammer flat size              | 48mm (1.89")          |
| Weight                        | 13.0 Kg (28.6 lbs)    |
| Outside diameter              | 62mm (2.44")          |
| Length (shoulder to shoulder) | 840mm (33.0")         |
| Maximum weight on bit         | 150 Kg (330 lbs)      |

### Parts List

| Hammer type | Mach 20               | Maintenance Kits |            |
|-------------|-----------------------|------------------|------------|
| Shank       | Halco 2               | Service Kit      | Repair Kit |
| Part number | 600423                | SK18             | SK30       |
| Item        | Description           | Part No.         |            |
| 1           | Thread Protector      | 200002           |            |
| 2           | Top Adaptor           | 602715           |            |
| 3           | Wear-Space (Option)   | 602726           | 1          |
| 4           | Non Return Valve      | 602727           | 1          |
| 5           | N.R.V. Spring         | 760111           | 1          |
| 6           | N.R.V. Housing        | 602720           |            |
| 7           | Valve Centraliser     | 602724           | 1          |
| 8           | Valve                 | 602725           | 1          |
| 9           | Solid bleed plug -Std | 732025           | 1          |
|             | 3mm Bleed Plug        | 602736           | 1          |
| 10          | Air Distributor       | 602719           | 1          |
| 11          | Liner                 | 602717           |            |
| 12          | Cylinder              | 602714           |            |
| 13          | Piston                | 602718           |            |
| 14          | Piston Guide Bush     | 602723           |            |
| 15          | Bottom Spacer         | 602722           | 1          |
| 16          | Bit Retaining Ring    | 602721           | 1          |
| 17          | Chuck Lock Ring       | 602729           | 1          |
| 18          | Chuck                 | 602716           | 1          |

### Air Consumption



## MACH 20

The valved design of the Mach 20 provides high performance at low pressure. A non return valve is fitted to prevent flooding when drilling in water.

The Mach 20 has a strong robust design to withstand heavy duty applications. The Mach 20 is fitted with adjustable chokes to give three levels of air volumes for different drilling conditions. The unique drill bit design for Mach 20 does not use foot valve which reduces the possibility of hammer failure. Mach 20 shank has a long service life and reduces contact stresses and wear rates.

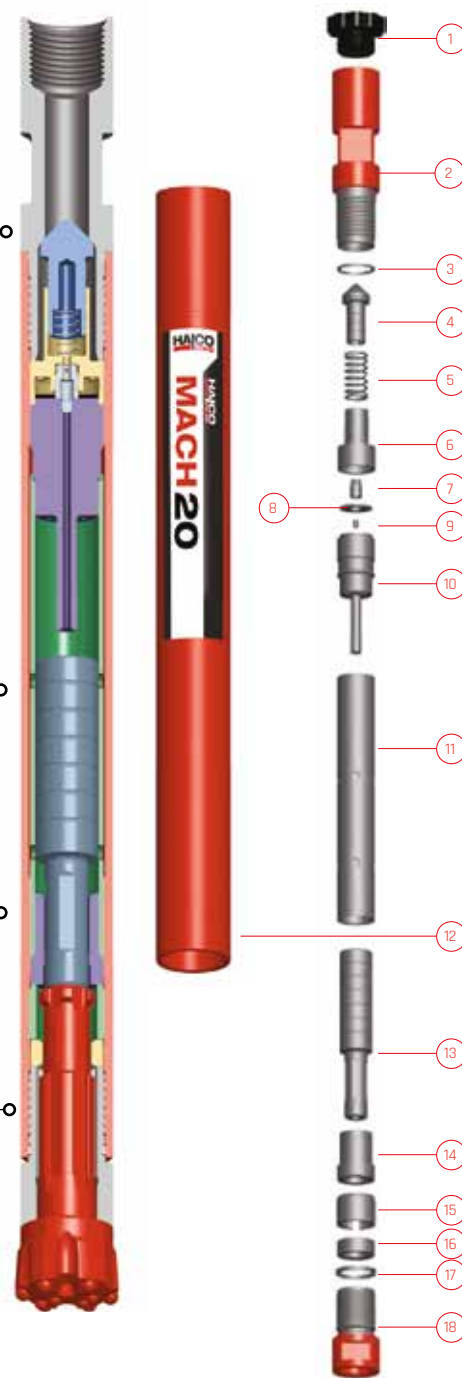
Suitable for operation at air pressures of 100 - 250 psi (7 - 17 bar). Drilling diameters of 70 - 76mm (2 3/4 - 3").

Integral N.R.V. (Non-Return-Valve) to prevent flooding when drilling in water.

Solid piston with liner support.

Guide bush fitted for centralising piston.

Halco Mach 20 shank reduces contact stresses and wear rates.



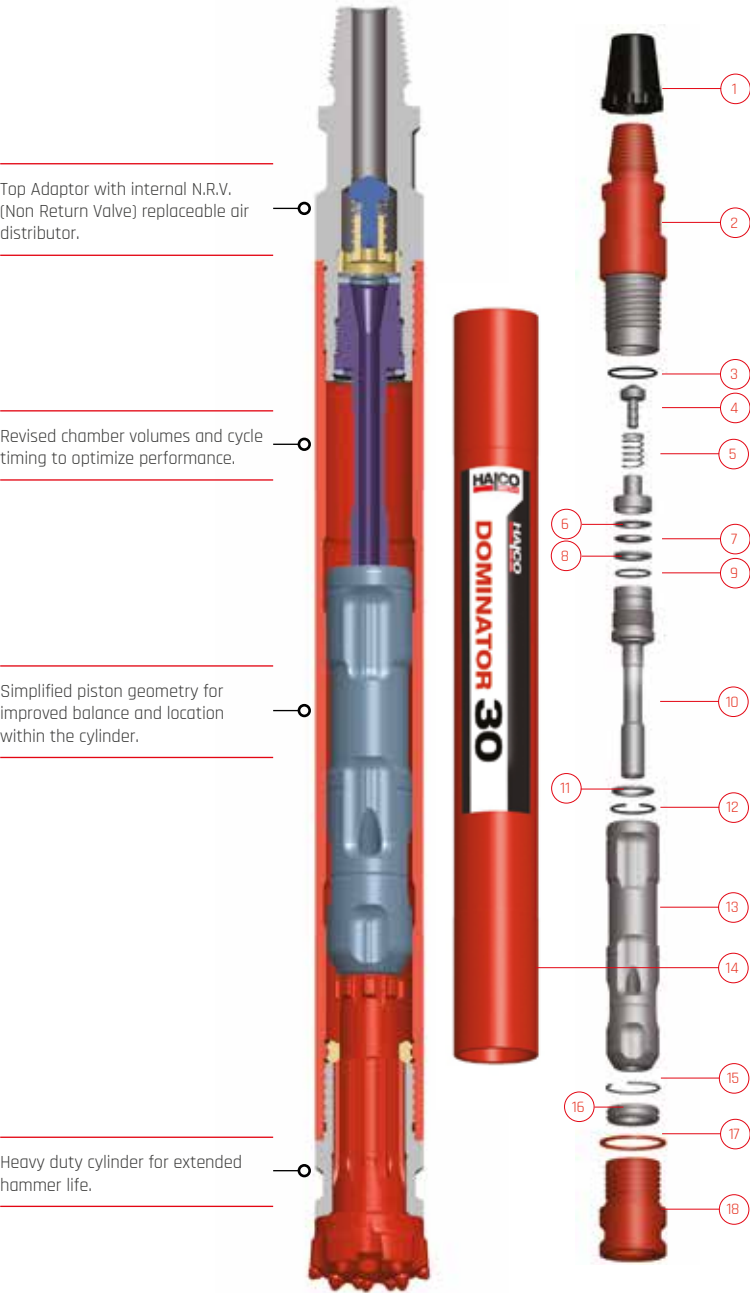
# 3" Dominator 30

## DOMINATOR 30

The Dominator 30 hammer is a high performance hammer for medium to hard rock conditions.

This hammer has no internal liner which allows a larger piston diameter for greater blow energy.

The Dominator 30 has fewer parts than other 3 inch hammers in the market, which allows for easy maintenance and servicing.

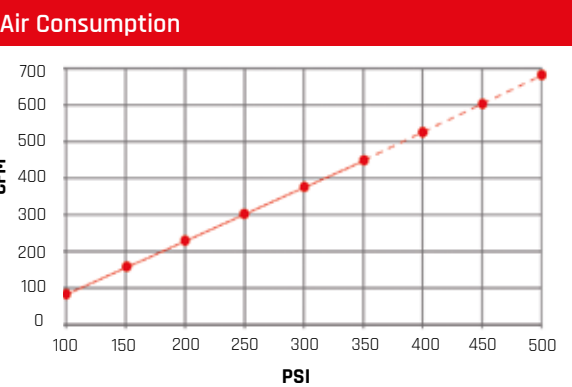


### AT A GLANCE:

|  SIZE |  SHANK |  AIR PRESSURE |
|--|---|--|
| 90mm - 105mm<br>3 1/2 - 4 1/8"   | I.R.3.5   | 100 - 362 psi<br>(7 - 25 bar)  |

| Hammer Overview               |                       |
|-------------------------------|-----------------------|
| Hammer Model                  | Dominator 30          |
| Part Number                   | 600424                |
| Shank                         | IR3.5                 |
| Thread connection             | 2 3/8" API Reg Pin Up |
| Minimum bit diameter          | 90 MM                 |
| Hammer flat size              | 63mm (2.48")          |
| Weight                        | 23Kg (83.8 lbs)       |
| Outside diameter              | 81mm (3.35")          |
| Length (shoulder to shoulder) | 832mm (32.25")        |
| Minimum weight on bit         | 150 Kg (330lbs)       |
| Maximum weight on bit         | 300 Kg (660lbs)       |

| Parts List  |                    |          |                  |            |  |
|-------------|--------------------|----------|------------------|------------|--|
| Hammer type | Dominator 30       |          | Maintenance Kits |            |  |
| Shank       | IR3.5              |          |                  |            |  |
| Part number | 600424             |          | Service Kit      | Repair Kit |  |
| Item        | Description        | Part No. | SK27             | RK47       |  |
| 1           | Thread Protector   | 200111   |                  |            |  |
| 2           | Top Adaptor        | 602980   |                  |            |  |
| 3           | O-Ring             | 768098   | 1                | 1          |  |
| 4           | Non Return Valve   | 602328   |                  | 1          |  |
| 5           | N.R.V. Spring      | 760100   | 1                | 1          |  |
| 6           | N.R.V. Housing     | 602971   |                  |            |  |
| 7           | Disk Springs       | 760094   | 1                | 1          |  |
| 8           | Thrust Washer      | 602972   |                  |            |  |
| 9           | O-Ring             | 768033   | 1                | 1          |  |
| 10          | Air Distributor    | 603108   |                  | 1          |  |
| 11          | Washer             | 602979   |                  |            |  |
| 12          | Snap Ring          | 783035   | 1                | 1          |  |
| 13          | Piston             | 603107   |                  |            |  |
| 14          | Cylinder           | 602974   |                  |            |  |
| 15          | Spacer             | 783036   | 1                | 1          |  |
| 16          | Bit Retaining Ring | 602976   |                  | 1          |  |
| 17          | Chuck Spacer       | 602977   | 1                | 1          |  |
| 18          | Chuck              | 602978   |                  | 1          |  |
|             | Foot Valve         | 602922   |                  | 1          |  |



Figures are based on theoretical data

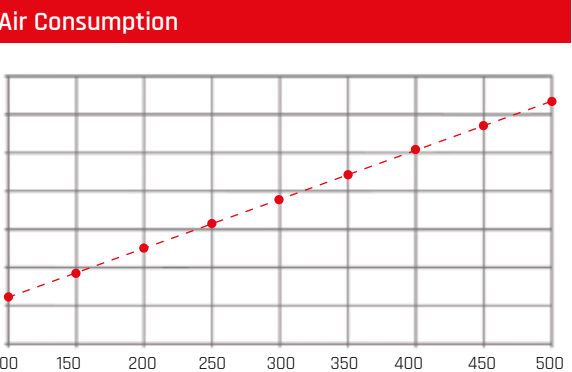
### AT A GLANCE:

|  SIZE |  SHANK |  AIR PRESSURE |
|--|---|--|
| 95mm - 105mm<br>3 1/2 - 4 1/8"   | MD3.5   | 100 - 362 psi<br>(7 - 25 bar)  |

| Hammer Overview               |                       |
|-------------------------------|-----------------------|
| Hammer Model                  | GP300                 |
| Part Number                   | 600393                |
| Shank                         | MD3.5                 |
| Thread connection             | 2 3/8" API Reg Pin Up |
| Minimum bit diameter          | 95 MM                 |
| Hammer flat size              | 64mm (2.520")         |
| Weight                        | 24 Kg (52.91 lbs)     |
| Outside diameter              | 85mm (3.35")          |
| Length (shoulder to shoulder) | 885mm (34.84")        |
| Minimum weight on bit         | 150 Kg (330lbs)       |
| Maximum weight on bit         | 300 Kg (660lbs)       |

| Parts List  |                      |          |                  |            |  |
|-------------|----------------------|----------|------------------|------------|--|
| Hammer type | GP300                |          | Maintenance Kits |            |  |
| Shank       | MD3.5                |          |                  |            |  |
| Part number | 600393               |          | Service Kit      | Repair Kit |  |
| Item        | Description          | Part No. | SK64             | RK101      |  |
| 1           | Thread Protector     | 200111   |                  |            |  |
| 2           | Top Adaptor          | 604371   |                  |            |  |
| 3           | Choke - Blank        | 604480   | 1                | 1          |  |
|             | Choke - 1/8"         | 604481   | 1                | 1          |  |
|             | Choke - 3/16"        | 604482   | 1                | 1          |  |
| 4           | Non Return Valve     | 604378   | 1                | 1          |  |
| 5           | N.R.V. Spring        | 760154   |                  |            |  |
| 6           | Make up Shim - 4.9mm | 602634   |                  | 1          |  |
|             | Make up Shim - 5.3mm | 602635   |                  | 1          |  |
|             | Make up Shim - 5.7mm | 602636   |                  | 1          |  |
| 7           | Compression Spring   | 760107   |                  | 1          |  |
| 8           | Air Distributor      | 604461   |                  |            |  |
| 9           | O-Ring               | 768099   | 1                | 1          |  |
| 10          | Liner                | 604459   |                  |            |  |
| 11          | Cylinder             | 604458   |                  |            |  |
| 12          | Piston               | 604460   |                  |            |  |
| 13          | Snap Ring            | 783051   | 1                | 1          |  |
| 14          | Retaining Ring band  | 792040   | 1                | 1          |  |
| 15          | Bit Retaining Ring   | 604457   |                  | 1          |  |
| 16          | Chuck                | 604456   |                  | 1          |  |
|             | Foot Valve           | 602922   |                  | 1          |  |

\*Alternative 600394 IR3.5 Shank

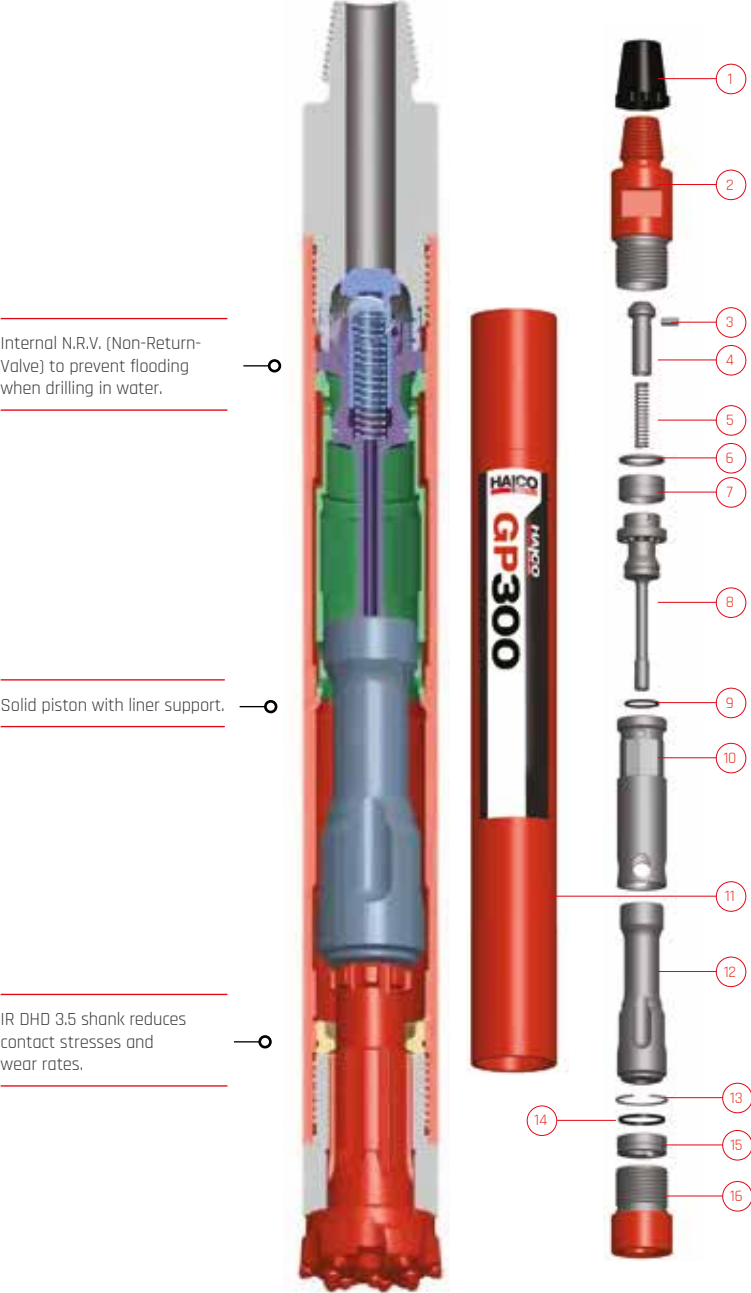


# 3" GP300

## GP300

Dominator 375 hammer gives up to 25% increase in performance compared to Dominator 350 and Dart 350.

This exceptional hammer is simple, robust and has a high penetration rate. The Dominator 375 has an integral N.R.V. (Non-Return-Valve) with an adjustable air bleed system to adjust air volume, this hammer has a liner and solid piston design. This hammer has few internal parts which makes on site servicing easy with minimum tools needed. The MD 3.5 shank drill bit can be fitted for improved service life and heavy duty applications. Suitable for operation at air pressures of 100 - 350 psi (7 - 24 bar). Drilling diameters of 95mm - 115mm (3 1/2 - 4 1/8").

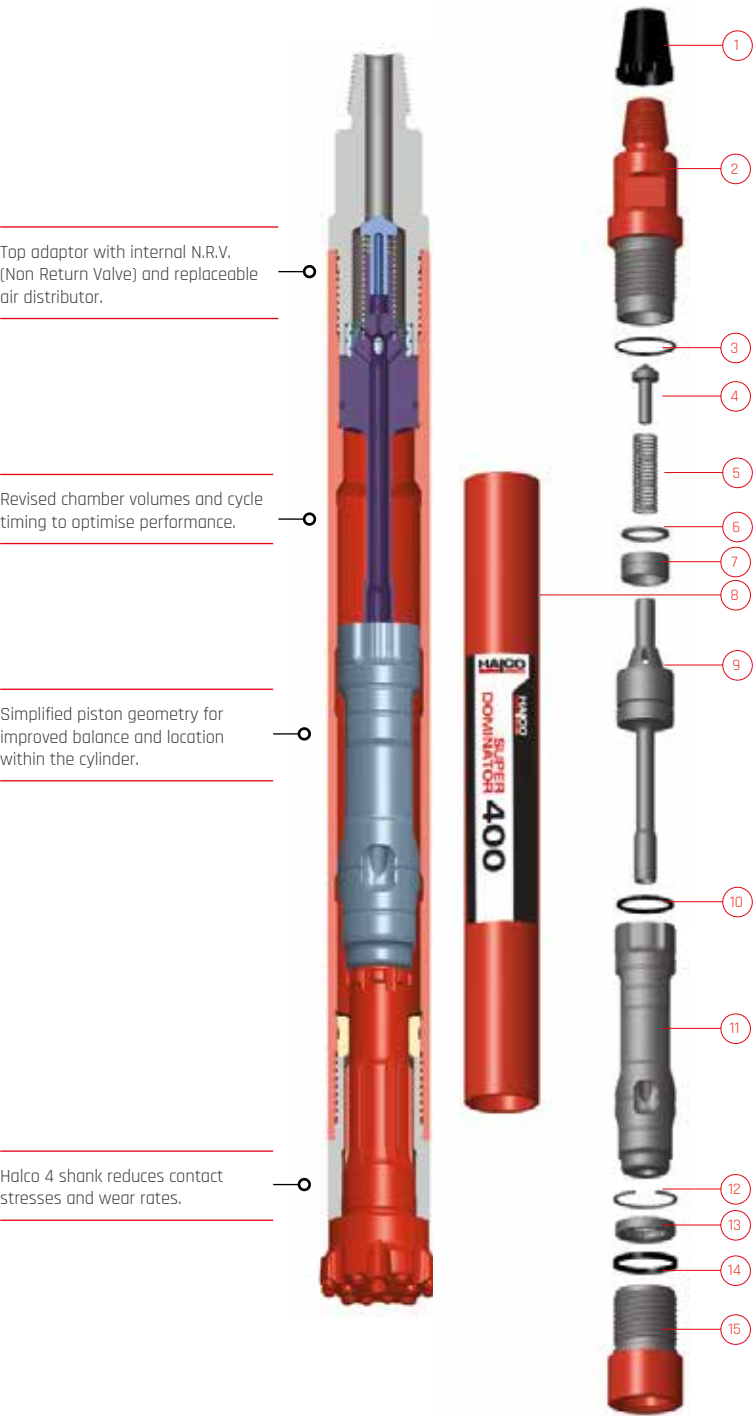


# 4" Super Dominator 400

## SUPER DOMINATOR 400

The Super Dominator 400 is a heavy duty hammer with thicker 98mm (3.8") diameter outer components to provide extra service life in abrasive conditions and is suitable for waterwell drilling.

The Super Dominator 400 is designed for maximum performance at high pressures.



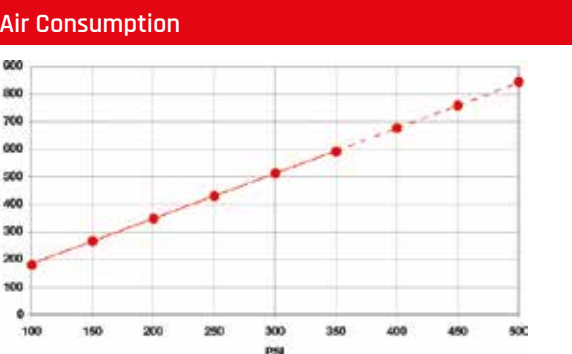
### AT A GLANCE:

| SIZE                              | SHANK   | AIR PRESSURE                 |
|-----------------------------------|---------|------------------------------|
| 108mm - 150mm<br>(4 1/4 - 5 7/8") | DHD340A | 100 - 507psi<br>(7 - 35 bar) |

| Hammer Overview               |                       |
|-------------------------------|-----------------------|
| Hammer Model                  | SDOM400               |
| Part Number                   | 600258                |
| Shank                         | DHD340A               |
| Thread connection             | 2 3/8" API Reg Pin Up |
| Minimum bit diameter          | 108 MM                |
| Hammer flat size              | 65mm (2.56")          |
| Weight                        | 38 Kg (83.8 lbs)      |
| Outside diameter              | 98mm (3.875")         |
| Length (shoulder to shoulder) | 1042mm (41")          |
| Minimum weight on bit         | 250 Kg (550 lbs)      |
| Maximum weight on bit         | 500 Kg (1100 lbs)     |

| Parts List  |                      |                  |                  |                 |  |
|-------------|----------------------|------------------|------------------|-----------------|--|
| Hammer type | SDOM400              | Maintenance Kits |                  |                 |  |
| Shank       | DHD340A              |                  |                  |                 |  |
| Part number | 600258               |                  |                  |                 |  |
| Item        | Description          | Part No.         | Service Kit SK45 | Repair Kit RK83 |  |
| 1           | Thread Protector     | 200111           |                  |                 |  |
| 2           | Top Adaptor          | 603215           |                  |                 |  |
| 3           | O-Ring               | 768040           | 1                | 1               |  |
| 4           | Non Return Valve     | 602633           |                  | 1               |  |
| 5           | N.R.V. Spring        | 760108           | 1                | 1               |  |
| 6           | Make up Shim - 4.9mm | 602634           |                  | 1               |  |
|             | Make up Shim - 5.3mm | 602635           |                  | 1               |  |
|             | Make up Shim - 5.7mm | 602636           |                  | 1               |  |
| 7           | Compression Spring   | 760107           |                  | 1               |  |
| 8           | Cylinder             | 603384           |                  |                 |  |
| 9           | Air Distributor      | 603266           |                  |                 |  |
| 10          | O-Ring               | 768050           | 1                | 1               |  |
| 11          | Piston               | 603383           |                  |                 |  |
| 12          | Snap Ring            | 783029           | 1                | 1               |  |
| 13          | Bit Retaining Ring   | 603586           |                  | 1               |  |
| 14          | Chuck Spacer         | 602733           | 1                | 1               |  |
| 15          | Chuck                | 603218           |                  | 1               |  |
|             | Foot Valve           | 601773           |                  |                 |  |

| Alternative thread connections |                                   |
|--------------------------------|-----------------------------------|
| Part Number                    | 600229                            |
| Thread connection              | 2 3/8" API Reg Pin Plain Diameter |



Figures are based on theoretical data

# 4" Super Dominator 400

## SUPER DOMINATOR 400

The Super Dominator 400 is a heavy duty hammer with thicker 98mm (3.8") diameter outer components to provide extra service life in abrasive conditions and is suitable for waterwell drilling.

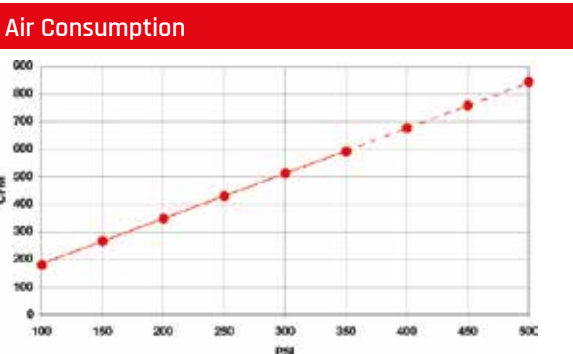
The Super Dominator 400 is designed for maximum performance at high pressures.

### AT A GLANCE:

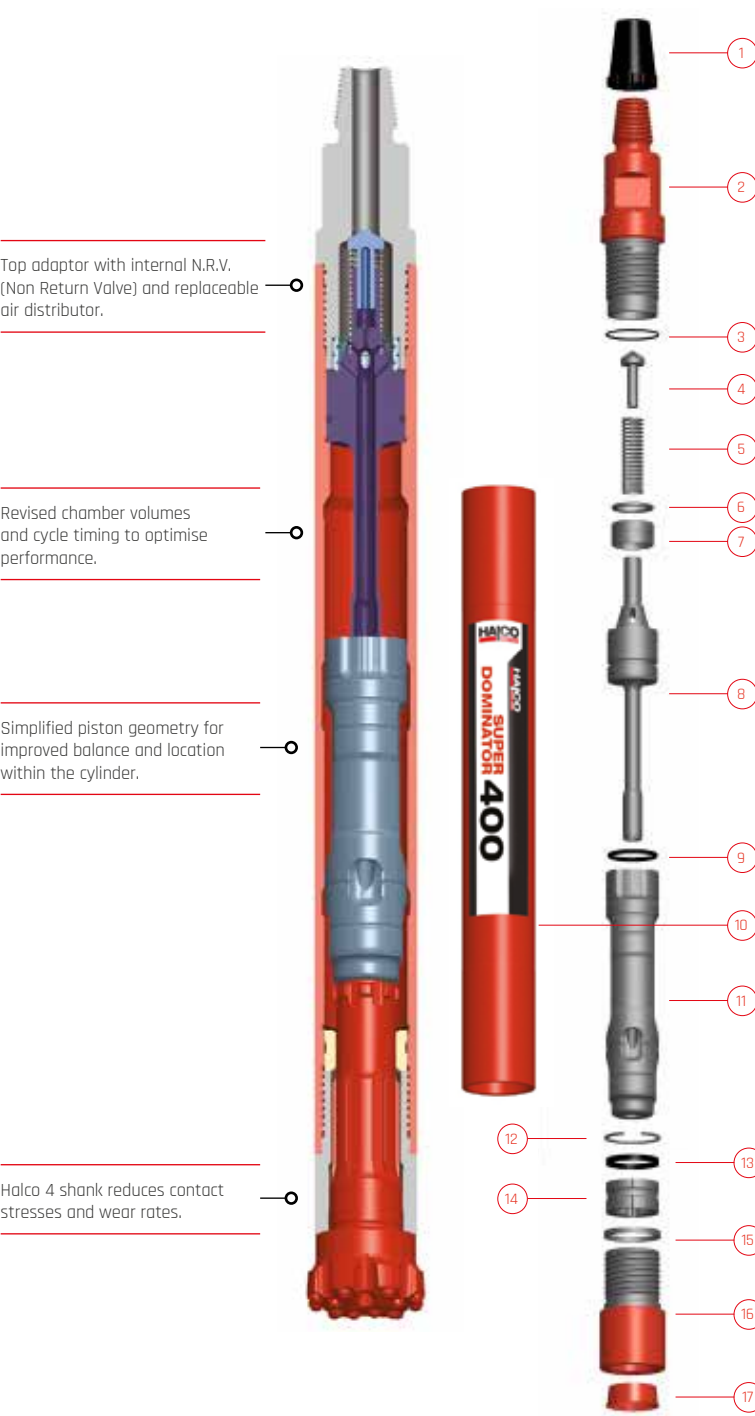
| SIZE                              | SHANK   | AIR PRESSURE                  |
|-----------------------------------|---------|-------------------------------|
| 108mm - 150mm<br>(4 1/4 - 5 7/8") | HALCO 4 | 100 - 507 psi<br>(1 - 30 bar) |

| Hammer Overview               |                     |
|-------------------------------|---------------------|
| Hammer Model                  | Super Dominator 400 |
| Part Number                   | 600224              |
| Shank                         | Halco 4             |
| Thread connection             | 2 3/8" API Reg Pin  |
| Minimum bit diameter          | 108 mm              |
| Hammer flat size              | 65 mm (2.560")      |
| Weight                        | 38 Kg (83.77 lbs)   |
| Outside diameter              | 98 mm (3 7/8")      |
| Length (shoulder to shoulder) | 1065 mm (42")       |
| Minimum weight on bit         | 250 Kg (550 lbs)    |
| Maximum weight on bit         | 500 Kg (1100 lbs)   |

| Parts List  |                     |                  |                  |                 |   |
|-------------|---------------------|------------------|------------------|-----------------|---|
| Hammer type | Super Dominator 400 | Maintenance Kits |                  |                 |   |
| Shank       | HALCO 4             |                  |                  |                 |   |
| Part number | 600224              |                  |                  |                 |   |
| Item        | Description         | Part No.         | Service Kit SK30 | Repair Kit RK52 |   |
| 1           | Thread Protector    | 200111           |                  |                 |   |
| 2           | Top Adaptor         | 603215           |                  |                 |   |
| 3           | O-Ring              | 768040           | 1                | 1               |   |
| 4           | N.R.V.              | 602633           |                  | 1               |   |
| 5           | N.R.V. Spring       | 760108           | 1                | 1               |   |
| 6           | Shim - 4.9mm        | 602634           |                  | 1               |   |
|             | Shim 5.3mm          | 602635           |                  | 1               |   |
|             | Shim - 5.7mm        | 602636           |                  | 1               |   |
| 7           | Compression Spring  | 760107           |                  | 1               |   |
| 8           | Air Distributor     | 603266           |                  |                 |   |
| 9           | O-Ring              | 768050           | 1                | 1               |   |
| 10          | Cylinder            | 603390           |                  |                 |   |
| 11          | Piston              | 603396           |                  |                 |   |
| 12          | Snap Ring           | 783029           | 1                | 1               |   |
| 13          | Containment Band    | 792037           | 1                | 1               |   |
| 14          | Bit Retaining Ring  | 603793           |                  | 1               |   |
| 15          | Chuck Lock Ring     | 602733           | 1                | 1               |   |
| 16          | Chuck               | 603273           |                  | 1               |   |
| 17          | End Cap             | 741019           |                  |                 |   |
|             | Foot Valve          | 601641           |                  |                 | 1 |



Figures are based on theoretical data





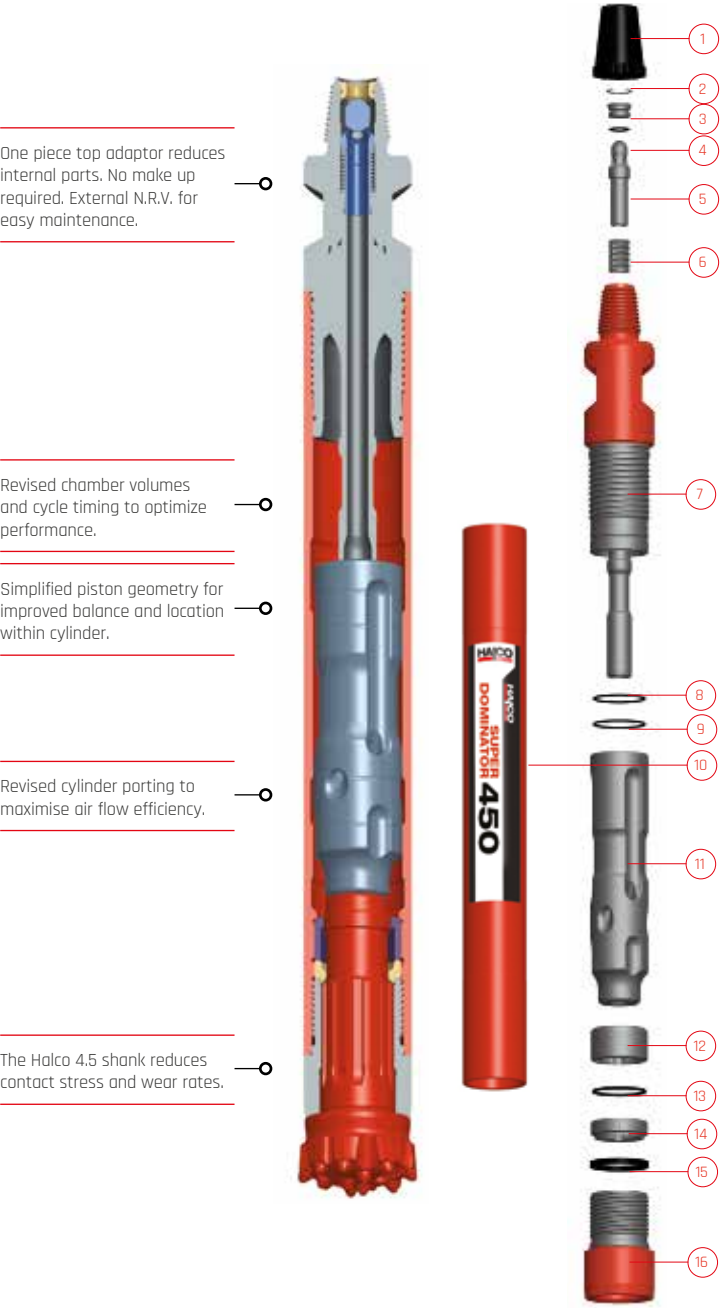
# 4" Super Dominator 450

## SUPER DOMINATOR 450

The Super Dominator 450 has been specifically designed for high production drilling in blast hole applications.

The hammer is robust and has few parts, making it user friendly and reliable. The Super Dominator 450 is fitted with a N.R.V (Non Return Valve) in the top adaptor for a quick, easy inspection and maintenance operation. A fixed air distributor in the top adaptor means the 450 requires no shimming which simplifies servicing. It also has no liner which increases the piston power output.

The Super Dominator 450 utilizes Halco's 12 spline shank which has a simplistic robust geometry combined with increased drive contact area.



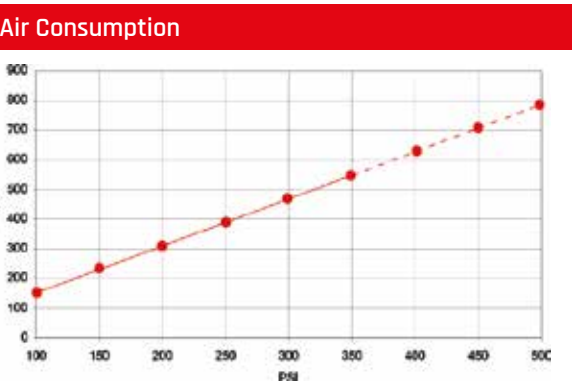
### AT A GLANCE:

| SIZE                             | SHANK     | AIR PRESSURE                  |
|----------------------------------|-----------|-------------------------------|
| 110mm - 140mm<br>4 5/16 - 5 1/2" | Halco 4.5 | 100 - 507 psi<br>(7 - 35 bar) |

| Hammer Overview               |                       |
|-------------------------------|-----------------------|
| Hammer Model                  | SDOM450               |
| Part Number                   | 600382                |
| Shank                         | Halco 4.5             |
| Thread connection             | 2 3/8" API Reg Pin Up |
| Minimum bit diameter          | 110 MM                |
| Hammer flat size              | 65mm (2.56")          |
| Weight                        | 38.5 Kg (84.7 lbs)    |
| Outside diameter              | 100.5mm (4.0")        |
| Length (shoulder to shoulder) | 914mm (36.0")         |
| Minimum weight on bit         | 250 Kg (550 lbs)      |
| Maximum weight on bit         | 500 Kg (1100 lbs)     |

| Parts List  |                    |                  |            |      |
|-------------|--------------------|------------------|------------|------|
| Hammer type | SDOM400            | Maintenance Kits |            |      |
| Shank       | Halco 4.5          |                  |            |      |
| Part number | 600382             | Service Kit      | Repair Kit |      |
| Item        | Description        | Part No.         | SK59       | RK93 |
| 1           | Thread Protector   | 200111           |            |      |
| 2           | Snap Ring          | 783049           | 1          | 1    |
| 3           | N.R.V. Seat        | 603919           |            | 1    |
| 4           | O-Ring             | 768187           | 1          | 1    |
| 5           | Non Return Valve   | 603918           |            | 1    |
| 6           | N.R.V. Spring      | 760142           | 1          | 1    |
| 7           | Top Adaptor        | 603946           |            |      |
| 8 & 9       | O-Ring (2)         | 768190           | 2          | 2    |
| 10          | Cylinder           | 604387           |            |      |
| 11          | Piston             | 604392           |            |      |
| 12          | Bit Guide Bush     | 604314           |            | 1    |
| 13          | O-Ring             | 768189           | 1          | 1    |
| 14          | Bit Retaining Ring | 603948           |            | 1    |
| 15          | Chuck Lock Ring    | 602733           | 1          | 1    |
| 16          | Chuck              | 603939           |            | 1    |
|             | Foot Valve         | 603951           |            | 1    |

| Alternative thread connections |                    |
|--------------------------------|--------------------|
| Part Number                    | TBA                |
| Thread connection              | 2 7/8" API Reg Pin |



Figures are based on theoretical data

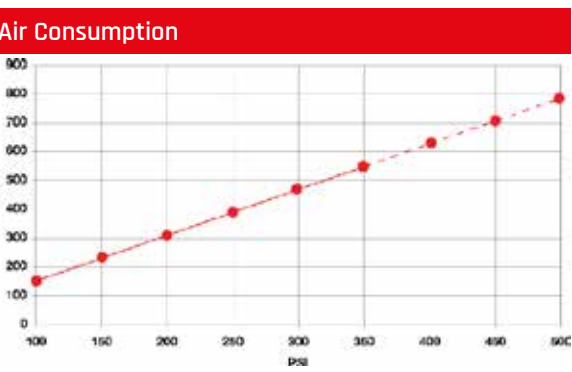
### AT A GLANCE:

| SIZE                             | SHANK     | AIR PRESSURE                  |
|----------------------------------|-----------|-------------------------------|
| 110mm - 140mm<br>4 5/16 - 5 1/2" | Halco 4.5 | 100 - 507 psi<br>(7 - 35 bar) |

| Hammer Overview               |                       |
|-------------------------------|-----------------------|
| Hammer Model                  | SDOM450HD             |
| Part Number                   | 600421                |
| Shank                         | Halco 4.5             |
| Thread connection             | 2 3/8" API Reg Pin Up |
| Minimum bit diameter          | 115MM                 |
| Hammer flat size              | 65mm (2.56")          |
| Weight                        | 42.0 Kg (92.6 lbs)    |
| Outside diameter              | 103.5mm (4.074")      |
| Length (shoulder to shoulder) | 914mm (36.0")         |
| Minimum weight on bit         | 250 Kg (550 lbs)      |
| Maximum weight on bit         | 500 Kg (1100 lbs)     |

| Parts List  |                       |                  |            |       |
|-------------|-----------------------|------------------|------------|-------|
| Hammer type | Super Dominator 450HD | Maintenance Kits |            |       |
| Shank       | Halco 4.5             |                  |            |       |
| Part number | 600421                | Service Kit      | Repair Kit |       |
| Item        | Description           | Part No.         | SK59       | RK141 |
| 1           | Thread Protector      | 200111           |            |       |
| 2           | Snap Ring             | 783049           | 1          | 1     |
| 3           | N.R.V. Seat           | 603919           |            | 1     |
| 4           | O-Ring                | 768187           | 1          | 1     |
| 5           | Non Return Valve      | 603918           |            | 1     |
| 6           | N.R.V. Spring         | 760142           |            | 1     |
| 7           | Top Adaptor           | 600677           |            |       |
| 8 & 9       | O-Ring (2)            | 768190           | 1          | 1     |
| 10          | Cylinder              | 602555           |            |       |
| 11          | Piston                | 604392           |            |       |
| 12          | Guide Bush            | 604314           |            | 1     |
| 13          | O-Ring                | 768189           | 1          | 1     |
| 14          | Bit Retaining Ring    | 603948           |            | 1     |
| 15          | Chuck Lock Ring       | 602733           | 1          | 1     |
| 16          | Chuck                 | DP516            |            | 1     |
| 17          | End Cap               | 741019           |            |       |
|             | Foot Valve            | 603951           |            | 1     |

| Alternative thread connections |                    |
|--------------------------------|--------------------|
| Part Number                    | TBA                |
| Thread connection              | 2 7/8" API Reg Pin |



Figures are based on theoretical data

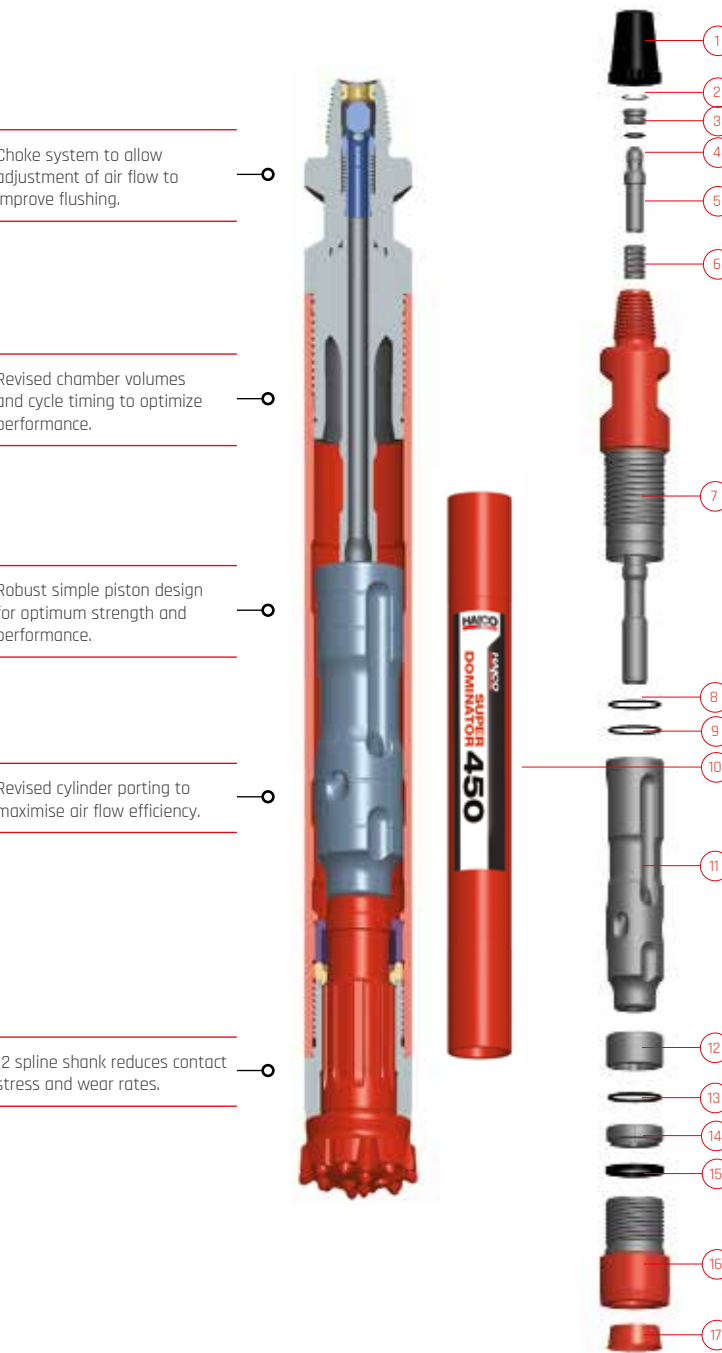
# 4" Super Dominator 450HD

## SUPER DOMINATOR 450HD

The Super Dominator 450HD has been specifically designed to provide more impact for high production drilling in blast hole applications.

The hammer is robust and has few parts, making it user friendly and reliable. The Super Dominator 450HD is fitted with a N.R.V (Non Return Valve) in the top adaptor for a quick, easy inspection and maintenance operation. A fixed air distributor in the top adaptor means the 450HD requires no shimming which simplifies servicing. It also has no liner which increases the piston power output.

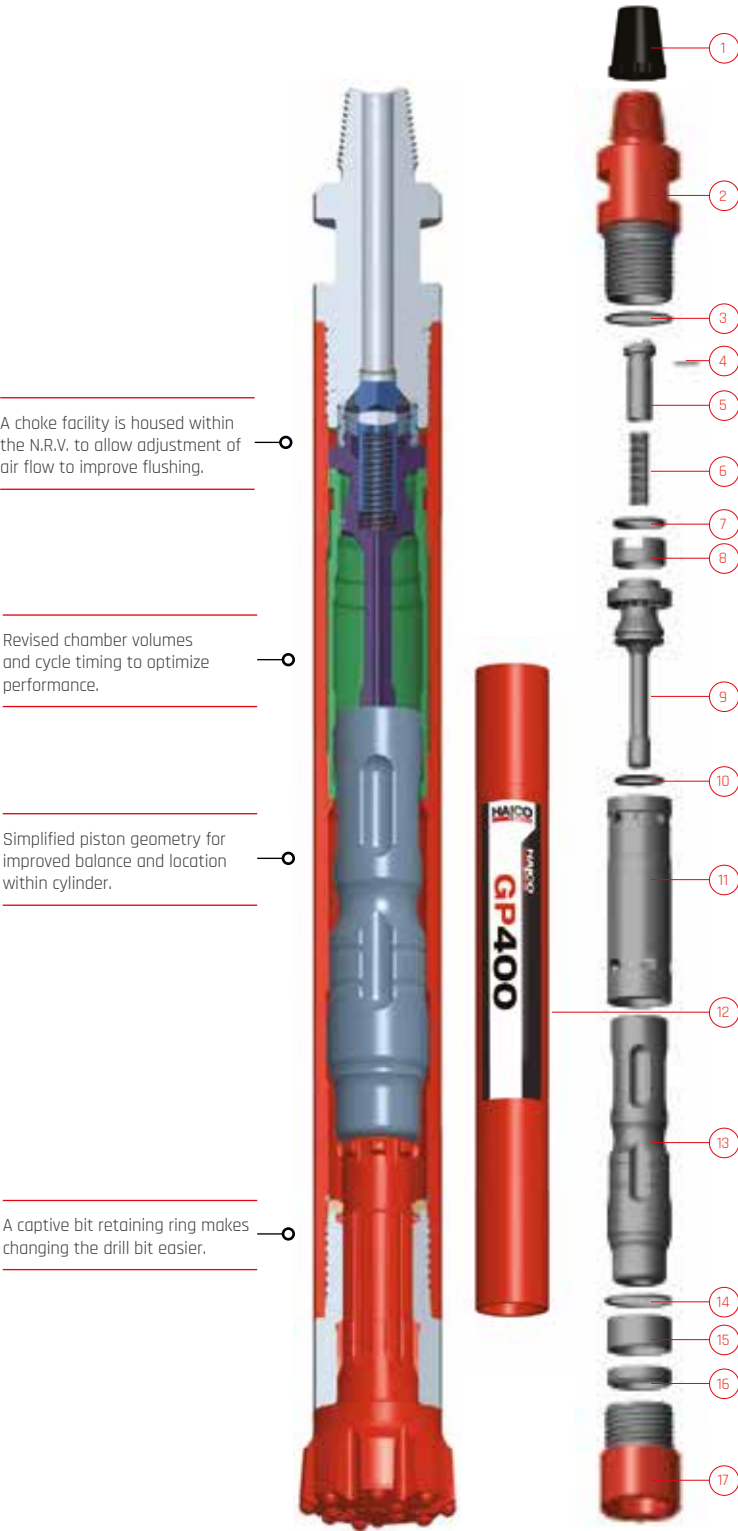
The Super Dominator 450HD utilizes Halco's 12 spline shank which has a simplistic robust geometry combined with increased drive contact area.



# 4" GP400 - DHD340

## GP 400

The GP400 is a high performance hammer which can drill under a head of water, typically suited to Waterwell and Geothermal applications due to its non-ported piston design. It features a choke facility which helps to adjust air flow through the hammer.



A choke facility is housed within the N.R.V. to allow adjustment of air flow to improve flushing.

Revised chamber volumes and cycle timing to optimize performance.

Simplified piston geometry for improved balance and location within cylinder.

A captive bit retaining ring makes changing the drill bit easier.

## AT A GLANCE:

| SIZE                            | SHANK            | AIR PRESSURE                  |
|---------------------------------|------------------|-------------------------------|
| 108mm - 140mm<br>4 1/4 - 5 1/2" | DHD 340<br>TD 40 | 100 - 435 psi<br>(7 - 30 bar) |

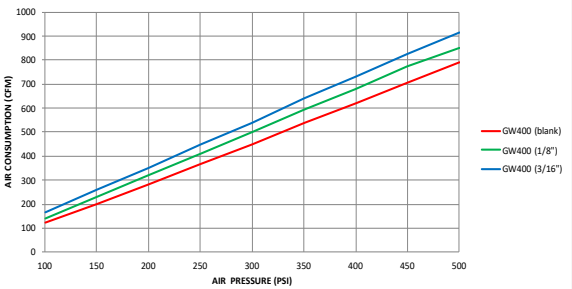
### Hammer Overview

|                               |                       |
|-------------------------------|-----------------------|
| Hammer Model                  | GP400                 |
| Part Number                   | 600466                |
| Shank                         | DHD340                |
| Thread connection             | 2 3/8" API Reg Pin Up |
| Minimum bit diameter          | 108 MM                |
| Hammer flat size              | 66mm (2.560")         |
| Weight                        | 40 Kg (122.3 lbs)     |
| Outside diameter              | 98mm (3.858")         |
| Length (shoulder to shoulder) | 954mm (37.5")         |
| Minimum weight on bit         | 250 Kg (550lbs)       |
| Maximum weight on bit         | 500 Kg (1100lbs)      |

### Parts List

| Hammer type |                      | Maintenance Kits |            |
|-------------|----------------------|------------------|------------|
| Shank       |                      |                  |            |
| Part number |                      | Service Kit      | Repair Kit |
| Item        |                      | SK72             | RK123      |
| 1           | Thread Protector     | 200111           |            |
| 2           | Top Adaptor          | 602646           |            |
| 3           | O-Ring               | 768190           | 1          |
| 4           | Choke - Solid        | 604480           | 1          |
|             | Choke - 1/8"         | 604481           | 1          |
|             | Choke - 3/16"        | 604482           | 1          |
| 5           | Non Return Valve     | 604444           | 1          |
| 6           | N.R.V. Spring        | 760079           | 1          |
| 7           | Make up Shim - 4.9mm | 602634           | 1          |
|             | Make up Shim - 5.3mm | 602635           | 1          |
|             | Make up Shim - 5.7mm | 602636           | 1          |
| 8           | Compression Ring     | 604994           | 1          |
| 9           | Air Distributor      | 604992           |            |
| 10          | O-Ring               | 768204           | 1          |
| 11          | Liner                | 604991           |            |
| 12          | Cylinder             | 604990           |            |
| 13          | Square Snap Ring     | 604995           |            |
| 14          | Piston               | 604993           |            |
| 15          | Snap Ring            | 783029           | 1          |
| 16          | Bit Retaining Ring   | 603255           | 1          |
| 17          | Chuck                | 603932           | 1          |
|             | Foot Valve           | 601773           | 1          |

### Air Consumption



Figures are based on theoretical data

## AT A GLANCE:

| SIZE                            | SHANK   | AIR PRESSURE                  |
|---------------------------------|---------|-------------------------------|
| 110mm - 140mm<br>4 5/6 - 5 1/2" | Halco 4 | 100 - 435 psi<br>(7 - 30 bar) |

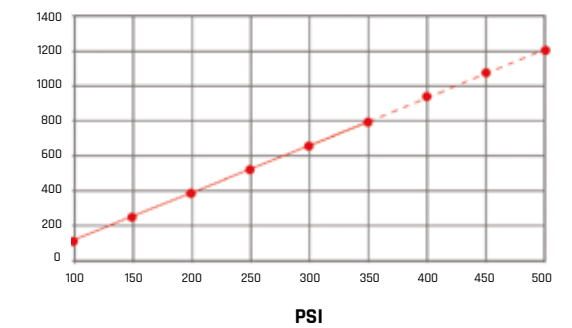
### Hammer Overview

|                               |                       |
|-------------------------------|-----------------------|
| Hammer Model                  | MACH44                |
| Part Number                   | 600070                |
| Shank                         | Halco 4               |
| Thread connection             | 2 3/8" API Reg Pin Up |
| Minimum bit diameter          | 110 MM                |
| Hammer flat size              | 65mm (2.560")         |
| Weight                        | 35.3 Kg (77.82 lbs)   |
| Outside diameter              | 95mm (3.75")          |
| Length (shoulder to shoulder) | 1000mm (39.38")       |
| Minimum weight on bit         | 250 Kg (550lbs)       |
| Maximum weight on bit         | 500 Kg (1100lbs)      |

### Parts List

| Hammer type |                    | Maintenance Kits |            |
|-------------|--------------------|------------------|------------|
| Shank       |                    |                  |            |
| Part number |                    | Service Kit      | Repair Kit |
| Item        |                    | SK02             | RK02       |
| 1           | Thread Protector   | 200111           |            |
| 2           | Top Adaptor        | 601632           |            |
| 3           | O-Ring             | 768040           | 1          |
| 4           | Non Return Valve   | 602330           | 1          |
| 5           | N.R.V. Spring      | 760084           | 1          |
| 6           | N.R.V. Seat        | 601778           | 1          |
| 7           | N.R.V. Finger      | 601717           |            |
| 8           | Make up Shim 0.5mm | 601640           | 1          |
|             | Make up Shim 1.0mm | 601720           | 1          |
|             | Make up Shim 1.5mm | 601721           | 1          |
| 8           | Compression Ring   | 601635           | 1          |
| 10          | O-Ring             | 768050           | 1          |
| 11          | Air Distributor    | 601868           |            |
| 12          | Cylinder           | 601865           |            |
| 13          | Snap Ring          | 783014           | 1          |
| 14          | Piston             | 602456           |            |
| 15          | Snap Ring          | 783014           | 1          |
| 16          | Bit Retaining Ring | 601945           | 1          |
| 17          | Chuck Spacer       | 601431           | 1          |
| 18          | Chuck              | 601439           | 1          |
|             | Foot Valve         | 601641           | 1          |

### Air Consumption

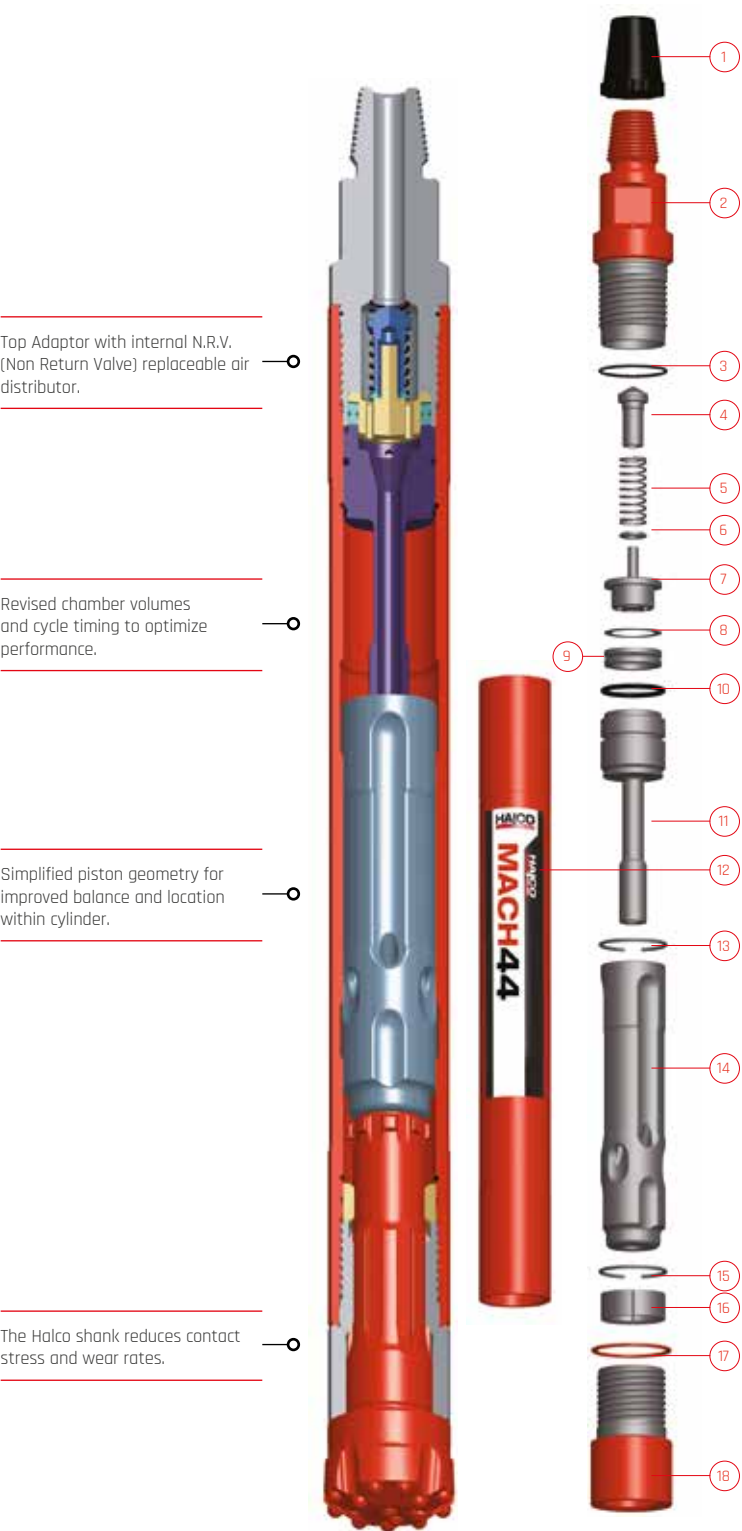


Figures are based on theoretical data

# 4" Mach 44

## MACH 44

The Mach 44 is a general purpose hammer suitable for all rock conditions at a wide range of air pressures. With a proven track record of performance and reliability, the Mach 44 operates at a high frequency which makes it ideal for broken unstable ground conditions.



Top Adaptor with internal N.R.V. (Non Return Valve) replaceable air distributor.

Revised chamber volumes and cycle timing to optimize performance.

Simplified piston geometry for improved balance and location within cylinder.

The Halco shank reduces contact stress and wear rates.



# 5" Dominator 500

## DOMINATOR 500

The Dominator 500 is suitable for drilling at a wide range of air pressures making it a class leader in performance.

The Dominator 500 is ideal for General purpose and Drill & Blast applications. The Dominator 500 has a one-piece top adaptor with N.R.V fitted to eliminate shimming and it has no liner which increases the piston blow energy.

The Dominator 500 uses a few tools for maintenance, making it easy to maintain and service.

### AT A GLANCE:

| SIZE                        | SHANK   | AIR PRESSURE                  |
|-----------------------------|---------|-------------------------------|
| 127mm - 165mm<br>5 - 6 1/2" | Halco 5 | 100 - 507 psi<br>(7 - 35 bar) |

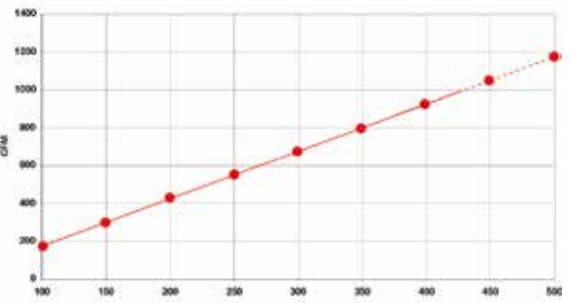
### Hammer Overview

|                               |                       |
|-------------------------------|-----------------------|
| Hammer Model                  | DOM500                |
| Part Number                   | 600120                |
| Shank                         | Halco 5               |
| Thread connection             | 3 1/2" API Reg Pin Up |
| Minimum bit diameter          | 127 MM                |
| Hammer flat size              | 90mm (3.54")          |
| Weight                        | 58.0 Kg (83.8 lbs)    |
| Outside diameter              | 118mm (4.65")         |
| Length (shoulder to shoulder) | 980mm (38.6")         |
| Minimum weight on bit         | 400 Kg (900 lbs)      |
| Maximum weight on bit         | 900 Kg (1980 lbs)     |

### Parts List

| Hammer type | DOM500             | Maintenance Kits |            |
|-------------|--------------------|------------------|------------|
| Shank       | HALCO 5            | Service Kit      | Repair Kit |
| Part number | 600120             | SK72             | RK123      |
| Item        | Description        | Part No.         |            |
| 1           | Thread Protector   | 201701           |            |
| 2           | Snap Ring          | 783028           | 1          |
| 3           | N.R.V. Seat        | 602703           | 1          |
| 4           | O-Ring             | 768144           | 1          |
| 5           | Non Return Valve   | 602330           | 1          |
| 6           | N.R.V. Spring      | 760084           | 1          |
| 7           | Top Adaptor        | 602704           |            |
| 8           | Cylinder           | 602457           |            |
| 9           | O-Ring             | 768091           | 1          |
| 10          | O-Ring             | 768043           | 1          |
| 11          | Piston             | 602459           |            |
| 12          | Snap Ring          | 783025           | 1          |
| 13          | Bit Retaining Ring | 602430           | 1          |
| 14          | Chuck Spacer       | 602433           | 1          |
| 15          | Chuck              | 602458           | 1          |
|             | Foot Valve         | 601843           | 1          |

### Air Consumption



Figures are based on theoretical data

### AT A GLANCE:

| SIZE                            | SHANK  | AIR PRESSURE                  |
|---------------------------------|--------|-------------------------------|
| 140mm - 165mm<br>5 1/2 - 6 1/2" | DHD350 | 100 - 507 psi<br>(7 - 35 bar) |

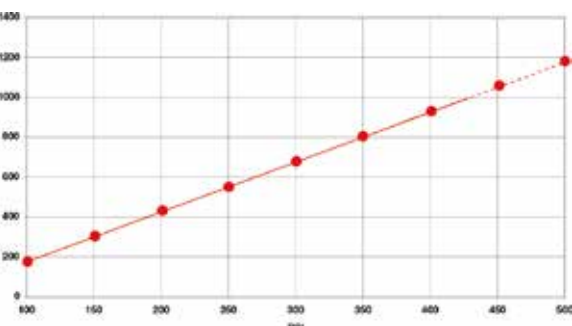
### Hammer Overview

|                               |                       |
|-------------------------------|-----------------------|
| Hammer Model                  | SDOM500               |
| Part Number                   | 600267                |
| Shank                         | DHD350                |
| Thread connection             | 3 1/2" API Reg Pin Up |
| Minimum bit diameter          | 140 MM                |
| Hammer flat size              | 90mm (3.54")          |
| Weight                        | 58.0 Kg (83.8 lbs)    |
| Outside diameter              | 118mm (4.65")         |
| Length (shoulder to shoulder) | 975mm (38.40")        |
| Minimum weight on bit         | 400 Kg (900 lbs)      |
| Maximum weight on bit         | 900 Kg (1980 lbs)     |

### Parts List

| Hammer type | DOM500             | Maintenance Kits |            |
|-------------|--------------------|------------------|------------|
| Shank       | DHD350             | Service Kit      | Repair Kit |
| Part number | 600267             | SK02             | RK02       |
| Item        | Description        | Part No.         |            |
| 1           | Thread Protector   | 201701           |            |
| 2           | Snap Ring          | 783028           | 1          |
| 3           | N.R.V. Seat        | 603510           | 1          |
| 4           | O-Ring             | 786144           | 1          |
| 5           | Non Return Valve   | 603554           | 1          |
| 6           | N.R.V. Spring      | 760135           | 1          |
| 7           | N.R.V. Shield      | 603652           | 1          |
| 8           | Top Adaptor        | 603513           |            |
| 9           | Cylinder           | 603368           |            |
| 10          | O-Ring             | 768091           | 1          |
| 11          | O-Ring             | 768043           | 1          |
| 12          | Piston             | 603369           |            |
| 13          | Snap Ring          | 783025           | 1          |
| 14          | Bit Retaining Ring | 602706           | 1          |
| 15          | Chuck Lock Ring    | 603104           | 1          |
| 16          | Chuck Spacer       | 602433           | 1          |
| 17          | Chuck              | 602549           | 1          |
|             | Foot Valve         | 601902           | 1          |

### Air Consumption



Figures are based on theoretical data

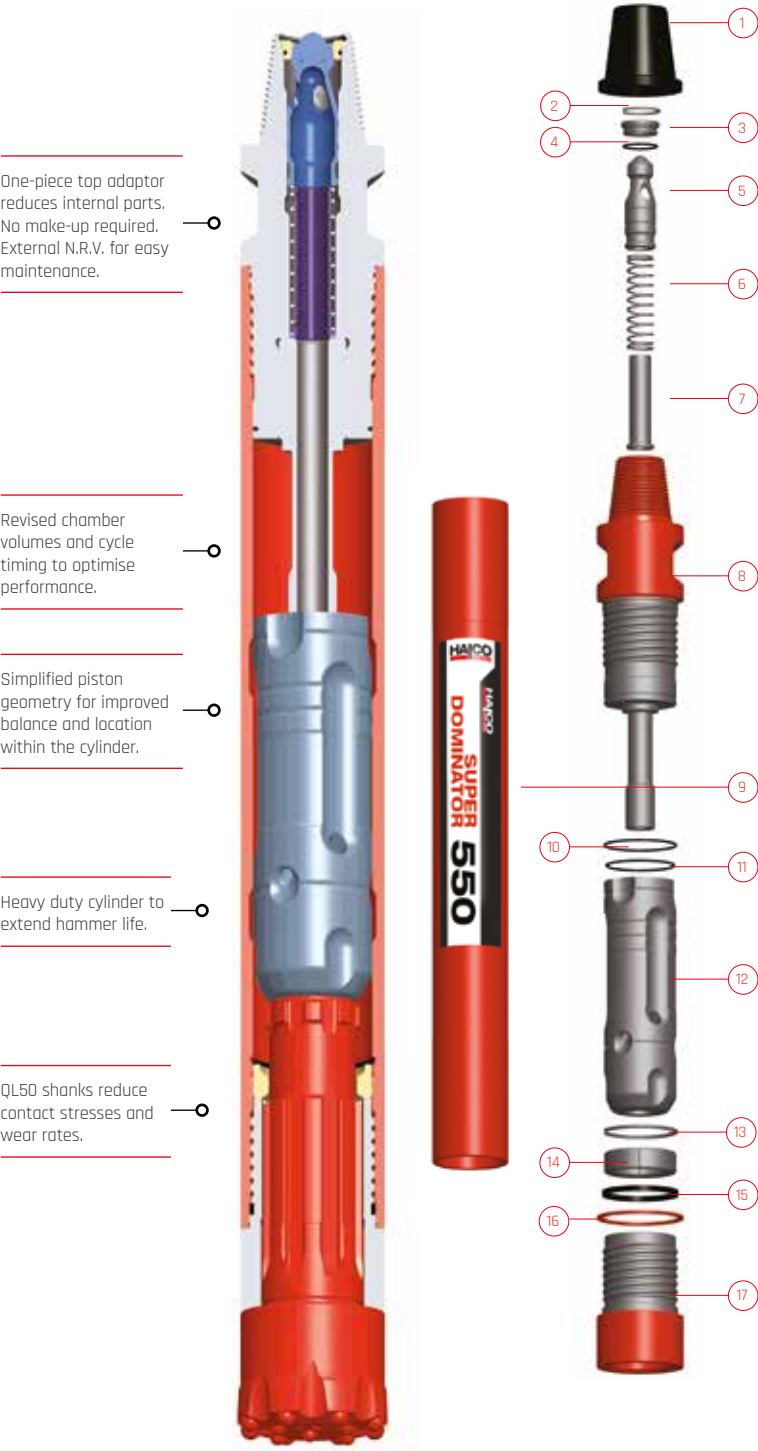
# 5" Super Dominator 500

## SUPER DOMINATOR 500

Super Dominator 500 is a class leader in performance and is suitable for drilling at a wide range of air pressures but excels at high working pressures.

Combining the raw power of the Super Dominator 500 with extended life for abrasive conditions, the Super Dominator 500 has a one piece top adaptor with N.R.V (Non Return Valve) fitted for easy inspection and an integral finger to reduce maintenance and eliminating shimming.

The Super Dominator 500 has no liner which increases the piston blow energy and reduces parts required.



One-piece top adaptor reduces internal parts. No make-up required. External N.R.V. for easy maintenance.

Revised chamber volumes and cycle timing to optimise performance.

Simplified piston geometry for improved balance and location within the cylinder.

Heavy duty cylinder to extend hammer life.

QL50 shanks reduce contact stresses and wear rates.

One-piece top adaptor reduces internal parts. No make-up required. External N.R.V. for easy maintenance.

Revised chamber volumes and cycle timing to optimise performance.

Simplified piston geometry for improved balance and location within the cylinder.

The Halco 5 shank reduces contact stress and wear rates.

# 5" Super Dominator 550HD

## SUPER DOMINATOR 550HD

Super Dominator 550HD is a class leader in performance and is suitable for drilling at a wide range of air pressures but excels at high working pressures.

Combining the raw power of the Super Dominator 500 with extended life for abrasive conditions, the Super Dominator 550HD has a larger outside diameter, a one piece top adaptor with N.R.V (Non Return Valve) fitted for easy inspection and an integral finger to reduce maintenance and eliminating shimming.

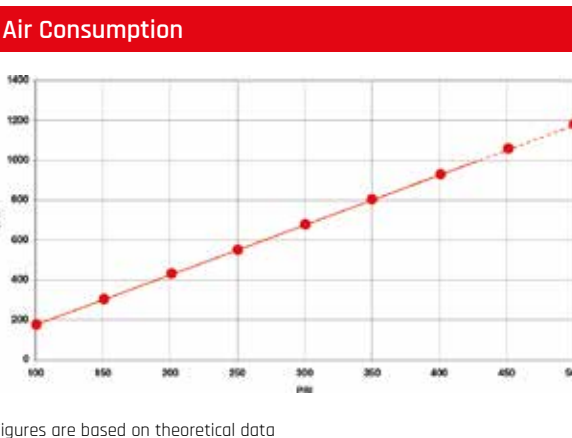
The Super Dominator 550HD has no liner which increases the piston blow energy and reduces parts required.

### AT A GLANCE:

|  SIZE |  SHANK |  AIR PRESSURE |
|--|---|--|
| 140mm - 165mm<br>5 1/2 - 6 1/2"  | DHD350  | 100 - 507 psi<br>(7 - 35 bar)  |

| Hammer Overview               |                       |
|-------------------------------|-----------------------|
| Hammer Model                  | SDOM550HD             |
| Part Number                   | 600293                |
| Shank                         | DHD350                |
| Thread connection             | 3 1/2" API Reg Pin Up |
| Minimum bit diameter          | 140 MM                |
| Hammer flat size              | 90mm (3.54")          |
| Weight                        | 67.0 Kg (147.4 lbs)   |
| Outside diameter              | 124.5mm (4.85")       |
| Length (shoulder to shoulder) | 975mm (38.4")         |
| Minimum weight on bit         | 400 Kg (900 lbs)      |
| Maximum weight on bit         | 900 Kg (1980 lbs)     |

| Parts List  |                    | Maintenance Kits |            |
|-------------|--------------------|------------------|------------|
| Hammer type | SDOM550HD          | Service Kit      | Repair Kit |
| Shank       | DHD350             | SK72             | RK123      |
| Part number | 600293             |                  |            |
| Item        | Description        | Part No.         |            |
| 1           | Thread Protector   | 201701           |            |
| 2           | Snap Ring          | 783028           | 1          |
| 3           | N.R.V. Seat        | 603510           | 1          |
| 4           | O-Ring             | 786144           | 1          |
| 5           | Non Return Valve   | 603554           | 1          |
| 6           | N.R.V. Spring      | 760135           | 1          |
| 7           | N.R.V. Shield      | 603652           | 1          |
| 8           | Top Adaptor        | 603661           |            |
| 9           | Cylinder           | 603370           |            |
| 10          | O-Ring             | 768091           | 1          |
| 11          | O-Ring             | 768043           | 1          |
| 12          | Piston             | 603369           |            |
| 13          | Snap Ring          | 783025           | 1          |
| 14          | Bit Retaining Ring | 602706           | 1          |
| 15          | Chuck Lock Ring    | 603104           | 1          |
| 16          | Chuck Spacer       | 602863           | 1          |
| 17          | Chuck              | 602866           | 1          |
|             | Foot Valve         | 601902           |            |



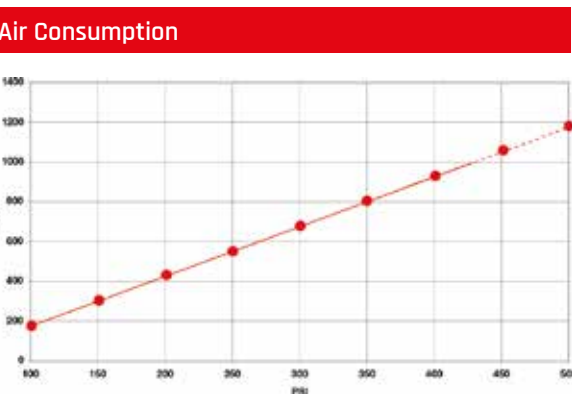
Figures are based on theoretical data

### AT A GLANCE:

|  SIZE |  SHANK |  AIR PRESSURE |
|--|---|--|
| 140mm - 165mm<br>5 1/2 - 6 1/2"  | QL50  | 100 - 507 psi<br>(7 - 35 bar)  |

| Hammer Overview               |                       |
|-------------------------------|-----------------------|
| Hammer Model                  | SDOM550HD             |
| Part Number                   | 600294                |
| Shank                         | QL50                  |
| Thread connection             | 3 1/2" API Reg Pin Up |
| Minimum bit diameter          | 140 MM                |
| Hammer flat size              | 90mm (3.54")          |
| Weight                        | 67.0 Kg (147.4 lbs)   |
| Outside diameter              | 124.5mm (4.85")       |
| Length (shoulder to shoulder) | 955mm (37.6")         |
| Minimum weight on bit         | 400 Kg (900 lbs)      |
| Maximum weight on bit         | 900 Kg (1980 lbs)     |

| Parts List  |                    | Maintenance Kits |            |
|-------------|--------------------|------------------|------------|
| Hammer type | SDOM550HD          | Service Kit      | Repair Kit |
| Shank       | QL50               | SK02             | RK02       |
| Part number | 600294             |                  |            |
| Item        | Description        | Part No.         |            |
| 1           | Thread Protector   | 201701           |            |
| 2           | Snap Ring          | 783028           | 1          |
| 3           | N.R.V. Seat        | 603510           | 1          |
| 4           | O-Ring             | 786144           | 1          |
| 5           | Non Return Valve   | 603554           | 1          |
| 6           | N.R.V. Spring      | 760135           | 1          |
| 7           | N.R.V. Shield      | 603652           | 1          |
| 8           | Top Adaptor        | 603661           |            |
| 9           | Cylinder           | 603370           |            |
| 10          | O-Ring             | 768091           | 1          |
| 11          | O-Ring             | 768043           | 1          |
| 12          | Piston             | 603524           |            |
| 13          | Snap Ring          | 783025           | 1          |
| 14          | O-Ring             | 768043           | 1          |
| 15          | Guide Bush         | 603520           | 1          |
| 16          | Bit Retaining Ring | 604981           | 1          |
| 17          | Chuck Lock Ring    | 603104           | 1          |
| 18          | Chuck              | 604980           | 1          |
|             | Foot Valve         | 603252           |            |



Figures are based on theoretical data

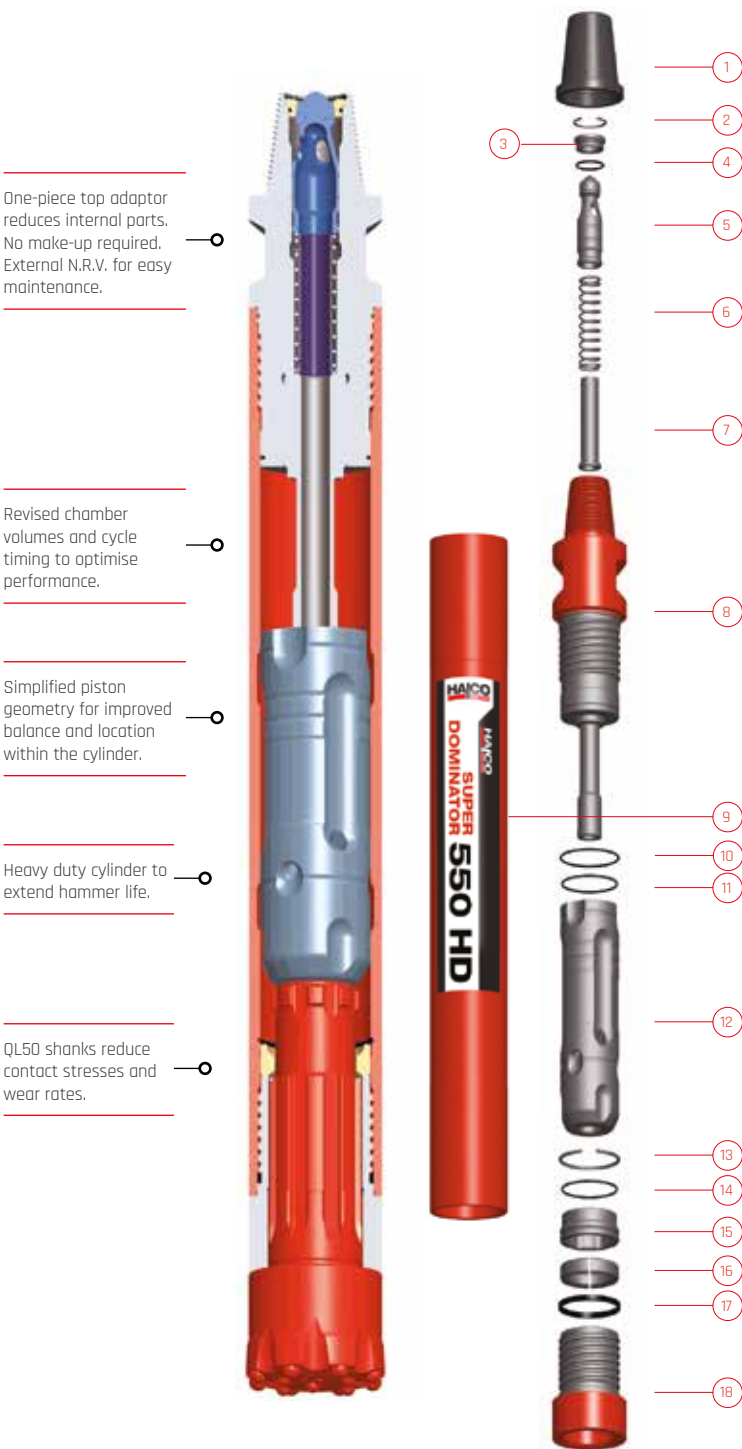
# 5" Super Dominator 550HD

## SUPER DOMINATOR 550HD

Super Dominator 550HD is a class leader in performance and is suitable for drilling at a wide range of air pressures but excels at high working pressures.

Combining the raw power of the Super Dominator 500 with extended life for abrasive conditions, the Super Dominator 550HD has a larger outside diameter, a one piece top adaptor with N.R.V (Non Return Valve) fitted for easy inspection and an integral finger to reduce maintenance and eliminating shimming.

The Super Dominator 550HD has no liner which increases the piston blow energy and reduces parts required.



One-piece top adaptor reduces internal parts. No make-up required. External N.R.V. for easy maintenance.

Revised chamber volumes and cycle timing to optimise performance.

Simplified piston geometry for improved balance and location within the cylinder.

Heavy duty cylinder to extend hammer life.

QL50 shanks reduce contact stresses and wear rates.



# 5" GP500 - DHD350

## GP500

The GP500 is a high performance hammer which can drill under a head of water, typically suited to Waterwell and Geothermal applications due to its non-ported piston design.

It features a choke facility which helps to adjust air flow through the hammer.

### AT A GLANCE:

| SIZE                            | SHANK  | AIR PRESSURE                  |
|---------------------------------|--------|-------------------------------|
| 140mm - 165mm<br>5 1/2 - 6 1/2" | DHD350 | 100 - 435 psi<br>(7 - 30 bar) |

### Hammer Overview

|                               |                       |
|-------------------------------|-----------------------|
| Hammer Model                  | GP500                 |
| Part Number                   | 600426                |
| Shank                         | DHD350                |
| Thread connection             | 3 1/2" API Reg Pin Up |
| Minimum bit diameter          | 140 MM                |
| Hammer flat size              | 66mm (64.750")        |
| Weight                        | 60 Kg (132.3 lbs)     |
| Outside diameter              | 126mm (4.96")         |
| Length (shoulder to shoulder) | 1074mm (42.3")        |
| Minimum weight on bit         | 400 Kg (900 lbs)      |
| Maximum weight on bit         | 900 Kg (1980 lbs)     |

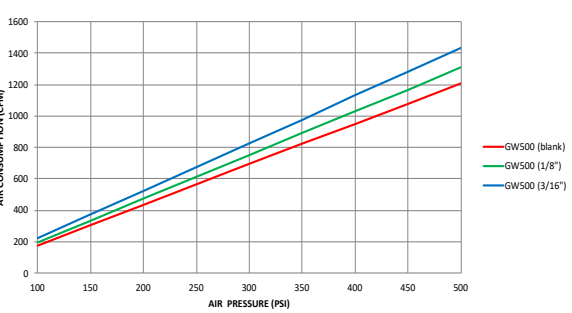
### Parts List

| Hammer type | GP500                | Maintenance Kits |            |
|-------------|----------------------|------------------|------------|
| Shank       | DHD350               | Service Kit      | Repair Kit |
| Part number | 600426               | SK83             | RK138      |
| Item        | Description          | Part No.         |            |
| 1           | Thread Protector     | 201701           |            |
| 2           | Top Adaptor          | 604558           |            |
| 3           | Choke - Blank        | 604480           | 1 1        |
|             | Choke - 1/8"         | 604481           | 1 1        |
|             | Choke - 3/16"        | 604482           | 1 1        |
| 4           | Non Return Valve     | 604444           |            |
| 5           | N.R.V. Spring        | 760079           | 1 1        |
| 6           | Make up Shim - 4.5mm | 604446           |            |
|             | Make up Shim - 5.0mm | 604447           | 1          |
|             | Make up Shim - 5.5mm | 604448           | 1          |
| 7           | Compression Spring   | 760109           |            |
| 8           | Air Distributor      | 604442           |            |
| 9           | O-Ring               | 768202           | 1 1        |
| 10          | Liner                | 604932           |            |
| 11          | Square Snap Ring     | 604937           | 1 1        |
| 12          | Cylinder             | 604931           |            |
| 13          | Piston               | 604439           |            |
| 14          | Snap Ring            | 783054           | 1 1        |
| 15          | Bit Retainer Ring    | 604689           |            |
| 16          | Chuck                | 604688           | 1          |
|             | Foot Valve           | 601902           | 1          |

### Alternative thread connections

|                   |                       |
|-------------------|-----------------------|
| Part Number       | 600429                |
| Thread connection | 2 3/8" API Reg Pin Up |

### Air Consumption



Figures are based on theoretical data

### AT A GLANCE:

| SIZE                            | SHANK | AIR PRESSURE                  |
|---------------------------------|-------|-------------------------------|
| 140mm - 165mm<br>5 1/2 - 6 1/2" | QL50  | 100 - 435 psi<br>(7 - 30 bar) |

### Hammer Overview

|                               |                       |
|-------------------------------|-----------------------|
| Hammer Model                  | GP500                 |
| Part Number                   | 600448                |
| Shank                         | QL50                  |
| Thread connection             | 3 1/2" API Reg Pin Up |
| Minimum bit diameter          | 130 MM                |
| Hammer flat size              | 90mm (3.543")         |
| Weight                        | 60 Kg (132.3 lbs)     |
| Outside diameter              | 126mm (4.96")         |
| Length (shoulder to shoulder) | 1053mm (41.456")      |
| Minimum weight on bit         | 400 Kg (900 lbs)      |
| Maximum weight on bit         | 900 Kg (1980 lbs)     |

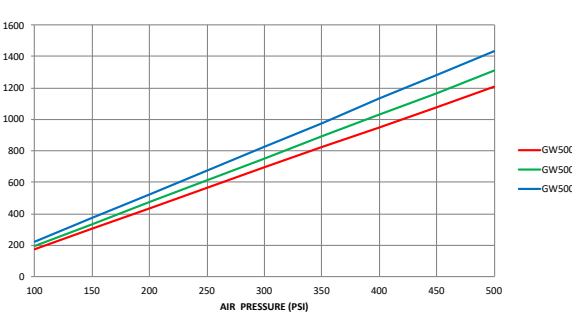
### Parts List

| Hammer type | GP500                | Maintenance Kits |            |
|-------------|----------------------|------------------|------------|
| Shank       | QL50                 | Service Kit      | Repair Kit |
| Part number | 600448               | SK83             | RK158      |
| Item        | Description          | Part No.         |            |
| 1           | Thread Protector     | 201701           |            |
| 2           | Top Adaptor          | 604558           |            |
| 3           | Choke - Blank        | 604480           | 1 1        |
|             | Choke - 1/8"         | 604481           | 1 1        |
|             | Choke - 3/16"        | 604482           | 1 1        |
| 4           | Non Return Valve     | 604444           |            |
| 5           | N.R.V. Spring        | 760079           | 1 1        |
| 6           | Make up Shim - 4.5mm | 604446           |            |
|             | Make up Shim - 5.0mm | 604447           | 1          |
|             | Make up Shim - 5.5mm | 604448           | 1          |
| 7           | Compression Spring   | 760109           |            |
| 8           | Air Distributor      | 604442           |            |
| 9           | O-Ring               | 768202           | 1 1        |
| 10          | Liner                | 604932           |            |
| 11          | Square Snap Ring     | 604937           | 1 1        |
| 12          | Cylinder             | 604931           |            |
| 13          | Piston               | 604936           |            |
| 14          | Snap Ring            | 783054           | 1 1        |
| 15          | Guide Bush           | 604935           |            |
| 16          | O-Ring               | 768043           | 1 1        |
| 17          | Bit Retainer Ring    | 604933           |            |
| 18          | Chuck Lock ring      | 604949           |            |
| 19          | Chuck                | 604934           |            |
|             | Foot Valve           | 603252           | 1          |

### Alternative thread connections

|                   |                       |
|-------------------|-----------------------|
| Part Number       | 600429                |
| Thread connection | 2 3/8" API Reg Pin Up |

### Air Consumption



# 5" GP500 - QL50

## GP500 - QL50

The GP500 high performance hammer drills under a head of water typically suited to Waterwell and Geothermal applications due to its non-ported piston design.

It features a choke facility which helps to adjust air flow through the hammer.

Choke system to allow adjustment of air flow to improve flushing.

Optimised drive chamber capacities to maximise hammer performance.

Robust piston design for optimum strength and performance.

A captive bit retaining ring makes changing the drill bit easier.

Choke system to allow adjustment of air flow to improve flushing.

Optimised drive chamber capacities to maximise hammer performance.

Robust piston design for optimum strength and performance.

A captive bit retaining ring makes changing the drill bit easier.

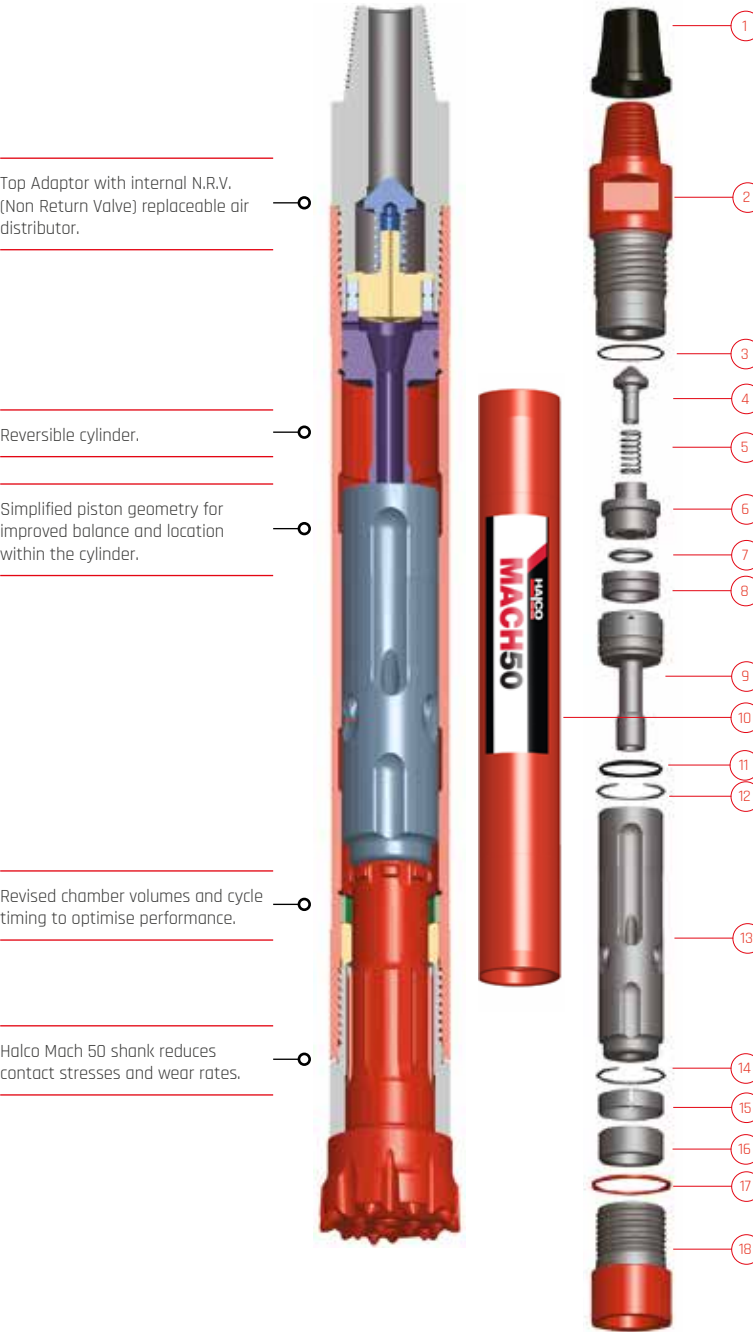
# 5" Mach 50

## MACH 50

The Mach 50 is a general purpose hammer suitable for all rock conditions at a wide range of air pressures.

With a proven track record of performance and reliability, the Mach 50 operates at a high frequency which makes it ideal for broken unstable ground conditions.

The hammer is fitted with a reversible cylinder to prolong the service life, it also requires only a few tools to service and maintain.

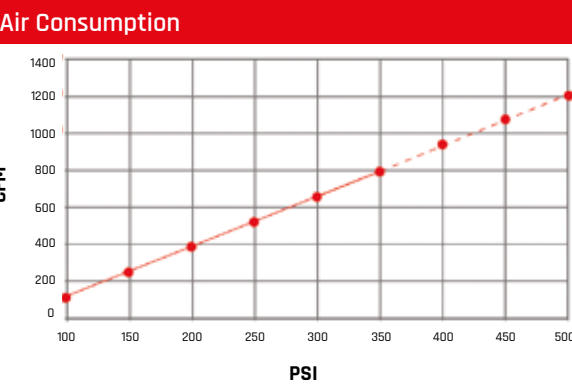


### AT A GLANCE:

|  SIZE |  SHANK |  AIR PRESSURE |
|--|---|--|
| 127mm - 165mm<br>5" - 6 1/2"   | HALCO 5   | 100 - 435 psi<br>(7 - 30 bar)  |

| Hammer Overview               |                       |
|-------------------------------|-----------------------|
| Hammer Model                  | MACH 50               |
| Part Number                   | 600046                |
| Shank                         | Halco 5               |
| Thread connection             | 3 1/2" API Reg Pin Up |
| Minimum bit diameter          | 127MM                 |
| Hammer flat size              | 90mm (3.54")          |
| Weight                        | 54 Kg (119.0 lbs)     |
| Outside diameter              | 114mm (4.5")          |
| Length (shoulder to shoulder) | 1012mm (40")          |
| Minimum weight on bit         | 400 Kg (900 lbs)      |
| Maximum weight on bit         | 900 Kg (1980 lbs)     |

| Parts List  |                    |                  |                  |                 |  |
|-------------|--------------------|------------------|------------------|-----------------|--|
| Hammer type | GP500              | Maintenance Kits |                  |                 |  |
| Shank       | Halco 5            |                  |                  |                 |  |
| Part number | 600046             |                  |                  |                 |  |
| Item        | Description        | Part No.         | Service Kit SK03 | Repair Kit RK04 |  |
| 1           | Thread Protector   | 201701           |                  |                 |  |
| 2           | Top Adaptor        | 601698           |                  |                 |  |
| 3           | O-Ring             | 768043           | 1                | 1               |  |
| 4           | Non Return Valve   | 602285           |                  | 1               |  |
| 5           | N.R.V. Spring      | 760084           | 1                | 1               |  |
| 6           | N.R.V. Finger      | 601702           |                  |                 |  |
| 7           | Make up Shim 0.5mm | 601706           | 1                | 1               |  |
|             | Make up Shim 1MM   | 601795           | 1                | 1               |  |
|             | Make up Shim 1.5MM | 601796           | 1                | 1               |  |
| 8           | Make up Ring       | 601700           | 1                | 1               |  |
| 9           | Air Distributor    | 601699           |                  |                 |  |
| 10          | Cylinder           | 601694           |                  |                 |  |
| 11          | O-Ring             | 768101           | 1                | 1               |  |
| 12          | Snap Ring          | 783013           |                  | 1               |  |
| 13          | Piston             | 601695           |                  |                 |  |
| 14          | Snap Ring          | 783103           | 1                |                 |  |
| 15          | Spacer             | 601705           |                  | 1               |  |
| 16          | Bit Retaining Ring | 602117           |                  | 1               |  |
| 17          | Chuck Spacer       | 601603           | 1                | 1               |  |
| 18          | Chuck              | 601602           |                  | 1               |  |
|             | Foot Valve         | 601843           |                  | 1               |  |

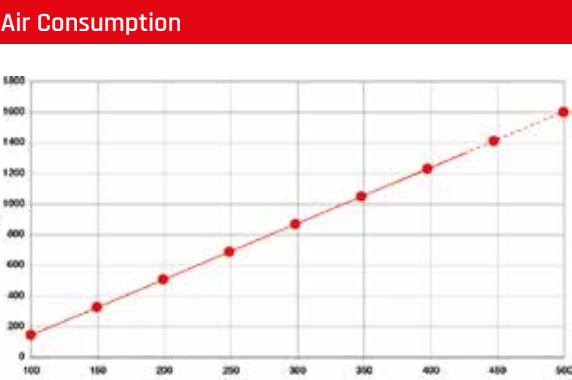


### AT A GLANCE:

|  SIZE |  SHANK |  AIR PRESSURE |
|--|---|--|
| 152mm - 241mm<br>6" - 9 1/2"   | DHD 360   | 100 - 500 psi<br>(7 - 35 bar)  |

| Hammer Overview               |                       |
|-------------------------------|-----------------------|
| Hammer Model                  | S00M600               |
| Part Number                   | 600272                |
| Shank                         | DHD360                |
| Thread connection             | 3 1/2" API Reg Pin Up |
| Minimum bit diameter          | 152 MM                |
| Hammer flat size              | 101mm (4.0")          |
| Weight                        | 100 Kg (220 lbs)      |
| Outside diameter              | 140.0mm (5.51")       |
| Length (shoulder to shoulder) | 1139mm (44.8")        |
| Minimum weight on bit         | 500 Kg (1100 lbs)     |
| Maximum weight on bit         | 1500 Kg (3300 lbs)    |

| Parts List  |                    |                  |             |            |  |
|-------------|--------------------|------------------|-------------|------------|--|
| Hammer type | S00M600            | Maintenance Kits |             |            |  |
| Shank       | DHD360             |                  |             |            |  |
| Part number | 600272             |                  |             |            |  |
| Item        | Description        | Part No.         | Service Kit | Repair Kit |  |
| 1           | Thread Protector   | 201701           |             |            |  |
| 2           | Snap Ring          | 783050           | 1           | 1          |  |
| 3           | N.R.V. Seat        | 603872           |             | 1          |  |
| 4           | O-Ring             | 768112           | 1           | 1          |  |
| 5           | Non Return Valve   | 603554           |             | 1          |  |
| 6           | N.R.V. Spring      | 760135           | 1           | 1          |  |
| 7           | N.R.V. Shield      | 603652           |             | 1          |  |
| 8           | Top Adaptor        | 603506           |             |            |  |
| 9           | O-Ring             | 768140           | 1           | 1          |  |
| 10          | O-Ring             | 768055           | 1           | 1          |  |
| 11          | Cylinder           | 603584           |             |            |  |
| 12          | Piston             | 602891           |             |            |  |
| 13          | Snap Ring          | 783017           | 1           | 1          |  |
| 14          | O-Ring             | 747105           | 1           | 1          |  |
| 15          | Bit Guide Bush     | 602239           |             | 1          |  |
| 16          | Bit Retaining Ring | 603749           |             | 1          |  |
| 17          | O-Ring             | 747105           | 1           | 1          |  |
| 18          | Chuck Spacer       | 601942           | 1           | 1          |  |
| 19          | Chuck              | 602495           |             | 1          |  |
|             | Foot Valve         | 601595           |             | 1          |  |



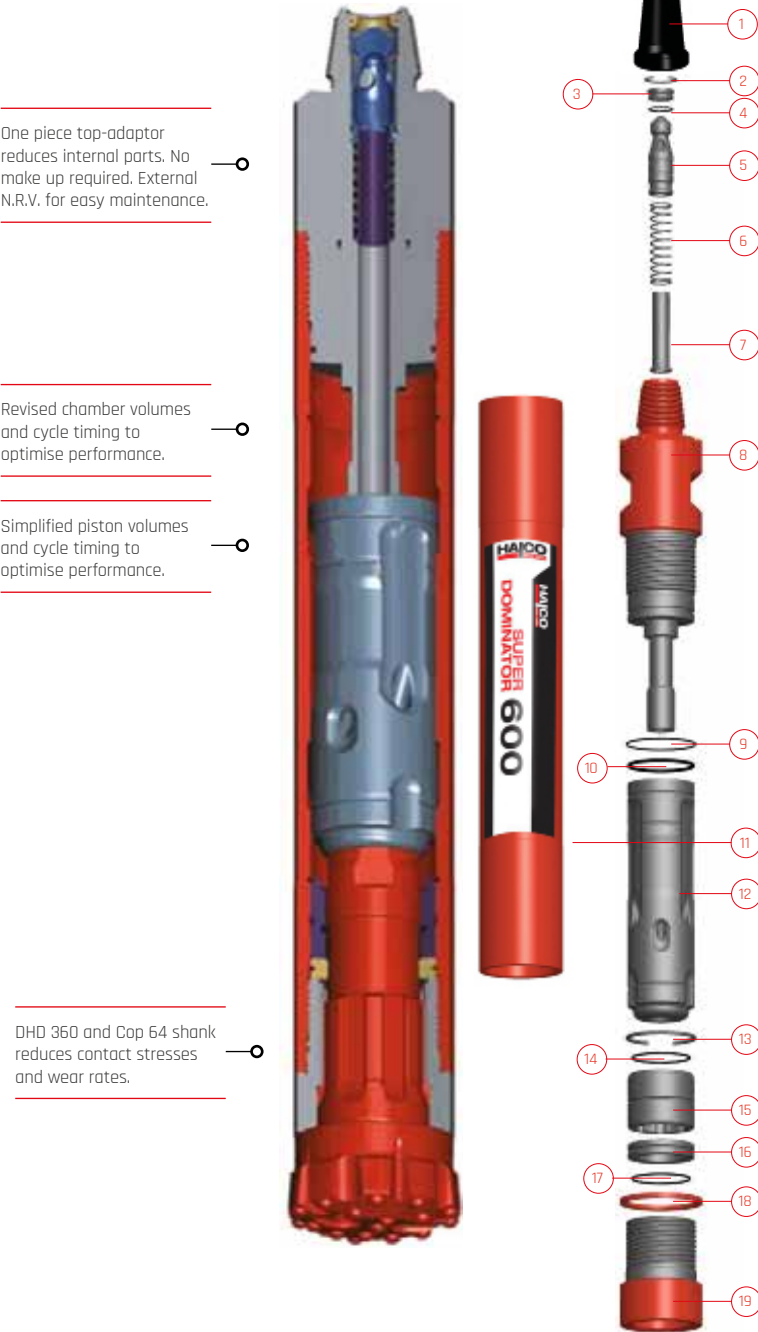
# 6" Super Dominator 600

## SUPER DOMINATOR 600

The Super Dominator 600 is one of the fastest 6" hammers specifically designed for high production drilling in blast-hole applications.

The Super Dominator 600 is a reduced weight hammer with waterwell drilling capabilities. The unique one piece top-adaptor with N.V.R. (Non-Return-Valve) makes it easy to maintain and service the hammer.

Super Dominator 600 requires only few tools to service and maintain the hammer. Suitable for operation at air pressures of 100 - 500psi (7 - 35bar). Drilling diameters of 152mm - 241mm (6 1/8 - 9 1/2").





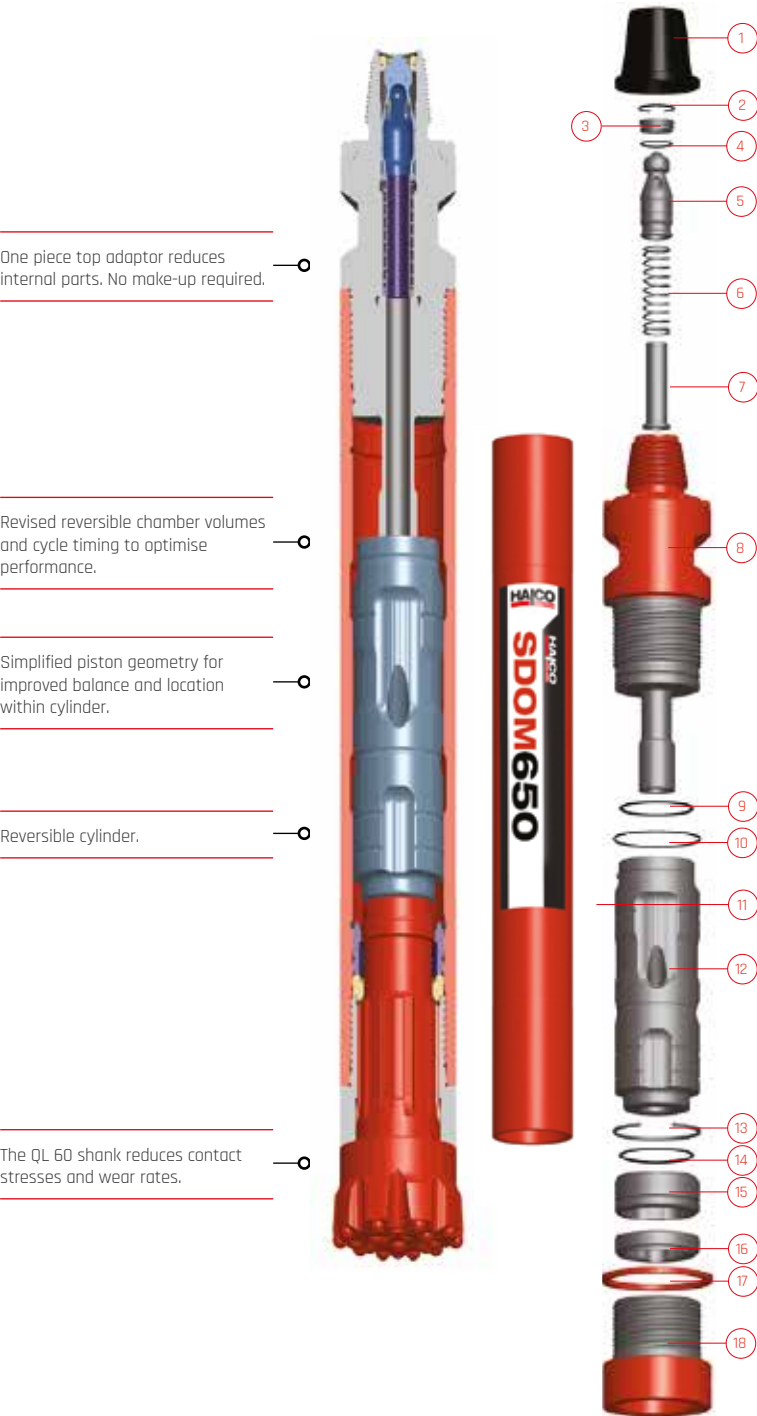
# 6" Super Dominator 650HD Snub

## SUPER DOMINATOR 650HD SNUB

The Super Dominator 650 HD combines the raw power of the Super Dominator 600 with the extended hammer life in abrasive conditions due to its heavy duty and reversible cylinder.

The unique one piece top adaptor with N.R.V (Non Return Valve) makes it easy to maintain and service.

Super Dominator 650 requires only a few simple tools to service and maintain the hammer.



One piece top adaptor reduces internal parts. No make-up required.

Revised reversible chamber volumes and cycle timing to optimise performance.

Simplified piston geometry for improved balance and location within cylinder.

Reversible cylinder.

The QL 60 shank reduces contact stresses and wear rates.

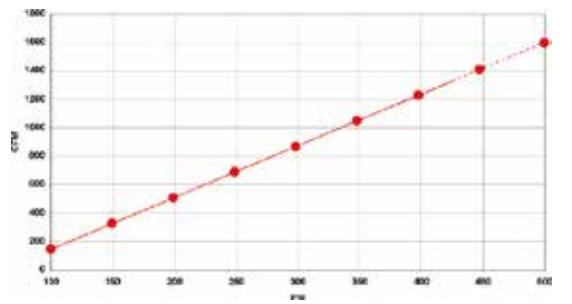
### AT A GLANCE:

| SIZE                             | SHANK | AIR PRESSURE                  |
|----------------------------------|-------|-------------------------------|
| 165mm - 220mm<br>6 1/2" - 8 5/8" | QL60  | 100 - 500 psi<br>(7 - 35 bar) |

| Hammer Overview               |                                  |
|-------------------------------|----------------------------------|
| Hammer Model                  | SDOM650HD Snub                   |
| Part Number                   | 600467                           |
| Shank                         | QL60                             |
| Thread connection             | 3 1/2" API Reg Pin with carbides |
| Minimum bit diameter          | 165 MM                           |
| Hammer flat size              | 101mm (4.0")                     |
| Weight                        | 100 Kg (220 lbs)                 |
| Outside diameter              | 146mm (5.478")                   |
| Length (shoulder to shoulder) | 1043mm (41.1")                   |
| Minimum weight on bit         | 500 Kg (1100 lbs)                |
| Maximum weight on bit         | 1500 Kg (3300 lbs)               |

| Parts List  |                    |          |                  |                  |
|-------------|--------------------|----------|------------------|------------------|
| Hammer type | SDOM650HD Snub     |          |                  | Maintenance Kits |
| Shank       | QL60               |          |                  |                  |
| Part number | 600467             |          |                  |                  |
| Item        | Description        | Part No. | Service Kit SK03 | Repair Kit RK04  |
| 1           | Thread Protector   | 201701   |                  |                  |
| 2           | Snap Ring          | 783050   | 1                | 1                |
| 3           | N.R.V. Seat        | 603872   |                  | 1                |
| 4           | O-Ring             | 768112   | 1                | 1                |
| 5           | Non Return Valve   | 603554   |                  | 1                |
| 6           | N.R.V. Spring      | 760135   | 1                | 1                |
| 7           | N.R.V. Shield      | 603652   |                  | 1                |
| 8           | Top Adaptor        | 603806   |                  |                  |
| 9           | O-Ring             | 747105   | 1                | 1                |
| 10          | O-Ring             | 768140   | 1                | 1                |
| 11          | Cylinder           | 605004   |                  |                  |
| 12          | Piston             | 605003   |                  |                  |
| 13          | Snap Ring          | 783017   | 1                | 1                |
| 14          | O-Ring             | 747105   | 1                | 1                |
| 15          | Bit Guide Bush     | 605005   |                  | 1                |
| 16          | Bit Retaining Ring | 603866   |                  |                  |
| 17          | Chuck Spacer       | 601928   |                  | 1                |
| 18          | Chuck              | 604122   |                  | 1                |
|             | Foot Valve         | 602852   |                  | 1                |

### Air Consumption



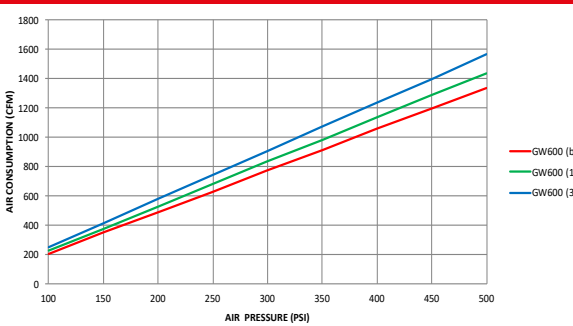
### AT A GLANCE:

| SIZE                         | SHANK           | AIR PRESSURE                  |
|------------------------------|-----------------|-------------------------------|
| 152mm - 203mm<br>6 1/8" - 8" | QL60<br>DHD 360 | 100 - 500 psi<br>(7 - 35 bar) |

| Hammer Overview               |                       |
|-------------------------------|-----------------------|
| Hammer Model                  | GP600                 |
| Part Number                   | 600427                |
| Shank                         | QL60                  |
| Thread connection             | 3 1/2" API Reg Pin Up |
| Minimum bit diameter          | 152 MM                |
| Hammer flat size              | 101mm (3.976")        |
| Weight                        | 86 Kg (192 lbs)       |
| Outside diameter              | 140mm (5.51")         |
| Length (shoulder to shoulder) | 1035mm (40.7")        |
| Minimum weight on bit         | 500 Kg (1100 lbs)     |
| Maximum weight on bit         | 1500 Kg (3300 lbs)    |

| Parts List  |                    |          |                                   |
|-------------|--------------------|----------|-----------------------------------|
| Hammer type | GP600              |          | Maintenance Kits                  |
| Shank       | QL60               |          |                                   |
| Part number | 600427             |          |                                   |
| Item        | Description        | Part No. | Service Kit SK68 Repair Kit RK105 |
| 1           | Thread Protector   | 201701   |                                   |
| 2           | Top Adaptor        | 604521   |                                   |
| 3           | O-Ring             | 768140   | 1 1                               |
| 4           | Shim - 4MM         | 601946   |                                   |
|             | Shim - 5MM         | 601947   | 1                                 |
|             | Shim - 6MM         | 601948   | 1                                 |
|             | Shim - 7MM         | 601949   | 1                                 |
| 5           | Compression Ring   | 760096   |                                   |
| 6           | Choke Plug - Blank | 604480   | 1 1                               |
|             | Choke 1/8"         | 604481   | 1 1                               |
|             | Choke 3/16"        | 604482   | 1 1                               |
| 7           | Non Return Valve   | 604444   |                                   |
| 8           | N.R.V. Spring      | 760079   | 1 1                               |
| 9           | Air Distributor    | 604514   |                                   |
| 10          | O-Ring             | 768043   | 1 1                               |
| 11          | Liner              | 604930   |                                   |
| 12          | Square Snap Ring   | 604929   | 1 1                               |
| 13          | Cylinder           | 604517   |                                   |
| 14          | Piston             | 604520   |                                   |
| 15          | Snap Ring          | 783056   | 1 1                               |
| 16          | Guide Bush         | 604518   |                                   |
| 17          | O-Ring             | 747105   | 1 1                               |
| 18          | Bit Retaining Ring | 604693   |                                   |
| 19          | Chuck              | 604692   | 1                                 |
|             | Foot Valve         | 602852   | 1                                 |

### Air Consumption



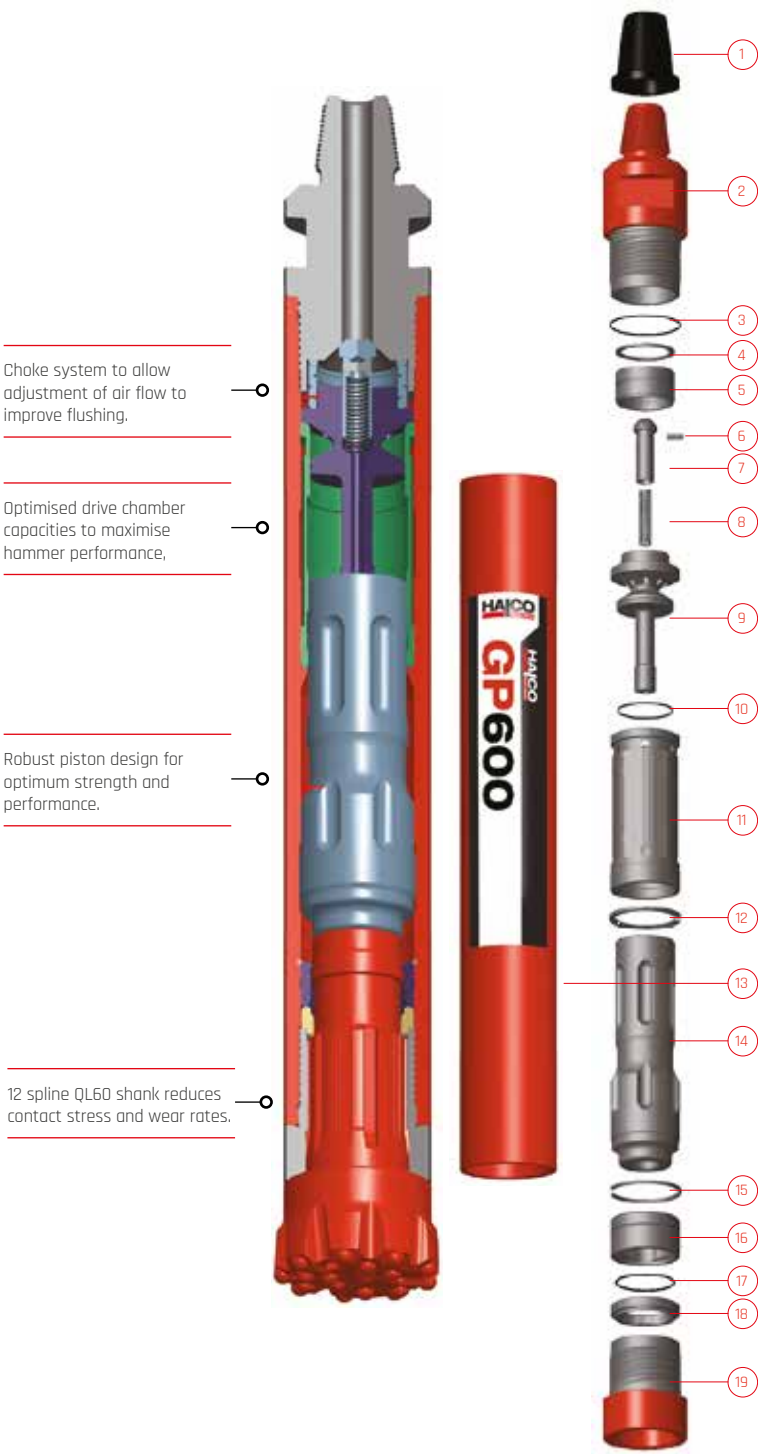
Figures are based on theoretical data

# 6" GP600

## GP 600

The GP600 is a high performance hammer which can drill under a head of water, typically suited to Waterwell and Geothermal applications due to its non-ported piston design.

It features a choke facility which helps to adjust air flow through the hammer.



Choke system to allow adjustment of air flow to improve flushing.

Optimised drive chamber capacities to maximise hammer performance.

Robust piston design for optimum strength and performance.

12 spline QL60 shank reduces contact stress and wear rates.

6" GP600 - QL60HD

GP600HD - QL60HD

The GP600 is a high performance hammer which can drill under a head of water, so it is typically suitable for Waterwell and Geothermal applications due to its robust non-ported piston design. A choke facility helps to adjust air flow through the hammer.

AT A GLANCE:

|  SIZE |  SHANK |  AIR PRESSURE |
|--|---|--|
| 156mm - 203mm<br>6 1/8 - 8"  | QL60  | 100 - 500 psi<br>(7 - 35 bar)  |

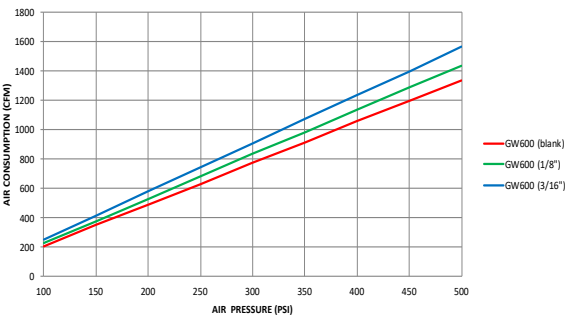
Hammer Overview

|                               |                       |
|-------------------------------|-----------------------|
| Hammer Model                  | GP600HD               |
| Part Number                   | 600480                |
| Shank                         | QL60                  |
| Thread connection             | 3 1/2" API Reg Pin Up |
| Minimum bit diameter          | 156 MM                |
| Hammer flat size              | 101mm (3.976")        |
| Weight                        | 86 Kg (189.2 lbs)     |
| Outside diameter              | 146mm (5.75")         |
| Length (shoulder to shoulder) | 1035mm (40.7")        |
| Minimum weight on bit         | 500 Kg (1100 lbs)     |
| Maximum weight on bit         | 1500 Kg (3300 lbs)    |

Parts List

| Hammer type | Shank | Part number | Item | Description        | Part No. | Maintenance Kits |            |
|-------------|-------|-------------|------|--------------------|----------|------------------|------------|
|             |       |             |      |                    |          | Service Kit      | Repair Kit |
| GP600HD     | QL60  | 600480      |      |                    |          | SK84             | RK156      |
|             |       |             | 1    | Thread Protector   | 201701   |                  |            |
|             |       |             | 2    | Top Adaptor        | 604562   |                  |            |
|             |       |             | 3    | O-Ring             | 768140   | 1                |            |
|             |       |             | 4    | SHIM 4MM           | 601946   |                  | 1          |
|             |       |             |      | Make up Shim - 5mm | 601947   |                  | 1          |
|             |       |             |      | Make up Shim - 6mm | 601948   |                  | 1          |
|             |       |             |      | Make up Shim - 7mm | 601949   |                  | 1          |
|             |       |             | 5    | Compression Ring   | 760096   |                  | 1          |
|             |       |             | 6    | Choke - Solid      | 604480   | 1                | 1          |
|             |       |             |      | Choke - 1/8"       | 604481   | 1                | 1          |
|             |       |             |      | Choke - 3/16"      | 604482   | 1                | 1          |
|             |       |             | 7    | Non Return Valve   | 604444   |                  | 1          |
|             |       |             | 8    | N.R.V. Spring      | 760079   | 1                | 1          |
|             |       |             | 9    | Air Distributor    | 604514   |                  |            |
|             |       |             | 10   | O-Ring             | 768043   | 1                |            |
|             |       |             | 11   | Liner              | 604930   |                  |            |
|             |       |             | 12   | Square Snap Ring   | 604929   |                  | 1          |
|             |       |             | 13   | Cylinder           | 605023   |                  |            |
|             |       |             | 14   | Piston             | 604520   |                  |            |
|             |       |             | 15   | Snap Ring          | 783056   | 1                |            |
|             |       |             | 16   | Guide Bush         | 604518   |                  |            |
|             |       |             | 17   | O-Ring             | 747105   |                  | 1          |
|             |       |             | 18   | Bit Retaining Ring | 604693   |                  | 1          |
|             |       |             | 19   | Chuck              | 605022   |                  | 1          |
|             |       |             |      | Foot Valve         |          |                  |            |

Air Consumption



AT A GLANCE:

|  SIZE |  SHANK |  AIR PRESSURE |
|--|---|--|
| 156mm - 203mm<br>6 1/8 - 8"  | DHD360  | 100 - 500 psi<br>(7 - 35 bar)  |

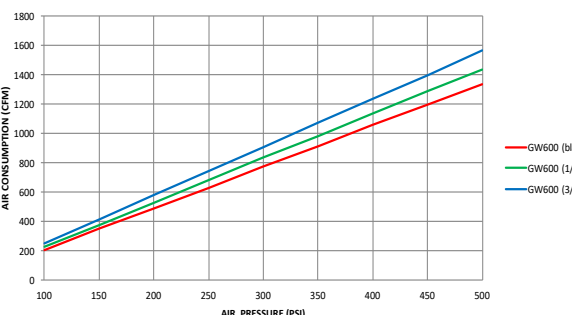
Hammer Overview

|                               |                       |
|-------------------------------|-----------------------|
| Hammer Model                  | GP600HD               |
| Part Number                   | 600449                |
| Shank                         | DHD360                |
| Thread connection             | 3 1/2" API Reg Pin Up |
| Minimum bit diameter          | 156 MM                |
| Hammer flat size              | 101mm (3.976")        |
| Weight                        | 86 Kg (189 lbs)       |
| Outside diameter              | 144.75mm              |
| Length (shoulder to shoulder) | 1035mm (40.7")        |
| Minimum weight on bit         | 500 Kg (1100 lbs)     |
| Maximum weight on bit         | 1500 Kg (3300 lbs)    |

Parts List

| Hammer type | Shank  | Part number | Item | Description        | Part No. | Maintenance Kits |            |
|-------------|--------|-------------|------|--------------------|----------|------------------|------------|
|             |        |             |      |                    |          | Service Kit      | Repair Kit |
| GP600HD     | DHD360 | 600449      |      |                    |          | SK68             |            |
|             |        |             | 1    | Thread Protector   | 201701   |                  |            |
|             |        |             | 2    | Top Adaptor        | 604562   |                  |            |
|             |        |             | 3    | O-Ring             | 768140   | 1                | 1          |
|             |        |             | 4    | Shim 4MM           | 601946   |                  | 1          |
|             |        |             |      | Shim 5MM           | 601947   |                  | 1          |
|             |        |             |      | Shim 6MM           | 601948   |                  | 1          |
|             |        |             |      | Shim 7MM           | 601949   |                  | 1          |
|             |        |             | 5    | Compression Ring   | 760096   |                  | 1          |
|             |        |             | 6    | Choke Plug-Blank   | 604480   | 1                | 1          |
|             |        |             |      | Choke - 1/8"       | 604481   | 1                | 1          |
|             |        |             |      | Choke - 3/16"      | 604482   | 1                | 1          |
|             |        |             | 7    | N.R.V.             | 604444   |                  | 1          |
|             |        |             | 5    | N.R.V Spring       | 760079   | 1                | 1          |
|             |        |             | 8    | Air Distributor    | 604514   |                  |            |
|             |        |             | 10   | O-Ring             | 768043   | 1                | 1          |
|             |        |             | 11   | Liner              | 604930   |                  |            |
|             |        |             | 12   | Square Snap Ring   | 604929   | 1                | 1          |
|             |        |             | 13   | Cylinder           | 604938   |                  |            |
|             |        |             | 14   | Piston             | 604942   |                  |            |
|             |        |             | 15   | Snap Ring          | 783056   |                  | 1          |
|             |        |             | 16   | Guide Bush         | 604941   | 1                | 1          |
|             |        |             | 17   | O-Ring             | 747105   | 1                | 1          |
|             |        |             | 15   | Bit Retaining Ring | 604940   |                  | 1          |
|             |        |             | 17   | Chuck              | 604939   |                  | 1          |
|             |        |             |      | Foot Valve         | 601595   |                  | 1          |

Air Consumption



6" GP600HD - DHD360

GP600HD - DHD360

The GP600 is a high performance hammer which can drill under a head of water, so it is typically suitable for Waterwell and Geothermal applications due to its robust non-ported piston design. A choke facility helps to adjust air flow through the hammer.

Choke system to allow adjustment of air flow to improve flushing.

Optimised drive chamber capacities to maximise hammer performance.

Robust piston design for optimum strength and performance.

8 spline DHD360 shank reduces contact stress and wear rates.





AT A GLANCE:

| SIZE                        | SHANK   | AIR PRESSURE                  |
|-----------------------------|---------|-------------------------------|
| 152mm - 203mm<br>6 1/8 - 8" | HALCO 6 | 100 - 435 psi<br>(7 - 30 bar) |

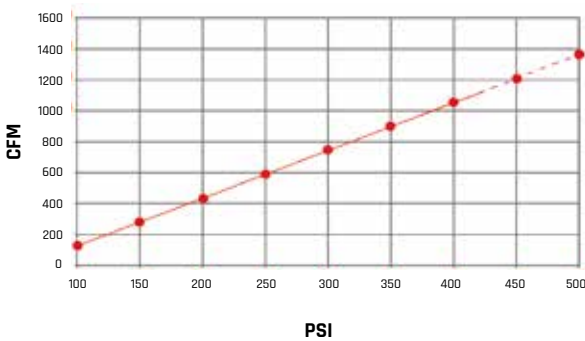
Hammer Overview

|                               |                       |
|-------------------------------|-----------------------|
| Hammer Model                  | MACH 60               |
| Part Number                   | 600035                |
| Shank                         | Halco 6               |
| Thread connection             | 3 1/2" API Reg Pin Up |
| Minimum bit diameter          | 152 MM                |
| Hammer flat size              | 90mm (3.54")          |
| Weight                        | 89 Kg (196.2 lbs)     |
| Outside diameter              | 138mm (5.43")         |
| Length (shoulder to shoulder) | 1095mm (3.54")        |
| Minimum weight on bit         | 500 Kg (1100 lbs)     |
| Maximum weight on bit         | 1500 Kg (3300 lbs)    |

Parts List

| Hammer type |                    |        | Maintenance Kits |            |
|-------------|--------------------|--------|------------------|------------|
| Shank       |                    |        | Halco 6          |            |
| Part number |                    |        | Service Kit      | Repair Kit |
| Item        |                    |        | SK07             | RK10       |
| 1           | Thread Protector   | 201701 |                  |            |
| 2           | Top Adaptor        | 601555 |                  |            |
| 3           | Non Return Valve   | 601560 |                  | 1          |
| 4           | N.R.V. Spring      | 760079 | 1                | 1          |
| 5           | N.R.V. Housing     | 601558 |                  |            |
| 6           | Compression Ring   | 601562 | 1                | 1          |
| 7           | Make up Shim 0.5mm | 601590 | 1                | 1          |
|             | Make up Shim 1.0mm | 601797 | 1                | 1          |
|             | Make up Shim 1.5mm | 601798 | 1                | 1          |
| 8           | Air Distributor    | 601557 |                  |            |
| 10          | O-Ring             | 768130 | 1                | 1          |
| 11          | Snap Ring          | 783012 | 1                |            |
| 12          | Cylinder           | 601553 |                  |            |
| 13          | Piston             | 601554 |                  |            |
| 14          | Snap Ring          | 783012 | 1                | 1          |
| 15          | Bottom Spacer      | 601571 |                  | 1          |
| 16          | Bit Retaining Ring | 601573 |                  | 1          |
|             | O-Ring             | 747105 | 1                | 1          |
| 17          | Chuck Spacer       | 601563 | 1                | 1          |
| 18          | Chuck              | 601556 |                  | 1          |
|             | Foot Valve         | 601570 |                  | 1          |

Air Consumption



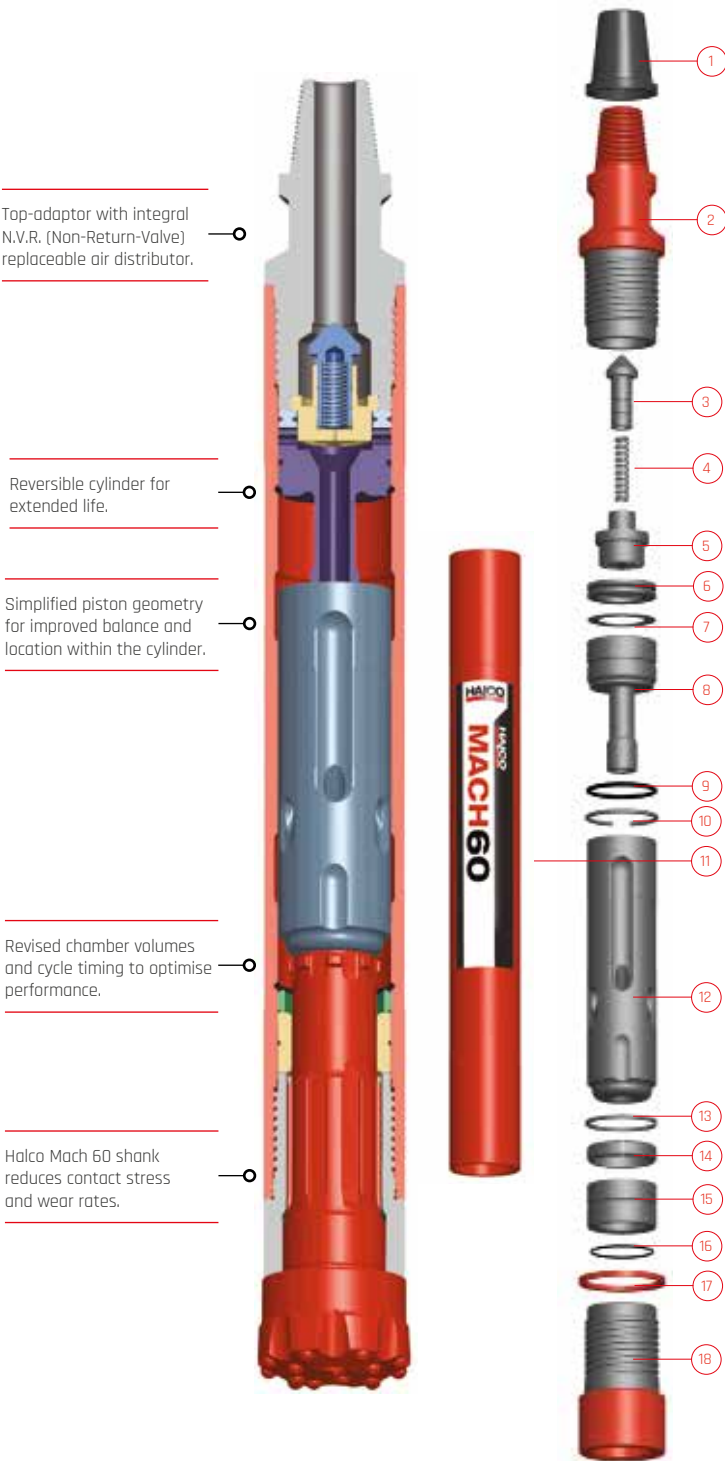
6" Mach 60

MACH 60

The Mach 60 is a general purpose hammer suitable for all rock conditions at a wide range of air pressures.

With a proven track record of performance and reliability, the Mach 50 operates at a high frequency which makes it ideal for broken unstable ground conditions.

The hammer is fitted with a reversible cylinder to prolong the service life, it also requires only a few tools to service and maintain.



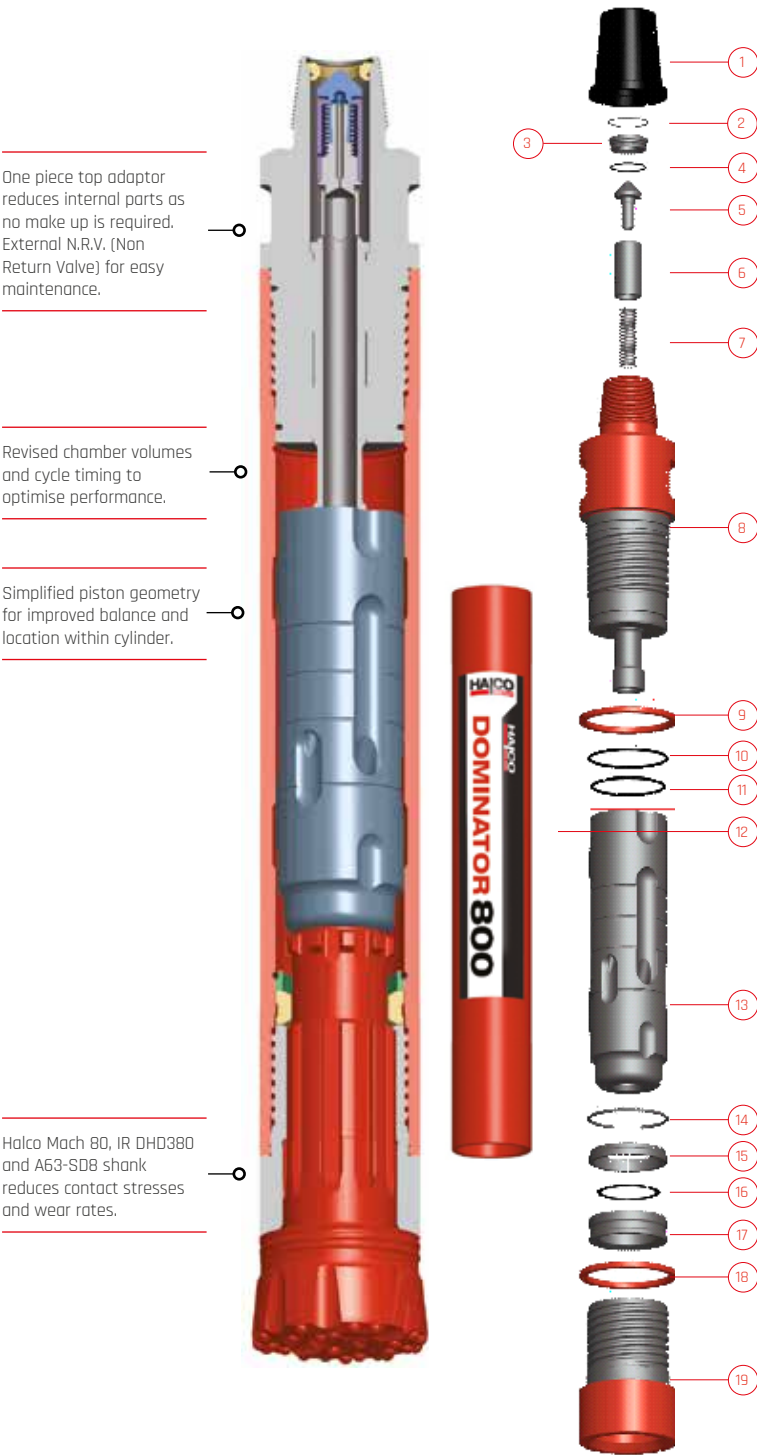


# 8" Dominator 800

## DOMINATOR 800

The Dominator 800 is a general purpose hammer suitable for a wide range of air pressures.

A low to mid range air volume hammer with a one piece top adaptor. The Dominator 800 has a unique air distributor finger which is integral with the top adaptor and requires no shimming which simplifies servicing.



### AT A GLANCE:

| SIZE                             | SHANK   | AIR PRESSURE                  |
|----------------------------------|---------|-------------------------------|
| 200mm - 311mm<br>7 7/8 - 12 1/4" | DHD 380 | 100 - 500 psi<br>(7 - 35 bar) |

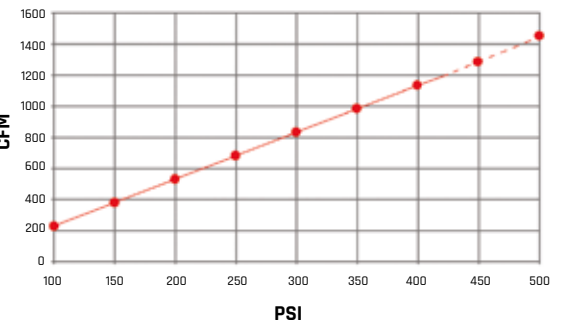
### Hammer Overview

|                               |                     |
|-------------------------------|---------------------|
| Hammer Model                  | DOM800              |
| Part Number                   | 600309              |
| Shank                         | DHD380              |
| Thread connection             | 4 1/2" API Reg Pin  |
| Minimum bit diameter          | 200 MM              |
| Hammer flat size              | 156mm (6.142")      |
| Weight                        | 181 Kg (399.03 lbs) |
| Outside diameter              | 182mm (7.165")      |
| Length (shoulder to shoulder) | 1254mm (49.37")     |
| Minimum weight on bit         | 800 Kg (1760 lbs)   |
| Maximum weight on bit         | 2000 Kg (4400 lbs)  |

### Parts List

| Hammer type |                    | Maintenance Kits |            |
|-------------|--------------------|------------------|------------|
| Shank       | DHD380             | Service Kit      | Repair Kit |
| Part number | 600309             | SK25             | RK64       |
| Item        | Description        | Part No.         |            |
| 1           | Thread Protector   | 207295           |            |
| 2           | Snap Ring          | 783034           | 1          |
| 3           | N.R.V. Seat        | 602887           | 1          |
| 4           | O-Ring             | 768150           | 1          |
| 5           | Non Return Valve   | 602285           | 1          |
| 6           | Spring Cover       | 603696           | 1          |
| 7           | N.R.V. Spring      | 760108           | 1          |
| 8           | Top Adaptor        | 603607           |            |
| 9           | Spacer             | 603576           |            |
| 10          | O-Ring             | 768103           | 1          |
| 11          | O-Ring             | 768145           | 1          |
| 12          | Cylinder           | 603687           |            |
| 13          | Piston             | 603755           |            |
| 14          | Snap Ring          | 783015           | 1          |
| 15          | Spacer             | 602840           | 1          |
| 16          | Containment Band   | 603549           | 1          |
| 17          | Bit Retaining Ring | 603043           | 1          |
| 18          | Chuck Spacer       | 603576           | 1          |
| 19          | Chuck              | 603495           | 1          |
|             | Foot Valve         | 601819           | 1          |

### Air Consumption



### AT A GLANCE:

| SIZE                             | SHANK | AIR PRESSURE                  |
|----------------------------------|-------|-------------------------------|
| 200mm - 311mm<br>7 7/8 - 12 1/4" | QL80  | 100 - 500 psi<br>(7 - 35 bar) |

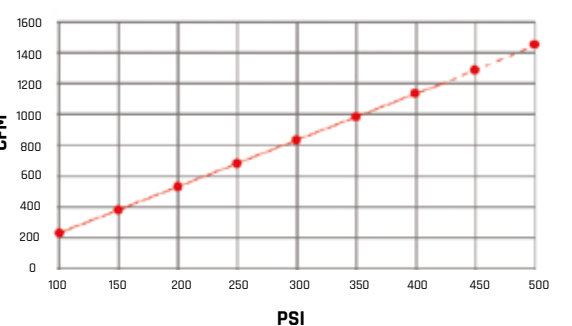
### Hammer Overview

|                               |                    |
|-------------------------------|--------------------|
| Hammer Model                  | DOM800             |
| Part Number                   | 600374             |
| Shank                         | QL80               |
| Thread connection             | 4 1/2" API Reg Pin |
| Minimum bit diameter          | 200 MM             |
| Hammer flat size              | 156mm (6.14")      |
| Weight                        | 180 Kg (396.8 lbs) |
| Outside diameter              | 182mm (7.165")     |
| Length (shoulder to shoulder) | 1180mm (46.4")     |
| Minimum weight on bit         | 800 Kg (1760 lbs)  |
| Maximum weight on bit         | 2000 Kg (4400 lbs) |

### Parts List

| Hammer type |                    | Maintenance Kits |            |
|-------------|--------------------|------------------|------------|
| Shank       | QL80               | Service Kit      | Repair Kit |
| Part number | 600374             | SK78             | RK131      |
| Item        | Description        | Part No.         |            |
| 1           | Thread Protector   | 207295           |            |
| 2           | Snap Ring          | 783034           | 1          |
| 3           | N.R.V. Seat        | 602887           | 1          |
| 4           | O-Ring             | 768150           | 1          |
| 5           | Non Return Valve   | 602285           | 1          |
| 6           | N.R.V. Shield      | 603696           |            |
| 7           | N.R.V. Spring      | 760108           | 1          |
| 8           | Top Adaptor        | 603607           |            |
| 9           | Spacer             | 603576           |            |
| 10          | O-Ring             | 768103           | 1          |
| 11          | O-Ring             | 768145           | 1          |
| 12          | Cylinder           | 604344           |            |
| 13          | Piston             | 604343           |            |
| 14          | Snap Ring          | 783015           | 1          |
| 15          | O-Ring             | 768151           | 1          |
| 16          | Guide Bush         | 604346           | 1          |
| 17          | Bit Retaining Ring | 604347           | 1          |
| 18          | Chuck Spacer       | 603576           | 1          |
| 19          | Chuck              | 604345           | 1          |
|             | Foot Valve         | 603334           | 1          |

### Air Consumption

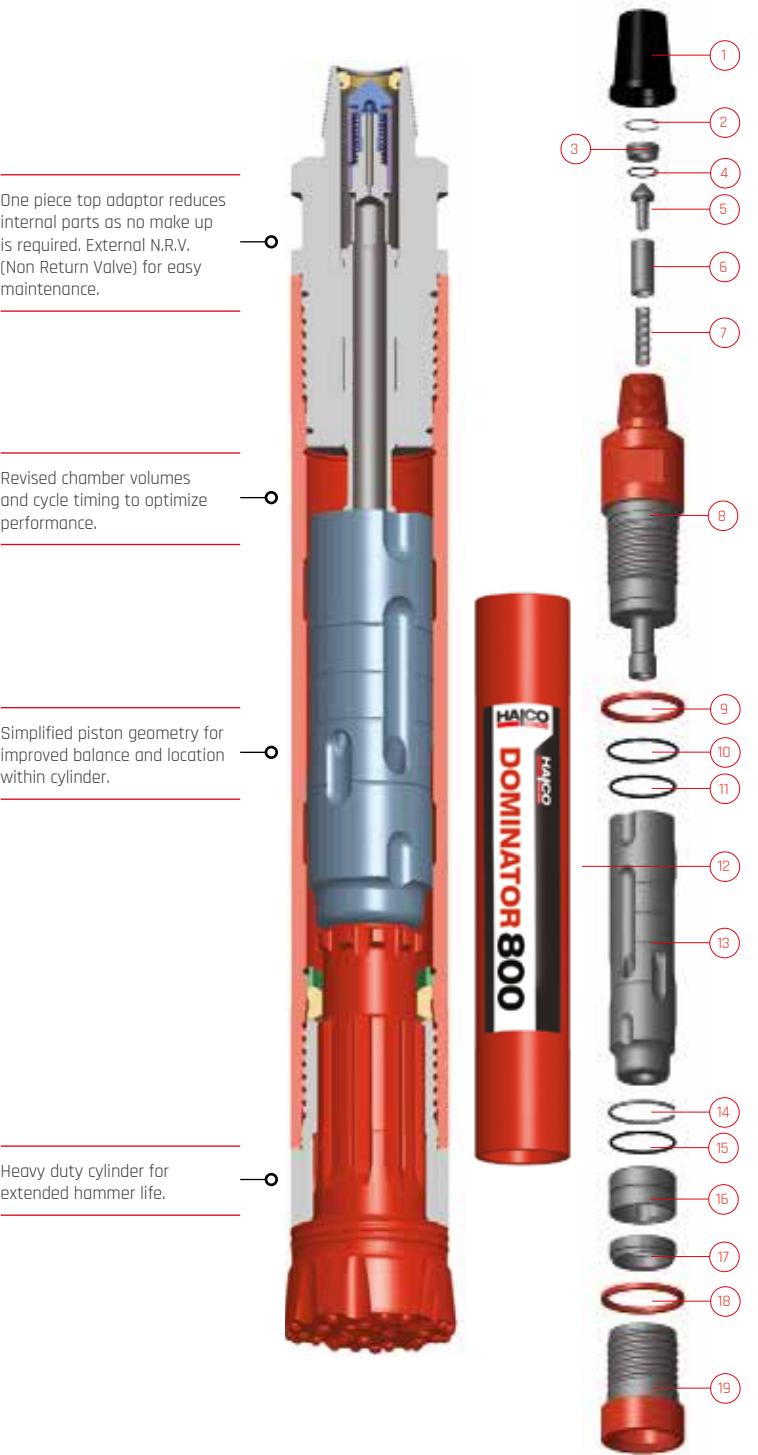


# 8" Dominator 800

## DOMINATOR 800

The Dominator 800 is a general purpose hammer suitable for a wide range of air pressures.

A low to mid range air volume hammer with a one piece top adaptor. The Dominator 800 has a unique air distributor finger which is integral with the top adaptor and reduces requirements for shimming.



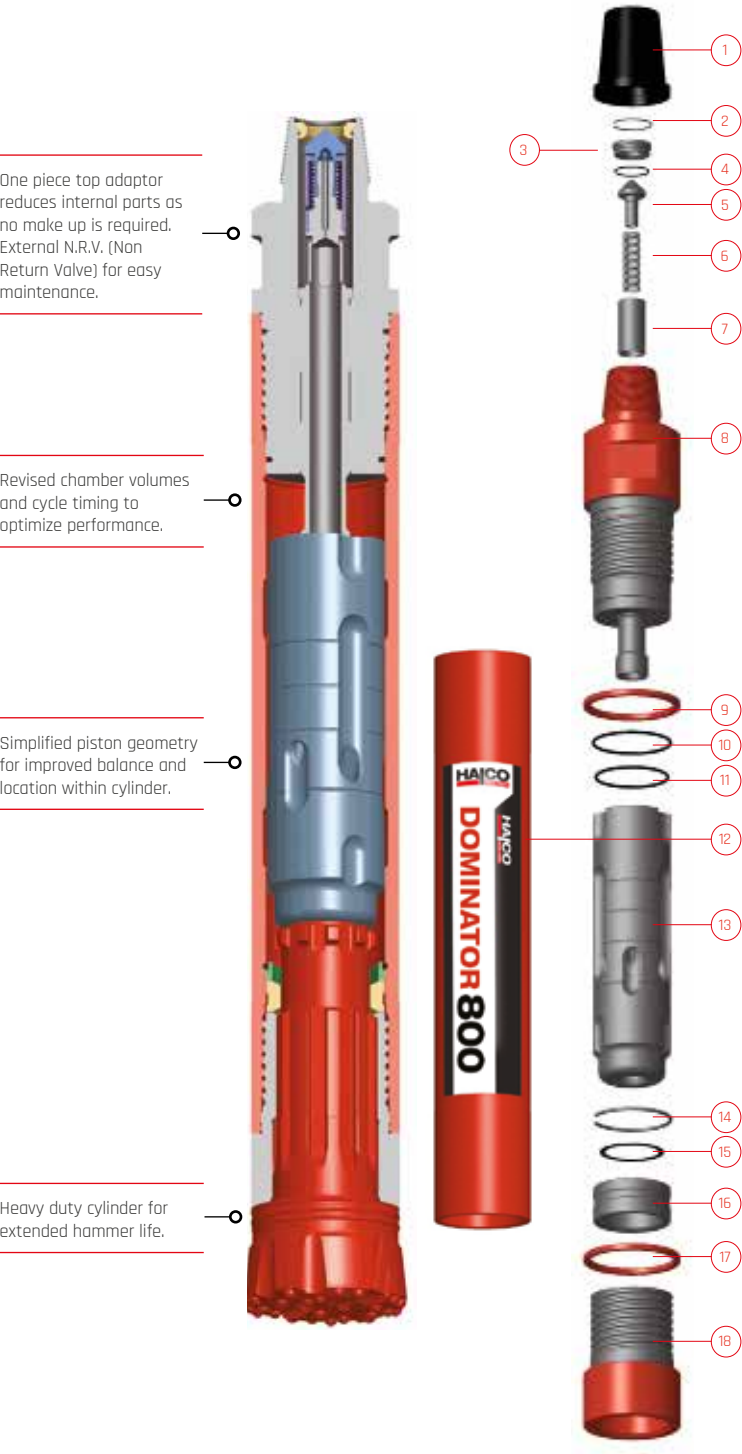


# 8" Dominator 800

## DOMINATOR 800

The Dominator 800 is a general purpose hammer suitable for a wide range of air pressures.

A low to mid range air volume hammer with a one piece top adaptor. The Dominator 800 has a unique air distributor finger which is integral with the top adaptor and reduces requirements for shimming.



### AT A GLANCE:

| SIZE                             | SHANK   | AIR PRESSURE                  |
|----------------------------------|---------|-------------------------------|
| 200mm - 311mm<br>7 7/8 - 12 1/4" | HALCO 8 | 100 - 500 psi<br>(7 - 35 bar) |

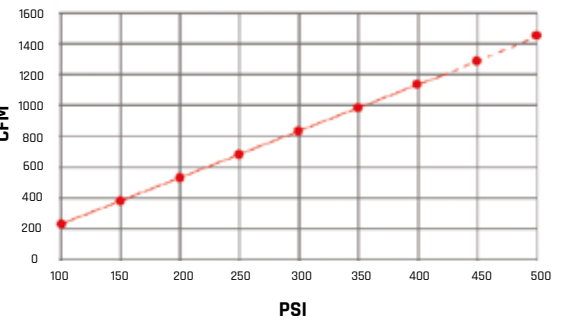
### Hammer Overview

|                               |                    |
|-------------------------------|--------------------|
| Hammer Model                  | DOM800             |
| Part Number                   | 600310             |
| Shank                         | Halco 8            |
| Thread connection             | 4 1/2" API Reg Pin |
| Minimum bit diameter          | 200 MM             |
| Hammer flat size              | 156mm (6.14")      |
| Weight                        | 175 Kg (385.8 lbs) |
| Outside diameter              | 182mm (7.165")     |
| Length (shoulder to shoulder) | 1254mm (49.4")     |
| Minimum weight on bit         | 800 Kg (1760 lbs)  |
| Maximum weight on bit         | 2000 Kg (4400 lbs) |

### Parts List

| Hammer type | DOM800              | Maintenance Kits |            |
|-------------|---------------------|------------------|------------|
|             |                     | Service Kit      | Repair Kit |
| Shank       | Halco 8             |                  |            |
| Part number | 600310              |                  |            |
| Item        | Description         | Part No.         |            |
| 1           | Thread Protector    | 207295           |            |
| 2           | Snap Ring           | 783034           | 1          |
| 3           | N.R.V. Seat         | 602887           | 1          |
| 4           | O-Ring              | 768150           | 1          |
| 5           | Non Return Valve    | 602285           | 1          |
| 6           | N.R.V. Shield       | 603696           | 1          |
| 7           | N.R.V. Spring       | 760108           | 1          |
| 8           | Top Adaptor         | 603607           |            |
| 9           | Spacer              | 603576           |            |
| 10          | O-Ring              | 768103           | 1          |
| 11          | O-Ring              | 768145           | 1          |
| 12          | Cylinder            | 603687           |            |
| 13          | Piston              | 603754           |            |
| 14          | Snap Ring           | 783015           | 1          |
| 15          | Retaining Ring Band | 603549           | 1          |
| 16          | Bit Retaining Ring  | 601677           | 1          |
| 17          | Chuck Spacer        | 603576           | 1          |
| 18          | Chuck               | 603685           | 1          |
|             | Foot Valve          | 601675           | 1          |

### Air Consumption



### AT A GLANCE:

| SIZE                             | SHANK | AIR PRESSURE                  |
|----------------------------------|-------|-------------------------------|
| 222mm - 270mm<br>8 3/4 - 10 5/8" | QL80  | 100 - 500 psi<br>(7 - 35 bar) |

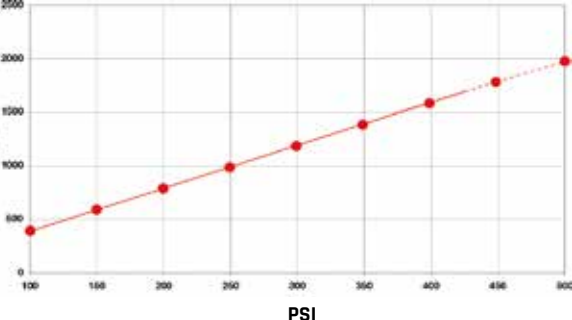
### Hammer Overview

|                               |                    |
|-------------------------------|--------------------|
| Hammer Model                  | DOM850             |
| Part Number                   | 600245             |
| Shank                         | QL80               |
| Thread connection             | 4 1/2" API Reg Pin |
| Minimum bit diameter          | 222 MM             |
| Hammer flat size              | 125mm (6.14")      |
| Weight                        | 180 Kg (396.8 lbs) |
| Outside diameter              | 192mm (7.6")       |
| Length (shoulder to shoulder) | 1281mm (50.4")     |
| Minimum weight on bit         | 800 Kg (1760 lbs)  |
| Maximum weight on bit         | 2000 Kg (4400 lbs) |

### Parts List

| Hammer type | DOM850             | Maintenance Kits |            |
|-------------|--------------------|------------------|------------|
|             |                    | Service Kit      | Repair Kit |
| Shank       | QL80               |                  |            |
| Part number | 600245             |                  |            |
| Item        | Description        | Part No.         |            |
| 1           | Thread Protector   | 207295           |            |
| 2           | Snap Ring          | 783034           | 1          |
| 3           | N.R.V. Seat        | 602887           |            |
| 4           | O-Ring             | 768150           | 1          |
| 5           | Non Return Valve   | 602285           | 1          |
| 6           | N.R.V. Cover       | 603696           | 1          |
| 7           | N.R.V. Spring      | 760108           | 1          |
| 8           | Top Adaptor        | 603353           |            |
| 9           | Spacer             | 603358           | 1          |
| 10          | O-Ring             | 768169           | 1          |
| 11          | Cylinder           | 603347           |            |
| 12          | Piston             | 603349           |            |
| 13          | Snap Ring          | 783039           | 1          |
| 14          | O-Ring             | 768169           | 1          |
| 15          | Bit Guide Bush     | 603360           | 1          |
| 16          | Bit Retaining Ring | 603359           | 1          |
| 17          | Chuck Spacer       | 603358           | 1          |
| 18          | Chuck              | 603357           | 1          |
|             | Foot Valve         | 603334           | 1          |

### Air Consumption



Figures are based on theoretical data

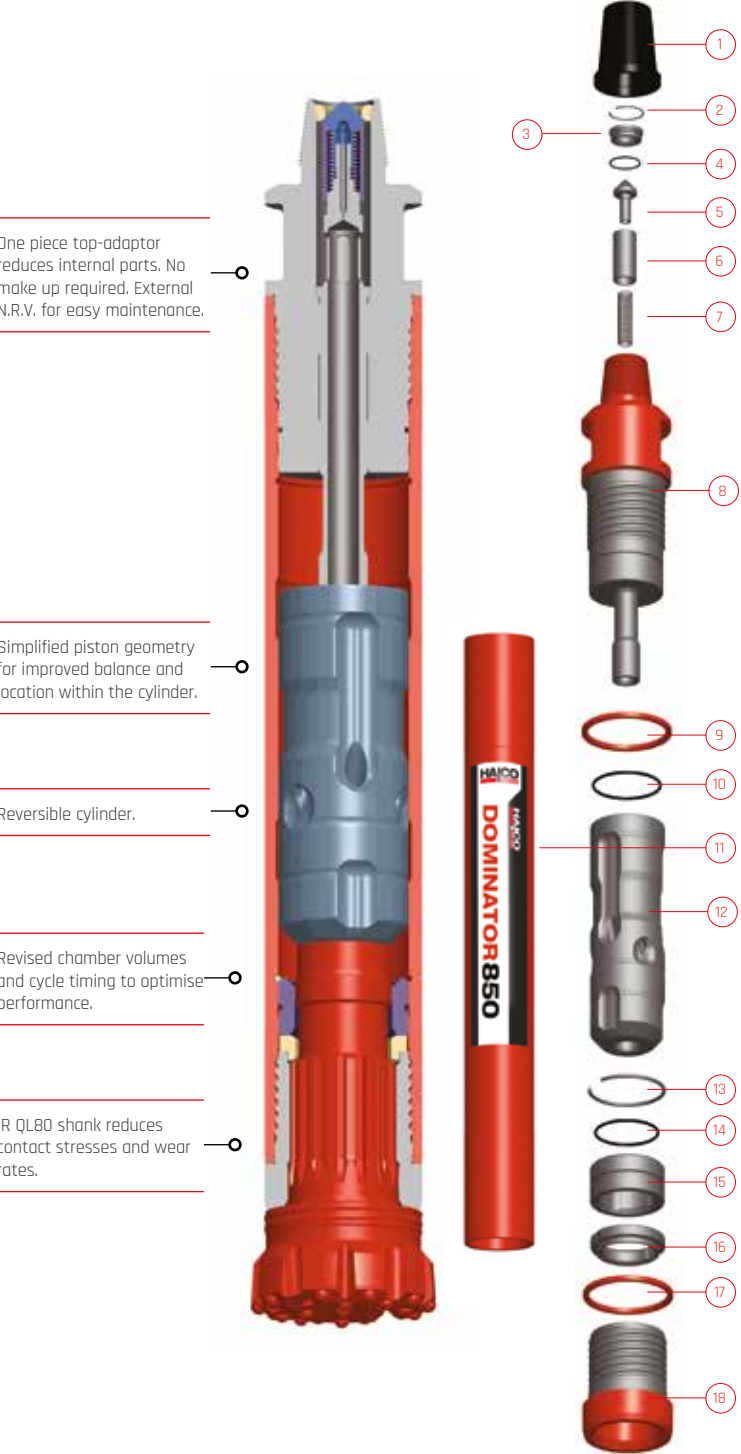
# 8" Dominator 850

## DOMINATOR 850

The Dominator 850 has been designed for high performance drilling in hard to medium rock formations, particularly mining applications.

Its class leading performance has been achieved with a larger piston and valveless air cycle providing 50% increase in stroke.

The Dominator 850 has a reversible cylinder for prolonged hammer life and benefits from a one piece top adaptor with N.R.V (Non Return Valve), this makes it easier to maintain and service the hammer.



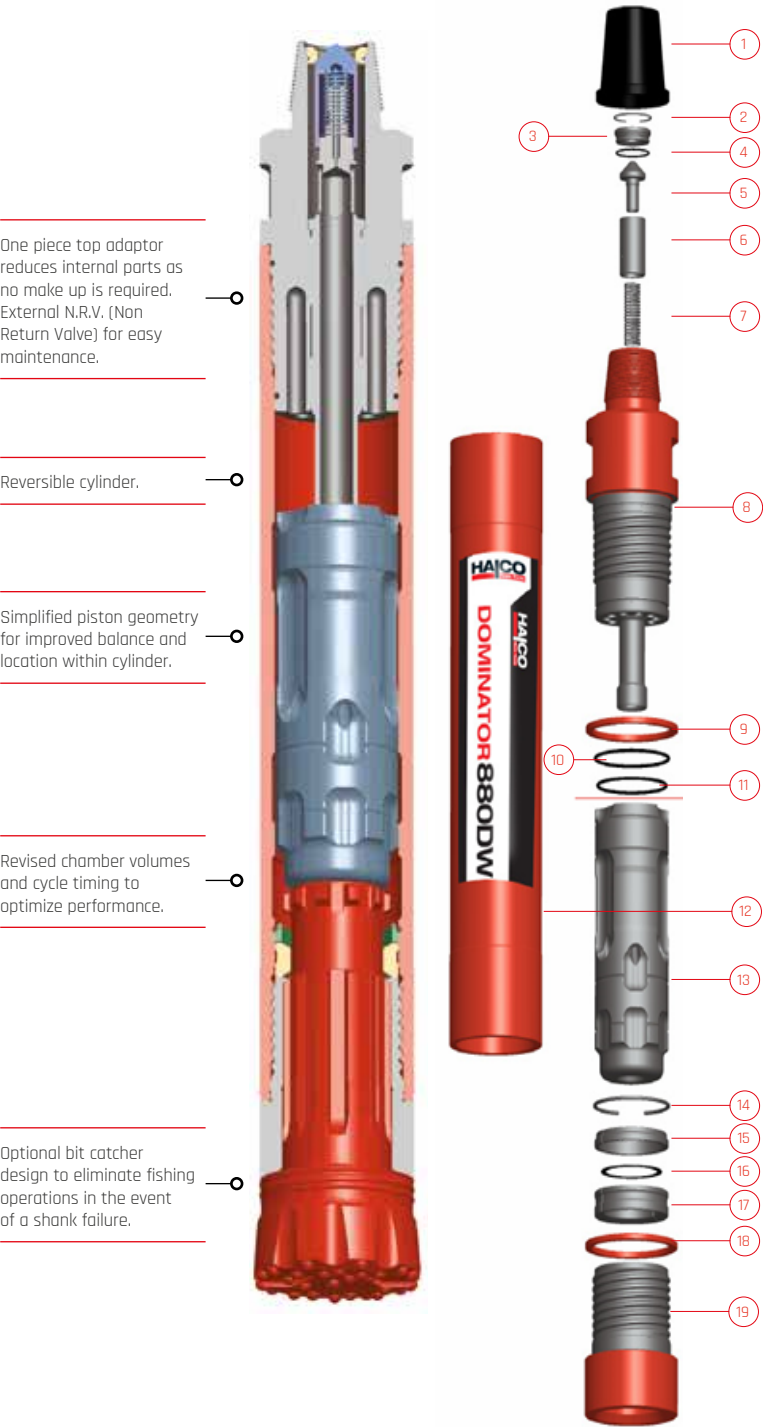


# 8" Dominator 880 DW

## DOMINATOR 880 DW

The Dominator 880 Deep Well hammer has been specifically designed for drilling deep holes under a head of water.

The wide body diameter of the Dominator 880 DW allows for an increased piston weight and improved performance.

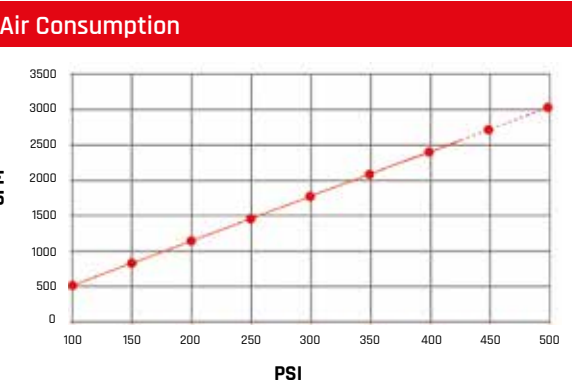


### AT A GLANCE:

| SIZE                             | SHANK   | AIR PRESSURE                  |
|----------------------------------|---------|-------------------------------|
| 200mm - 311mm<br>7 7/8 - 12 1/4" | DHD 380 | 100 - 507 psi<br>(7 - 35 bar) |

| Hammer Overview               |                     |
|-------------------------------|---------------------|
| Hammer Model                  | DOMINATOR 880 DW    |
| Part Number                   | 600261              |
| Shank                         | DHD 380             |
| Thread connection             | 4 1/2" API Reg Pin  |
| Minimum bit diameter          | 200 MM              |
| Hammer flat size              | 156 mm (6.142")     |
| Weight                        | 177 KG (390.21 lbs) |
| Outside diameter              | 182 mm (7.165")     |
| Length (shoulder to shoulder) | 1263 mm (49.724")   |
| Minimum weight on bit         | 800 Kg (1760 lbs)   |
| Maximum weight on bit         | 2000 Kg (4400 lbs)  |

| Parts List  |                    | Maintenance Kits    |                    |
|-------------|--------------------|---------------------|--------------------|
| Hammer type | DOMINATOR 880 DW   | Service Kit<br>SK25 | Repair Kit<br>RK64 |
| Shank       | DHD 380            |                     |                    |
| Part number | 600261             |                     |                    |
| Item        | Description        | Part No.            |                    |
| 1           | Thread Protector   | 207295              |                    |
| 2           | Snap Ring          | 783034              | 1                  |
| 3           | N.R.V. Seat        | 602887              |                    |
| 4           | O-Ring             | 768150              | 1                  |
| 5           | Non Return Valve   | 602285              | 1                  |
| 6           | N.R.V. Cover       | 603696              | 1                  |
| 7           | N.R.V. Spring      | 760108              | 1                  |
| 8           | Top Adaptor        | 603498              |                    |
| 9           | Spacer             | 603576              | 1                  |
| 10          | O-Ring             | 768103              | 1                  |
| 11          | O-Ring             | 768145              | 1                  |
| 12          | Cylinder           | 603496              |                    |
| 13          | Piston             | 602743              |                    |
| 14          | Snap Ring          | 783015              | 1                  |
| 15          | Spacer             | 602840              | 1                  |
| 16          | Containment Band   | 603549              | 1                  |
| 17          | Bit Retaining Ring | 603043              | 1                  |
| 18          | Chuck Spacer       | 603576              | 1                  |
| 19          | Chuck              | 603495              | 1                  |
|             | Foot Valve         | 601819              | 1                  |



Figures are based on theoretical data



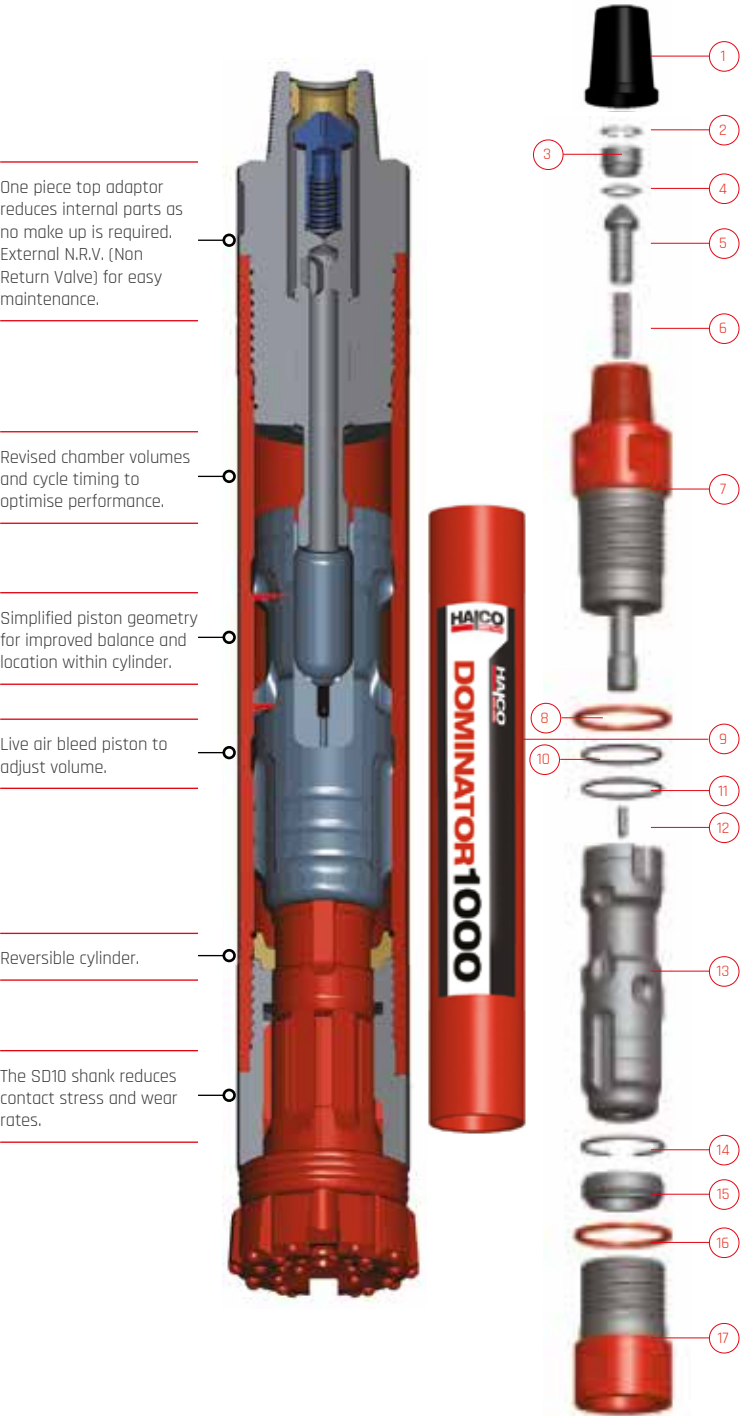
# 10" Dominator 1000

## DOMINATOR 1000

The Dominator 1000 incorporates a unique piston design for high performance and reliability especially in Waterwell applications.

This hammer is suitable for a wide range of air pressures. Though its optimum performance is reached at air pressures of 200psi (14 bar) and above. It has been designed with the heaviest piston in its class, (weighing in at 87.6 kg) to provide excellence performance. To assist with maintenance, it has a captive bit ring and a reversible cylinder thus prolonging its life and ultimately reducing costs.

The Dominator 1000 benefits from a one piece top adaptor with N.R.V (Non Return Valve), this makes it easier to maintain and service the hammer.

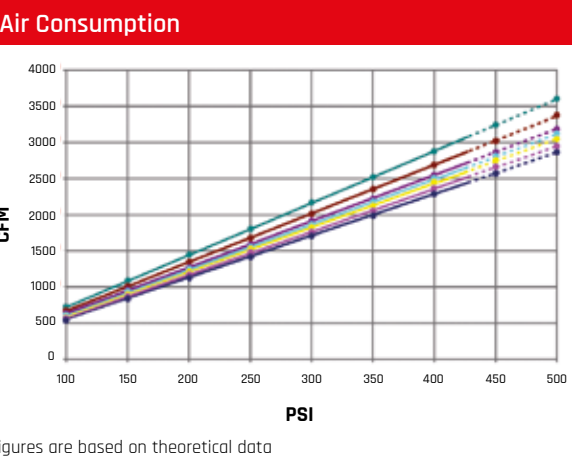


### AT A GLANCE:

|  SIZE |  SHANK |  AIR PRESSURE |
|--|---|--|
| 254mm - 381mm<br>10 - 15"  | SD10  | 100 - 435 psi<br>(7 - 30 bar)  |

| Hammer Overview               |                    |
|-------------------------------|--------------------|
| Hammer Model                  | DOM1000            |
| Part Number                   | 600248             |
| Shank                         | SD10               |
| Thread connection             | 6 5/8" API Reg Pin |
| Minimum bit diameter          | 254 MM             |
| Hammer flat size              | 200mm (7.875")     |
| Weight                        | 367 Kg (809 lbs)   |
| Outside diameter              | 230mm (9.06")      |
| Length (shoulder to shoulder) | 1390mm (54.7")     |
| Minimum weight on bit         | 1500 Kg (3400 lbs) |
| Maximum weight on bit         | 3500 Kg (7700 lbs) |

| Parts List  |                    |                  |                 |   |
|-------------|--------------------|------------------|-----------------|---|
| Hammer type | DOM1000            | Maintenance Kits |                 |   |
| Shank       | SD10               |                  |                 |   |
| Part number | 600248             | Service Kit SK29 | Repair Kit RK50 |   |
| Item        | Description        | Part No.         |                 |   |
| 1           | Thread Protector   | 200112           |                 |   |
| 2           | Circlip            | 777001           | 1               | 1 |
| 3           | N.R.V. Seat        | 602286           |                 | 1 |
| 4           | O-Ring             | 768133           | 1               | 1 |
| 5           | Non Return Valve   | 602288           |                 | 1 |
| 6           | N.R.V. Spring      | 760055           | 1               | 1 |
| 7           | Top Adaptor        | 603429           |                 |   |
| 8           | Spacer             | 603432           |                 |   |
| 9           | Cylinder           | 603434           |                 |   |
| 10 & 11     | O-Ring             | 768172           | 2               | 1 |
| 12          | Bleed Plug - Blank | 602499           |                 |   |
|             | Bleed Plug - 3mm   | 602500           |                 |   |
|             | Bleed Plug - 4mm   | 602501           |                 |   |
|             | Bleed Plug - 5mm   | 602502           |                 |   |
|             | Bleed Plug - 6mm   | 602503           |                 |   |
|             | Bleed Plug - 8mm   | 602874           |                 |   |
| 13          | Piston             | 603433           |                 |   |
| 14          | Snap Ring          | 783040           | 1               | 1 |
| 15          | Bit Retaining Ring | 603435           |                 | 1 |
| 16          | Chuck Spacer       | 603432           | 1               | 1 |
| 17          | Chuck              | 603436           |                 | 1 |
|             | Foot Valve         | 603186           |                 | 1 |



Figures are based on theoretical data

# 12" Mach 120

## Mach 120

Mach 120 has a working pressure range of 170-350 psi (12-24bar) whilst its optimum performance is reached at air pressures of 200psi (14 Bar) and above.

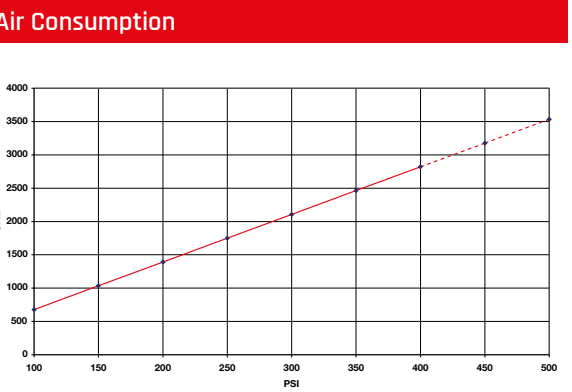
Mach120 has no liner which increases the 140kg piston's blow energy and reduces parts required.

### AT A GLANCE:

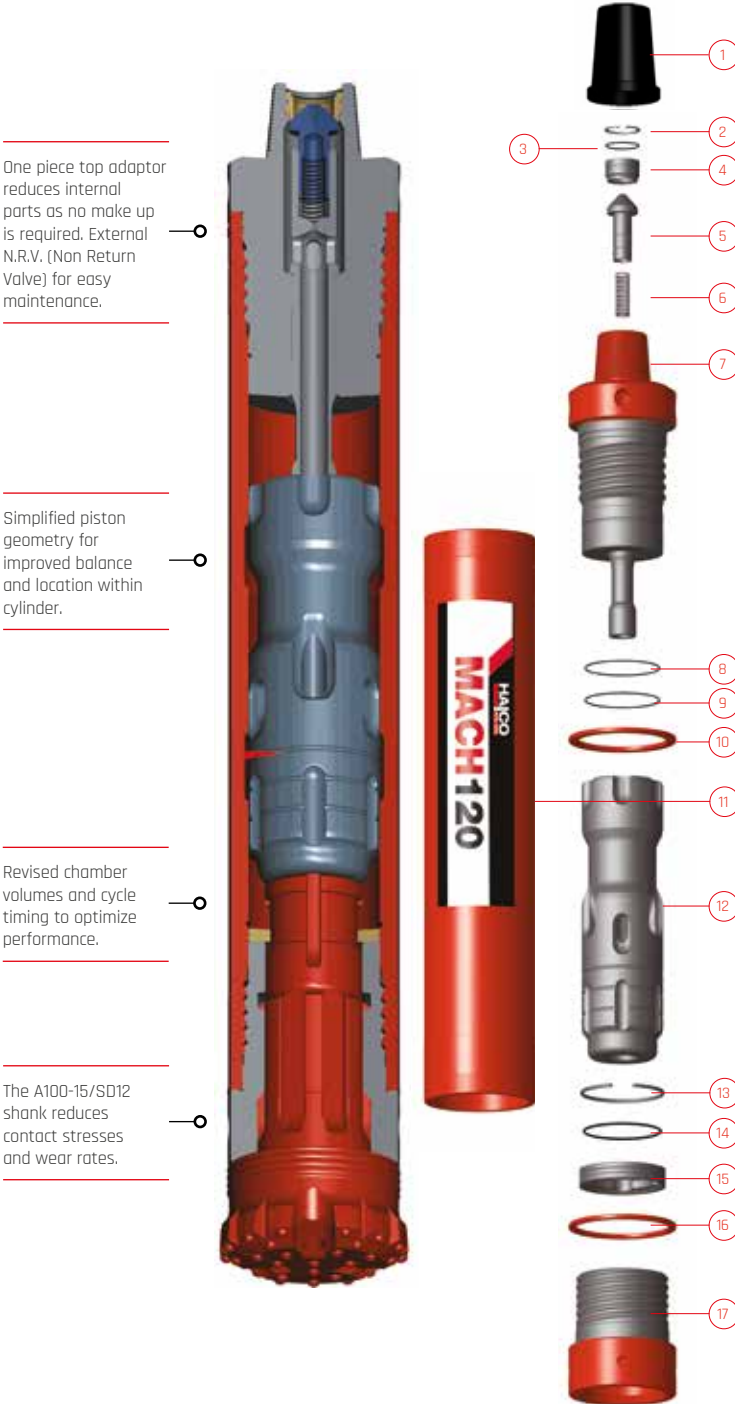
|  SIZE |  SHANK |  AIR PRESSURE |
|--|---|--|
| 300mm - 445mm<br>11 7/8" - 17 1/2"   | SD12  | 100 - 435 psi<br>(7 - 30 bar)  |

| Hammer Overview               |                    |
|-------------------------------|--------------------|
| Hammer Model                  | Mach 120           |
| Part Number                   | 600108             |
| Shank                         | SD12               |
| Thread connection             | 6 5/8" API Reg Pin |
| Minimum bit diameter          | 300 MM             |
| Hammer flat size              | C Ring type        |
| Weight                        | 614 Kg (1,353 lbs) |
| Outside diameter              | 273mm (10.75")     |
| Length (shoulder to shoulder) | 1667mm (65.6")     |
| Minimum weight on bit         | 1600 Kg (3520 lbs) |
| Maximum weight on bit         | 3500 Kg (7700 lbs) |

| Parts List  |                    |                  |                 |   |
|-------------|--------------------|------------------|-----------------|---|
| Hammer type | Mach 120           | Maintenance Kits |                 |   |
| Shank       | SD12               |                  |                 |   |
| Part number | 600108             | Service Kit SK12 | Repair Kit RK19 |   |
| Item        | Description        | Part No.         |                 |   |
| 1           | Thread Protector   | 200112           |                 |   |
| 2           | Circlip            | 777001           | 1               | 1 |
| 3           | O-Ring             | 768133           | 1               | 1 |
| 4           | N.R.V. Seat        | 602286           |                 | 1 |
| 5           | Non Return Valve   | 602288           |                 | 1 |
| 6           | N.R.V. Spring      | 760055           | 1               | 1 |
| 7           | Top Adaptor        | 602639           |                 |   |
| 8 & 9       | O-Ring             | 768137           | 2               | 2 |
| 10          | Spacer             | 602366           |                 |   |
| 11          | Cylinder           | 602013           |                 |   |
| 12          | Piston             | 602047           |                 |   |
| 13          | Snap Ring          | 783021           | 1               | 1 |
| 14          | O-Ring             | 768105           | 1               | 1 |
| 15          | Bit Retaining Ring | 602102           |                 | 1 |
| 16          | Chuck Spacer       | 602366           | 1               | 1 |
| 17          | Chuck              | 602052           |                 | 1 |
|             | Foot Valve         | 601811           |                 | 1 |



Figures are based on theoretical data

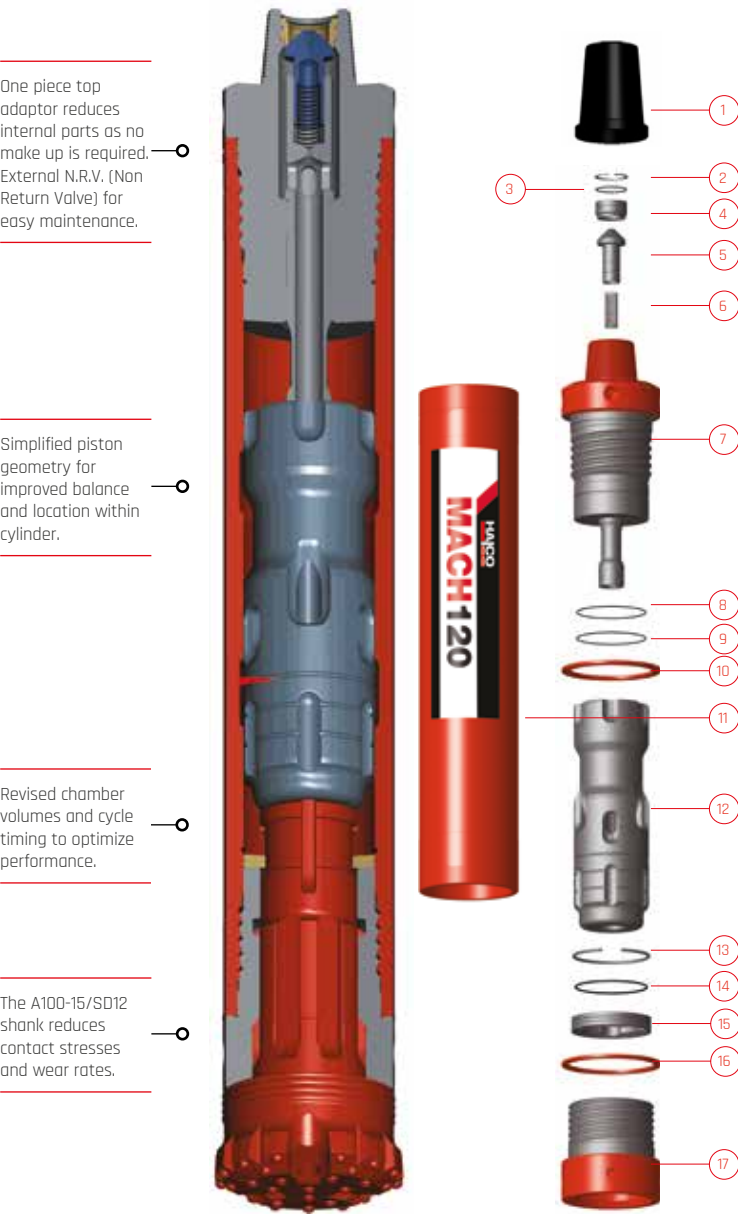


# 12" Mach 122

## Mach 122

The Mach 122 accepts A100-15 (SD12) shank bits and works over a wide pressure range with an optimum performance reached at air pressures of 200 psi (14 bar) and above as its higher air consumption provides increased uphole velocity, particularly when using oversized diameter drill bits.

Mach 122 has a one piece top-adaptor with N.R.V. (Non-Return-Valve) fitted for easy inspection and service, with integral finger to reduce maintenance and eliminate shimming which increases service intervals. Mach 122 has no liner which increases the 140 kg piston blow energy and reduces parts required. This hammer is suitable for use with overburden systems.



### AT A GLANCE:

| SIZE                               | SHANK | AIR PRESSURE                  |
|------------------------------------|-------|-------------------------------|
| 300mm - 445mm<br>11 7/8" - 17 1/2" | SD12  | 100 - 435 psi<br>(7 - 30 bar) |

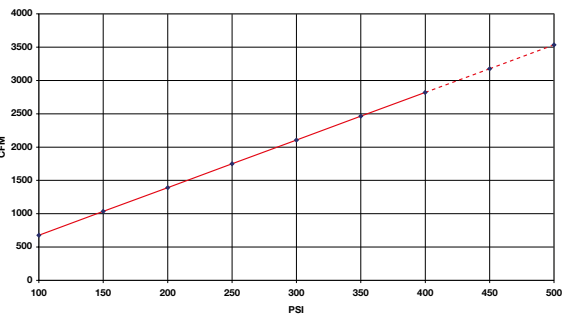
### Hammer Overview

|                               |                    |
|-------------------------------|--------------------|
| Hammer Model                  | Mach 122           |
| Part Number                   | 600110             |
| Shank                         | SD12               |
| Thread connection             | 6 5/8" API Reg Pin |
| Minimum bit diameter          | 300 MM             |
| Hammer flat size              | C Ring type        |
| Weight                        | 614 Kg (1,353 lbs) |
| Outside diameter              | 273mm (10.75")     |
| Length (shoulder to shoulder) | 1667mm (65.6")     |
| Minimum weight on bit         | 1600 Kg (3520 lbs) |
| Maximum weight on bit         | 3500 Kg (7700 lbs) |

### Parts List

| Hammer type | Mach 122           | Maintenance Kits |                 |
|-------------|--------------------|------------------|-----------------|
| Shank       | SD12               | Service Kit SK12 | Repair Kit RK19 |
| Part number | 600108             |                  |                 |
| Item        | Description        | Part No.         |                 |
| 1           | Thread Protector   | 200112           |                 |
| 2           | Circlip            | 777001           | 1               |
| 3           | O-Ring             | 768133           | 1               |
| 4           | N.R.V. Seat        | 602286           | 1               |
| 5           | Non Return Valve   | 602288           | 1               |
| 6           | N.R.V. Spring      | 760055           | 1               |
| 7           | Top Adaptor        | 602639           |                 |
| 8 & 9       | O-Ring             | 768137           | 2               |
| 10          | Spacer             | 602366           |                 |
| 11          | Cylinder           | 602013           |                 |
| 12          | Piston             | 602047           |                 |
| 13          | Snap Ring          | 783021           | 1               |
| 14          | O-Ring             | 768105           | 1               |
| 15          | Bit Retaining Ring | 602102           | 1               |
| 16          | Chuck Spacer       | 602366           | 1               |
| 17          | Chuck              | 602052           | 1               |
|             | Foot Valve         | 601811           | 1               |

### Air Consumption



### AT A GLANCE:

| SIZE                          | SHANK  | AIR PRESSURE                  |
|-------------------------------|--------|-------------------------------|
| 381mm - 489mm<br>15 - 29 1/4" | DHD112 | 100 - 435 PSI<br>(7 - 30 bar) |

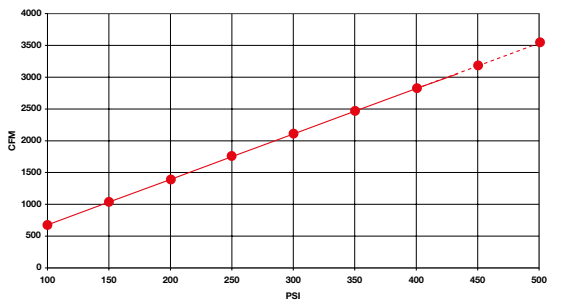
### Hammer Overview

|                               |                    |
|-------------------------------|--------------------|
| Hammer Model                  | Mach 132           |
| Part Number                   | 600142             |
| Shank                         | DHD112 Pin Drive   |
| Thread connection             | 6 5/8" API Reg Pin |
| Minimum bit diameter          | 381 MM             |
| Hammer flat size              | C Ring type        |
| Weight                        | 615 Kg (1,356 lbs) |
| Outside diameter              | 273mm (10.75")     |
| Length (shoulder to shoulder) | 1684mm (66.3")     |
| Minimum weight on bit         | 1600 Kg (3520 lbs) |
| Maximum weight on bit         | 3500 Kg (7700 lbs) |

### Parts List

| Hammer type | Mach 132               | Maintenance Kits |                 |
|-------------|------------------------|------------------|-----------------|
| Shank       | DHD112 Pin Drive       | Service Kit SK14 | Repair Kit RK23 |
| Part number | 600142                 |                  |                 |
| Item        | Description            | Part No.         |                 |
| 1           | Thread Protector       | 200112           |                 |
| 2           | Circlip                | 777001           | 1               |
| 3           | O-Ring                 | 768133           | 1               |
| 4           | N.R.V. Seat            | 602286           | 1               |
| 5           | Non Return Valve       | 602288           | 1               |
| 6           | N.R.V. Spring          | 760055           | 1               |
| 7           | Top Adaptor            | 602639           |                 |
| 8 & 9       | O-Ring                 | 768137           | 2               |
| 10          | Bleed Plug - Blank     | 602499           |                 |
|             | Bleed Plug - 3mm       | 602500           |                 |
|             | Bleed Plug - 4mm       | 602501           |                 |
|             | Bleed Plug - 5mm       | 602502           |                 |
|             | Bleed Plug - 6mm       | 602503           |                 |
|             | Bleed Plug - 8mm       | 602874           |                 |
| 11          | Spacer                 | 602366           | 1               |
| 12          | Cylinder               | 602563           |                 |
| 13          | Piston                 | 604503           |                 |
| 14          | Snap Ring              | 783021           | 1               |
| 15          | Bit Guide Bush         | 602531           | 1               |
| 16          | O-Ring                 | 768184           | 1               |
| 17          | Viton Band Containment | 603819           | 1               |
| 18          | Bit Retaining Ring     | 602530           | 1               |
| 19          | Chuck Spacer           | 602366           | 1               |
| 20          | Drive Pin Set (8)      | 600564           | 1               |
| 21          | Chuck                  | 602528           | 1               |
|             | Foot Valve             | 602522           | 1               |

### Air Consumption

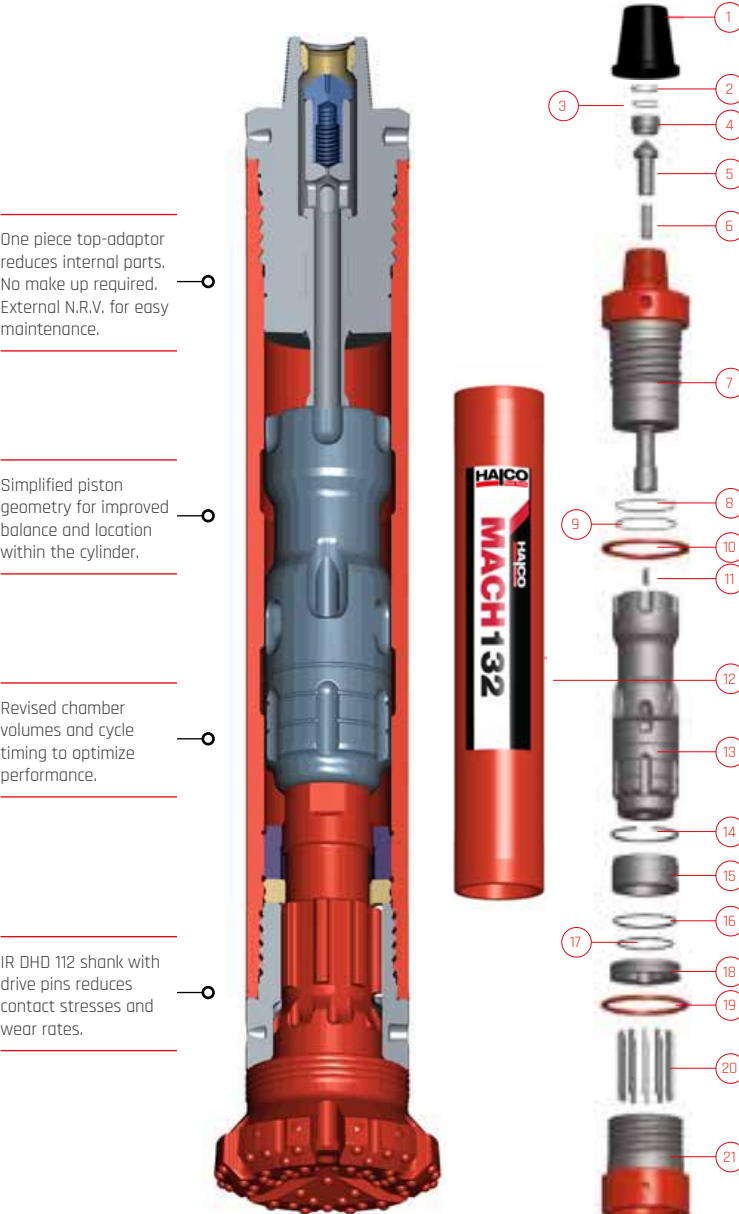


# 12" Mach 132

## Mach 132

The Mach 132 hammer accepts IR DHD112 shank bits. This hammer, although capable of high pressure drilling is particularly suitable at pressures between 100 - 200 psi (7 - 14 bar).

The Mach 132 has a pin drive system to prevent metal to metal contact thereby minimizing spline wear and damage which can result in drill bit shank failure. Mach 132 has a one piece top-adaptor with N.R.V. (Non-Return-Valve) fitted for easy inspection and service, with integral finger to reduce maintenance and eliminate shimming which increases service intervals. Servicing requires only a few simple tools. Mach 132 has no liner which increases the 140 kg piston blow energy and reduces parts required. This hammer is suitable for use with overburden systems.

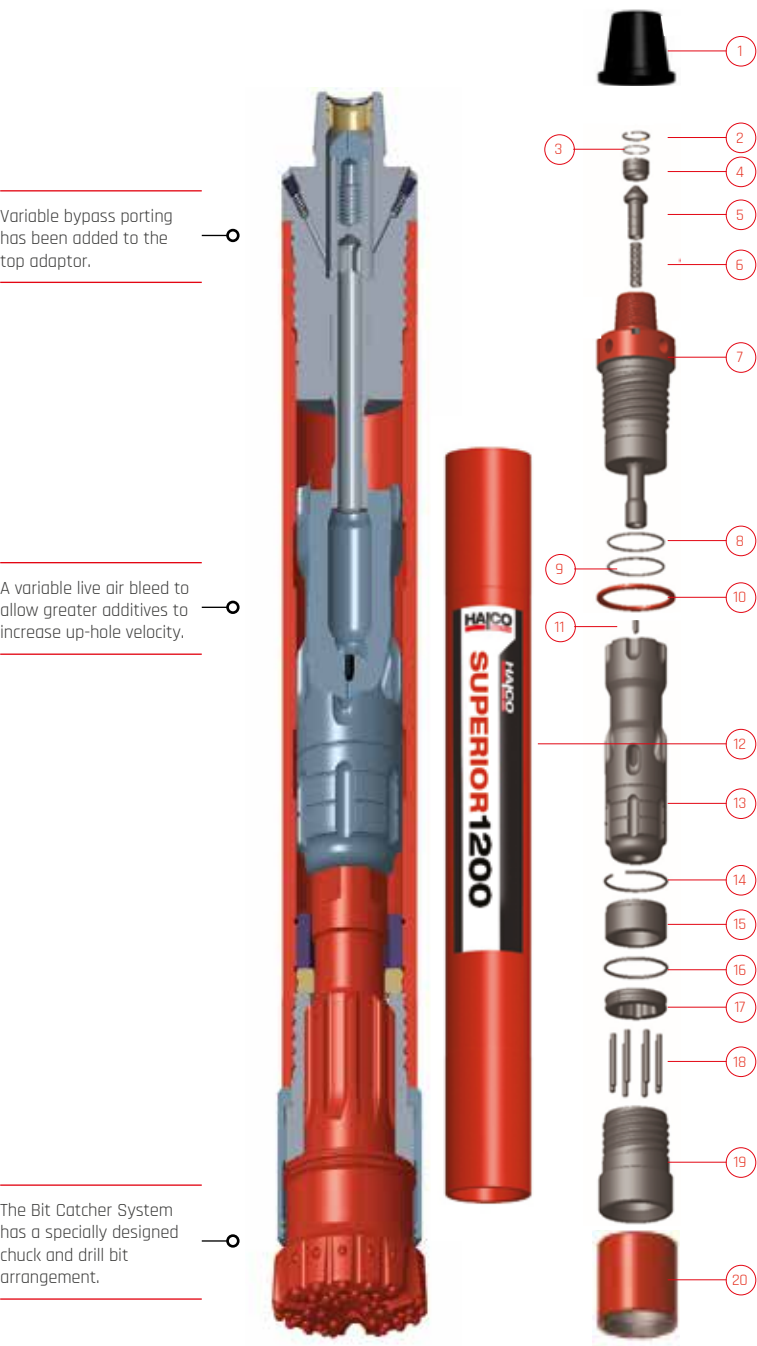




# 12" Superior 1200

## Superior 1200

The Superior 1200 incorporates a unique piston design for high performance and reliability especially in Oil & Gas applications. This hammer is suitable for a wide range of air pressures. Its optimum performance is reached at air pressures of 200psi (14 bar) and above. Standard design features include a jetted back head, a variable air bleed piston and a bit catcher system to ensure your bits are not lost down the hole and diamond enhanced inserts.

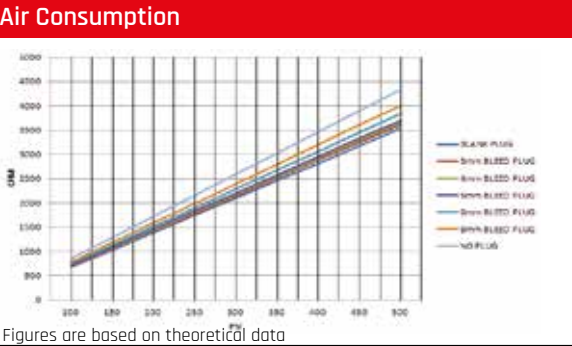


### AT A GLANCE:

|  SIZE |  SHANK |  AIR PRESSURE |
|--|---|--|
| 381 - 660mm<br>(15" - 19 1/4")   | DHD112  | 100 - 435psi<br>(7 - 30 bar)   |

| Hammer Overview               |                           |
|-------------------------------|---------------------------|
| Hammer Model                  | Superior 1200 - Thrd ctch |
| Part Number                   | 600435                    |
| Shank                         | DHD112 Pin Drive          |
| Thread connection             | 6 5/8" API Reg Pin        |
| Minimum bit diameter          | 381mm                     |
| Hammer flat size              | C Ring type               |
| Weight                        | 615 Kg (1,356 lbs)        |
| Outside diameter              | 273mm (10.75")            |
| Length (shoulder to shoulder) | 1684mm (66.3")            |
| Minimum weight on bit         | 1600 Kg (3520 lbs)        |
| Maximum weight on bit         | 3500 Kg (7700 lbs)        |

| Parts List  |                           |          |                  |            |
|-------------|---------------------------|----------|------------------|------------|
| Hammer type | Superior 1200 - Thrd ctch |          | Maintenance Kits |            |
| Shank       | DHD112 Pin Drive          |          | Service Kit      | Repair Kit |
| Part number | 600435                    |          | SK93             | RK150      |
| Item        | Description               | Part No. |                  |            |
| 1           | Thread Protector          | 200112   |                  |            |
| 2           | Circlip                   | 777001   |                  |            |
| 3           | O-Ring                    | 768133   | 1                | 1          |
| 4           | N.R.V. Seat               | 602286   |                  | 1          |
| 5           | Non Return Valve          | 602288   |                  | 1          |
| 6           | N.R.V. Spring             | 760055   | 1                | 1          |
| 7           | Top Adaptor               | 605000   |                  |            |
| 8&9         | O-Ring                    | 768137   | 2                | 2          |
| 10          | Bleed Plug - Blank        | 602499   |                  |            |
|             | Bleed Plug - 3mm          | 602500   |                  |            |
|             | Bleed Plug - 4mm          | 602501   |                  |            |
|             | Bleed Plug - 5mm          | 602502   |                  |            |
|             | Bleed Plug - 6mm          | 602503   |                  |            |
|             | Bleed Plug - 8mm          | 602874   |                  |            |
| 11          | Spacer                    | 602366   |                  | 1          |
| 12          | Cylinder                  | 604875   |                  |            |
| 13          | Piston                    | 604503   |                  |            |
| 14          | Snap Ring                 | 783021   | 1                | 1          |
| 15          | Bit Guide Bush            | 602531   |                  | 1          |
| 16          | O-Ring                    | 768184   | 1                | 1          |
|             | Viton Band Containment    | 603819   | 1                | 1          |
| 17          | Bit Retaining Ring        | 602530   |                  | 1          |
| 18          | Drive Pin Set (8)         | 600564   | 1                | 1          |
| 19          | Bit Catcher Chuck         | 604727   |                  | 1          |
| 20          | Threaded Catcher          |          |                  |            |
|             | Foot Valve                | 602522   |                  |            |



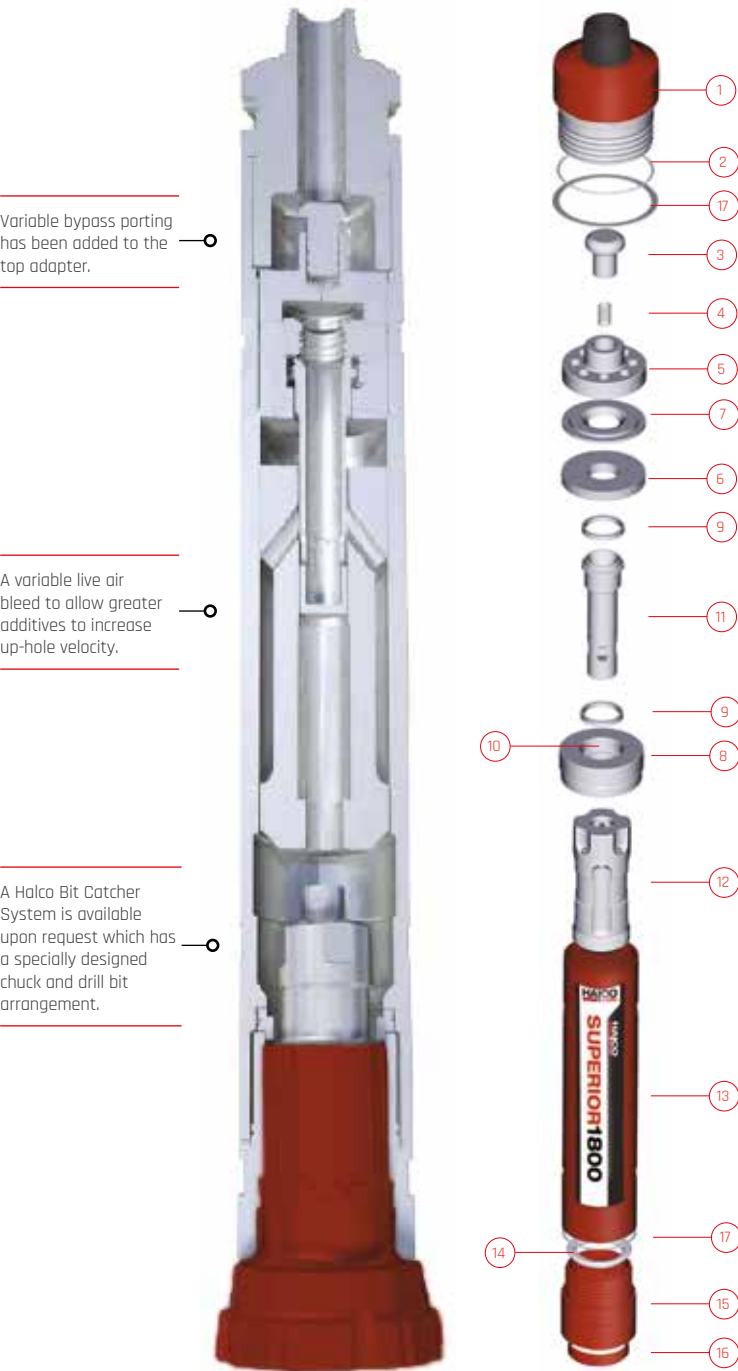


# 18" Superior 1800

## Superior 1800

The Superior 1800 has been designed for high performance drilling in medium to hard rock conditions. Design features include a jetted back head and a variable air bleed piston to enable greater up hole velocity.

The Superior 1800 has a drive pin arrangement to prevent metal to metal contact, thereby minimising spline wear and damage, which can result in a drill bit shank failure.



## AT A GLANCE:

| SIZE                    | SHANK                    | AIR PRESSURE                  |
|-------------------------|--------------------------|-------------------------------|
| 457 - 660mm<br>18 - 26" | NUMA180, SD-18<br>QL 200 | 100 - 435 psi<br>(7 - 30 bar) |

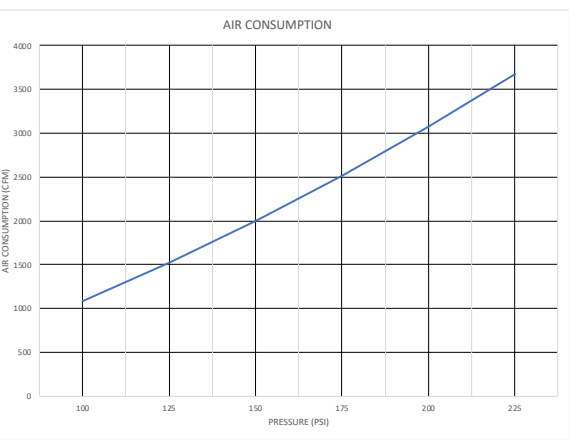
## Hammer Overview

|                               |                    |
|-------------------------------|--------------------|
| Hammer Model                  | Superior 1800      |
| Part Number                   | 600191             |
| Shank                         | NUMA 180           |
| Thread connection             | 8 5/8" API Reg Pin |
| Minimum bit diameter          |                    |
| Hammer flat size              | C Ring type        |
| Weight                        | 1600 Kg            |
| Outside diameter              | 410mm (16.14")     |
| Length (shoulder to shoulder) | 1930mm (75.98")    |
| Minimum weight on bit         | 1600 Kg (3520 lbs) |
| Maximum weight on bit         | 3500 Kg (7700 lbs) |

## Parts List

| Hammer type Superior 1800 |                        |          | Maintenance Kits |                  |
|---------------------------|------------------------|----------|------------------|------------------|
| Shank NUMA 180            |                        |          | Service Kit SK98 | Repair Kit RK155 |
| Part number               | 600191                 |          |                  |                  |
| Item                      | Description            | Part No. |                  |                  |
| 1                         | Top Adaptor 8-5/8" Pin | 605060   |                  |                  |
| 2                         | Top Adaptor 'O' Ring   | 768224   | 1                | 1                |
| 3                         | Check Valve            | 605047   |                  | 1                |
| 4                         | Check Valve Spring     | 760164   | 1                | 1                |
| 5                         | Valve Chest            | 605048   |                  |                  |
| 6                         | Compression Buffer     | 605049   |                  | 1                |
| 7                         | Buffer Cover           | 605050   |                  |                  |
| 8                         | Tube Holder            | 605051   |                  |                  |
| 9                         | Tube Buffers (2)       | 605052   |                  | 2                |
| 10                        | Tube 'O' Ring          | 768225   | 1                | 1                |
| 11                        | Control Tube           | 605053   |                  |                  |
| 12                        | Piston                 | 605054   |                  |                  |
| 13                        | Cylinder               | 605055   |                  |                  |
| 14                        | Bit Retaining Ring     | 605056   |                  | 1                |
| 15                        | Chuck                  | 605057   |                  | 1                |
| 16                        | Chuck Bearing          | 605058   | 1                | 1                |
| 17                        | Breakout Washer        | 605059   | 1                | 1                |

## Air Consumption



# Drill Bits



# Drill Bit Overview

## What are 'Down-the-Hole' (DTH) Drill Bits and how are they used?

Down-the-hole drill bits are used with down-the-hole hammers for drilling holes through a wide range of rock types.

In conjunction with our DTH hammers, our drill bits are designed with a splined drive for rotating the bit in the ground. Drill bits are available in a range of different sizes and configurations so they can drill a wide range of holes sizes, in different ground conditions.



## How have DTH Drill Bits developed?

Rapid advances in drill bit technology have occurred throughout the last 40 years. The first type of drill bits used with down-the-hole hammers were 'cross bit' design. Four chisel shaped lengths of tungsten carbide were brazed creating stresses within the drill bit thereby limiting its life. A further disadvantage of the cross bit design was that the majority of the carbide was situated around the centre of the bit face and not towards the outer edge of the drill bit where there is the most rock to cut.

In the late 1960s however, the button bit was introduced; this was a landmark in the progress of DTH equipment, which led to bit lives previously unheard of.

Cylindrical button inserts were precision ground to extremely close tolerances and pressed into the bit as an interference fit. This resulted in improved carbide insert retention by eliminating brazing stresses and other defects associated with brazing and braze materials.

Buttons inserts are distributed more efficiently than cross bit inserts by providing more cutting power where it is needed at the outer edge of the drill bit face.

In many cases, the need to sharpen the drill bit was eliminated with the arrival of the button bit and the improved cutting action provided. While the cross bit design is still used in some rotary and drifted applications where the rock is very soft, the button bit is now used in virtually every DTH application.

## Applications for Overburden Systems

Soft soil is normally drilled with augers or by the rotary method but DTH hammers have been adapted to handle soft conditions by being able to drill and case a hole simultaneously by using a concentric bit, which can be withdrawn on completion of the bore hole; leaving the casing in situ, thus preventing hole collapse.

**"We guarantee to have a drill bit that can tackle any challenge."**

# Drill Bit Selection Guide

As with all Halco hammers it is crucial that you choose the right drill bit otherwise it will cost you both in time and money. We pride ourselves on having a comprehensive range of drill bits on offer so you can be sure that you will definitely find a suitable bit for any project you are undertaking.

Our carburised drill bit are among the best in the world providing outstanding performance and durability.

We produce all our drill bits at our specialised plant where they are made out of high quality nickel chrome alloy steel, carburised and heat-treated to offer extra protection against wear and fatigue. Every hole in the bit head is machined to within microns and fitted with carbide inserts which provide the cutting action of the rock.

We have three different bit heads on offer, Flat Face, Concave and Convex, which are available with three different inserts. We guarantee that we have a drill bit that can tackle any challenge and rock face formation. The two most important factors in choosing the right drill bit are productivity and reliability.

For soft to medium rock formations where penetration rates are high, the ballistic and semi-ballistic inserts coupled with flat face or concave bit heads are more suitable.



**Flat Face**

Alternative design for all rock conditions especially fractured and fissured rock and changing formations.



**Ballistic Inserts**

Suitable for soft and medium compact low abrasive rocks producing large cuttings.



**Concave**

Alternative design for all rock conditions particularly deep hole drilling can improve hole alignment as a result of inverted pilot.



**Domed Inserts**

Strong rugged shape for high performance and good service life in all conditions particularly suitable for very hard abrasive rocks and deep hole drilling.



**Convex**


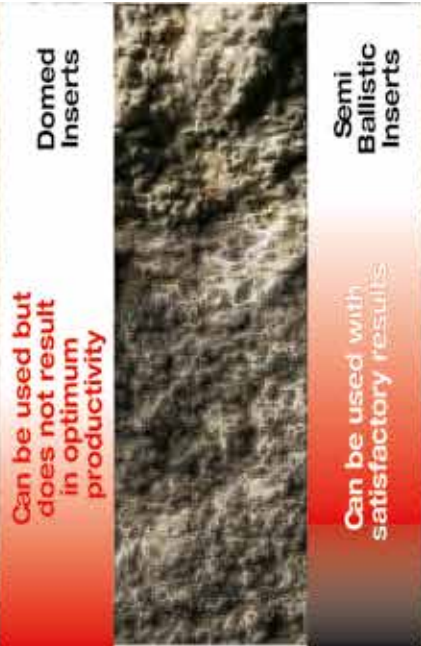
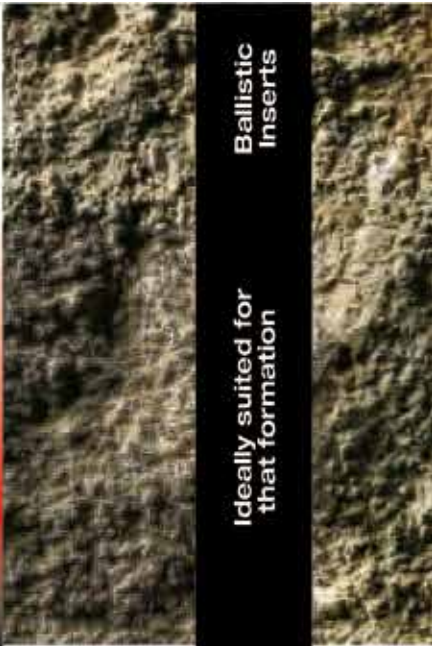

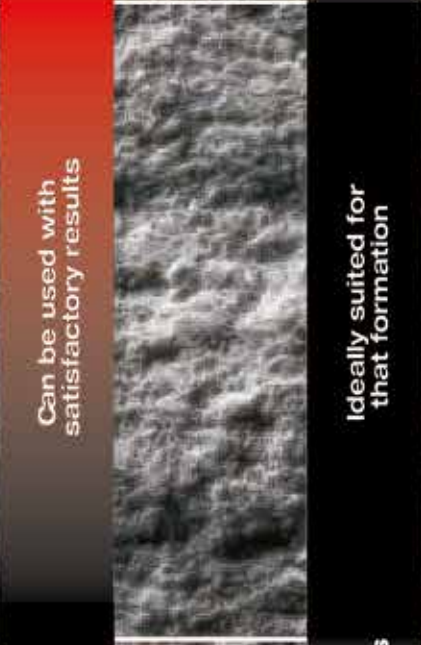


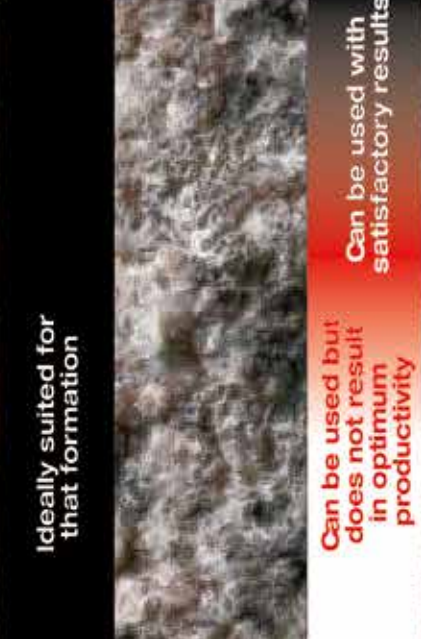

Strong design for all conditions especially hard abrasive rock. Good balance of fast drilling and long service life.



**Semi-Ballistic Inserts**

Suitable for all soft and medium rock conditions including fractured and fissured rock.



|   |  |  |   |   |  |
|---|--|--|---|---|--|
|  <div><b>Soft Rock</b><br/><b>&lt;100 MPA</b><br/>(e.g. Limestone, Sandstone, Shale)</div>   | <div><b>Domed Inserts</b></div> <div>Can be used but does not result in optimum productivity</div> |  <div><b>Medium Rock</b><br/><b>100 - 150 MPA</b><br/>(e.g. Slate, Dolomite)</div>   | <div><b>Semi Ballistic Inserts</b></div> <div>Ideally suited for that formation</div> |  <div><b>Hard Rock</b><br/><b>&gt;150 MPA</b><br/>(e.g. Granite, Basalt, Quartz)</div>   | <div><b>Ballistic Inserts</b></div> <div>Ideally suited for that formation</div> |
|  <div><b>Soft Rock</b><br/><b>&lt;100 MPA</b><br/>(e.g. Limestone, Sandstone, Shale)</div>  | <div><b>Domed Inserts</b></div> <div>Can be used but does not result in optimum productivity</div> |  <div><b>Medium Rock</b><br/><b>100 - 150 MPA</b><br/>(e.g. Slate, Dolomite)</div>  | <div><b>Semi Ballistic Inserts</b></div> <div>Ideally suited for that formation</div> |  <div><b>Hard Rock</b><br/><b>&gt;150 MPA</b><br/>(e.g. Granite, Basalt, Quartz)</div>  | <div><b>Ballistic Inserts</b></div> <div>Ideally suited for that formation</div> |
|  <div><b>Soft Rock</b><br/><b>&lt;100 MPA</b><br/>(e.g. Limestone, Sandstone, Shale)</div> | <div><b>Domed Inserts</b></div> <div>Can be used but does not result in optimum productivity</div> |  <div><b>Medium Rock</b><br/><b>100 - 150 MPA</b><br/>(e.g. Slate, Dolomite)</div> | <div><b>Semi Ballistic Inserts</b></div> <div>Ideally suited for that formation</div> |  <div><b>Hard Rock</b><br/><b>&gt;150 MPA</b><br/>(e.g. Granite, Basalt, Quartz)</div> | <div><b>Ballistic Inserts</b></div> <div>Ideally suited for that formation</div> |

|   |  |   |   |  |
|---|--|---|---|--|
| <b>DOMINATOR 100</b><br>DOM 10<br>168 mm (5.51")<br>45 mm (1.77")<br>10 Spline    | <b>MACH 20</b><br>DOM 20<br>165 mm (6.50")<br>6 Spline                                 | <b>MACH 303</b><br>170 mm (6.69")<br>49 mm (1.93")<br>8 Spline                      | <b>MD 3.5</b><br>181 mm (7.12")<br>58.5 mm (2.3")<br>8 Spline                   | <b>DHD 3.5</b><br>LR 3.5<br>DOM 30<br>181 mm (7.12")<br>58.5 mm (2.3")<br>8 Spline |
| <b>SD 450</b><br>210 mm (8.27")<br>60 mm (2.36")<br>12 Spline                     | <b>MACH 44</b><br>HALCO 4<br>245 mm (9.65")<br>56 mm (2.2")<br>8 Spline                | <b>DHD 340A</b><br>COP 44<br>DHD 4<br>210 mm (8.27")<br>56 mm (2.2")<br>8 Spline    | <b>TD40</b><br>COP 44 G<br>QLX 40<br>209mm (8.23")<br>57mm (2.24")<br>12 Spline | <b>MACH 50</b><br>HALCO 5<br>266 mm (10.47")<br>52 mm (2.05")<br>8 Spline          |
| <b>SD 5</b><br>260 mm (12.68")<br>52 mm (2.05")<br>8 Spline                       | <b>DHD 350R</b><br>COP 54<br>DHD 5<br>261 mm (10.28")<br>64 mm (2.52")<br>8 Spline     | <b>QL 50</b><br>TD 50<br>COP 54GE<br>240 mm (9.45")<br>52.5 mm (2.07")<br>12 Spline | <b>MACH 60</b><br>HALCO 6<br>320 mm (12.6")<br>51 mm (2.00")<br>8 Spline        | <b>SD 6</b><br>322 mm (12.68")<br>51 mm (2.00")<br>8 Spline                        |
| <b>DHD 360</b><br>DHD 6<br>COP 64<br>306 mm (12.05")<br>51 mm (2.00")<br>8 Spline | <b>QL 60</b><br>TD60/65/70<br>COP 64G<br>254 mm (10.00")<br>60 mm (2.36")<br>12 Spline | <b>Mach 80</b><br>HALCO 8<br>350 mm (13.78")<br>51 mm (2.00")<br>8 Spline           | <b>SD 8</b><br>320 mm (12.60")<br>56.5 mm (2.22")<br>8 Spline                   | <b>DHD 380</b><br>COP 84<br>DHD 8<br>350 mm (13.78")<br>50 mm (1.97")<br>10 Spline |
| <b>QL 80</b><br>TD 80<br>332 mm (13.07")<br>54 mm (2.13")<br>16 Spline            | <b>TD 90</b><br>332mm (13.07")<br>54mm (2.13")<br>16 Spline                            | <b>SD 10</b><br>365 mm (14.01")<br>55 mm (2.17")<br>8 Spline                        | <b>DHD 112</b><br>491mm (19.33")<br>56mm (2.20")<br>8 Spline<br>Pin Drive       | <b>DHD 112S</b><br>636 mm (25.04")<br>52.5 mm (2.07")<br>12 Spline<br>Pin Drive    |
| <b>SD 12</b><br>470 mm (18.50")<br>44.5 mm (1.95")                                | <b>QL 120</b><br>492 mm (19.37")<br>69.5 mm (2.74")                                    |   |   |  |



1" Halco 1



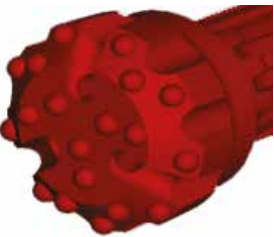
| Flat Face   |          |        |             |                |                |                              |                             |
|-------------|----------|--------|-------------|----------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Button shape   | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |                |                |                              |                             |
| 650017      | 55       | 2      | Flat Face   | Domed          | 2              | 11mm (6)                     | 9mm (2)                     |
| 650032      | 64       | 2 1/2  | Flat Face   | Domed          | 2              | 11mm (6)                     | 9mm (2)                     |
| 653001      | 64       | 2 1/2  | Flat Face   | Semi-Ballistic | 2              | 11mm (6)                     | 9mm (3)                     |

2" Halco 2



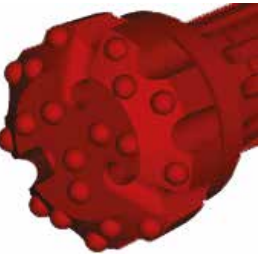
| Flat Face   |          |        |             |              |                |                              |                             |
|-------------|----------|--------|-------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |              |                |                              |                             |
| 650952      | 70       | 2 3/4  | Flat Face   | Domed        | 2              | 11mm (6)                     | 9mm (4)                     |
| 650953      | 76       | 3      | Flat Face   | Domed        | 2              | 11mm (6)                     | 9mm (5)                     |
| 650954      | 76       | 3      | Flat Face   | Ballistic    | 2              | 11mm (6)                     | 9mm (5)                     |

3" IR3.5



| Convex      |          |        |             |                |                |                              |                             |
|-------------|----------|--------|-------------|----------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Button shape   | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |                |                |                              |                             |
| 650622      | 90       | 3 1/2  | Convex      | Semi Ballistic | 2              | 11mm (6)                     | 11mm (7)                    |
| 650623      | 90       | 3 1/2  | Convex      | Domed          | 2              | 11mm (6)                     | 11mm (7)                    |
| 650609      | 95       | 3 3/4  | Convex      | Semi Ballistic | 2              | 11mm (8)                     | 11mm (7)                    |
| 650621      | 100      | 4      | Convex      | Domed          | 2              | 11mm (8)                     | 11mm (7)                    |
| 650610      | 100      | 4      | Convex      | Semi Ballistic | 2              | 11mm (8)                     | 11mm (7)                    |
| 650624      | 104      | 4 1/10 | Convex      | Domed          | 2              | 13mm (8)                     | 11mm (8)                    |

3" MD3.5



| Convex      |          |        |             |                |                |                              |                             |
|-------------|----------|--------|-------------|----------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Button shape   | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |                |                |                              |                             |
| 653354      | 95       | 3 3/4" | Convex      | Semi Ballistic | 2              | 14mm (6)                     | 14mm (5)                    |
| 653628      | 105      | 4 1/4  | Convex      | Ballistic      | 2              | 11mm (10)                    | 11mm (3)                    |

| Flat Face   |          |        |             |              |                |                              |                             |
|-------------|----------|--------|-------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |              |                |                              |                             |
| 653384      | 95       | 3 3/4  | Flat Face   | Domed        | 2              | 14mm (6)                     | 14mm (5)                    |
| 653349      | 100      | 4      | Flat Face   | Domed        | 2              | 11mm (8)                     | 11mm (8)                    |

4" DHD340 Bits



| Convex      |          |        |             |              |                |                |                              |
|-------------|----------|--------|-------------|--------------|----------------|----------------|------------------------------|
| Part Number | Diameter |        | Face design | Oversize Bit | Button shape   | Flushing holes | Gauge carbide diameter & Qty |
|             | mm       | Inches |             |              |                |                |                              |
| 650968      | 108      |        | Convex      |              | Semi Ballistic | 2              | 13mm (12)                    |
| 653091      | 110      | 4 5/16 | Convex      |              | Parabolic      | 2              | 14mm (8)                     |
| 650526      | 115      | 4 1/2  | Convex      |              | Parabolic      | 2              | 13mm (12)                    |
| 650967      | 115      | 4 1/2  | Convex      |              | Parabolic      | 2              | 13mm (12)                    |
| 653482      | 127      | 5      | Convex      | ✓            | Ballistic      | 3              | 13mm (15)                    |
| 653094      | 140      | 5 1/2  | Concave     | ✓            | Domed          | 3              | 16mm (9)                     |
| 653683      | 150      | 5 7/8  | Convex      | ✓            | Domed          | 2              | 13mm (12)                    |
| 653682      | 150      | 5 7/8  | Convex      | ✓            | Ballistic      | 2              | 13mm (12)                    |

Note \* Oversize sold without warranty



| Flat Face   |          |        |             |              |              |                |                              |
|-------------|----------|--------|-------------|--------------|--------------|----------------|------------------------------|
| Part Number | Diameter |        | Face design | Oversize Bit | Button shape | Flushing holes | Gauge carbide diameter & Qty |
|             | mm       | Inches |             |              |              |                |                              |
| 650955      | 115      | 4 1/2  | Flat Face   |              | Domed        | 2              | 14mm (8)                     |
| 653623      | 115      | 4 1/2  | Flat Face   |              | Domed        | 2              | 16mm (8)                     |
| 650965      | 130      | 5 1/8  | Flat Face   | ✓            | Domed        | 2              | 14mm (8)                     |

Note \* Oversize sold without warranty



| Concave     |          |        |             |              |              |                |                              |
|-------------|----------|--------|-------------|--------------|--------------|----------------|------------------------------|
| Part Number | Diameter |        | Face design | Oversize Bit | Button shape | Flushing holes | Gauge carbide diameter & Qty |
|             | mm       | Inches |             |              |              |                |                              |
| 650625      | 115      | 4 1/2  | Concave     |              | Domed        | 2              | 14mm (8)                     |
| 650680      | 120      | 4 3/4  | Concave     |              | Domed        | 2              | 13mm (8)                     |
| 653094*     | 140      | 5 1/2  | Concave     | ✓            | Domed        | 3              | 16mm (9)                     |

Note \* Oversize sold without warranty



4" Halco 4.5 Bits



| Convex      |          |        |             |              |              |                |                              |                             |
|-------------|----------|--------|-------------|--------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Oversize Bit | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |              |              |                |                              |                             |
| 653223      | 110      | 4 5/16 | Convex      |              | Domed        | 2              | 14mm (8)                     | 14mm (6)                    |
| 653217      | 110      | 4 1/3  | Convex      |              | Ballistic    | 2              | 14mm (7)                     | 14mm (7)                    |
| 653224      | 115      | 4 1/2  | Convex      |              | Domed        | 2              | 14mm (8)                     | 14mm (7)                    |
| 653209      | 115      | 4 1/2  | Convex      |              | Ballistic    | 2              | 14mm (8)                     | 14mm (7)                    |
| 653197      | 127      | 5      | Convex      | ✓            | Ballistic    | 2              | 14mm (9)                     | 14mm (9)                    |

Note \* Oversize sold without warranty



| Flat Face   |          |        |             |              |              |                |                              |                             |
|-------------|----------|--------|-------------|--------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Oversize Bit | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |              |              |                |                              |                             |
| 653230      | 115      | 4 1/2  | Flat Face   |              | Domed        | 2              | 14mm (8)                     | 13mm (10)                   |
| 653650      | 127      | 5      | Flat Face   | ✓            | Domed        | 2              | 16mm (8)                     | 13mm (8)                    |

Note \* Oversize sold without warranty



| Concave     |          |        |             |              |              |                |                              |                             |
|-------------|----------|--------|-------------|--------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Oversize Bit | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |              |              |                |                              |                             |
| 653268      | 127      | 5      | Concave     | ✓            | Domed        | 2              | 14mm (8)                     | 13mm (8)                    |

Note \* Oversize sold without warranty

4" Halco 4 Bits



| Convex      |          |        |             |              |              |                |                              |                             |
|-------------|----------|--------|-------------|--------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Oversize Bit | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |              |              |                |                              |                             |
| 650931      | 110      | 4 5/16 | Convex      |              | Domed        | 2              | 13mm (12)                    | 13mm (3)                    |
| 650932      | 115      | 4 1/2  | Convex      |              | Domed        | 2              | 14mm (8)                     | 13mm (8)                    |
| 650933      | 120      | 4 3/4  | Convex      |              | Domed        | 2              | 14mm (8)                     | 13mm (8)                    |
| 650466      | 127      | 5      | Convex      | ✓            | Domed        | 2              | 13mm (12)                    | 13mm (4)                    |
| 650444      | 140      | 5 1/2  | Convex      | ✓            | Domed        | 2              | 13mm (12)                    | 13mm (5)                    |
| 650445      | 150      | 5 7/8  | Convex      | ✓            | Domed        | 2              | 13mm (12)                    | 18mm (5)                    |

Note \* Oversize sold without warranty



| Concave     |          |        |             |                |                |                              |                             |
|-------------|----------|--------|-------------|----------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Button shape   | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |                |                |                              |                             |
| 650925      | 127      | 5      | Concave     | Semi Ballistic | 2              | 13mm (8)                     | 13mm (8)                    |

Note \* Oversize sold without warranty

5" QL50 Bits



| Convex      |          |        |             |              |                |                              |                             |
|-------------|----------|--------|-------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |              |                |                              |                             |
| 653238      | 130      | 5 1/8  | Convex      | Ballistic    | 3              | 14mm (9)                     | 14mm (9)                    |
| 653593      | 140      | 5 1/2  | Convex      | D/B          | 3              | 14mm (9)                     | 14mm (9)                    |



| Flat Face   |          |        |             |              |                |                              |                             |
|-------------|----------|--------|-------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |              |                |                              |                             |
| 653235      | 140      | 5 1/2  | Flat Face   | Domed        | 2              | 16mm (8)                     | 16mm (8)LGD                 |



| Concave     |          |        |             |              |              |                |                              |                             |
|-------------|----------|--------|-------------|--------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Oversize Bit | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |              |              |                |                              |                             |
| 670249      | 140      | 5 1/2  | Concave     |              | Domed        | 2              | 16mm (8)                     | 16mm (7)                    |
| 670250      | 146      | 5 3/4  | Concave     |              | Domed        | 2              | 16mm (8)                     | 16mm (8)                    |
| 653639      | 152      | 6      | Concave     | ✓            | Domed        | 3              | 16mm (15)                    | 14mm (5)                    |
| 670700      | 152      | 6      | Concave     | ✓            | Domed        | 2              | 16mm (8)                     | 16mm (8)                    |
| 653715      | 165      | 6 1/2  | Concave     | ✓            | Domed        | 3              | 16mm (15)                    | 14mm (6)                    |

Note \* Oversize sold without warranty





5" DHD350 Bits



| Convex      |          |        |             |              |                |                              |                             |
|-------------|----------|--------|-------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |              |                |                              |                             |
| 653070      | 140      | 5 1/2  | Convex      | SB           | 2              | 16mm (8)                     | 16mm (8)                    |
| 650711      | 152      | 6      | Convex      | Domed        | 2              | 16mm (15)                    | 16mm (5)                    |



| Flat Face   |          |        |             |              |                |                              |                             |
|-------------|----------|--------|-------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |              |                |                              |                             |
| 653205      | 140      | 5 1/2  | Flat Face   | Domed        | 2              | 16mm (8)                     | 16mm (8)                    |



| Concave     |          |        |             |              |                |                              |                             |
|-------------|----------|--------|-------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |              |                |                              |                             |
| 670037      | 140      | 5 1/2  | Concave     | Domed        | 2              | 16mm (8)                     | 16 mm (7)                   |
| 670040      | 146      | 5 3/4  | Concave     | Domed        | 2              | 16 mm (8)                    | 16 mm (7)                   |
| 653092      | 165      | 6 1/2  | concave     | domed        | 3              | 20mm (8)                     | 16mm (10)                   |

5" Halco 5 Bits



| Convex      |          |        |             |              |              |                |                              |                             |
|-------------|----------|--------|-------------|--------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Oversize Bit | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |              |              |                |                              |                             |
| 650461      | 127      | 5      | Convex      |              | Domed        | 2              | 13mm (10)                    | 13mm (3)                    |
| 650838      | 127      | 5      | Convex      |              | Domed        | 2              | 11mm (12)                    | 11mm (6)                    |
| 650578      | 140      | 5 1/2  | Convex      |              | Domed        | 2              | 16mm (11)                    | 16mm (3)                    |
| 650463      | 150      | 5 7/8  | Convex      |              | Domed        | 2              | 16mm (11)                    | 16mm (3)                    |
| 650464      | 165      | 6 1/2  | Convex      | ✓            | Domed        | 2              | 16mm (12)                    | 16mm (4)                    |

Note \* Oversize sold without warranty

5" Mission 50 Bits



| Convex      |          |        |             |              |                |                              |                             |
|-------------|----------|--------|-------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |              |                |                              |                             |
| 671105      | 140      | 5 1/2  | Convex      | Ballistic    | 3              | 16mm (9)                     | 16mm (9)                    |



6" QL60 Bits



| Convex      |          |        |             |              |                |                              |                             |
|-------------|----------|--------|-------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |              |                |                              |                             |
| 653651      | 171      | 6 3/4  | Convex      | Parabolic    | 3              | 18mm (13)                    | 18mm (6)                    |



| Flat Face   |          |        |             |              |                |                              |                             |
|-------------|----------|--------|-------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |              |                |                              |                             |
| 653352      | 165      | 6 1/2  | Flat Face   | Domed        | 2              | 18mm (10)                    | 18mm (12)                   |
| 653553      | 171      | 6 3/4  | Flat Face   | Domed        | 2              | 18mm (10)                    | 18mm (12)                   |



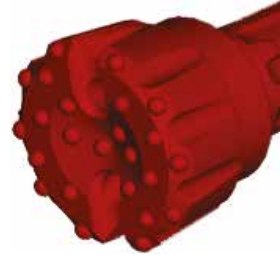
| Concave     |          |        |             |              |                |                              |                             |
|-------------|----------|--------|-------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |              |                |                              |                             |
| 670210      | 150      | 6      | Concave     | Domed        | 2              | 16mm (12)                    | 16mm (4)                    |
| 671131      | 155      | 6      | Concave     | Domed        | 2              | 16mm (8)                     | 16mm (8)                    |
| 670334      | 159      | 6 1/4  | Concave     | Domed        |                |                              |                             |
| 670208      | 165      | 6 1/2  | Concave     | Domed        | 2              | 19mm (8)                     | 16mm (8)                    |
| 670216      | 165      | 6 1/2  | Concave     | Domed        | 2              | 16mm (8)                     | 16mm (8)                    |
| 670582      | 165      | 6 1/2  | Concave     | Domed        | 2              | 16mm (10)                    | 16mm (9)                    |
| 670592      | 171      | 6 3/4  | Concave     | Domed        | 3              | 19mm (9)                     | 16mm (11)                   |
| 670718      | 171      | 6 3/4  | Concave     | Domed        | 3              | 19mm (9)                     | 16mm (11)                   |
| 670449      | 171      | 6 3/4  | CC CV       | Domed        | 2              |                              |                             |
| 653118      | 171      | 6 3/4  | Concave     | Domed        | 2              | 16mm (8)                     | 16mm (10)                   |
| 670665      | 178      | 7      | Concave     | Domed        | 3              | 16mm (9)                     | 16mm (11)                   |
| 653128      | 178      | 7      | Concave     | Domed        | 2              | 20mm (8)                     | 16mm (11)                   |
| 670722      | 190      | 7 1/2  | Concave     | Domed        | 2              | 16mm (10)                    | 16mm (14)                   |
| 653227      | 190      | 7 1/2  | Concave     | Domed        | 2              | 16mm (10)                    | 16mm (14)                   |
| 671064      | 200      | 7 7/8  | Concave     | Domed        | 3              | 19mm (9)                     | 16mm (18)                   |
| 670220      | 203      | 8      | Concave     | Domed        | 2              | 16mm (10)                    | 16mm (13)                   |

Note \* Oversize sold without warranty

6" DHD360 Bits



| Convex      |          |        |             |              |                |                              |                             |
|-------------|----------|--------|-------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |              |                |                              |                             |
| 650783      | 152      | 6      | Convex      | Domed        | 2              | 16mm (15)                    | 16mm (5)                    |
| 650795      | 165      | 6 1/2" | Convex      | Domed        | 2              | 16mm (15)                    | 16mm (5)                    |



| Concave     |          |        |             |               |              |                |                              |                             |
|-------------|----------|--------|-------------|---------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Oversize Bits | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |               |              |                |                              |                             |
| 670076      | 150      | 6      | Concave     |               | Domed        | 2              | 16mm (8)                     | 16mm (8)                    |
| 650783      | 152      | 6      | Concave     |               | Domed        | 2              | 16mm (15)                    | 16mm (5)                    |
| 670088      | 165      | 6 1/2  | Concave     |               | Domed        | 3              | 16mm (8)                     | 16mm (8)                    |
| 650789      | 165      | 6 1/2  | Concave     |               | Domed        | 2              | 16mm (8)                     | 16mm (10)                   |
| 653038      | 170      | 6 2/3  | Concave     |               | Domed        | 2              | 16mm (8)                     | 16mm (10)                   |
| 653097      | 180      | 7      | Concave     | ✓             | Domed        | 2              | 16mm (8)                     | 16mm (10)                   |
| 653098      | 190      | 7 1/2  | Concave     | ✓             | Domed        | 2              | 16mm (10)                    | 16mm (14)                   |

Note \* Oversize sold without shank warranty

6" Halco 6



| Convex      |          |        |             |               |              |                |                              |                             |
|-------------|----------|--------|-------------|---------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Oversize Bits | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |               |              |                |                              |                             |
| 650585      | 152      | 6      | Convex      |               | Domed        | 2              | 16mm (12)                    | 16mm (4)                    |
| 650440      | 200      | 7 7/8  | Convex      | ✓             | Domed        | 3              | 16mm (12)                    | 16mm (8)                    |
| 650441      | 225      | 8 5/7  | Convex      | ✓             | Domed        | 3              | 16mm (15)                    | 16mm (11)                   |
| 650457      | 245      | 9 5/8  | Convex      | ✓             | Domed        | 3              | 16mm (15)                    | 16mm (12)                   |

Note \* Oversize sold without warranty

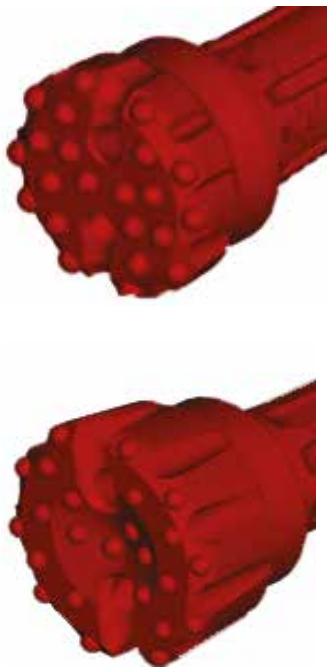


| Flat Face   |          |        |             |               |              |                |                              |                             |
|-------------|----------|--------|-------------|---------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Oversize Bits | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |               |              |                |                              |                             |
| 650354      | 191      | 7 1/2  | Flat Face   | ✓             | Domed        | 3              | 16mm (13)                    | 16mm (8)                    |

Note \* Oversize sold without warranty



8" QL80 Bits



| Flat Face   |          |        |             |              |                |                              |                             |
|-------------|----------|--------|-------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |              |                |                              |                             |
| 653490      | 203      |        | Flat Face   | Domed        | 2              | 18mm (10)                    | 18mm (16)                   |

| Concave     |          |        |             |              |                |                              |                             |
|-------------|----------|--------|-------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |              |                |                              |                             |
| 653379      | 203      | 8      | Concave     | Domed        | 2              | 18mm (10)                    | 18mm (14)                   |
| 670415      |          | 8      | Concave     | Domed        | 2              | 19mm (10)                    | 16mm (14)                   |
| 671097      | 222      | 8 3/4  | Concave     | Domed        | 2              | 18mm (10)                    | 18mm (16)                   |
| 671116      | 225      | 8 7/8  | Concave     | Domed        | 3              | 18mm (9)                     | 18mm (9)                    |
| 670763      | 225      | 8 7/8  | Concave     | Domed        |                | 19mm (10)                    | 19mm (8)<br>16mm (8)        |
| 653711      | 229      | 9      | Concave     | Domed        | 3              | 18mm (27)                    | 18mm (9)                    |
| 671100      | 229      | 9      | Concave     | Domed        | 3              | 19mm (21)                    | 16mm (9)                    |
| 670763      | 251      | 9 7/8  | Concave     | Domed        | 2              | 19mm (18)                    | 16mm (8)                    |

8" Halco 8



| Convex      |          |        |             |               |              |                |                              |                             |
|-------------|----------|--------|-------------|---------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Oversize Bits | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |               |              |                |                              |                             |
| 650571      | 225      |        | Convex      |               | Domed        | 3              | 16mm (16)                    | 16mm (10)                   |
| 650746      | 254      | 10     | Convex      | ✓             | Domed        | 2              | 20mm (15)                    | 20mm (5)                    |
| 653510      | 290      |        | Convex      | ✓             | Domed        | 4              | 16mm (20)                    | 16mm (18)                   |
| 650365      | 311      | 12 1/4 | Convex      | ✓             | Domed        | 3              | 20mm (18)                    | 20mm (11)                   |

Note \* Oversize sold without warranty

8" DHD380 Bits



| Flat Face   |          |        |             |               |              |                |                              |                             |
|-------------|----------|--------|-------------|---------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Oversize Bits | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |               |              |                |                              |                             |
| 650898      | 300      | 11 4/5 | FLAT FACE   | ✓             | DOMED        | 2              | 20mm (22)                    | 20mm (12)                   |

Note \* Oversize sold without warranty

| Concave     |          |        |             |               |              |                |                              |                             |
|-------------|----------|--------|-------------|---------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Oversize Bits | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |               |              |                |                              |                             |
| 650977      | 200      | 7 7/8  | Concave     |               | Domed        | 2              | 16mm (14)                    | 20mm (10)                   |
| 650373      | 203      | 8      | Concave     |               | Domed        | 2              | 20mm (10)                    | 16mm (14)                   |
| 650074      | 216      | 8 1/2  | Concave     |               | Domed        | 3              | 13mm (9)                     | 20mm (20)                   |
| 670437      | 222      | 8.3/4  | Concave     |               | Domed        | 2              | 19mm (14)                    | 19mm (5)                    |
| 650022      | 241      | 9 1/2  | Concave     |               | Domed        | 2              | 20mm (18)                    | 16mm (10)                   |
| 650389      | 254      | 10.0   | Concave     |               | Domed        | 2              | 20mm (18)                    | 16mm (11)                   |
| 653041      | 311      | 12 1/4 | Concave     | ✓             | Domed        | 2              | 20mm (22)                    | 20mm (20)                   |

Note \* Oversize sold without warranty

10" SD-10 Bits



| Concave     |          |        |             |               |              |                |                              |                             |
|-------------|----------|--------|-------------|---------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Oversize Bits | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |               |              |                |                              |                             |
| 650648      | 254      | 10     | Concave     |               | Domed        | 2              | 20mm (10)                    | 20mm (8)<br>16mm (11)       |
| 650650      | 305      | 12     | Concave     |               | Domed        | 3              | 20mm (21)                    | 20mm (13)                   |
| 650071      | 311      | 12.1/4 | Concave     | ✓             | Domed        | 2              | 20mm (22)                    | 20mm (24)                   |
| 650072      | 381      | 15     | Concave     | ✓             | Domed        | 3              | 20mm (27)                    | 20mm (38)                   |

Note \* Oversize sold without warranty

12" DHD112 Bits



| Extended Head bit catcher Concave |          |        |             |              |                |                              |                             |
|-----------------------------------|----------|--------|-------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number                       | Diameter |        | Face design | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|                                   | mm       | Inches |             |              |                |                              |                             |
| 653631                            | 381      | 15     | Concave     | Domed        | 3              | 20mm (36)                    | 18mm (24)                   |
| 653704                            | 422      | 16 5/8 | Concave     | Domed        | 3              | 20mm (61)                    | 16mm (15)                   |
| 653552                            | 444      | 17 1/2 | Concave     | Domed        | 3              | 22.2mm (48)                  | 18mm (18)                   |



12" SD-12 Bits



| Concave     |          |        |             |              |                |                              |                             |
|-------------|----------|--------|-------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |              |                |                              |                             |
| 650383      | 311      | 12 1/4 | Concave     | Domed        | 3              | 20mm (21)                    | 20mm (10)                   |
| 650376      | 445      | 17 1/2 | Concave     | Domed        | 3              | 20mm (48)                    | 20mm (31)                   |

Note standard concave bits have no fishing thread

18" NUMA 180 Bits



| Flat Face   |          |        |             |              |                |                              |                             |
|-------------|----------|--------|-------------|--------------|----------------|------------------------------|-----------------------------|
| Part Number | Diameter |        | Face design | Button shape | Flushing holes | Gauge carbide diameter & Qty | Face carbide diameter & Qty |
|             | mm       | Inches |             |              |                |                              |                             |
| 653762      | 660      | 26"    | Flat Face   | Domed        | 3              | 20mm (42)                    | 20mm (89)                   |

Shock Absorbers 2 - 6"



| Size                                    | 2"             | 3"              | 4"              | 5"              | 6"               |
|---|----------------|-----------------|-----------------|-----------------|------------------|
| Complete Shock Absorber                 | 600688         | 600689          | 600690          | 600691          | 600692           |
| Effective Length (Shoulder to Shoulder) | 346mm (13.62") | 457mm (17.93")  | 483mm (19.02")  | 514mm (20.27")  | 578mm (22.76")   |
| Outside Diameter                        | 62mm (2.44")   | 79.4mm (3.13")  | 95.4mm (3.76")  | 115mm (4.54")   | 140mm (5.51")    |
| Thread Connection                       | 50mm DIN405    | 2 3/8" API Reg  | 2 3/8" API Reg  | 3 1/2" API Reg  | 3 1/2" API Reg   |
| Net Weight                              | 7.5kg (16.5lb) | 14.3kg (31.5lb) | 22.1kg (48.7lb) | 33.2kg (73.2lb) | 53.0kg (116.8lb) |

Shock Absorbers 8 - 10"



| Size                                    | 8"             | 10"             |
|---|----------------|-----------------|
| Complete Shock Absorber                 | 600693         | 600694          |
| Effective Length (Shoulder to Shoulder) | 585mm (23")    | 635mm (25")     |
| Outside Diameter                        | 178mm (7")     | 216mm (8.5")    |
| Thread Connection                       | 4 1/2" API Reg | 6 5/8" API Reg  |
| Net Weight                              | 84kg (185.2lb) | 98kg ( 216.1lb) |

Shock Absorber 12"



| Size                                    | 12"            |
|---|----------------|
| Complete Shock Absorber                 | 600695         |
| Effective Length (Shoulder to Shoulder) | 724mm (28.5")  |
| Outside Diameter                        | 254mm (10")    |
| Thread Connection                       | 6 5/8" API Reg |
| Net Weight                              | 215kg (474lb)  |





# Casing advancing system for overburden and loose rock formations.

Halco's eccentric Sim-Cas system is still one of the most cost effective solutions for casing installation when drilling in difficult ground conditions. The eccentric system negates the need to leave expensive ring bits in the hole when installing permanent casing.

The updated Sim-CasX solution has several benefits over its predecessor while retaining Halco's renowned product quality:

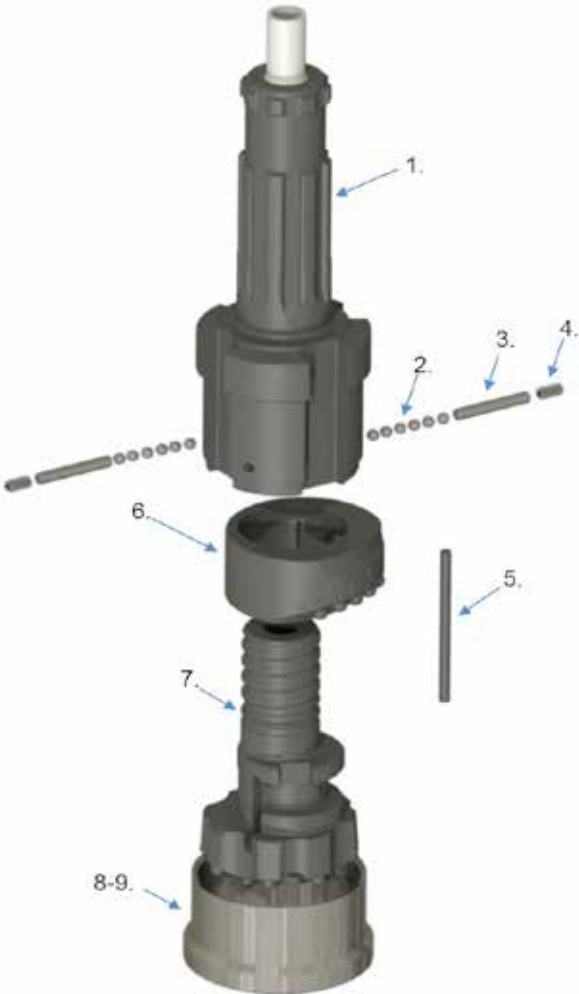
- Two piece pilot and reamer, allowing high wear reamers to be replaced more often
- Larger Pilot bit so the Reamer does less work resulting in longer reamer life
- Stronger Pilot bit shaft for better impact energy transfer
- Internal drive lug with pressurised cleaning channels, ensures the reamer is always in the correct drilling position
- Ball bearing retaining system to ensure nothing comes adrift down the hole



| Size         | Shank   | Pilot Bit diameter | Reaming diameter | Maximum Casing OD | Minimum Casing ID |
|--------------|---------|--------------------|------------------|-------------------|-------------------|
| Sim-CasX 90  | DHD 3.5 | 90                 | 123              | 115               | 102               |
| Sim-CasX 115 | DHD 340 | 115.8              | 151.2            | 142               | 128               |
| Sim-CasX 140 | DHD 350 | 141.2              | 185.8            | 171               | 155.6             |
| Sim-CasX 165 | DHD 360 | 165.8              | 211.2            | 195.6             | 182.5             |
| Sim-CasX 190 | DHD 360 | 190.8              | 236.2            | 222               | 205               |
| Sim-CasX 240 | DHD 380 | 240.8              | 308              | 273               | 260.4             |

| System Size                             | 90      | 115    | 140    | 165    | 190    | 240    |
|---|---------|--------|--------|--------|--------|--------|
| Shank                                   | DHD 3.5 | DHD340 | DHD350 | DHD360 | DHD360 | DHD380 |
| Pilot Bit diameter mm                   | 90.0    | 115.8  | 141.2  | 165.8  | 190.8  | 240.8  |
| Reaming diameter mm                     | 123.0   | 151.2  | 185.8  | 211.2  | 236.2  | 308.0  |
| Maximum Casing OD mm                    | 115.0   | 142.0  | 171.0  | 195.6  | 222.0  | 273.0  |
| Minimum casing ID mm                    | 102.0   | 128.0  | 155.6  | 182.5  | 205.0  | 260.4  |
| Casing thickness for thick wall shoe mm | 6.0     | 5.6    | 5.6    | 5.6    | 6.3    | 6.3    |
| Casing thickness for thin wall Shoe mm  | 4.5     | 4.5    | 4.5    | 4.5    | 5.0    |        |

| System Size                  | 90     | 115    | 140    | 165    | 190    | 240    |
|------------------------------|--------|--------|--------|--------|--------|--------|
| Sim-CasX System              | 651041 | 651040 | 651042 | 651043 | 651044 | 651045 |
| 1 - Guide Device             | 651046 | 651052 | 651058 | 651059 | 651069 | 651075 |
| 6 - Reamer                   | 651048 | 651054 | 651060 | 651066 | 651071 | 651077 |
| 7 - Pilot Bit                | 651049 | 651055 | 651061 | 651067 | 651072 | 651078 |
| 8 - Casing Shoe - thick wall | 651050 | 651056 | 651062 | 651073 | 651073 | 651079 |
| 9 - Casing Shoe - thin wall  | 651051 | 651057 | 651063 | 651074 | 651074 |        |
| Locking Kit                  | 651047 | 651053 | 651059 | 651070 | 651070 | 651076 |
| 2 - Retaining balls          |        |        |        |        |        |        |
| 3 - Solid locking pins       |        |        |        |        |        |        |
| 4 - Spring Pins              |        |        |        |        |        |        |
| 5 - Pusher Pin               |        |        |        |        |        |        |



# Conversion Table





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Certification No. LRQ 0850659



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