Direct controlled hydraulic tunneling and mining drilling Jumbo equipped with telescopic boom and HC109 hydraulic drifter.

**Features**

*The drilling Jumbo adopted a direct controlled drilling system which incorporates excellent anti-jamming function RPCF (Rotation Pressure Controlled Feed force). Separate pumps for percussion/positioning, rotation for independent control and maximum output.

*HC109 hydraulic drifter with large flow, low pressure and modern double reflex dampening giving genuine high speed drilling and excellent drill steel economy. New lubrication system keeps all contacting surfaces with reliable operation, low maintenance cost and long intervals between overhauls.

*HT series heavy-duty box-type hydraulic feeds with high torsional resistance, and n type feed is suitable for any angle of holes with a longer life and low maintenance cost.

*Telescopic heavy-duty booms for direct, fast and accurate positioning between holes. All boom joints are using improved expansible shaft structure.

*Sturdy, articulated carrier with four wheel drive for easy manoeuvring in narrow tunnels and drifts. Power steering, hydraulic release brakes and central lubricated chassis are adopted. Four jacks for stable set up.

*Basic rig includes telescopic FOPS-approved protective roof, cable reel, work lights (2 x 70 W Halogen), water booster pump and pump unloading function for easier start with low voltage.

**Main components**

- Hydraulic drifter: HC109
- Feed: HTbox-type structure
- Boom: Telescopic heavy booms
- Carrier: HT15
**FAMJ-81A Hydraulic Drill Jumbo**

**HC109 hydraulic drifter**

- Shank adapters: R38.T45
- Height over drill centre: 83 mm
- Impact power: 18.8 kW
- Impact rate: 47 Hz
- Hydraulic pressure, max.: 150 bar
- Rotation system: separate rotation
- Rotation speed, max.: 110-220 rpm
- Rotation torque, max.: 610 Nm
- Lub. air consumption (at 3 bar): 5 L/s
- Water consumption: 30-50 L/min
- Weight: 165 kg
- Sound level: <105 dB(A)

**HT Series Feeds**

| Total length, mm | 5105 | 5705 |
| Drill steel length(mm) | 3700 | 4305 |
| Hole depth, mm | 3300 | 3900 |
| Weight, kg (incl. drifter) | 595 | 620 |
| Feed force, max. (at 100 bar) (kN) | 15 | 15 |

**Telescopic Boom**

- Feed extension: 1250 mm
- Boom extension: 1250 mm
- Parallel holding: Complete
- Feed roll-over: 360 degrees
- Max. lifting angle: +65 degrees, −30 degrees
- Max. swinging angle: ±35 degree
- Weight, boom only: 1750 kg

**Hydraulic system**

- *Hydraulic pumps: one variable pump for percussion and positioning, one constant flow pump for rotation.*
- *Pumps unloaded at start*
- *System pressure 150-180 bar*
- *Hydraulic oil tank, volume max. 124 L*
- *Low oil lever indicator (incl. shut down when power supply is connected)*
- *Oil temperature meter on oil tank*
- *Filtration, 20 µm absolute*
- *Oil filter indicator*
- *Water cooled oil cooler*
- *Mineral hydraulic oil*
- *One operators control panel*

**Air system**

- *Compressor Capacity, max. 0.5 m³/min at 7 bar*
- *Air pressure gauge*

**Water system**

- *Water booster pump CDL 4-16*
- *Capacity, max. 50 L/min at 12 bar boost*
- *Min water inlet pressure 2 bar*

**HT15 Carrier**

- *YTO Group Corporation YT4B4-22, 4-cylinder, 4-stroke diesel engine, 60 kW, at 2200 rpm, 295 Nm at 1650 rpm*
- *Fixed seat for tramming*
- *Telescopic FOPS-approved protective roof*
- *Horn*
- *Articulated steering with +/− 38 degree steering angle*
- *Four wheel drive*
- *Hydraulic power steering system*
- *Hydrodynamic transmission*
- *Boom–end axle*
- *Engine–end axle with +/−10 degree oscillation*
- *16/70−20 Tyres*
- *Clearance outside axles 15 degree*
- *Hydraulic jacks 2 (extendable) at front and 2 at rear*
- *Service brakes: Two separate circuits, caliper disc brake*
- *Emergency and parking brakes: hand parking*
- *Fuel tank, volume 60 L*
- *Electric system 24V*
- *Batteries 2 x 12V, 70Ah*
- *Working lights, halogen 2 x 70W 220V AC*
FAMJ-81A Hydraulic Drill Jumbo

**Recommended cable size and length**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Dimension (3x35 +1x10)</th>
<th>Diameter</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>380V</td>
<td>38 mm</td>
<td>38 mm</td>
<td>70 m</td>
</tr>
</tbody>
</table>

**Dimensions and weights**

<table>
<thead>
<tr>
<th>Width</th>
<th>1850 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height roof down</td>
<td>2340 mm</td>
</tr>
<tr>
<td>Roof up</td>
<td>2940 mm</td>
</tr>
<tr>
<td>Length while travelling</td>
<td>11210 mm</td>
</tr>
<tr>
<td>Ground clearance</td>
<td>280 mm</td>
</tr>
<tr>
<td>Gross weight (basic rig)</td>
<td>12500 kg</td>
</tr>
<tr>
<td>Axle load</td>
<td>7500 kg</td>
</tr>
<tr>
<td>Engine side</td>
<td>5000 kg</td>
</tr>
</tbody>
</table>

**Electrical system**

- **Total installed power**: 62 kW
- **Main motors**: 55 kW
- **Voltage**: 380V
- **Frequency**: 50 Hz
- **Starting method**: star/delta (380V)
- **Thermal overload protection for electric motors**
- **Digital volt/ampere meter in electric cabinet**
- **Phase sequence indicator**
- **Earth fault indicator**
- **Battery charger**
- **Cable reel, diameter**: Φ1000 mm

**Turning radius**
FAMJ-81A Hydraulic Drill Jumbo

Coverage area

Domestic Rock Tools

<table>
<thead>
<tr>
<th>Drifter rods</th>
<th>Dimension</th>
<th>Min. hole dia, mm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>R38-Hex35-R32</td>
<td>45</td>
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</table>

Couplings

<table>
<thead>
<tr>
<th>Thread</th>
<th>Dia, mm</th>
<th>Length, mm</th>
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</thead>
<tbody>
<tr>
<td>R38</td>
<td>55</td>
<td>170</td>
</tr>
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</table>

Shank adapters

<table>
<thead>
<tr>
<th>Thread</th>
<th>Dia, mm</th>
<th>Length, mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>R38</td>
<td>38</td>
<td>435</td>
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</tbody>
</table>