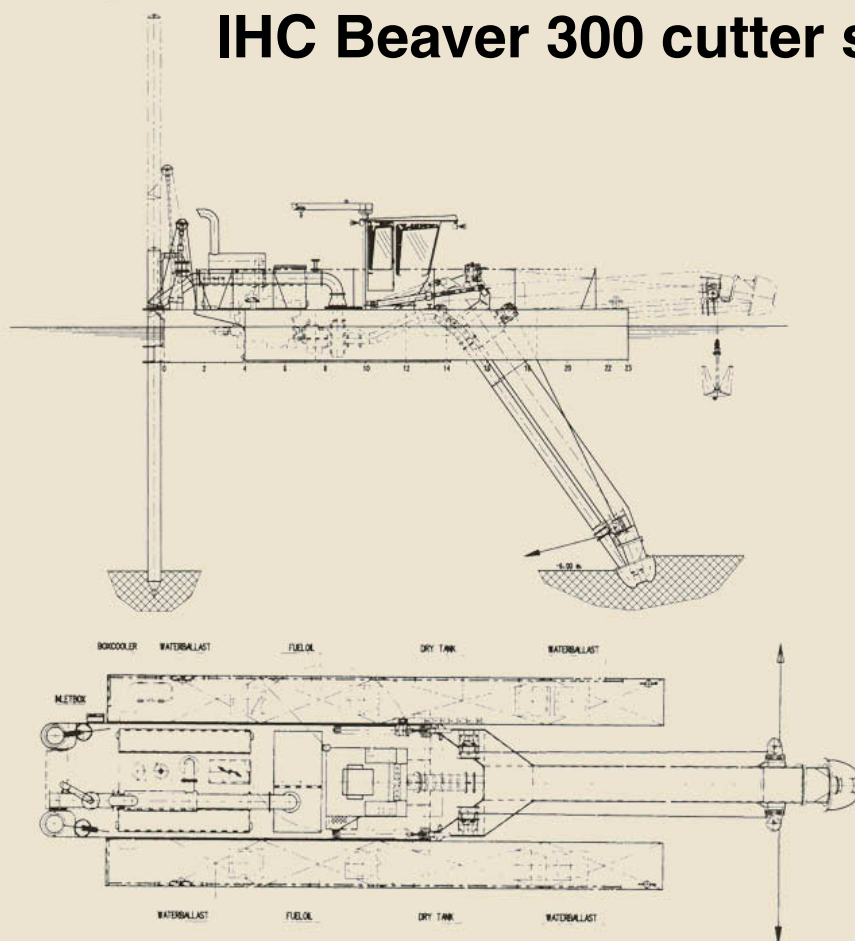


Features and Figures

IHC Beaver 300 cutter suction dredger



The IHC Beaver is well known for its robust construction, reliable operation and excellent performance. To date IHC Holland have supplied over 650 of these standard cutter suction dredgers.

The presents range of standard demountable cutter suction dredgers comprises ten basic models with machinery outputs from 240 to 4140 kW.

The IHC Beaver 300 is one type from this range.

Its hull consists of three pontoons: the main pontoon, containing the engineroom, and two side pontoons.

The dimensions of all parts are such that the basic model of the IHC Beaver 300 can be transported by road, rail or sea in three 40 ft containers.

The dredger is equipped with a rapid connect-disconnect system for the pontoons, by means of bolts at deck level and hooks at the bottom. Among the salient features of the vessel are the compact dredge-pump drive incorporating a reduction gearing with integrated pump bearing, and a fresh water engine cooling system by means of well cooling.

Mounted in or on the main pontoon are the cutter ladder, the two ladder actuating rams, control cabin, deck crane, dredge pump, diesel engines and auxiliary machinery, discharge line and the spuds with their actuating rams. The cutter and swing winches, which are mounted on the ladder, are powered by piston-type hydraulic motors.



IHC HOLLAND



IHC BEAVER 300 cutter suction dredger

Features

- Completely assembled and fully tested afloat before delivery
- Simple, rapid assembly and dismantling
- Ready for operation on arrival at site
- Standard design, which implies early delivery and low price
- Spare parts available from stock
- Transportable by road, rail or sea
- Reliable hydraulic system
- Fresh water engine cooling system
- Efficient in terms of fuel consumption
- One-man operation
- Wide range of optional equipment available

Principal particulars

- Length overall, ladder raised : 15.75 m
- Length over pontoons : 11.50 m
- Breadth : 4.05 m
- Depth : 1.30 m
- Main pontoon : 7.00 x 2.20 x 1.30 m
- Side pontoons : 10.75 x 0.90 x 1.25 m
- Mean draught with full bunkers approx. : 0.88 m
- Maximum standard dredging depth : 6.00 m
- Internal diameter of suction and discharge pipes : 260 mm
- Total dry weight approx. : 23 t

Dredgepump

- Type : IHC-600-150-240
- Power at shaft : 177 kW (241 hp)
- Dredgepump driven through combined pump block/reduction gearbox

Engine installation

- Diesel engine: Caterpillar 3406 DI-TA developing 240 kW (327 hp) continuous power at 1,800 rev/min. Specific fuel consumption 203 g/kW/hr.

Electric installation

- Voltage 24 V
- Capacity 200 Ah

Cutter

- Type : IHC 830-50, 5-bladed with serrated edges
- Power at shaft : 30 kW (40 hp)
- Diameter : 830 mm
- Maximum speed : 35 rev/min

Ladder hoisting rams

- Retracting force : 160 kN at 1.2 m/min
- Extending force : 60 kN at 0.82 m/min

Swing winches

- Line pull, 1st layer (kN) : 25 kN (2.5 t)
- Max. line speed approx. : 22 m/min
- Wire diameter : 12 mm
- Drum diameter : 322 mm
- The two swing winches have independent hydraulic drive
- The two swing winches are supplied with wires of 75 m and anchors of 160 kg

Spuds

- Length : approx. 8.6 m
- Diameter : 324 mm
- Weight : approx. 700 kg

Spud hoisting rams

- Force : 35 kN
- Ram stroke : 1.60 m
- Spud stroke : each time approx. 2.70 m

Swing width with 35° swing each side

- At max. dredging depth : 14.5 m
- At min. dredging depth : 18 m

Deck crane

- Lifting power : 7.5 kN
- Outreach : 1.60 m

Tools

Special tools for connecting and disconnecting pontoons and cutter ladder, and for maintenance of dredgepump and diesel engine, are supplied

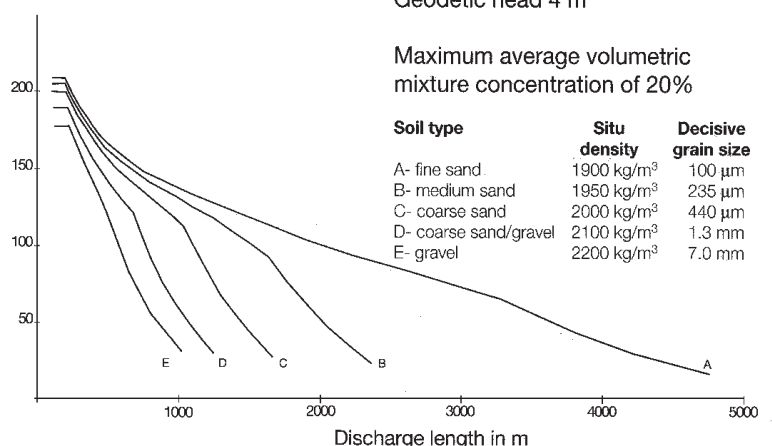
Optional equipment

- Anchor booms (plus enlarged side pontoons)
- Spud carriage
- Increased dredging depth (to 7 m)
- Swivel bend
- Non-return valve
- Valve in discharge line
- Production measuring equipment
- Airconditioning

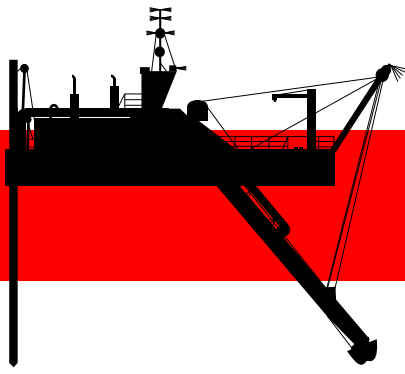
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PUMP OUTPUT IN M³ OF SOLIDS
PER EFFECTIVE PUMPING HOUR

Suction pipeline diameter ø 260 mm
Discharge pipeline diameter ø 250 mm
Dredging depth 6 m
Geodetic head 4 m

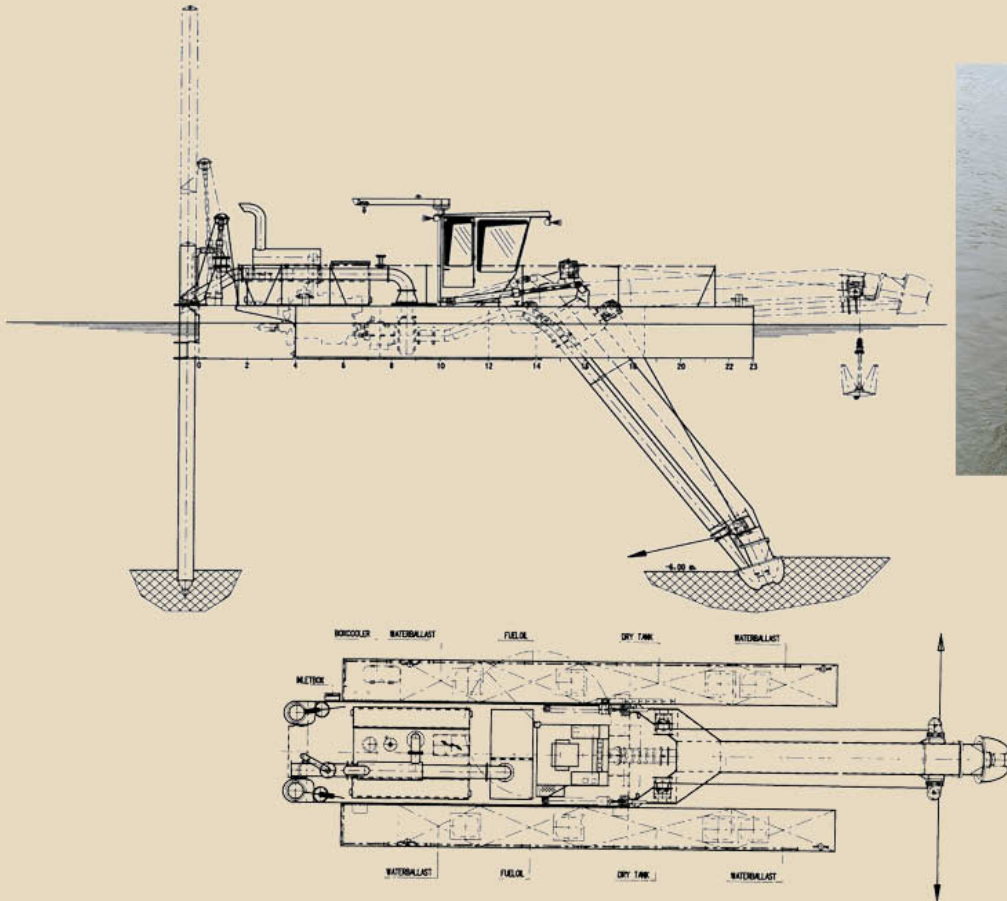


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Features and Figures

IHC Beaver 425 cutter suction dredger



The IHC Beaver is well known for its robust construction, reliable operation and excellent performance. To date IHC Holland have supplied over 600 of these standard cutter suction dredgers.

The present range of standard demountable cutter suction dredgers comprises six basic models with machinery outputs from 300 to 3,800 horsepower and a number of custom-built types based on the standard design series. The IHC Beaver 425 is one type from this range. Its hull consists of three pontoons: the main pontoon, containing the engine room, and two side pontoons. The dimensions of all parts are such that the basic model of the IHC Beaver 425 can be transported by road, rail or sea in three 40 ft containers.

The dredger is equipped with a rapid connect-disconnect system for the pontoons, by means of bolts at deck level and hooks at the bottom. Among the salient features of the vessel are the compact dredge-pump drive incorporating a reduction gearing with integrated pump bearing, and a fresh water engine cooling system by means of well cooling.

Mounted in or on the main pontoon are the cutter ladder, two ladder actuating rams, control cabin, deck crane, dredge pump, diesel engines and auxiliary machinery, discharge line and the spuds with their actuating rams. The cutter and swing winches, which are mounted on the ladder, are powered by piston-type hydraulic motors.



IHC HOLLAND



IHC BEAVER 425 cutter suction dredger

Features

- Completely assembled and fully tested afloat before delivery
- Simple, rapid assembly and dismantling
- Ready for operation on arrival at site
- Standard design, which implies early delivery and low price
- Spare parts available from stock
- Transportable by road, rail or sea
- Reliable hydraulic system
- Fresh water engine cooling system
- Efficient in terms of fuel consumption
- One-man operation
- Wide range of optional equipment available

Principal particulars

- | | |
|---------------------------------------|-----------------------|
| - Length overall, ladder raised | 15.75 m |
| - Length over pontoons | 11.50 m |
| - Breadth | 4.05 m |
| - Depth | 1.30 m |
| - Main pontoon | 7.00 x 2.20 x 1.30 m |
| - Side pontoons | 10.75 x 0.90 x 1.25 m |
| - Mean draught approx. | 0.88 m |
| - Maximum standard dredging depth | 6.00 m |
| - Internal diameter of suction pipe | 300 mm |
| - Internal diameter of discharge pipe | 260 mm |
| - Total dry weight approx. | 23 t |

Dredgepump

- Type : IHC-750-150-250
- Power at shaft : 220 kW (300 hp)
- Dredgepump driven through combined pump block/reduction gearbox

Engine installation

- Diesel engine Caterpillar 3406 DI-TA developing 313 kW (425 hp) continuous power at 1,800 rev/min.
- Specific fuel consumption 217 g/kW/hr.

Electric installation

- Voltage 24 V
- Capacity 200 Ah

Cutter

- Type IHC 830-50, 5-bladed with serrated edges
- Power at shaft 36.5 kW (50 hp)
- Diameter 830 mm
- Maximum speed 42 rev/min

Ladder hoisting rams

- Retracting force : 65 kN at 0.84 m/min
- Extending force : 150 kN at 1.2 m/min

Swing winches

- Line pull, 1st layer (kN) 25 kN (2.5 t)
- Max. line speed approx. 22 m/min
- Wire diameter (mm) 12 mm
- Drum diameter (mm) 279 mm
- The two swing winches have independent hydraulic drive
- The two swing winches are supplied with wires of 75 m and anchors of 160 kg

Spuds

- Length approx. 8.6 m
- Diameter 324 mm
- Weight approx. 700 kg

Spud hoisting rams

- Force 35 kN
- Ram stroke 1.60 m
- Spud stroke each time approx. 2.70 m

Swing width with 35° swing each side

- At max. dredging depth 14.5 m
- At min. dredging depth 18 m

Deck crane

- Lifting power 10 kN

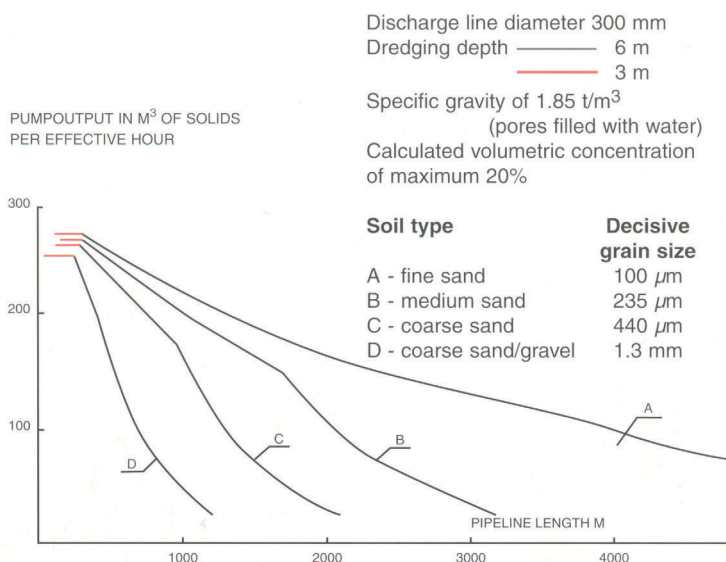
Tools

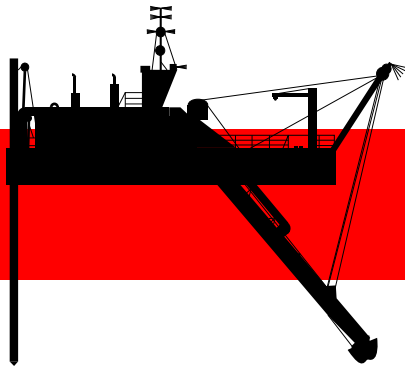
Special tools for connecting and disconnecting pontoons and cutter ladder, and for maintenance of dredgepump and diesel engine are supplied

Optional equipment

- Anchor booms (plus enlarged side pontoons)
- Spud carriage
- Increased dredging depth (to 7 m)
- Swivel bend
- Non-return valve
- Valve in discharge line
- Production measuring equipment
- Airconditioning

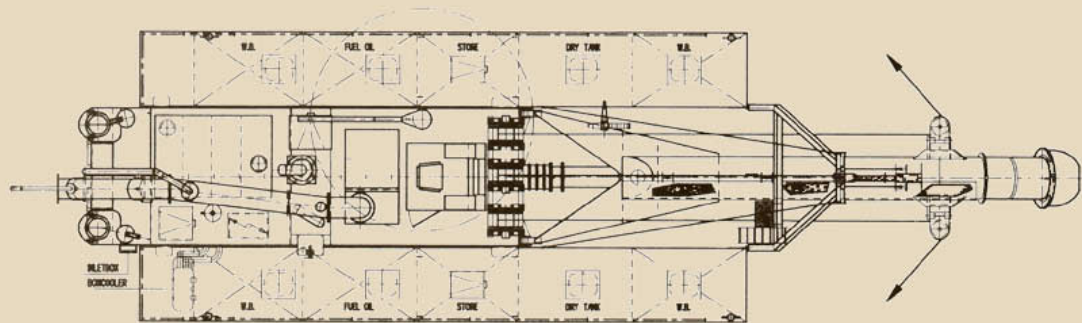
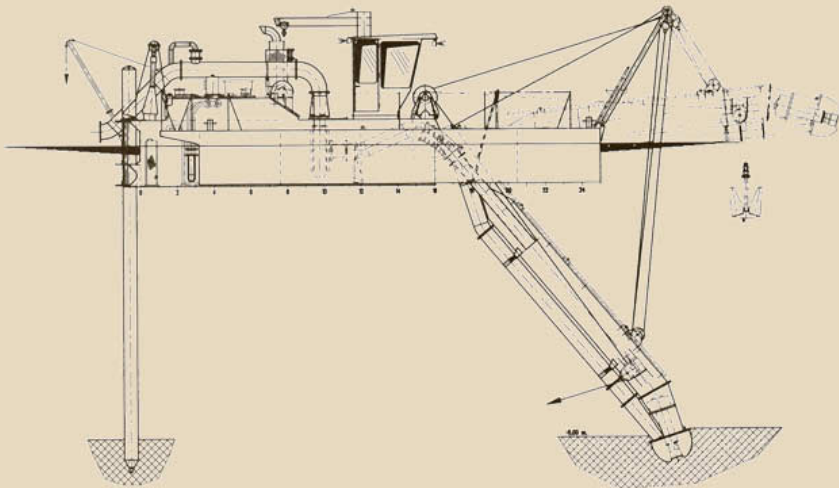
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Features and Figures

IHC Beaver 600 cutter suction dredger



The IHC Beaver is well known for its robust construction, reliable operation and excellent performance. To date IHC Holland have supplied over 500 of these standard cutter suction dredgers.

The present, improved range of standard demountable cutter suction dredgers comprises six basic models with machinery outputs from 300 to 3,800 horsepower. The IHC Beaver 600 is one type from this range. Its hull consists of three pontoons: the main pontoon, containing the engine room, and two side pontoons. The dimensions of all parts are such that they can be transported by road, rail or sea. The dredger is equipped with a rapid connect-disconnect system for the pontoons,

by means of bolts at deck level and hooks at the bottom. Among the salient features of the vessel are the compact dredge-pump drive incorporating a reduction gearing with integrated pump bearing, and a fresh water engine cooling system by means of well cooling.

Mounted in or on the main pontoon are the cutter ladder, two swing winches, ladder hoisting winch control cabin, dredge pump, diesel engines and auxiliary machinery, discharge line and the spuds with their actuating rams. The cutter, ladder hoisting winch and swing winches are powered by piston-type hydraulic motors.



IHC HOLLAND



IHC BEAVER 600 cutter suction dredger

Features

- Completely assembled and fully tested afloat before delivery
- Simple, rapid assembly and dismantling
- Ready for operation on arrival at site
- Standard design, which implies early delivery and low price
- Spare parts available from stock
- Transportable by road, rail or sea
- Reliable hydraulic system
- Fresh water engine cooling system
- Efficient in terms of fuel consumption
- One-man operation
- Wide range of optional equipment available

Principal particulars

- Length overall, ladder raised : 20.10 m
- Length over pontoons : 12.50 m
- Breadth : 5.72 m
- Depth : 1.51 m
- Main pontoon : 8.00 x 2.70 x 1.80 m
- Side pontoons : 12.00 x 1.47 x 1.47 m
- Mean draught with full bunkers approx. : 1.10 m
- Maximum standard dredging depth : 8.00 m
- Internal diameter of suction and discharge pipes : 390 mm
- Total weight approx. : 45 t

Dredgepump

- Type : IHC 900-175-350
- Power at shaft : 390 kW (530 hp)
- Dredgepump driven through combined pump block/reduction gearbox

Engine installation

- Diesel engine: Caterpillar 3412 DI-TA developing 465 kW (632 hp) continuous power at 1,800 rev/min. Specific fuel consumption 217 g/kW/hr.

Electric installation

- Voltage 24 V
- Capacity 200 Ah

Cutter

- Type : IHC 955-50, 5-bladed with serrated edges
- Power at shaft : 52 kW (70 hp)
- Diameter : 955 mm
- Maximum speed : 34 rev/min

Winches

- | | Ladder winch | Swing winches |
|--|--------------|---------------|
| - Line pull, 1st layer (kN) | : 40 | 40 |
| - Max. line speed approx. (m/min) | : 25 | 25 |
| - Wire diameter (mm) | : 16 | 16 |
| - Drum diameter (mm) | : 324 | 324 |
| - All winches have independent hydraulic drive | | |
| - The two swing winches are supplied with wires of 100 m and anchors of 240 kg | | |

Spuds

- Length : approx. 11 m
- Diameter : 368 mm
- Weight : approx. 1360 kg

Spud hoisting rams

- Force : 60 kN
- Ram stroke : 1.80 m
- Spud stroke : each time approx. 3.00 m

Swing width with 35° swing each side

- At max. dredging depth : 18 m
- At min. dredging depth : 22.5 m

Deck crane

- Lifting power : 15 kN
- Outreach : 2.20 m

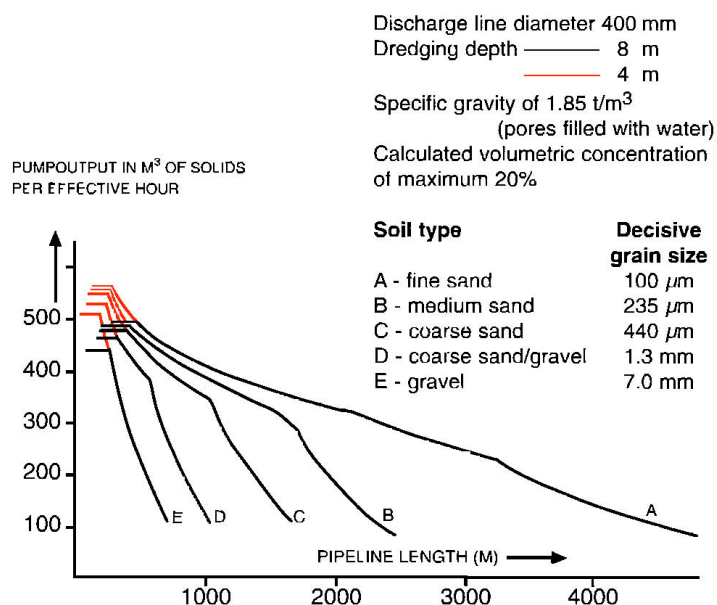
Tools

Special tools for connecting and disconnecting pontoons and cutter ladder, and for maintenance of dredgepump and diesel engine, are supplied

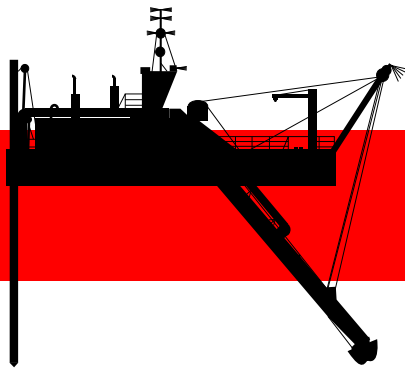
Optional equipment

- Anchor booms (plus enlarged side pontoons)
- Wedge piece for very small min. dredging depth
- Spud carriage
- Increased dredging depth
- Swivel bend
- Non-return valve
- Valve in discharge line
- Production measuring equipment
- Airconditioning

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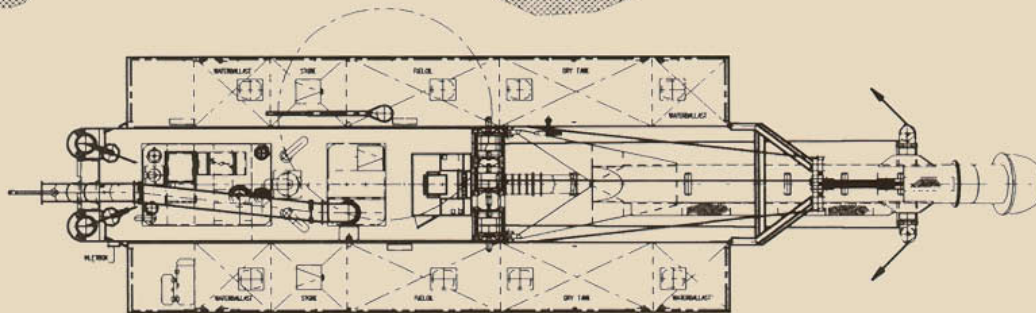
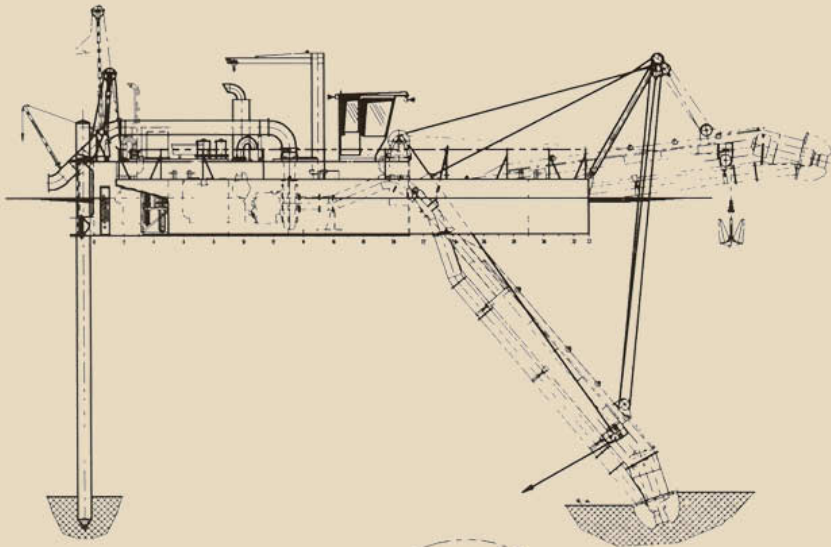


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Features and Figures

IHC Beaver 1200 cutter suction dredger



The IHC Beaver is well known for its robust construction, reliable operation and excellent performance. To date IHC Holland have supplied over 500 of these standard cutter suction dredgers.

The present, improved range of standard demountable cutter suction dredgers comprises six basic models with machinery outputs from 300 to 3,800 horsepower. The IHC Beaver 1200 is one type from this range. Its hull consists of three pontoons: the main pontoon, containing the engineroom, and two side pontoons. The dimensions of all parts are such that they can be transported by road, rail or sea. The dredger is equipped

with a rapid connect-disconnect system for the pontoons, by means of bolts at deck level and hooks at the bottom. Among the salient features of the vessel are the compact dredgepump drive incorporating a reduction gearing with integrated pump bearing, and a fresh water engine cooling system by means of well cooling. Mounted in or on the main pontoon are the cutter ladder, two swing winches, ladder hoisting winch control cabin, dredgepump, diesel engines and auxiliary machinery, discharge line and the spuds with their actuating rams. The cutter, ladder hoisting winch and swing winches are powered by piston-type hydraulic motors.



IHC HOLLAND



IHC BEAVER 1200 cutter suction dredger

Features

- Completely assembled and fully tested afloat before delivery
- Simple, rapid assembly and dismantling
- Ready for operation on arrival at site
- Standard design, which implies early delivery and low price
- Spare parts available from stock
- Transportable by road, rail or sea
- Reliable hydraulic system
- Fresh water engine cooling system
- Efficient in terms of fuel consumption
- One-man operation
- Wide range of optional equipment available

Principal particulars

- Length overall, ladder raised : 26.30 m
- Length over pontoons : 16.50 m
- Breadth : 6.69 m
- Depth : 1.87 m
- Main pontoon : 10.50 x 2.95 x 2.45 m
- Side pontoons : 15.75 x 1.83 x 1.83 m
- Mean draught with full bunkers approx. : 1.25 m
- Maximum standard dredging depth : 10.00 m
- Internal diameter of suction and discharge pipes : 450 mm
- Total weight approx. : 75 t

Dredgepump

- Type : IHC 1100-200-400
- Power at shaft : 610 kW (830 hp)
- Prime mover : Caterpillar 3508 DI-TA developing 638 kW (867 hp) continuous power at 1,800 rev/min. Specific fuel consumption 219 g/kW/hr.
- Dredgepump driven through combined pump block/reduction gearbox

Auxiliary power

(cutter, winches, spuds)
Caterpillar 3306 DI-TA developing 212 kW (289 hp) medium duty power at 1,800 rev/min. Specific fuel consumption 216 g/kW/hr.

Electric installation

- Voltage 24 V
- Capacity 400 Ah

Cutter

- Type : IHC 1330-120, 5-bladed with serrated edges
- Power at shaft : 110 kW (150 hp)
- Diameter : 1330 mm
- Maximum speed : 34 rev/min

Winches

- | | Ladder winch | Swing winches |
|-----------------------------------|--------------|---------------|
| - Line pull, 1st layer (kN) | : 57 | 57 |
| - Max. line speed approx. (m/min) | : 23 | 23 |
| - Wire diameter (mm) | : 18 | 18 |
| - Drum diameter (mm) | : 394 | 394 |
- All winches have independent hydraulic drive

- The two swing winches are supplied with wires of 100 m and anchors of 360 kg

Spuds

- Length : approx. 13.85 m
- Diameter : 457 mm
- Weight : approx. 2250 kg

Spud hoisting rams

- Force : 100 kN
- Ram stroke : 2.10 m
- Spud stroke : each time approx. 3.50 m

Swing width with 35° swing each side

- At max. dredging depth : 23 m
- At min. dredging depth : 28.5 m

Deck crane

- Lifting power : 20 kN
- Outreach : 2.8 m

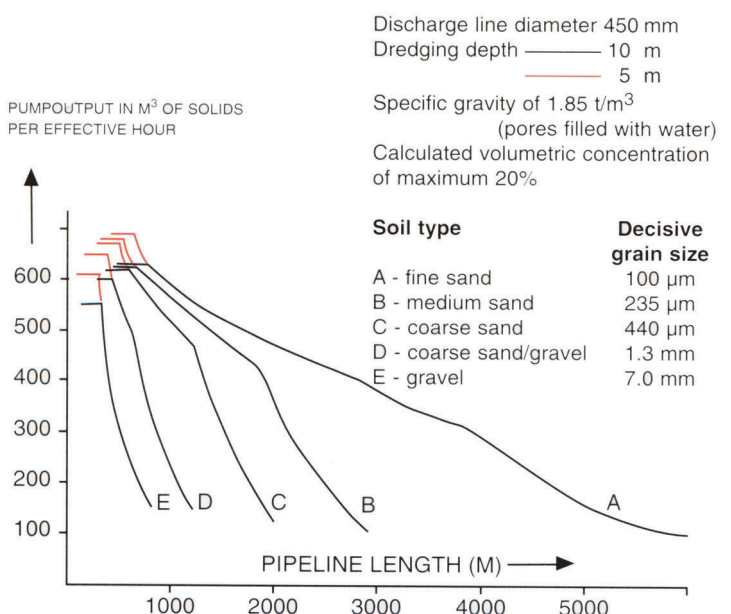
Tools

Special tools for connecting and disconnecting pontoons and cutter ladder, and for maintenance of dredgepump and diesel engine, are supplied

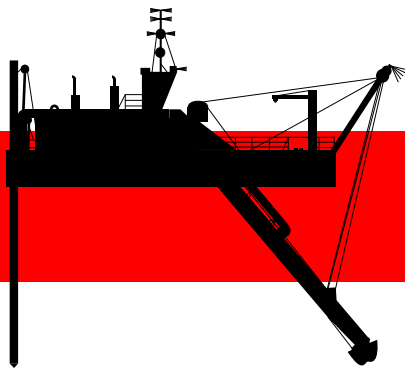
Optional equipment

- Anchor booms (plus enlarged side pontoon)
- Wedge piece for very small min. dredging depth
- Spud carriage
- Increased dredging depth
- Swivel bend
- Non-return valve
- Valve in discharge line
- Production measuring equipment
- Airconditioning
- Vacuum relief valve

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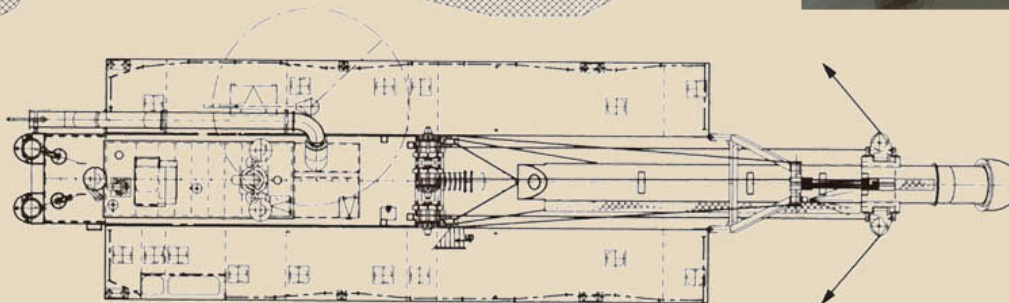
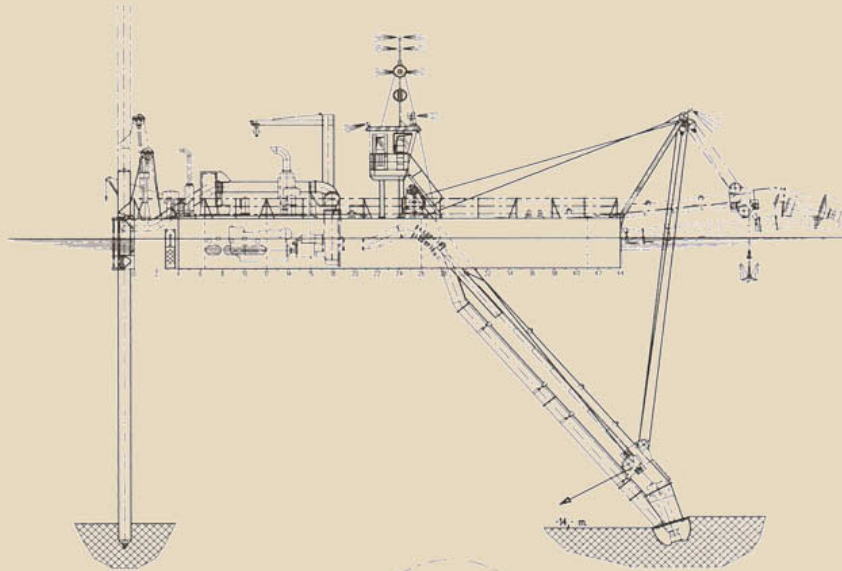


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Features and Figures

IHC Beaver 1600 cutter suction dredger



The IHC Beaver is well known for its robust construction, reliable operation and excellent performance. To date IHC Holland have supplied over 650 of these standard cutter suction dredgers.

The present, improved range of standard demountable cutter suction dredgers comprises six basic models with machinery outputs from 300 to 3,800 horsepower. The IHC Beaver 1600 is one type from this range. Its hull consists of three pontoons: the main pontoon, containing the engineroom, and two side pontoons. The dimensions of all parts are such that they can be transported by road, rail or sea. The dredger is equipped with a rapid connect-disconnect system for the

pontoons, by means of bolts at deck level and special coupling blocks at the bottom. Among the salient features of the vessel are the compact dredge pump drive incorporating a reduction gearing with integrated pump bearing, and a fresh water engine cooling system by means of well cooling. Mounted in or on the main pontoon are the cutter ladder, two swing winches, ladder hoisting winch, control cabin, dredge pump, diesel engines and auxiliary machinery, and the spuds with their actuating rams. The portside pontoons carries the discharge line and deck crane. The cutter, ladder hoisting winch and swing winches, are powered by piston-type hydraulic motors.



IHC HOLLAND



IHC BEAVER 1600 cutter suction dredger

Features

- Completely assembled and fully tested afloat before delivery
- Simple, rapid assembly and dismantling
- Ready for operation on arrival at site
- Standard design, which implies early delivery and low price
- Spare parts available from stock
- Transportable by road, rail or sea
- Reliable hydraulic system
- Fresh water engine cooling system
- Efficient in terms of fuel consumption
- One-man operation
- Wide range of optional equipment available

Principal particulars

- Length overall, ladder raised : 33.30 m
- Length over pontoons : 22.00 m
- Breadth : 7.95 m
- Depth : 2.46 m
- Main pontoon : 13.00 x 2.95 x 2.46 m
- Side pontoons : 20.00 x 2.44 x 2.44 m
- Mean draught with full bunkers approx. : 1.50 m
- Maximum standard dredging depth : 14.00 m
- Internal diameter of suction tube : 550 mm
- Internal diameter of suction and discharge pipes : 500 mm
- Total dry weight approx. : 145 t

Dredgepump

- Type : IHC 1250-275-500 double walled
- Power at shaft : 910 kW (1237 hp)
- Prime mover : Caterpillar 3512 DI-TA developing 954 kW (1297 hp) continuous power at 1,600 rev/min. Specific fuel consumption 218 g/kW/hr.
- Dredgepump driven through combined pump block/reduction gearbox

Auxiliary power

(cutter, winches, spuds)
Caterpillar 3406 DI-TA developing 300 kW (408 hp) medium duty power at 1,800 rev/min. Specific fuel consumption 206 g/kW/hr.

Electric installation

- Voltage 24 V
- Capacity 460 Ah
- Voltage 220/380 V AC 50Hz
- Capacity 12.5 kVA

Cutter

- Type : IHC 1455-170, 5-bladed with serrated edges
- Power at shaft : 170 kW (230 hp)
- Diameter : 1455 mm
- Maximum speed : 30 rev/min

Winches

- | | Ladder winch | Swing winches |
|--|--------------|---------------|
| - Line pull, 1st layer (kN) | : 100 | 90 |
| - Max. line speed (m/min) | : 20 | 20 |
| - Wire diameter (mm) | : 24 | 24 |
| - Drum diameter (mm) | : 445 | 445 |
| - All winches have independent hydraulic drive | | |

- The two swing winches are supplied with wires of 100 m and anchors of 720 kg

Spuds

- Length : approx. 18.5 m
- Diameter : 559 mm
- Weight : approx. 5250 kg

Spud hoisting rams

- Force : 254 kN
- Ram stroke : 2.10 m
- Spud stroke : each time approx. 3.35 m

Swing width with 35° swing each side

- At max. dredging depth : 30 m
- At min. dredging depth : 37.5 m

Deck crane

- Lifting power : 30 kN
- Outreach : 3.25 m

Classification

Bureau Veritas Class I, $\frac{3}{3}$, Coastal Waters
Engine installation after construction • MOT

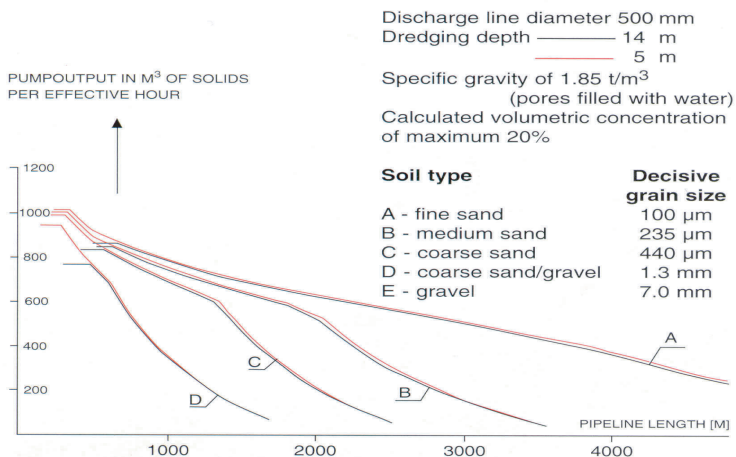
Tools

Special tools for connecting and disconnecting pontoons and cutter ladder, and for maintenance of dredgepump and diesel engine, are supplied

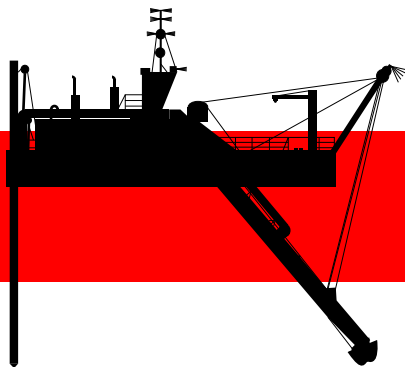
Optional equipment

- Anchor booms (plus enlarged side pontoon)
- Tilting facilities for spuds
- Wedge piece for very small min. dredging depth
- Spud carriage
- Increased dredging depth
- X-mastree installation
- Swivel bend
- Non-return valve
- Valve in discharge line
- Vacuum relief valve
- Production measuring equipment
- Towing facilities
- Bilge water separator
- Airconditioning or central heating
- Accommodation

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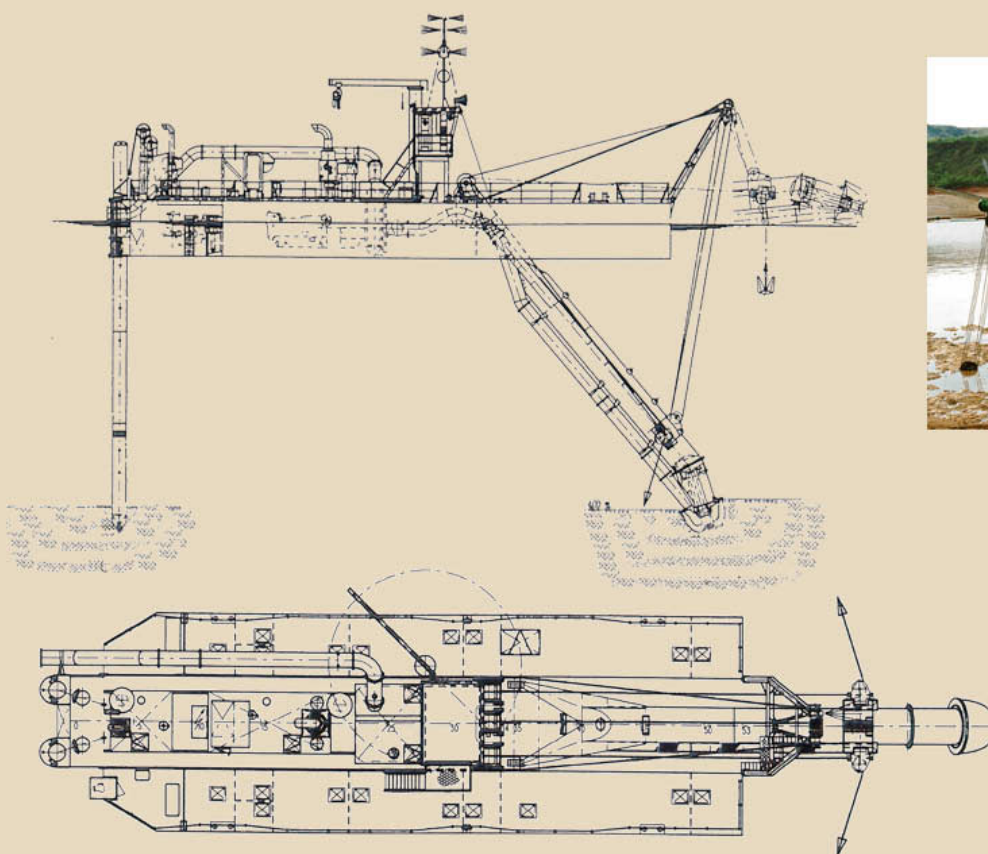


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Features and Figures

IHC Beaver 2400 cutter suction dredger



The IHC Beaver is well known for its robust construction, reliable operation and excellent performance. To date IHC Holland have supplied over 500 of these standard cutter suction dredgers. The present, improved range of standard demountable cutter suction dredgers comprises six basic models with machinery outputs from 300 to 3,800 horsepower. The IHC Beaver 2400 is one type from this range. Its hull consists of three pontoons: the main pontoon, containing the engineroom, and two side pontoons. The dimensions of all parts are such that they can be transported by road or sea. The dredger is equipped with a rapid connect-disconnect system for the pontoons, by means of bolts

at deck level and special coupling blocks at the bottom. Among the salient features of the vessel are the compact dredgepump drive incorporating a reduction gearing with integrated pump bearing, and a fresh water engine cooling system by means of well cooling. Mounted in or on the main pontoon are the cutter ladder, two swing winches, ladder hoisting winch, control cabin, dredgepump, diesel engines and auxiliary machinery and the spuds with their actuating rams. The portside pontoon carries the discharge line and deck crane. The cutter, ladder hoisting winch and swing winches are powered by piston-type hydraulic motors.



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IHC BEAVER 2400 cutter suction dredger

Features

- Completely assembled and fully tested afloat before delivery
- Simple, rapid assembly and dismantling
- Ready for operation on arrival at site
- Standard design, which implies early delivery and low price
- Spare parts available from stock
- Transportable by road or sea
- Reliable hydraulic system
- Fresh water engine cooling system
- Efficient in terms of fuel consumption
- One-man operation
- Wide range of optional equipment available

Principal particulars

- Length overall, ladder raised : 37.50 m
- Length over pontoons : 26.50 m
- Breadth : 8.60 m
- Depth : 2.75 m
- Main pontoon : 17.00 x 3.60 x 2.75 m
- Side pontoons : 22.00 x 2.44 x 2.73 m
- Mean draught with full bunkers approx. : 1.70 m
- Maximum standard dredging depth : 14.00 m
- Internal diameter of suction tube : 600 mm
- Internal diameter of discharge pipes : 550 mm
- Total dry weight approx. : 211 t

Dredgepump

- Type : IHC 1500-275-550 double walled
- Power at shaft : 1218 kW (1657 hp)
- Prime mover : Caterpillar 3516 DI-TA developing 1275 kW (1734 hp) continuous power at 1,600 rev/min. Specific fuel consumption 214 g/kW/hr.
- Dredgepump driven through combined pump block/reduction gearbox

Auxiliary power

- (cutter, winches, spuds)
- Caterpillar 3412 DI-TA developing 465 kW (632 hp) continuous power at 1,800 rev/min. Specific fuel consumption 217 g/kW/hr.

Electric installation

- Voltage 24 V
- Capacity 460 Ah
- Voltage 220/380 V AC 50Hz
- Capacity 19 kVA

Cutter

- Type : IHC 1700-265, 5-bladed with serrated edges
- Power at shaft : 276 kW (375 hp)
- Diameter : 1700 mm
- Maximum speed : 31 rev/min

Winches

- | | Ladder winch | Swing winches |
|--|--------------|---------------|
| - Line pull, 1st layer (kN) | : 120 | 120 |
| - Max. line speed (m/min) | : 20 | 20 |
| - Wire diameter (mm) | : 26 | 26 |
| - Drum diameter (mm) | : 508 | 508 |
| - All winches have independent hydraulic drive | | |

- The two swing winches are supplied with wires of 120 m and anchors of 1080 kg

Spuds

- Length : approx. 19.00 m
- Diameter : 660 mm
- Weight : approx. 6830 kg

Spud hoisting rams

- Force : 340 kN
- Ram stroke : 2.10 m
- Spud stroke : each time approx. 3.50 m

Swing width with 35° swing each side

- At max. dredging depth : 34.5 m
- At min. dredging depth : 42.0 m

Deck crane

- Lifting power : 45 kN
- Outreach : 3.80 m

Classification

Bureau Veritas Class I, ⚙ 3/3, Coastal Waters
Engine installation after construction • MOT

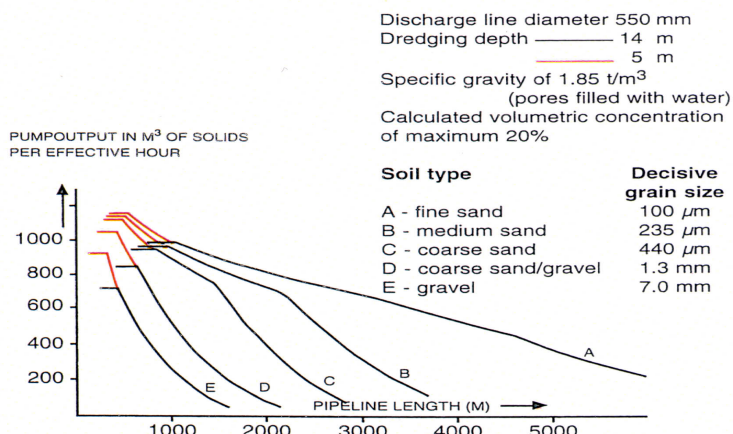
Tools

Special tools for connecting and disconnecting pontoons and cutter ladder, and for maintenance of dredgepump and diesel engine, are supplied

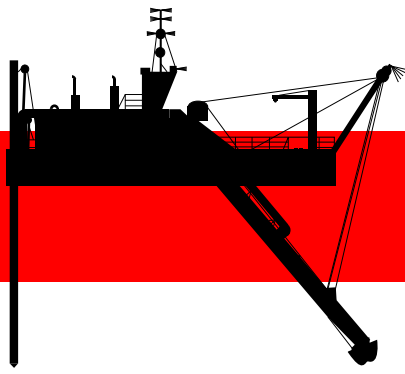
Optional equipment

- Anchor booms
- Tilt facilities for spuds
- Wedge piece for very small min. dredging depth
- Spud carriage
- Increased dredging depth
- X-mastree installation
- Swivel bend
- Non-return valve
- Valve in discharge line
- Vacuum relief valve
- Production measuring equipment
- Towing facilities
- Bilge water separator
- Airconditioning or central heating
- Accommodation

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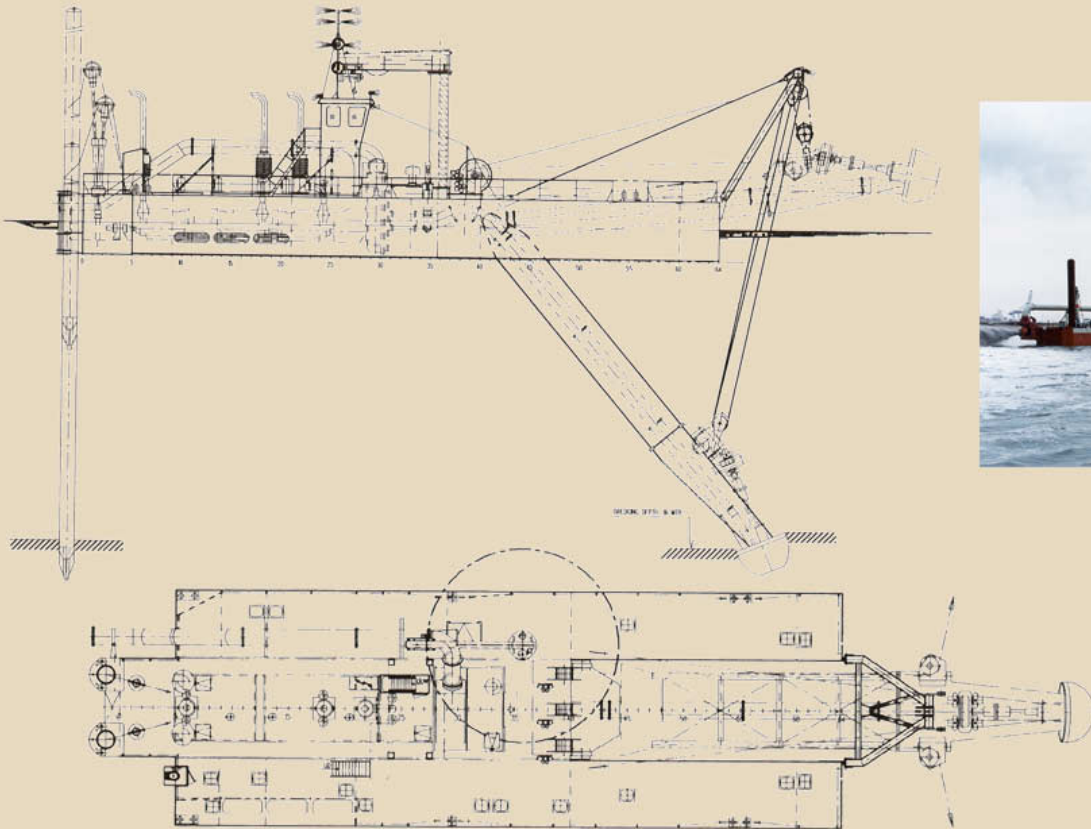


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Features and Figures

IHC Beaver 3800 cutter suction dredger



The IHC Beaver is well known for its robust construction, reliable operation and excellent performance. To date IHC Holland have supplied over 500 of these standard cutter suction dredgers.

The present, improved range of standard demountable cutter suction dredgers comprises six basic models with machinery outputs from 300 to 3,800 horsepower. The IHC Beaver 3800 is one type from this range. Its hull consists of three pontoons: the main pontoon, containing the engineroom, and two side pontoons. The dimensions of all parts are such that they can be transported by road or sea. The dredger is equipped with a rapid connect-disconnect system for the

pontoons, by means of bolts at deck level and special coupling blocks at the bottom. Among the salient features of the vessel are the compact dredge pump drive incorporating a reduction gearing with integrated pump bearing and a fresh water engine cooling system by means of well cooling. Mounted in or on the main pontoon are the cutter ladder, two swing winches, ladder hoisting winch, control cabin, dredge pump, diesel engines and auxiliary machinery and the spuds with their actuating rams. The portside pontoon carries the discharge line and deck crane. The cutter, ladder hoisting winch, swing winches are powered by piston-type hydraulic motors.

IHC BEAVER 3800 cutter suction dredger

Features

- Completely assembled and fully tested afloat before delivery
- Simple, rapid assembly and dismantling
- Ready for operation on arrival at site
- Standard design, which implies early delivery and low price
- Spare parts available from stock
- Transportable by road or sea
- Reliable hydraulic system
- Fresh water engine cooling system
- Efficient in terms of fuel consumption
- One-man operation
- Wide range of optional equipment available

Principal particulars

- Length overall, ladder raised : 44.50 m
- Length over pontoons : 32.00 m
- Breadth : 10.60 m
- Depth : 2.97 m
- Main pontoon : 20.00 x 4.30 x 2.97 m
- Side pontoons : 29.50 x 2.95 x 2.95 m
- Mean draught with full bunkers approx. (standard execution) : 2.05 m
- Maximum standard dredging depth : 16.00 m
- Internal diameter of suction tube : 700 mm
- Internal diameter of discharge pipes : 650 mm
- Total installed power : 2809 kW (3820 hp)
- Total weight approx. : 360 t

Dredgepump

- Type : IHC 1900-350-700, double walled
- Power at shaft : 1846 kW (2510 hp)
- Prime mover : 2 Caterpillar 3512 DI-TA in tandem position developing 2 x 954 kW (2 x 1298 hp) continuous power at 1,600 rev/min. Specific fuel consumption 218 g/kW/hr.
- Dredgepump driven through combined pump block/reduction gearbox

Auxiliary power

(cutter, winches, spuds)
Caterpillar 3512 DI-TA developing 876 kW (1190 hp) continuous power at 1,600 rev/min. Specific fuel consumption 216 g/kW/hr.

Harbour set

(Starting air compressor, bilge pump, generator, hydraulic emergency pump)
Deutz F3L912 developing 25 kW (34 hp) at 1500 rev/min.

Electric installation

- Voltage 24 V
- Capacity 460 Ah
- Voltage 220/380 V AC 50Hz
- Capacity 25 kVA

Cutter

- Type : IHC 2200-550, 6-bladed with serrated edges
- Power at shaft : 552 kW (750 hp)
- Diameter : 2380mm
- Maximum speed : approx. 31 rev/min

Winches

- | | Ladder winch | Swing winches |
|-----------------------------|--------------|---------------|
| - Line pull, 1st layer (kN) | : 240 | 240 |
| - Max. line speed (m/min) | : 25 | 20 |
| - Wire diameter (mm) | : 36 | 36 |
| - Drum diameter (mm) | : 750 | 750 |

- All winches have independent hydraulic drive
- The two swing winches are supplied with wires of 150 m and anchors of 2500 kg

Spuds

- Length : 21.4 m
- Diameter : 800 mm
- Weight : 12,110 kg

Spud hoisting rams

- Force : 534 kN
- Ram stroke : 2.60 m
- Spud stroke : each time approx. 3.65 m

Swing width with 35° swing each side

- At max. dredging depth : 42.5 m
- At min. dredging depth : 51 m

Deck crane

- Lifting power : 80 kN
- Outreach : 4.25 m

Classification

Bureau Veritas Class I, \star 3/3, Coastal Waters
Engine installation after construction • MOT

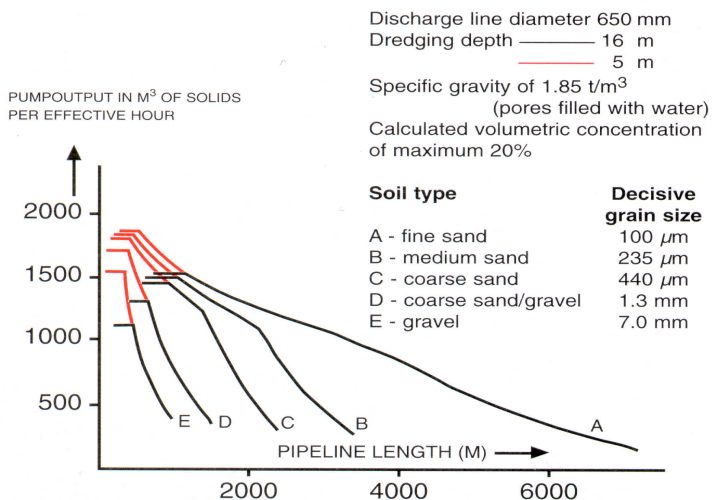
Tools

Special tools for connecting and disconnecting pontoons and cutter ladder, and for maintenance of dredgepump and diesel engine, are supplied

Optional equipment

- Anchor booms
- Titrating facilities for spuds
- Wedge piece for very small min. dredging depth
- Spud carriage
- Increased dredging depth
- X-mastree installation
- Swivel bend
- Non-return valve
- Valve in discharge line
- Vacuum relief valve
- Production measuring equipment
- Towing facilities
- Bilge water separator
- Airconditioning or central heating
- Accommodation

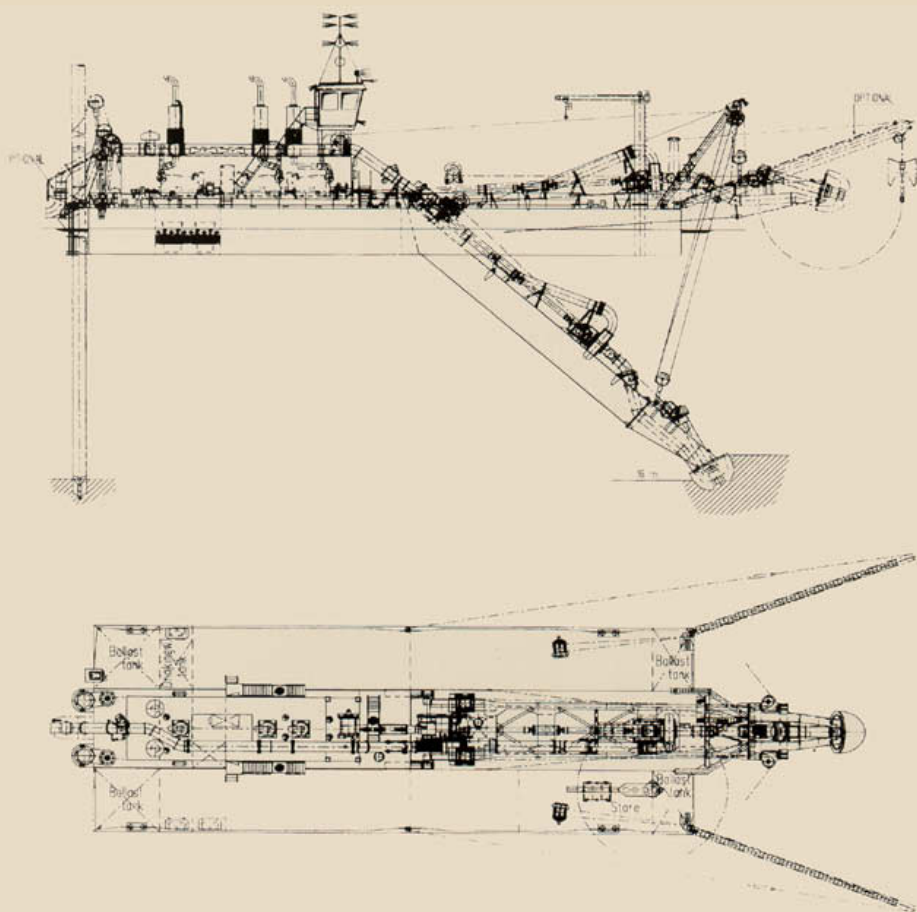
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Features and Figures

IHC Beaver 3800 NG cutter suction dredger



The IHC Beaver are well known for their robust construction, reliable operation and excellent performance. To date IHC Holland have supplied over 600 of these demountable cutter suction dredgers.

Recently a special type has been developed, the IHC Beaver 3800 NG (New Generation).

The main features of this type are the deck-mounted engine room and the submerged dredge pump which is directly driven by a tandem set of Caterpillar diesel engines through a pivoting gearbox. This pump drive combines the production benefits of a submerged dredge pump with the high efficiency of the direct drive.

The hull consists of one centre pontoon and two side pontoons. Special attention has been paid to simple and quick assembly and dismantling. The dimensions of all parts are such that they can be transported by road or sea. The cutter is driven by a low-speed hydraulic motor.

The two spuds are each operated by means of hydraulic ram. Each of the two separate swing winches and the ladder winch are driven by a hydraulic motor. Oil for the hydraulic system is supplied by vane pumps.

On deck the engine room unit is installed with o.a.:

- a Caterpillar tandem set for direct drive of the submerged dredge pump.
- a Caterpillar auxiliary engine, incl. hydraulic pumps and board network generator.

Furthermore a harbour set is placed. This set comprises a diesel engine, driving a generator and an emergency hydraulic pump.

The submerged pump diesel engines and the hydraulic installation are operated by the dredge master from the operating desk, so that all operations for dredging can be executed by one person.



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IHC BEAVER 3800 NG cutter suction dredger

Features

- Completely assembled and fully tested afloat before delivery
- Simple, rapid assembly and dismantling
- Ready for operation on arrival at site
- Spare parts available from stock
- Transportable by road or sea
- Fresh water engine cooling system
- Efficient in terms of fuel consumption
- One-man operation
- Standard equipped with:
 - production measuring equipment
 - toilet
- delta flipper anchors

Principal particulars

- | | |
|---|-----------------------|
| - Length overall, ladder raised | 48.00 m |
| - Length over pontoons | 36.00 m |
| - Breadth | 13.00 m |
| - Depth | 2.97 m |
| - Centre pontoon | 19.00 x 5.00 x 2.97 m |
| - Side pontoons | 36.00 x 3.95 x 2.95 m |
| - Engine room unit | 14.00 x 3.80 x 3.00 m |
| - Mean draught with 100 m ³ in bunkers approx. | 1.65 m |
| - Maximum dredging depth | 16.00 m |
| - Internal diameter of suction tube | 600 mm |
| - Internal diameter of discharge pipe | 600 mm |
| - Total installed power | 2557 kW |

Classification

Bureau Veritas Class I, \approx 3/3, Coastal Waters
Engine installation after construction • MOT

Submerged dredge pump

- Type IHC 1500-275-550 3-bladed
- Power at shaft 1650 kW
- Prime mover 2 Caterpillar 3512 DI-TA in tandem position, developing 2 x 876 kW continuous power at 1,600 rev/min. Specific fuel consumption 207 g/kW/hr
- Dredgepump driven through pivoting gearbox

Auxiliary power

(Cutter, winches, spuds)
Caterpillar 3512 DI-TA developing 780 kW continuous power at 1,500 rev/min. Specific fuel consumption 207 g/kW/hr.

Harbour set

(Starting air compressor, bilge pump, generator, hydraulic emergency pump)
Deutz F3L912 developing 25 kW at 1,500 rev/min.

Electric installation

- Voltage 24 V
- Capacity 600 Ah
- Voltage 380 V AC 50 Hz
- Capacity 80 kVA

Cutter

- Type IHC 2200-550, 6-bladed with serrated edges
- Power at shaft 450 kW
- Diameter 2380 mm
- Maximum speed 18/25/31 rev/min

Winches

- | | Ladder winch | Swing winches |
|---|--------------|---------------|
| - Line pull, 1st layer (kN) | 240 | 180 |
| - Max. line speed (m/min) | 24 | 20 |
| - Wire diameter (mm) | 36 | 30 |
| - Drum diameter (mm) | 750 | 650 |
| - All winches have independent hydraulic drive | | |
| - The two swing winches are supplied with wires of 150 m and anchors of 1750 kg | | |

Spuds

- Length 21.4 m
- Diameter 800 mm
- Weight 14,150 kg

Spud hoisting rams

- Force 534 kN
- Ram stroke 2.60 m
- Spud stroke each time approx. 3.65 m

Swing width with 35° swing each side

- At max. dredging depth 45 m
- At min. dredging depth 48 m

Deck crane

- Lifting power 50 kN
- Outreach 4.50 m

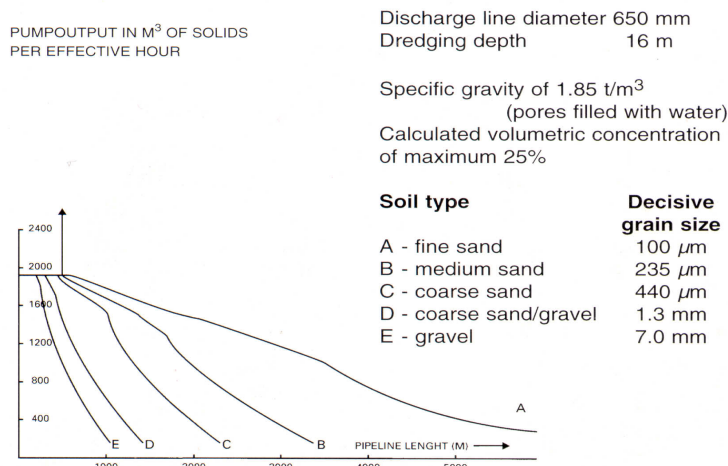
Tools

Special tools for connecting and disconnecting pontoons and cutter ladder, and for maintenance of dredgepump and diesel engine are supplied

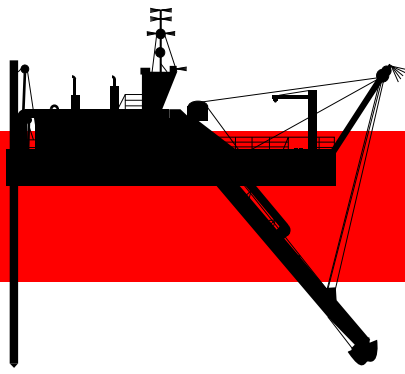
Optional equipment

- Anchor booms
- Increased dredging depth of max. 21 m
- Swivel bend
- Non-return valve
- Airconditioning or central heating
- Increased cutter power

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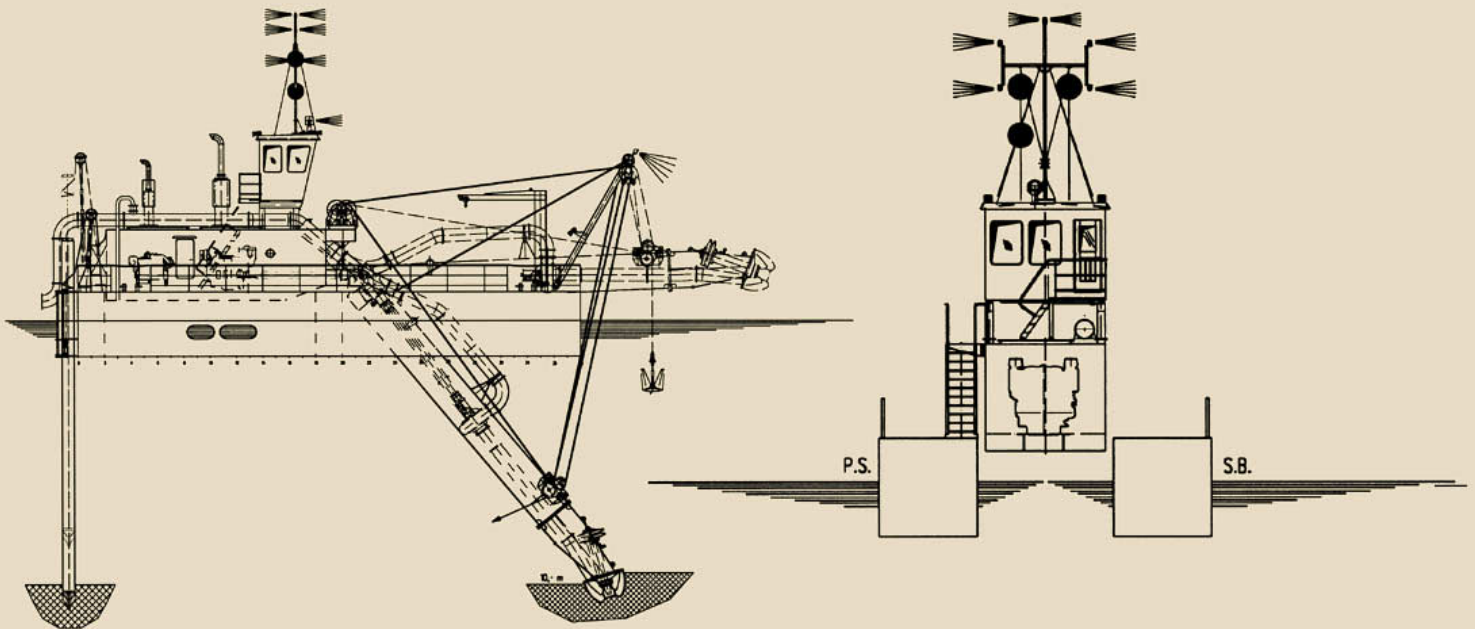


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Features and Figures

New Generation IHC Beaver 4510 C cutter suction dredger



The IHC Beaver is well known for its robust construction, reliable operation and excellent performance. To date IHC Holland have supplied over 600 of these standard cutter and wheel dredgers worldwide.

As a result of intensive research combined with the latest technology, the **New Generation** IHC Beaver Dredgers are now available to dredging industry. The improvements in efficiency and savings in fuel consumption are spectacular. The existing relationship to installed power and type designation is no longer valid. The installed power in the **New Generation** series is significantly lower than before while providing, however, the **same** or even **higher** dredging output.

The complete range of demountable standard dredgers comprises seven models of cutter as well as wheel dredgers with delivery pipelines ranging in diameter from 400 mm up to and including 750 mm. The **New Generation** dredgers have a catamaran shaped hull with the engine room located at deck level. The dredgers are equipped with a single high pressure submerged dredge pump mounted on the ladder. This **High Efficiency** dredge

pump is directly driven by the diesel engine via the **IHC Pivoting Gearbox**.

The prime mover for the dredge pump is a modern computer controlled diesel engine with low fuel consumption and low NOx and soot emission.

The above combination results in the **lowest costs per cubic metre** of dredged material for cutter and wheel dredgers.

The type designation of the New Generation IHC Beaver series is related to the diameter of the delivery pipeline, the dredging depth and cutting tool.

This type is called **New Generation IHC Beaver 4510 C**

45 -> diameter of the delivery pipeline is 450 mm
10 -> max. dredging depth is 10 metres
C -> dredger is equipped with a cutter

This dredger can also be supplied as a standard wheel dredger, the **New Generation IHC Beaver 4010 W** with a Ø 400 mm delivery pipeline.

New Generation

IHC BEAVER 4510 C cutter suction dredger

Features

- Highly efficient in terms of fuel consumption and overall operational costs
- New high effective cutter/wheel drive system
- Fresh water cooling system
- Hull consists of two sides pontoons connected by small coupling pontoons
- Completely assembled and fully tested before delivery
- Very simple and fast assembly, afloat as well as onshore
- Ready for operation on arrival at site
- Equipped as standard with production measuring equipment
- Standard design, short delivery times
- Standard spare parts available from stock
- Designed as standard to qualify for Coastal Waters Certificate
- Optional equipment available

Principal particulars

- Length overall, ladder raised 28.50 m
- Length over pontoons, moulded 19.00 m
- Breadth, moulded 8.23 m
- Depth, moulded 2.44 m
- Side pontoons, moulded 19.00 x 2.44 x 2.44 m
- Mean draught with full bunkers approx. (standard execution) 1.50 m
- Maximum standard dredging depth 10.00 m
- Internal diameter of suction tube 450 mm
- Internal diameter of discharge pipes 450 mm
- Total installed power 745 kW (1013 hp)
- Total dry weight approx. 119 t

Dredgepump

- Type IHC HR/MD 81-17-40
- Power at shaft 505 kW (687 hp)
- Prime mover Caterpillar 3412 E developing 548 kW (745 hp) continuous power at 1,800 rev/min. Specific fuel consumption 213 g/kW/hr.
- Dredgepump driven through pivoting gearbox
- Ball clearance 171 mm

Auxiliary power

- (cutter, winches, spuds)
- Caterpillar 3306B-DI-TA developing 214 kW (290 hp) medium duty power at 1,800 rev/min.
- Specific fuel consumption 212 g/kW/hr.

Electric installation

- Voltage 24 V
- Capacity 400 Ah
- Voltage 230/400 V AC 50Hz
- Capacity 12.5 kVA

Cutter

- Type IHC 1330-120, 5-bladed with serrated edges
- Power at shaft 110 kW (150 hp)
- Diameter 1330 mm
- Maximum speed approx. 35 rev/min

Winches

- | | Ladder winch | Swing winches |
|-----------------------------|--------------|---------------|
| - Line pull, 1st layer (kN) | 70 | 70 |
| - Max. line speed (m/min) | 20 | 20 |
| - Wire diameter (mm) | 20 | 20 |

- Drum diameter (mm) 421 421
- All winches have independent hydraulic drive
- The two swing winches are supplied with wires of 100 m and anchors of 430 kg

Spuds

- Length 13.9 m
- Diameter 457 mm
- Weight 2575 kg

Spud hoisting rams

- Force 257 kN
- Ram stroke 2.10 m
- Spud stroke each time approx. 3.15 m

Swing width with 35° swing each side

- At max. dredging depth 24 m
- At min. dredging depth 30 m

Deck crane

- Lifting power 12 kN
- Outreach 2.8 m

Classification

Bureau Veritas Class I, \pm 3/3, Coastal Waters
Engine installation after construction • MOT

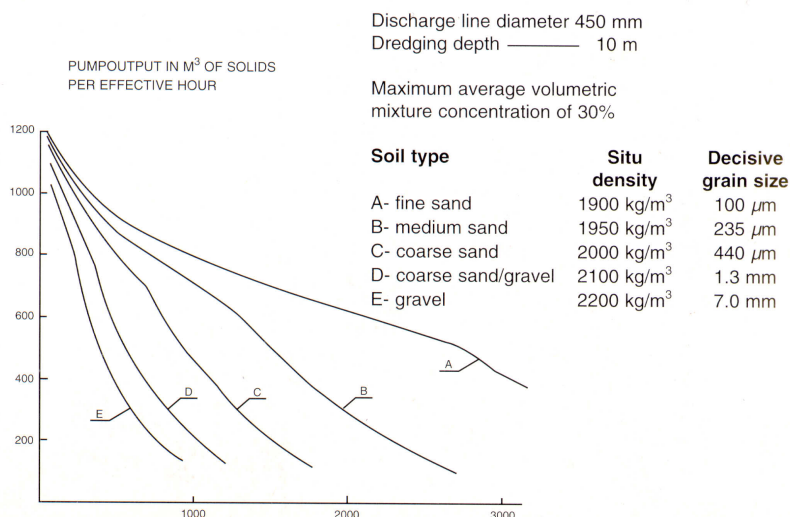
Tools

Special tools for connecting and disconnecting pontoons and cutter ladder, and for maintenance of dredgepump and diesel engines are supplied

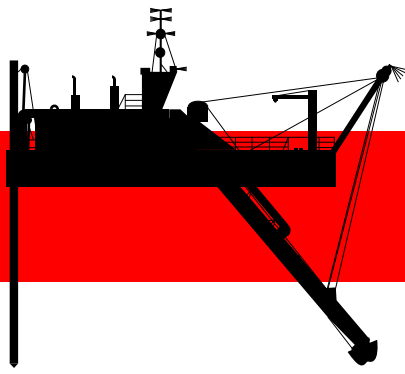
Optional equipment

- Anchor booms
- Spud carrier
- Increased dredging depth
- Double walled dredge pump
- Dredge automation systems
- Swivel bend
- Spud tilting facility
- Airconditioning
- Harbour set

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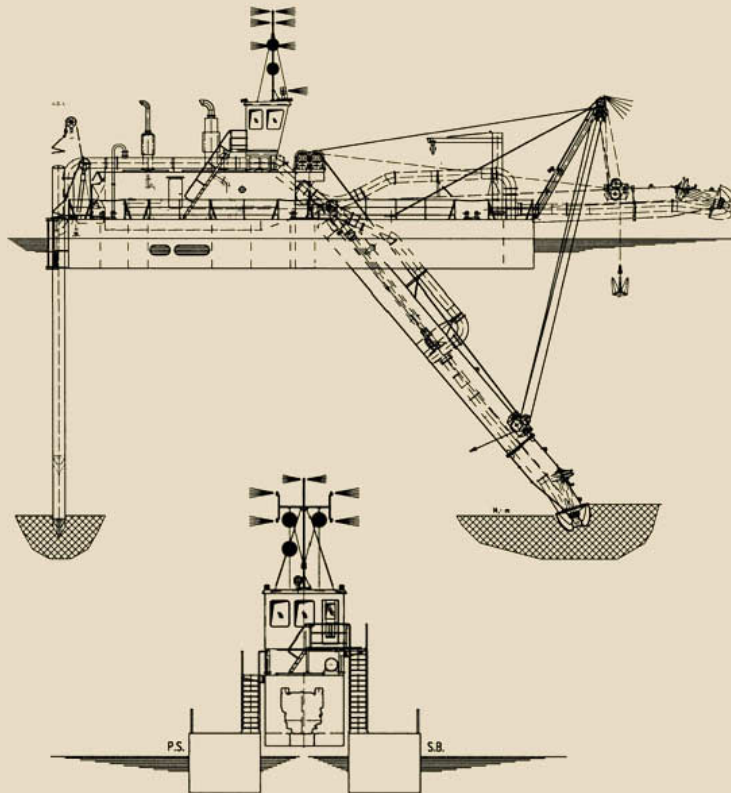


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Features and Figures

New Generation IHC Beaver 5014 C cutter suction dredger



The IHC Beaver is well known for its robust construction, reliable operation and excellent performance. To date IHC Holland have supplied over 600 of these standard cutter and wheel dredgers worldwide.

As a result of intensive research combined with the latest technology, the **New Generation IHC Beaver Dredgers** are now available to dredging industry. The improvements in efficiency and savings in fuel consumption are spectacular. The existing relationship to installed power and type designation is no longer valid. The installed power in the **New Generation** series is significantly lower than before while providing, however, the **same** or even **higher** dredging output.

The complete range of demountable standard dredgers comprises seven models of cutter as well as wheel dredgers with delivery pipelines ranging in diameter from 400 mm up to and including 750 mm. The **New Generation** dredgers have a catamaran shaped hull with the engine room located at deck level. The dredgers are equipped with a single high pressure submerged dredge pump mounted on the ladder. This **High Efficiency** dredge

pump is directly driven by the diesel engine via the **IHC Pivoting Gearbox**.

The prime mover for the dredge pump is a modern computer controlled diesel engine with low fuel consumption and low NOx and soot emission.

The above combination results in the **lowest costs per cubic metre** of dredged material for cutter and wheel dredgers.

The type designation of the New Generation IHC Beaver series is related to the diameter of the delivery pipeline, the dredging depth and cutting tool.

This type is called **New Generation IHC Beaver 5014 C**

50 -> diameter of the delivery pipeline is 500 mm

14 -> max. dredging depth is 14 metres

C -> dredger is equipped with a cutter

This dredger can also be supplied as a standard wheel dredger, the **New Generation IHC Beaver 4514 W** with a \varnothing 450 mm delivery pipeline.



IHC HOLLAND



New Generation

IHC BEAVER 5014 C cutter suction dredger

Features

- Highly efficient in terms of fuel consumption and overall operational costs
- New high effective cutter/wheel drive system
- Fresh water cooling system
- Hull consists of two side pontoons connected by small coupling pontoons
- Completely assembled and fully tested before delivery
- Very simple and fast assembly, afloat as well as onshore
- Ready for operation on arrival at site
- Equipped as standard with production measuring equipment
- Standard design, short delivery times
- Standard spare parts available from stock
- Designed as standard to qualify for Coastal Waters Certificate
- Optional equipment available

Principal particulars

- Length overall, ladder raised 35.10 m
- Length over pontoons, moulded 23.50 m
- Breadth, moulded 9.50 m
- Depth, moulded 2.46 m
- Side pontoons, moulded 23.50 x 2.95 x 2.46 m
- Mean draught with full bunkers approx. (standard execution) 1.55 m
- Maximum standard dredging depth 14.00 m
- Internal diameter of suction tube 500 mm
- Internal diameter of discharge pipes 500 mm
- Total installed power 1115 kW (1516 hp)
- Total dry weight approx. 174 t

Dredgepump

- Type IHC HR/MD 91-19-45
- Power at shaft 746 kW (1015 hp)
- Prime mover Caterpillar 3508 B developing 794 kW (1080 hp) continuous power at 1,600 rev/min. Specific fuel consumption 196 g/kW/hr.
- Dredgepump driven through pivoting gearbox
- Ball clearance 192 mm

Auxiliary power

(cutter, winches, spuds)
Caterpillar 3406 DI-TA developing 321 kW (436 hp)
medium duty power at 1,800 rev/min.
Specific fuel consumption 201 g/kW/hr.

Electric installation

- Voltage 24 V
- Capacity 400 Ah
- Voltage 230/400 V AC 50Hz
- Capacity 16.5 kVA

Cutter

- Type IHC 1450-170, 5-bladed with serrated edges
- Power at shaft 170 kW (231 hp)
- Diameter 1455 mm
- Maximum speed approx. 30 rev/min

Winches

- | | Ladder winch | Swing winches |
|-----------------------------|--------------|---------------|
| - Line pull, 1st layer (kN) | 110 | 110 |
| - Max. line speed (m/min) | 20 | 20 |
| - Wire diameter (mm) | 24 | 24 |

- Drum diameter (mm) 457 457
- All winches have independent hydraulic drive
- The two swing winches are supplied with wires of 100 m and anchors of 730 kg

Spuds

- Length 18.6 m
- Diameter 610 mm
- Weight 6208 kg

Spud hoisting rams

- Force 257 kN
- Ram stroke 2.1 m
- Spud stroke each time approx. 3.15 m

Swing width with 35° swing each side

- At max. dredging depth 30.5 m
- At min. dredging depth 39.0 m

Deck crane

- Lifting power 20 kN
- Outreach 3.5 m

Classification

Bureau Veritas Class I, \approx 3/3, Coastal Waters
Engine installation after construction • MOT

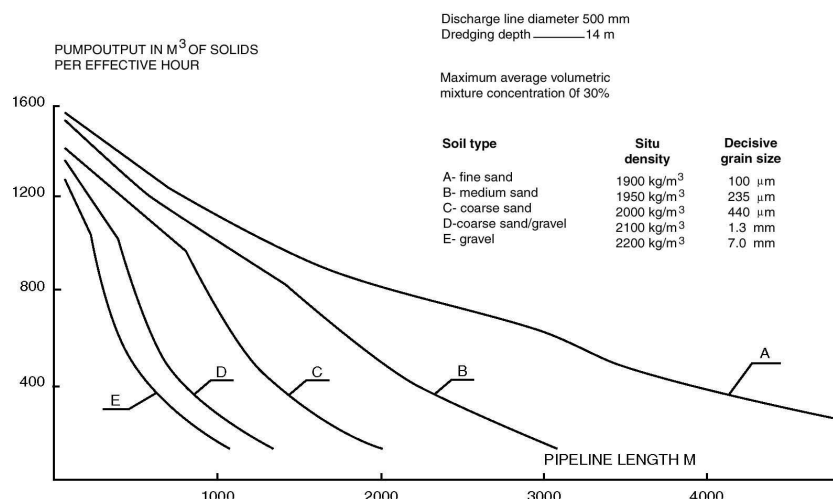
Tools

Special tools for connecting and disconnecting pontoons and cutter ladder, and for maintenance of dredgepump and diesel engine are supplied

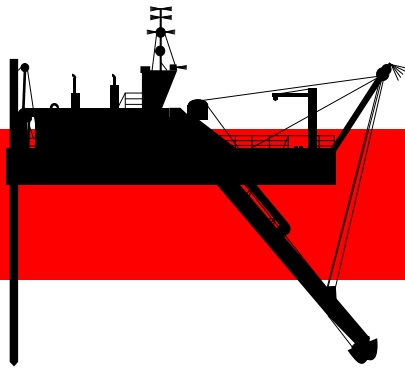
Optional equipment

- Anchor booms
- Spud carrier
- Increased dredging depth
- Double walled dredge pump
- Dredge automation systems
- Swivel bend
- Spud tilting facility
- Airconditioning
- Harbour set

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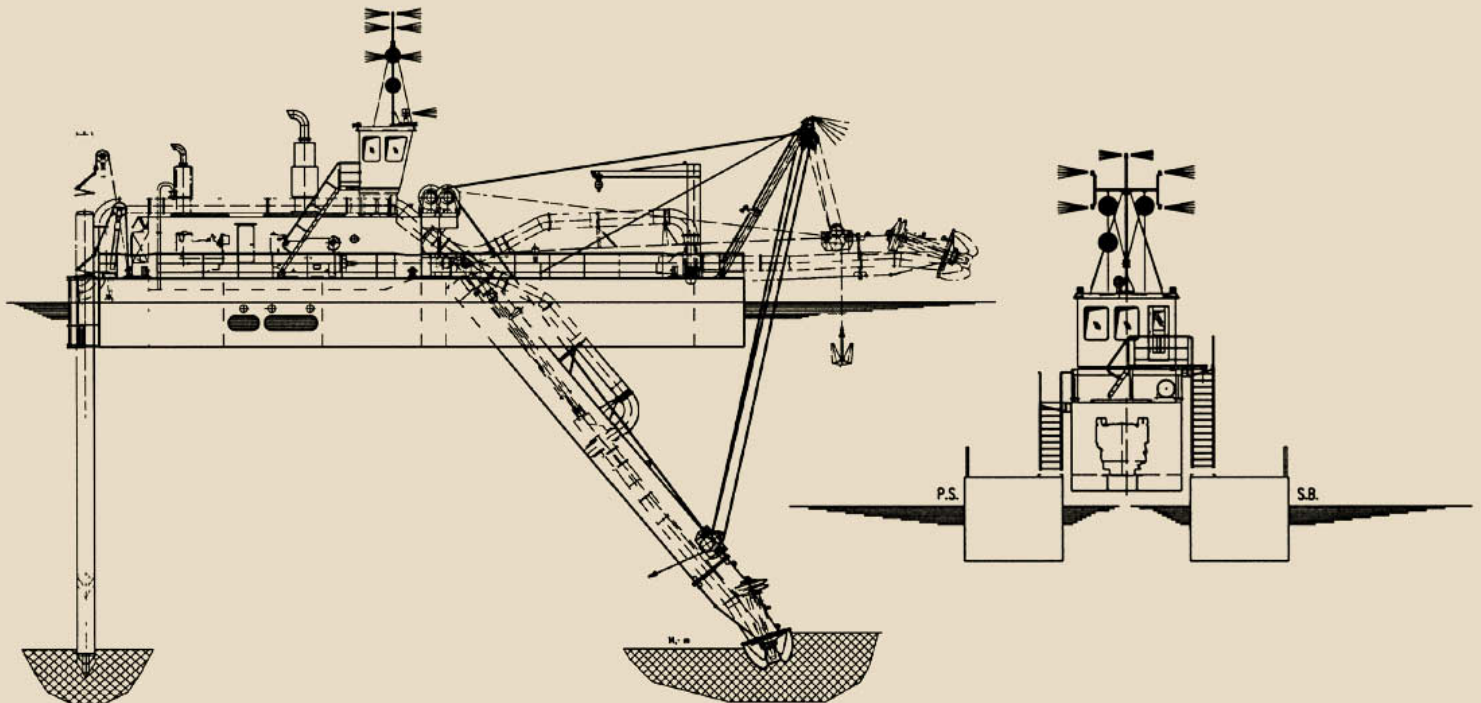


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Features and Figures

New Generation IHC Beaver 5514 C cutter suction dredger



The IHC Beaver is well known for its robust construction, reliable operation and excellent performance. To date IHC Holland have supplied over 600 of these standard cutter and wheel dredgers worldwide.

As a result of intensive research combined with the latest technology, the **New Generation IHC Beaver Dredgers** are now available to dredging industry. The improvements in efficiency and savings in fuel consumption are spectacular. The existing relationship to installed power and type designation is no longer valid. The installed power in the **New Generation** series is significantly lower than before while providing, however, the **same** or even **higher** dredging output.

The complete range of demountable standard dredgers comprises seven models of cutter as well as wheel dredgers with delivery pipelines ranging in diameter from 400 mm up to and including 750 mm. The **New Generation** dredgers have a catamaran shaped hull with the engine room located at deck level. The dredgers are equipped with a single high pressure submerged dredge pump mounted on the ladder. This **High Efficiency** dredge

pump is directly driven by the diesel engine via the **IHC Pivoting Gearbox**.

The prime mover for the dredge pump is a modern computer controlled diesel engine with low fuel consumption and low NOx and soot emission.

The above combination results in the **lowest costs per cubic metre** of dredged material for cutter and wheel dredgers.

The type designation of the New Generation IHC Beaver series is related to the diameter of the delivery pipeline, the dredging depth and cutting tool.

This type is called **New Generation IHC Beaver 5514 C**

55 -> diameter of the delivery pipeline is 550 mm

14 -> max. dredging depth is 14 metres

C -> dredger is equipped with a cutter

This dredger can also be supplied as a standard wheel dredger, the **New Generation IHC Beaver 5014 W** with a Ø 500 mm delivery pipeline.



IHC HOLLAND



New Generation

IHC BEAVER 5514 C cutter suction dredger

Features

- Highly efficient in terms of fuel consumption and overall operational costs
- New high effective cutter/wheel drive system
- Fresh water cooling system
- Hull consists of two side pontoons connected by small coupling pontoons
- Completely assembled and fully tested before delivery
- Very simple and fast assembly, afloat as well as onshore
- Ready for operation on arrival at site
- Equipped as standard with production measuring equipment
- Standard design, short delivery times
- Standard spare parts available from stock
- Designed as standard to qualify for Coastal Waters Certificate
- Optional equipment available

Principal particulars

- Length overall, ladder raised 36.80 m
- Length over pontoons, moulded 26.00 m
- Breadth, moulded 10.64 m
- Depth, moulded 2.75 m
- Side pontoons, moulded 26.00 x 3.22 x 2.75 m
- Mean draught with full bunkers approx. (standard execution) 1.80 m
- Maximum standard dredging depth 14.00 m
- Internal diameter of suction tube 550 mm
- Internal diameter of discharge pipes 550 mm
- Total installed power 1491 kW (2028 hp)
- Total dry weight approx. 235 t

Dredgepump

- Type IHC HR/MD 101-21-50
- Power at shaft 900 kW (1224 hp)
- Prime mover Caterpillar 3512 DI-TA developing 954 kW (1298 hp) continuous power at 1,600 rev/min. Specific fuel consumption 214 g/kW/hr.
- Dredgepump driven through pivoting gearbox
- Ball clearance 213 mm

Auxiliary power

- (cutter, winches, spuds)
- Caterpillar 3412 DI-TA developing 537 kW (730 hp) medium duty power at 1,800 rev/min. Specific fuel consumption 213 g/kW/hr.

Electric installation

- Voltage 24 V
- Capacity 460 Ah
- Voltage 230/400 V AC 50Hz
- Capacity 20 kVA

Cutter

- Type IHC 1700-265, 5-bladed with serrated edges
- Power at shaft 280 kW (380 hp)
- Diameter 1700 mm
- Maximum speed approx. 30 rev/min

Winches

- | | Ladder winch | Swing winches |
|-----------------------------|--------------|---------------|
| - Line pull, 1st layer (kN) | 150 | 150 |
| - Max. line speed (m/min) | 20 | 20 |
| - Wire diameter (mm) | 28 | 28 |

- Drum diameter (mm) 610 610
- All winches have independent hydraulic drive
- The two swing winches are supplied with wires of 125 m and anchors of 800 kg

Spuds

- Length 19 m
- Diameter 711 mm
- Weight 7507 kg

Spud hoisting rams

- Force 449 kN
- Ram stroke 2.10 m
- Spud stroke each time approx. 3.05 m

Swing width with 35° swing each side

- At max. dredging depth 32.5 m
- At min. dredging depth 41.0 m

Deck crane

- Lifting power 20 kN
- Outreach 3.5 m

Classification

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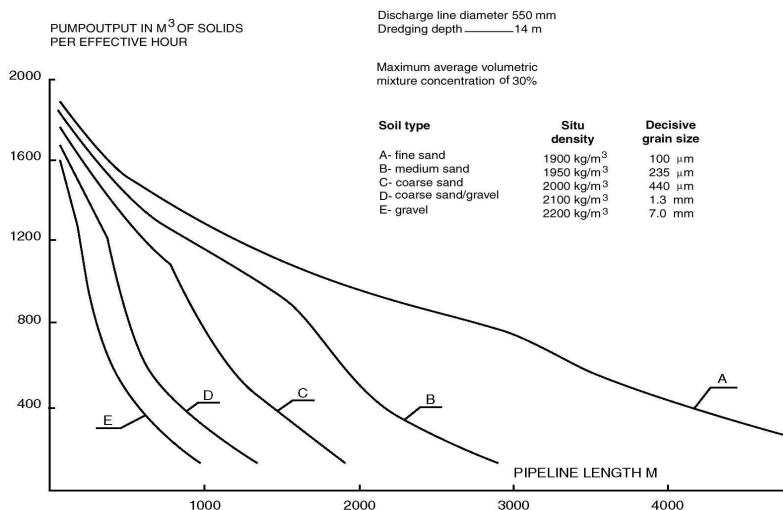
Tools

Special tools for connecting and disconnecting pontoons and cutter ladder, and for maintenance of dredgepump and diesel engine are supplied

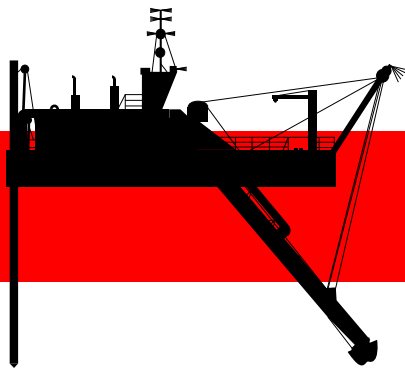
Options

- Anchor booms
- Spud carrier
- Increased dredging depth
- Double walled dredge pump
- Dredge automation systems
- Swivel bend
- Spud tilting facility
- Airconditioning
- Harbour set

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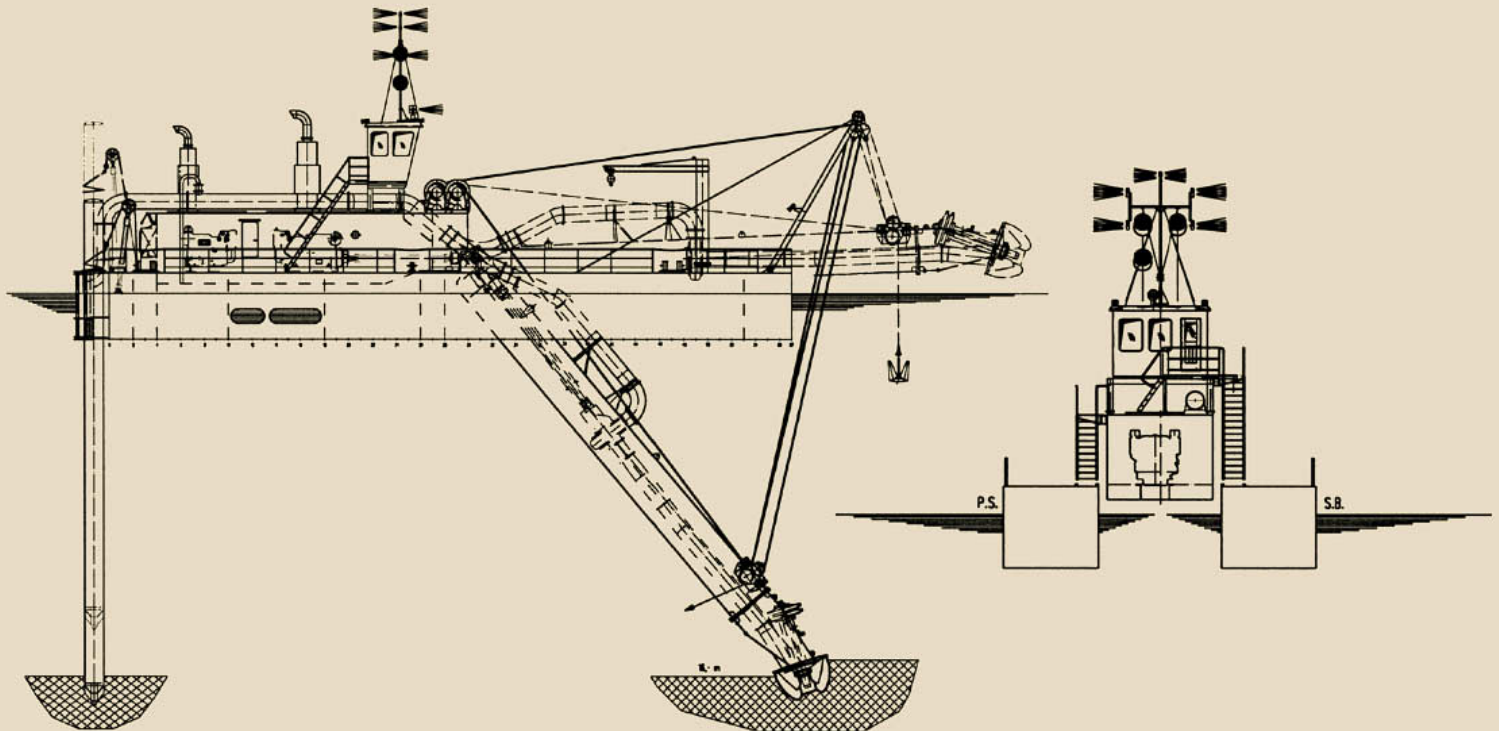


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Features and Figures

New Generation IHC Beaver 6016 C cutter suction dredger



The IHC Beaver is well known for its robust construction, reliable operation and excellent performance. To date IHC Holland have supplied over 600 of these standard cutter and wheel dredgers worldwide.

As a result of intensive research combined with the latest technology, the **New Generation IHC Beaver Dredgers** are now available to dredging industry. The improvements in efficiency and savings in fuel consumption are spectacular. The existing relationship to installed power and type designation is no longer valid. The installed power in the **New Generation** series is significantly lower than before while providing, however, the **same** or even **higher** dredging output.

The complete range of demountable standard dredgers comprises seven models of cutter as well as wheel dredgers with delivery pipelines ranging in diameter from 400 mm up to and including 750 mm. The **New Generation** dredgers have a catamaran shaped hull with the engine room located at deck level. The dredgers are equipped with a single high pressure submerged dredge pump mounted on the ladder. This **High Efficiency** dredge

pump is directly driven by the diesel engine via the **IHC Pivoting Gearbox**.

The prime mover for the dredge pump is a modern computer controlled diesel engine with low fuel consumption and low NOx and soot emission.

The above combination results in the **lowest costs per cubic metre** of dredged material for cutter and wheel dredgers.

The type designation of the New Generation IHC Beaver series is related to the diameter of the delivery pipeline, the dredging depth and cutting tool.

This type is called **New Generation IHC Beaver 6016 C**

60 -> diameter of the delivery pipeline is 600 mm

16 -> max. dredging depth is 16 metres

C -> dredger is equipped with a cutter

This dredger can also be supplied as a standard wheel dredger, the **New Generation IHC Beaver 5516 W** with a Ø 450 mm delivery pipeline.



IHC HOLLAND



New Generation

IHC BEAVER 6016 C cutter suction dredger

Features

- Highly efficient in terms of fuel consumption and overall operational costs
- New high effective cutter/wheel drive system
- Fresh water cooling system
- Hull consists of two side pontoons connected by small coupling pontoons
- Completely assembled and fully tested before delivery
- Very simple and fast assembly, afloat as well as onshore
- Ready for operation on arrival at site
- Equipped as standard with production measuring equipment
- Standard design, short delivery times
- Standard spare parts available from stock
- Designed as standard to qualify for Coastal Waters Certificate
- Optional equipment available

Principal particulars

- Length overall, ladder raised 40.00 m
- Length over pontoons, moulded 28.50 m
- Breadth, moulded 10.64 m
- Depth, moulded 2.75 m
- Side pontoons, moulded 28.50 x 3.22 x 2.75 m
- Mean draught with full bunkers approx. (standard execution) 1.90 m
- Maximum standard dredging depth 16.00 m
- Internal diameter of suction tube 600 mm
- Internal diameter of discharge pipes 600 mm
- Total installed power 1796 kW (2443 hp)
- Total dry weight approx. 284 t

Dredgepump

- Type IHC HR/MD 111-23-55
- Power at shaft 1121 kW (1525 hp)
- Prime mover Caterpillar 3512 B developing 1193 kW (1622 hp) continuous power at 1,600 rev/min.
- Specific fuel consumption 192 g/kW/hr.
- Dredgepump driven through pivoting gearbox
- Ball clearance 235 mm

Auxiliary power

(cutter, winches, spuds)
Caterpillar 3508 developing 675 kW (918 hp)
medium duty power at 1,600 rev/min.
Specific fuel consumption 216 g/kW/hr.

Electric installation

- Voltage 24 V
- Capacity 460 Ah
- Voltage 230/400 V AC 50Hz
- Capacity 20 kVA

Cutter

- Type IHC 1950-385, 6-bladed with serrated edges
- Power at shaft 380 kW (517 hp)
- Diameter 1950 mm
- Maximum speed approx. 30 rev/min

Winches

- | | Ladder winch | Swing winches |
|-----------------------------|--------------|---------------|
| - Line pull, 1st layer (kN) | 180 | 180 |
| - Max. line speed (m/min) | 20 | 20 |
| - Wire diameter (mm) | 32 | 32 |

- Drum diameter (mm) 660 660
- All winches have independent hydraulic drive
- The two swing winches are supplied with wires of 100 m and anchors of 900 kg

Spuds

- Length 21 m
- Diameter 711 mm
- Weight 1051 kg

Spud hoisting rams

- Force 534 kN
- Ram stroke 2.10 m
- Spud stroke each time approx. 3.05 m

Swing width with 35° swing each side

- At max. dredging depth 35 m
- At min. dredging depth 44.5 m

Deck crane

- Lifting power 26 kN
- Outreach 3.8 m

Classification

Bureau Veritas Class I, ∇ 3/3, Coastal Waters
Engine installation after construction • MOT

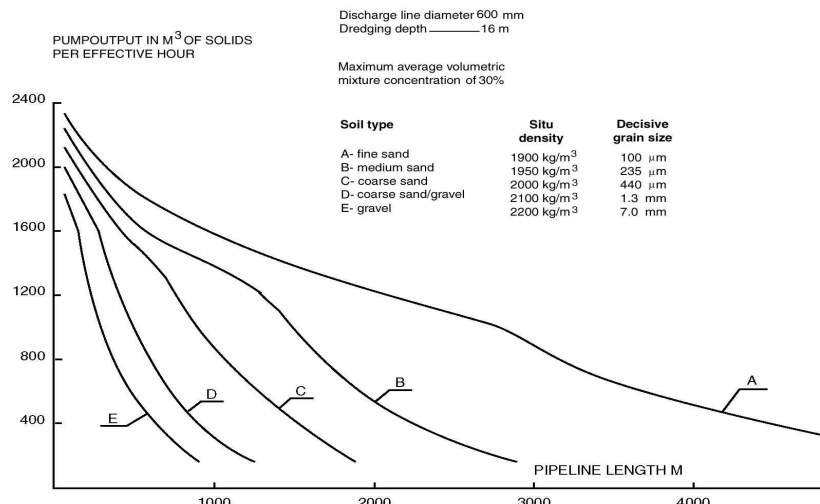
Tools

Special tools for connecting and disconnecting pontoons and cutter ladder, and for maintenance of dredgepump and diesel engine are supplied

Options

- Anchor booms
- Spud carrier
- Increased dredging depth
- Double walled dredge pump
- Dredge automation systems
- Swivel bend
- Spud tilting facility
- Airconditioning
- Harbour set

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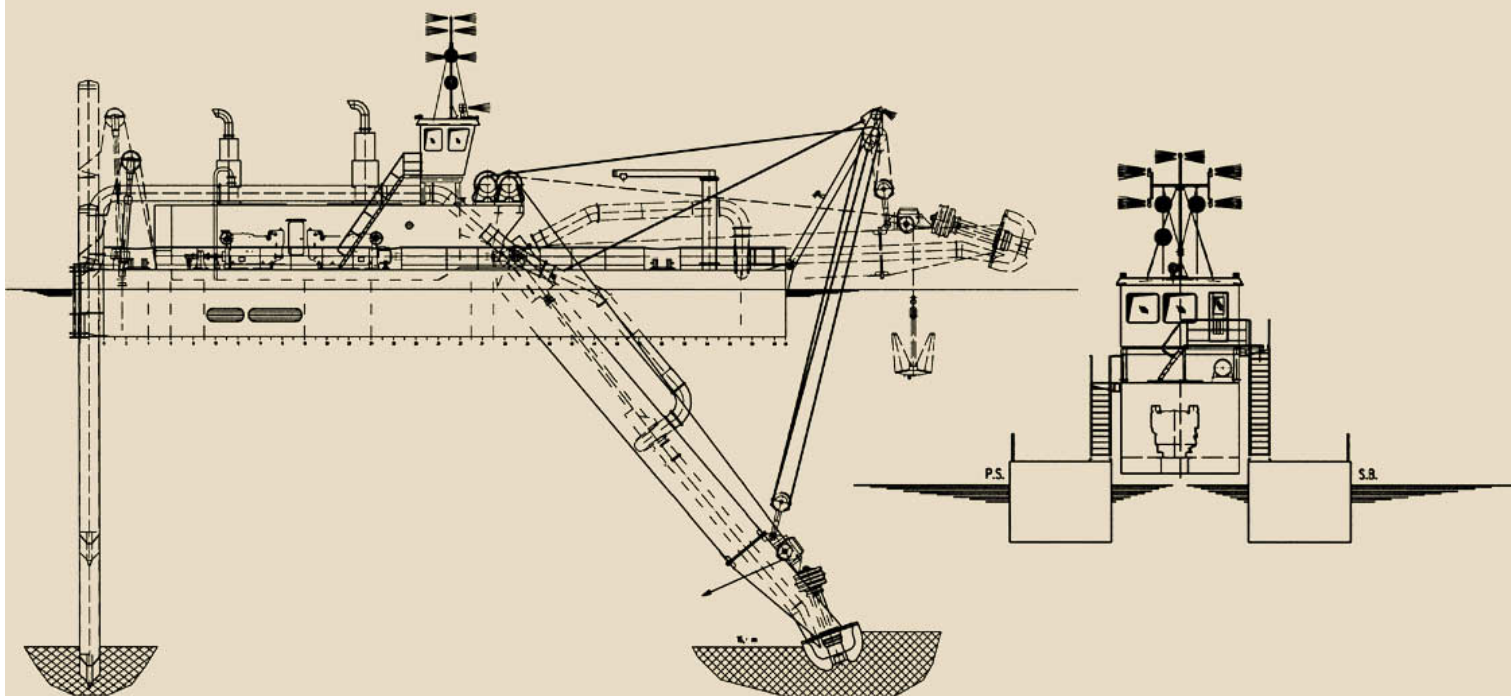


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Features and Figures

New Generation IHC Beaver 6516 C cutter suction dredger



The IHC Beaver is well known for its robust construction, reliable operation and excellent performance. To date IHC Holland have supplied over 600 of these standard cutter and wheel dredgers worldwide.

As a result of intensive research combined with the latest technology, the **New Generation IHC Beaver Dredgers** are now available to dredging industry. The improvements in efficiency and savings in fuel consumption are spectacular. The existing relationship to installed power and type designation is no longer valid. The installed power in the **New Generation** series is significantly lower than before while providing, however, the **same** or even **higher** dredging output.

The complete range of demountable standard dredgers comprises seven models of cutter as well as wheel dredgers with delivery pipelines ranging in diameter from 400 mm up to and including 750 mm. The **New Generation** dredgers have a catamaran shaped hull with the engine room located at deck level. The dredgers are equipped with a single high pressure submerged dredge pump mounted on the ladder. This **High Efficiency** dredge

pump is directly driven by the diesel engine via the **IHC Pivoting Gearbox**.

The prime mover for the dredge pump is a modern computer controlled diesel engine with low fuel consumption and low NOx and soot emission.

The above combination results in the **lowest costs per cubic metre** of dredged material for cutter and wheel dredgers.

The type designation of the New Generation IHC Beaver series is related to the diameter of the delivery pipeline, the dredging depth and cutting tool.

This type is called **New Generation IHC Beaver 6516 C**

65 -> diameter of the delivery pipeline is 650 mm

16 -> max. dredging depth is 16 metres

C -> dredger is equipped with a cutter

This dredger can also be supplied as a standard wheel dredger, the **New Generation IHC Beaver 6016 W** with a \varnothing 600 mm delivery pipeline.



IHC HOLLAND



New Generation

IHC BEAVER 6516 C cutter suction dredger

Features

- Highly efficient in terms of fuel consumption and overall operational costs
- New high effective cutter/wheel drive system
- Fresh water cooling system
- Hull consists of two side pontoons connected by small coupling pontoons
- Completely assembled and fully tested before delivery
- Very simple and fast assembly, afloat as well as onshore
- Ready for operation on arrival at site
- Equipped as standard with production measuring equipment
- Standard design, short delivery times
- Standard spare parts available from stock
- Designed as standard to qualify for Coastal Waters Certificate
- Optional equipment available

Principal particulars

- Length overall, ladder raised 43.20 m
- Length over pontoons, moulded 30.50 m
- Breadth, moulded 12.44 m
- Depth, moulded 2.97 m
- Side pontoons, moulded 30.50 x 3.72 x 2.97 m
- Mean draught with full bunkers approx. (standard execution) 2.10 m
- Maximum standard dredging depth 16.00 m
- Internal diameter of suction tube 650 mm
- Internal diameter of discharge pipes 650 mm
- Total installed power 2602 kW (3538 hp)
- Total dry weight approx. 381 t

Dredgepump

- Type IHC HR/MD 121-26-60
- Power at shaft 1493 kW (2030 hp)
- Prime mover Caterpillar 3516 B developing 1588 kW (2160 hp) continuous power at 1,600 rev/min. Specific fuel consumption 193 g/kW/hr.
- Dredgepump driven through pivoting gearbox
- Ball clearance 256 mm

Auxiliary power

- (cutter, winches, spuds)
- Caterpillar 3512 developing 1014 kW (1379 hp) medium duty power at 1,600 rev/min.
- Specific fuel consumption 214 g/kW/hr.

Electric installation

- Voltage 24 V
- Capacity 550 Ah
- Voltage 230/400 V AC 50 Hz
- Capacity 25 kVA

Cutter

- Type IHC 2200-550, 6-bladed with serrated edges
- Power at shaft 585 kW (795 hp)
- Diameter 2380 mm
- Maximum speed approx. 30 rev/min

Winches

- | | Ladder winch | Swing winches |
|-----------------------------|--------------|---------------|
| - Line pull, 1st layer (kN) | 240 | 240 |
| - Max. line speed (m/min) | 20 | 20 |
| - Wire diameter (mm) | 36 | 36 |

- Drum diameter (mm) 762 762
- All winches have independent hydraulic drive
- The two swing winches are supplied with wires of 150 m and anchors of 1200 kg

Spuds

- Length 21.4 m
- Diameter 900 mm
- Weight 1348 kg

Spud hoisting rams

- Force 798 kN
- Ram stroke 2.60 m
- Spud stroke each time approx. 3.65 m

Swing width with 35° swing each side

- At max. dredging depth 39.5 m
- At min. dredging depth 48.5 m

Deck crane

- Lifting power 30 kN
- Outreach 3.8 m

Classification

Bureau Veritas Class I, ∇ 3/3, Coastal Waters
Engine installation after construction • MOT

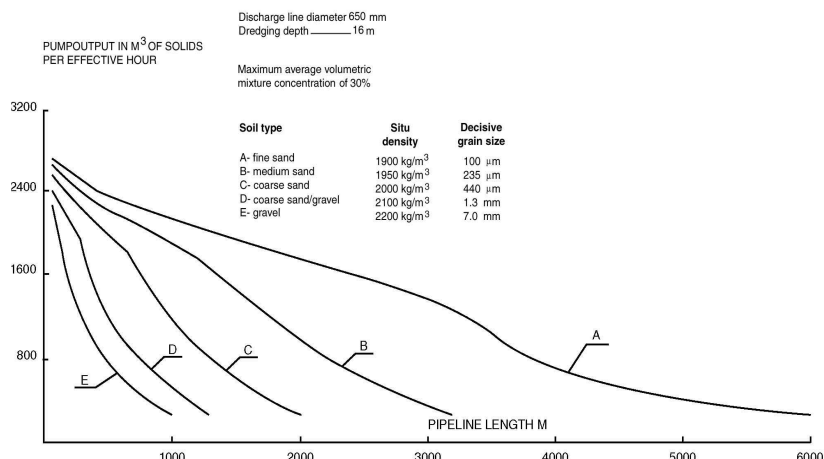
Tools

Special tools for connecting and disconnecting pontoons and cutter ladder, and for maintenance of dredgepump and diesel engine are supplied

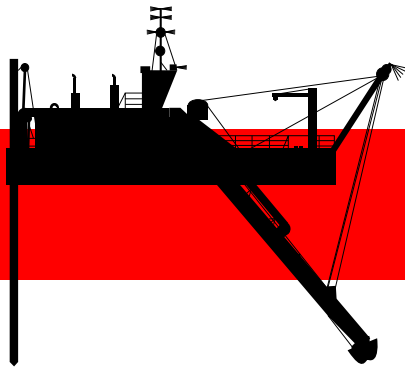
Options

- Anchor booms
- Spud carrier
- Increased dredging depth
- Double walled dredge pump
- Dredge automation systems
- Swivel bend
- Spud tilting facility
- Airconditioning
- Harbour set

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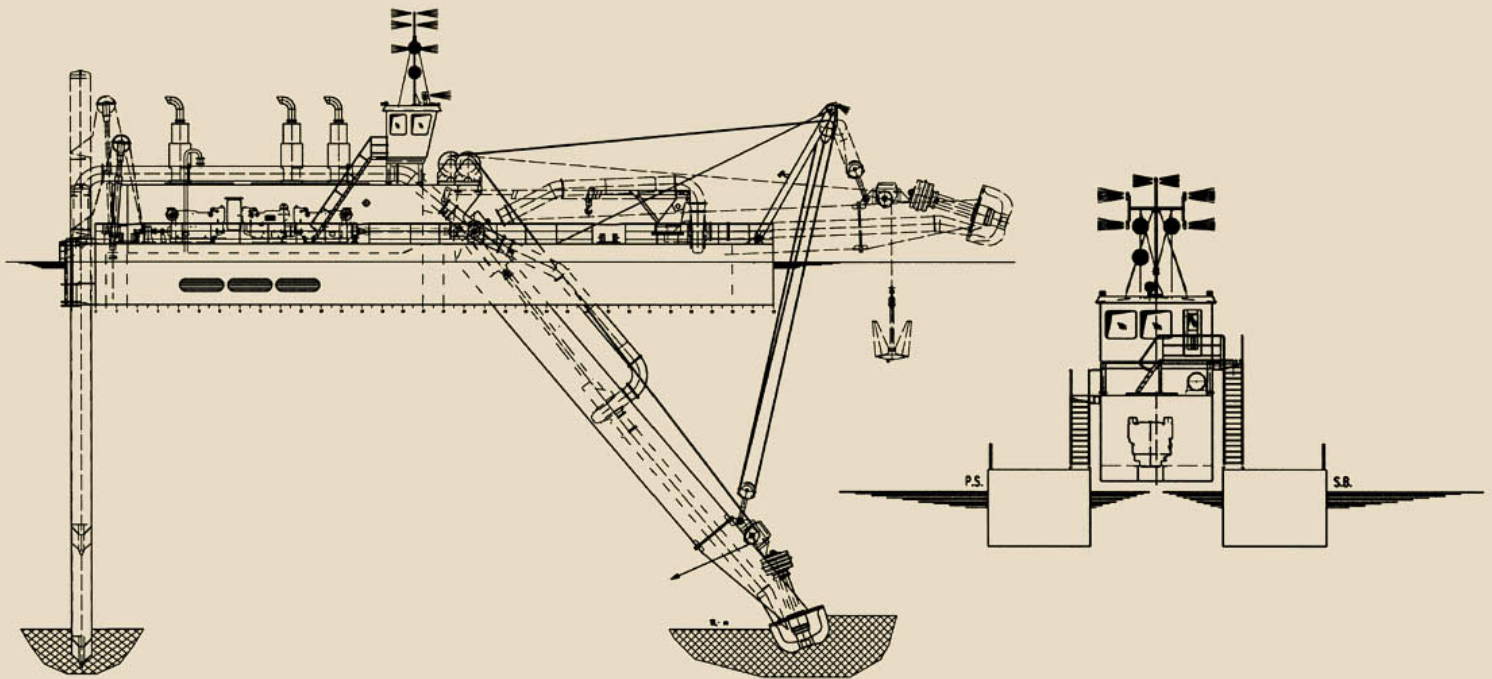


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Features and Figures

New Generation IHC Beaver 7018 C cutter suction dredger



The IHC Beaver is well known for its robust construction, reliable operation and excellent performance. To date IHC Holland have supplied over 600 of these standard cutter and wheel dredgers worldwide.

As a result of intensive research combined with the latest technology, the **New Generation IHC Beaver Dredgers** are now available to dredging industry. The improvements in efficiency and savings in fuel consumption are spectacular. The existing relationship to installed power and type designation is no longer valid. The installed power in the **New Generation** series is significantly lower than before while providing, however, the **same** or even **higher** dredging output.

The complete range of demountable standard dredgers comprises seven models of cutter as well as wheel dredgers with delivery pipelines ranging in diameter from 400 mm up to and including 750 mm. The **New Generation** dredgers have a catamaran shaped hull with the engine room located at deck level. The dredgers are equipped with a single high pressure submerged dredge pump mounted on the ladder. This **High Efficiency** dredge

pump is directly driven by the diesel engine via the **IHC Pivoting Gearbox**.

The prime mover for the dredge pump is a modern computer controlled diesel engine with low fuel consumption and low NOx and soot emission.

The above combination results in the **lowest costs per cubic metre** of dredged material for cutter and wheel dredgers.

The type designation of the New Generation IHC Beaver series is related to the diameter of the delivery pipeline, the dredging depth and cutting tool.

This type is called **New Generation IHC Beaver 7018 C**

70 -> diameter of the delivery pipeline is 700 mm

18 -> max. dredging depth is 18 metres

C -> dredger is equipped with a cutter

This dredger can also be supplied as a standard wheel dredger, the **New Generation IHC Beaver 6518 W** with a Ø 650 mm delivery pipeline.

New Generation

IHC BEAVER 7018 C cutter suction dredger

Features

- Highly efficient in terms of fuel consumption and overall operational costs
- New high effective cutter/wheel drive system
- Fresh water cooling system
- Hull consists of two side pontoons connected by small coupling pontoons
- Completely assembled and fully tested before delivery
- Very simple and fast assembly, afloat as well as onshore
- Ready for operation on arrival at site
- Equipped as standard with production measuring equipment
- Standard design, short delivery times
- Standard spare parts available from stock
- Designed as standard to qualify for Coastal Waters Certificate
- Optional equipment available

Principal particulars

- Length overall, ladder raised 46.30 m
- Length over pontoons, moulded 33.00 m
- Breadth, moulded 13.00 m
- Depth, moulded 2.97 m
- Side pontoons, moulded 33.00 x 3.95 x 2.97 m
- Mean draught with full bunkers approx. (standard execution) 2.10 m
- Maximum standard dredging depth 18.00 m
- Internal diameter of suction tube 700 mm
- Internal diameter of discharge pipes 700 mm
- Total installed power 3148 kW (4281 hp)
- Total dry weight approx. 447 t

Dredgepump

- Type IHC HR/MD 131-28-65
- Power at shaft 1775 kW (2414 hp)
- Prime mover Caterpillar 3512 B + 3508 B in tandem position developing 1888 kW (2567 hp) continuous power at 1,600 rev/min. Specific fuel consumption 197 g/kW/hr.
- Dredgepump driven through pivoting gearbox
- Ball clearance 277 mm

Auxiliary power

(cutter, winches, spuds)
Caterpillar 3512 B developing 1260 kW (1713 hp)
medium duty power at 1,600 rev/min.
Specific fuel consumption 194 g/kW/hr.

Electric installation

- Voltage 24 V
- Capacity 660 Ah
- Voltage 230/400 V AC 50Hz
- Capacity 35 kVA

Cutter

- Type IHC 1950 P-550
- Power at shaft 700 kW (150 hp)
- Diameter 2230 mm
- Maximum speed approx. 30 rev/min

Winches

- | | Ladder winch | Swing winches |
|-----------------------------|--------------|---------------|
| - Line pull, 1st layer (kN) | 290 | 290 |
| - Max. line speed (m/min) | 20 | 20 |
| - Wire diameter (mm) | 40 | 40 |

- Drum diameter (mm) 813 813
- All winches have independent hydraulic drive
- The two swing winches are supplied with wires of 100 m and anchors of 1450 kg

Spuds

- Length 24 m
- Diameter 1000 mm
- Weight 1672 kg

Spud hoisting rams

- Force 950 kN
- Ram stroke 2.60 m
- Spud stroke each time approx. 3.15 m

Swing width with 35° swing each side

- At max. dredging depth 41.5 m
- At min. dredging depth 52.0 m

Deck crane

- Lifting power 35 kN
- Outreach 4.8 m

Classification

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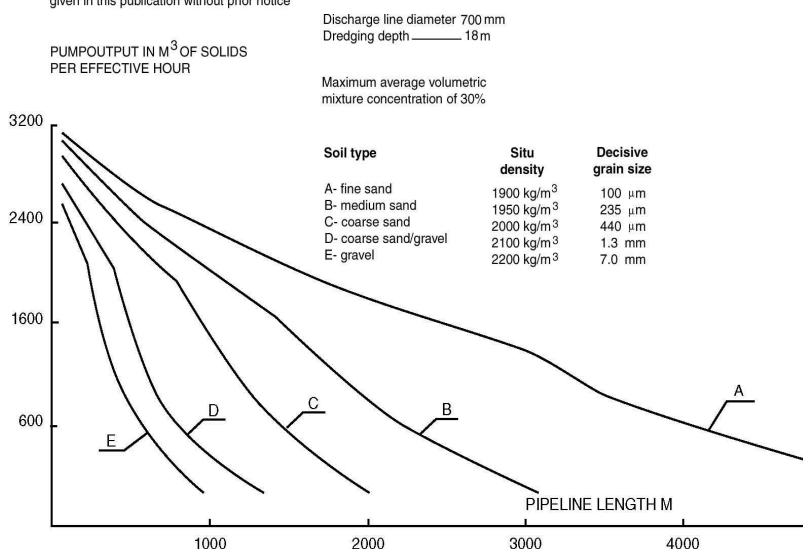
Tools

Special tools for connecting and disconnecting pontoons and cutter ladder, and for maintenance of dredgepump and diesel engine are supplied

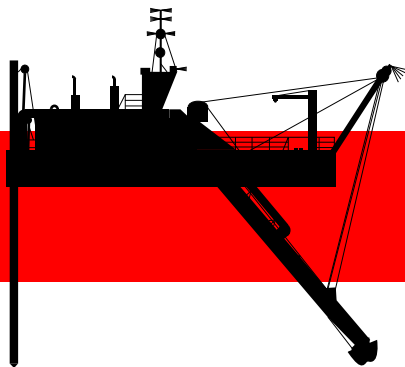
Options

- Anchor booms
- Spud carrier
- Increased dredging depth
- Double walled dredge pump
- Dredge automation systems
- Swivel bend
- Spud tilting facility
- Airconditioning
- Harbour set

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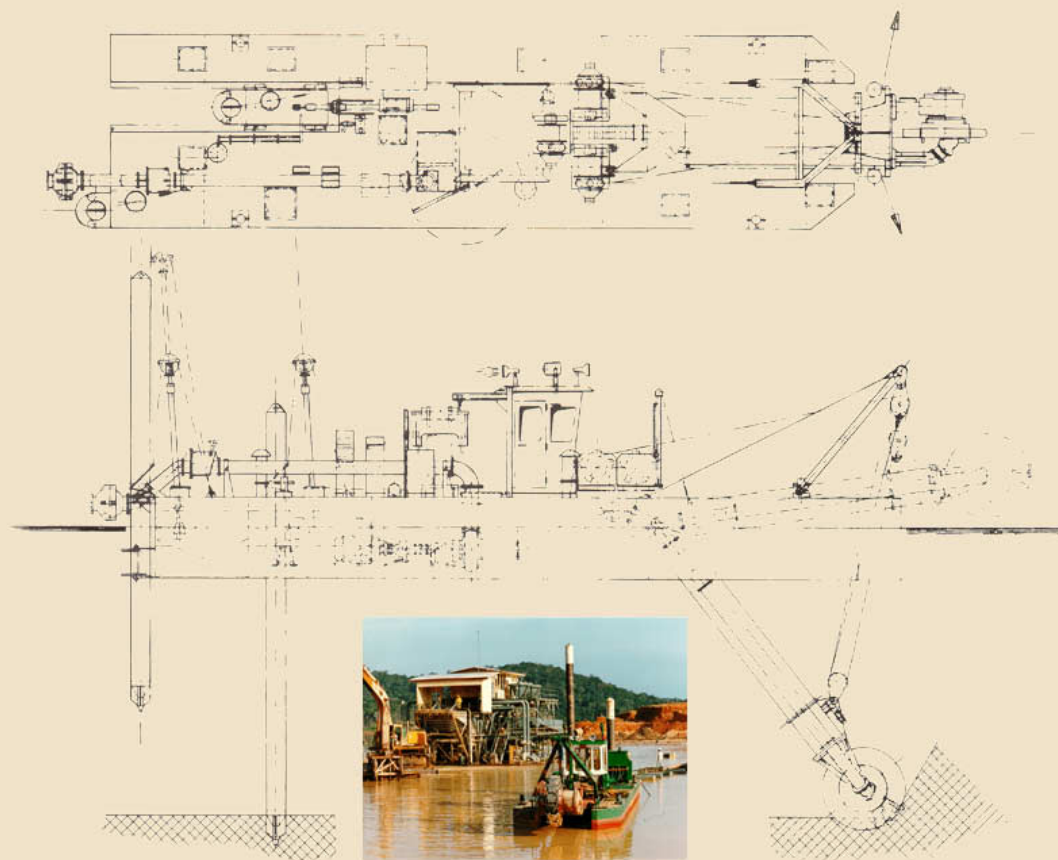


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Features and Figures

IHC Beaver 220 wheel dredger



General

With its IHC dredging wheel and a spud carriage, the IHC-Beaver 220 wheel dredger is an efficient, high-output dredger, also very suitable to be applied in alluvial mining operations. The hull consists of two pontoons: the main/starboard pontoon and the portside pontoon. Special attention has been paid to simple and quick assembly and dismantling system

Mounted in or on the main pontoon are the wheel ladder, two swing winches, ladder hoisting winch, control cabin, deck crane, dredge pump, electric motors and machinery, spud carriage actuating ram, discharge line and auxiliary spud with hoisting ram. Mounted on the portside pontoon is the shore supply transformer. The swing winches, ladder hoisting winch and dredging wheel are powered by low-speed piston-type hydraulic motors.



IHC HOLLAND



IHC BEAVER 220 wheel dredger



Advantages

- Upward cutting force and optimum cutting and back-off angles in all positions giving equal production in either direction of swing.
- Close spacing of bottomless buckets, patented scraper lip and good swing control afford high production in clays.
- Particle size of spoil is limited by ring size spacing between buckets and is smaller than ring size clearance of suction pipe, pump and discharge pipe, thus reducing blockage.
- Debris, tree trunks or oversized stones cannot enter the dredging wheel and are dumped behind it.
- Excavated material is immediately fed to the suction mouth enabling hydraulic transport with high mixture density.
- The combination of dredging-wheel features results in a regular dredging process and consistent feed rate to the treatment plant in mining operations.

Features

- Completely assembled and fully tested afloat before delivery
- Simple, rapid assembly and dismantling
- Ready for operation on arrival at site
- Produced in series, which implies early delivery and low price
- Spare parts available from stock
- Transportable by road, rail or sea
- Reliable hydraulic system
- Efficient in terms of fuel consumption
- One-man operation
- Wide range of optional equipment available

Principal particulars

- Length overall, ladder raised 19.66 m
- Length over pontoons 15.50 m
- Breadth 4.00 m
- Depth 1.7 m
- Main pontoon 15.5 x 3.00 x 1.7 m
- Side pontoon 15.5 x 0.96 x 1.7 m
- Mean draught 1.1 m
- Minimum standard dredging depth approx. 1.40 m
- Maximum standard dredging depth 6.00 m
- Internal diameter of suction and discharge pipes 260 mm

Dredgepump

- Pumptype : IHC-600-150-240
- Pumpspeed : 733 rev/min.
- Prime mover : Electric motor developing 1000 kW (136 hp) at 1,800 rev/min.

Auxiliary power

(wheel, winches, spuds, spudcarriage)

Electric motor developing 66 kW

(90 hp) at 1,800 rev/min.

Shore supply transformer

- Power : 400 kVA
- Primary : 3 x 12,600 V, 60 Hz
- Secondary : 3 x 440 V, 60 Hz

Dredging wheel

- Type : BW 1803 with smooth cutting edges or teeth
- Power : 30 kW (40 hp)
- Diameter : 1.8 m
- Maximum speed 18 rev/min
- Ring size clearance 80 m
- The wheel is equipped with a patented scraper lip.

Winches

	Ladder winch	Swing winches
- Line pull, 1st layer (kN)	40	27
- Max. line speed approx. (m/min)	15	25
- Wire diameter (mm)	16	14
- Drum diameter (mm)	324	457
- All winches have independent hydraulic drive.		

Spud carriage/spuds

- Number of wheels 4, bronze-lined
- Ram force 52 kN
- Stroke 2.5 m
- Spud length 9.0 m
- Spud diameter 406 mm

Spud hoisting rams

- Force 52 kN
- Ram stroke 2.1 m
- Spud stroke 3.5 m

Swing width with 35° swing each side

- At max. dredging depth 17 m
- At min. dredging depth 19 m

Optional equipment

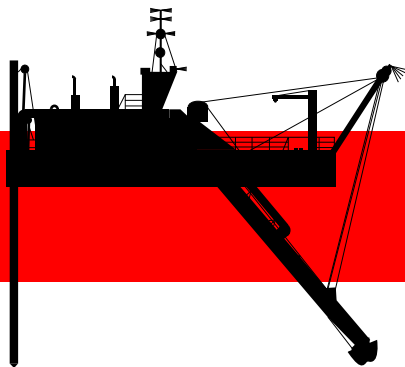
- Anchor booms
- Diesel engine driven
- Spud carriage
- Increased dredging depth

Custom-built

The range of standard IHC Beaver wheel dredgers at present comprises five basic models with hydraulic wheel drives of between 30 and 550 kW (40 - 750 hp). A choice of wheel and pump drive powers, suction pipe diameters and dredging depth is available.

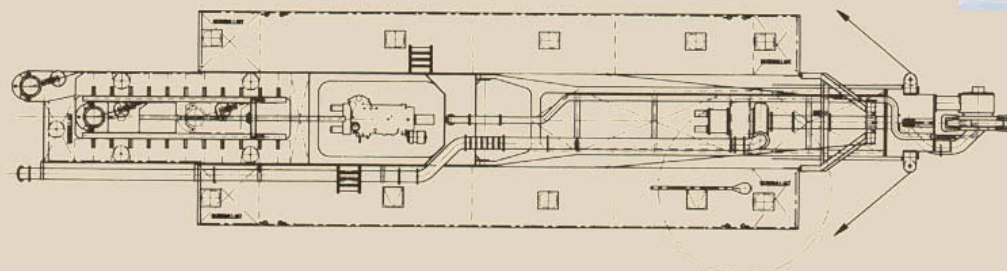
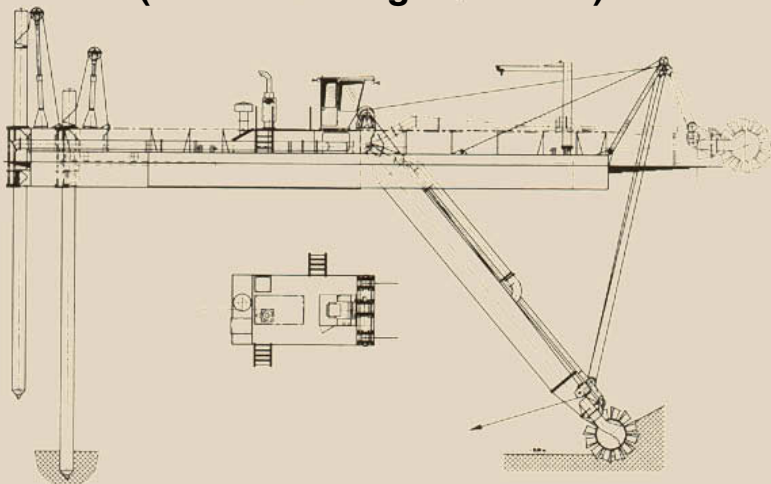
This, together with the optional equipment, enables the standard design to be expanded into a 'Custom-built' dredger to meet specific requirements.





Features and Figures

IHC Beaver 600 wheel dredger (short discharge distance)



IHC Beaver dredgers are well known for their heavy duty construction, reliability and high performance. The Beaver 600 W, with its IHC dredging wheel, is an efficient, high-output dredger which is ideally suited to alluvial mining. The hull consists of three pontoons, a main pontoon, which contains the engine room, and two side pontoons. These are connected by hooks at the bottom and bolts at deck level, an arrangement which permits quick dismantling and reassembly of the vessel. Also mounted in or on the main pontoon are the ladder with dredging wheel unit and a submerged pump, the ladder

and swing winches, control cabin, diesel engine and auxiliary machinery, and the auxiliary spud with lifting ram. The working spud, with its lifting ram, is mounted in a carriage which moves backwards and forwards in a well in the main pontoon.

The side pontoons house fuel and water ballast tanks and storage compartment. A service crane is mounted on the port side pontoon.

The dredging wheel, dredge pump and winches are powered by piston-type hydraulic motors.



IHC HOLLAND



IHC BEAVER 600 wheel dredger (short discharge distance)

Advantages

- High solids content of mixture obtainable by dredging wheel with submerged pump affords low operating costs and minimum water in slurry feed to the treatment plant.
- High production, low spillage, thanks to patented features (close placing of bottomless buckets and lip).
- Especially suitable for alluvial mining, with smooth material feed from cutting and forced feed to suction inlet.
- Equal production in both directions of swing.
- Can be used in a wide range of materials, including sticky clay, where other tools are unsuitable.
- Close spacing of buckets limits size of the particle entering the dredgepump, as ring size clearance between buckets is the smallest aperture in the entire hydraulic system.
- Built-in root cutter.
- Minimum clayball formation
- Accurate, selective dredging with flat bottom attainable by the combination of dredging wheel and spud carriage.
- Smooth dredging process and constant feed to treatment plant.

Features

- Completely assembled and fully tested afloat before delivery
- Simple, rapid reassembly and dismantling
- Ready for operation after reassembly at site
- Special tools for connecting pontoons and maintenance of dredgepump and engine are supplied
- Standard design, which implies early delivery and favorable price
- Spare parts available from stock
- Transportable by road, rail or sea
- Failsafe hydraulic system
- Fuel efficient
- One-man operation
- Wide range of optional equipment available

Principal particulars

- Length overall, ladder raised	30.00 m
- Length over pontoons	22.50 m
- Breadth	6.97 m
- Depth	1.50 m
- Main pontoon	14.00 x 2.95 x 2.46 m
- Side pontoons	17.50 x 2.00 x 1.46 m
- Mean draught with full bunkers approx.	1.10 m
- Maximum standard dredging depth	10.00 m
- Internal diameter of suction pipe	400 mm
- Internal diameter of discharge pipe	350 mm

Submerged dredgepump

- Type IHC 750-250-350, 3-bladed impeller
- Power at shaft 227 kW (309 hp)

Diesel engine

Caterpillar 3412 DI-TA developing 465 kW (632 hp) continuous power at 1,800 rev/min. Specific fuel consumption 216 g/kW/hr.

Electric installation

- Voltage 24 V
- Capacity 400 Ah

Dredging wheel

- Type BW 2410
- Power 100 kW (136 hp)
- Diameter 2.40 m

- Maximum speed 18 rev/min
- Maximum ring size clearance abt 150 mm

Winches

	Ladder winch	Swing winches
- Line pull, 1st layer (kN)	57	40
- Max. line speed (m/min)	22.9	22.2
- All winches have independent hydraulic drive.		
- The two swing winches are supplied with wires of 100 m and anchors of 240 kg.		

Spud system

- Spud length approx. 14.5 m
- Spud diameter 559 mm
- Spud hoisting ram stroke 2.10 m
- Spud stroke each time approx. 3.50 m
- Spud carriage stroke 3.30 m
- Spud carriage ram pushing force 95 kN

Swing width with 35° swing each side

- At max. dredging depth 22.5 m
- At min. dredging depth 28.0 m

Deck crane

- Lifting power 15 kN
- Outreach 2.50 m

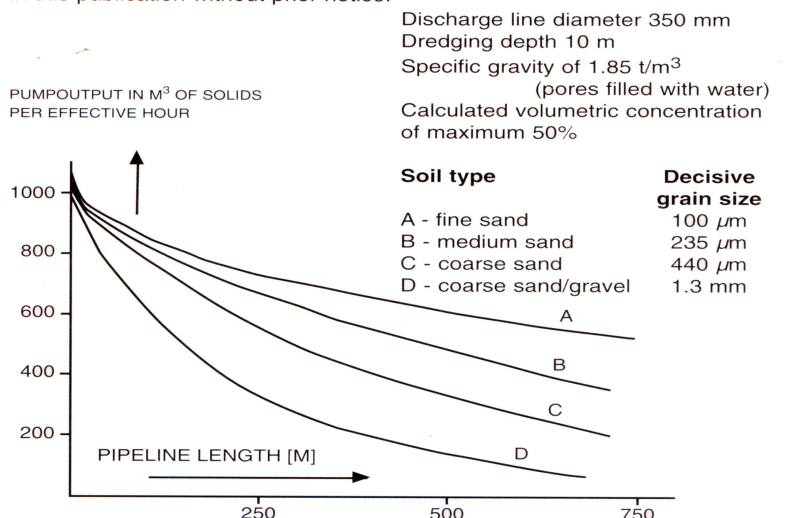
Optional equipment

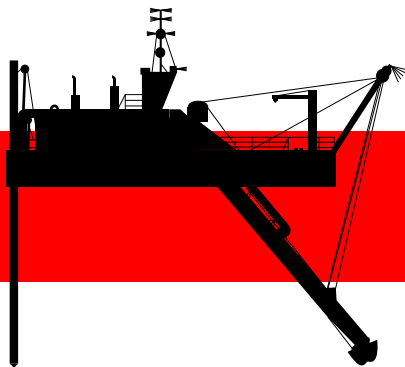
- Increased dredging depth of max 12 m
- Electric shore supply
- Production measuring equipment
- Swivel bend
- Non-return valve
- Airconditioning

Custom-built

Together with the optional equipment a choice of wheel and pump drive powers, suction and discharge pipe diameters and dredging depths is available to enable the standard design to be expanded into a 'custom built' dredger. Fully custom-built designs incorporating, for example, wheel units for special applications, smaller pontoons to suit restricted transport dimensions, or only a single pontoon, can be prepared.

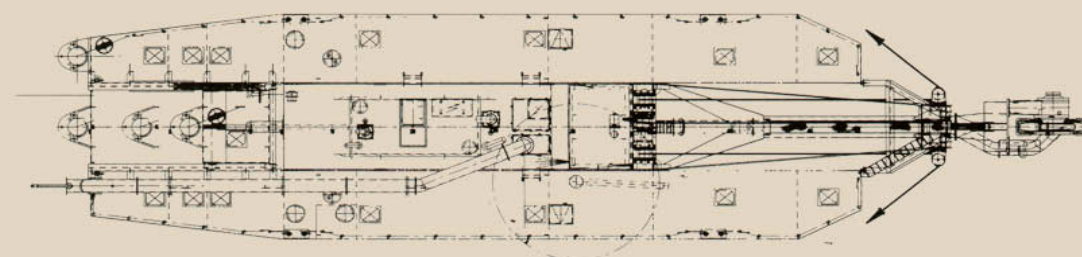
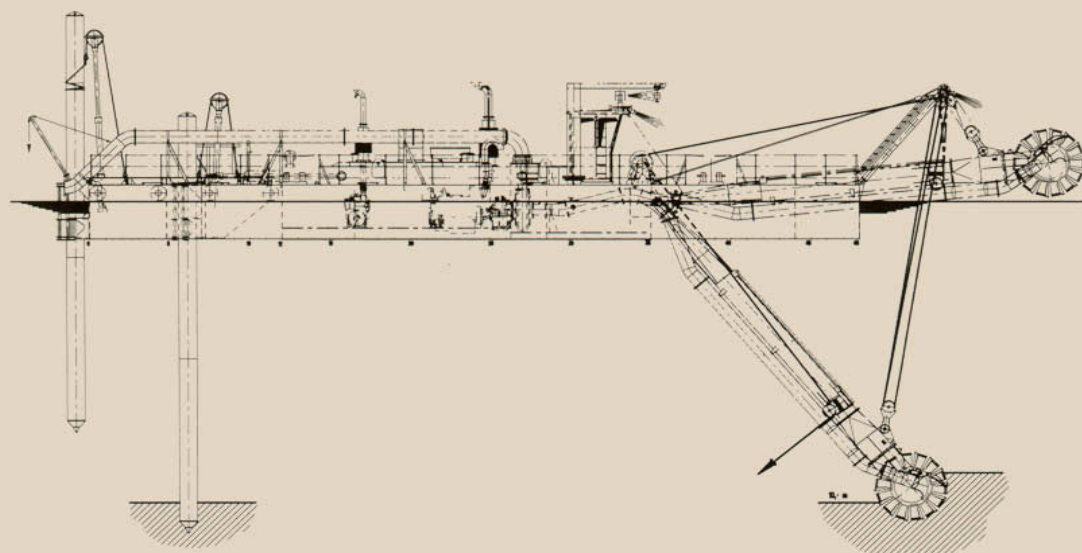
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Features and Figures

IHC Beaver 750 wheel dredger



General

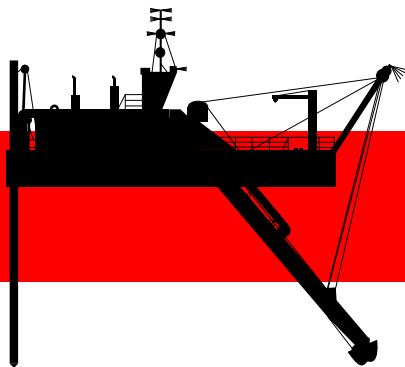
With its IHC dredging wheel and a spud carriage, the IHC-Beaver 750 wheel dredger is an efficient, high-output dredger, also very suitable to be applied in alluvial mining operations. The hull is in three parts: a main pontoon, containing the engineroom, and two side pontoons. Among the salient features of the vessel is the rapid connect-disconnect system for the pontoons, by means of bolts at deck level and special coupling blocks

at the bottom. Mounted in or on the main pontoon are the wheel ladder, two swing winches, ladder hoisting winch, control cabin, a crane, the dredgepump set, the auxiliary diesel engine and machinery and the spud carriage actuating ram. The side pontoons carry the discharge line (starboard), the auxiliary spud with hoisting ram (port) and the spud carriage with the working spud and its hoisting ram. The swing winches, ladder winch and dredging wheel are powered by piston-type hydraulic motors.



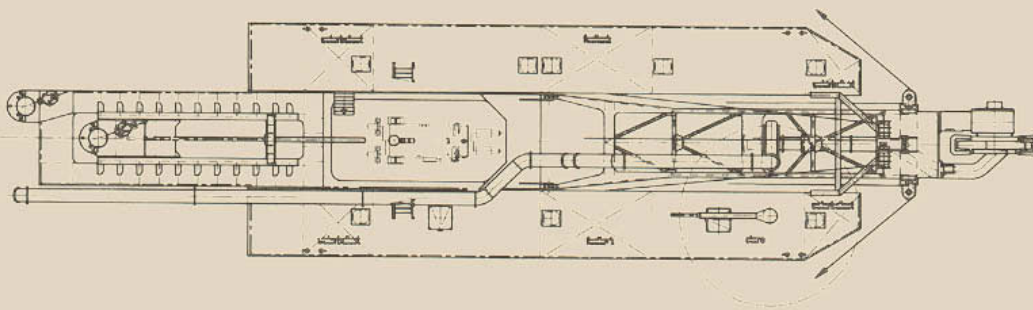
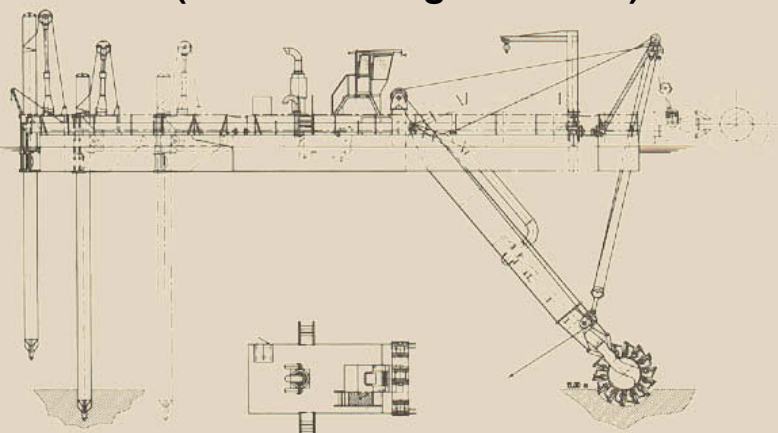
IHC HOLLAND





Features and Figures

IHC Beaver 1200 wheel dredger (short discharge distance)



IHC Beaver dredgers are well known for their heavy duty construction, reliability and high performance. The Beaver 1200 W, with its IHC dredging wheel, is an efficient, high-output dredger which is ideally suited to alluvial mining. The hull consists of three pontoons, a main pontoon, which contains the engineroom, and two side pontoons. These are connected by hooks at the bottom and bolts at deck level, an arrangement which permits quick dismantling and reassembly of the vessel. Also mounted in or on the main pontoon are the ladder with dredging wheel unit and a submerged pump, the ladder

and swing winches, control cabin, diesel engine and auxiliary machinery, and the auxiliary spud with lifting ram. The working spud, with its lifting ram, is mounted in a carriage which moves backwards and forwards in a well in the main pontoon.

The side pontoons house fuel and water ballast tanks and storage compartment. A service crane is mounted on the port side pontoon.

The dredging wheel, dredge pump and winches are powered by piston-type hydraulic motors.



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IHC BEAVER 1200 wheel dredger (short discharge distance)

Advantages

- High solids content of mixture obtainable by dredging wheel with submerged pump affords low operating costs and minimum water in slurry feed to the treatment plant.
- High production, low spillage, thanks to patented features (close placing of bottomless buckets and lip).
- Especially suitable for alluvial mining, with smooth material feed from cutting and forced feed to suction inlet.
- Equal production in both directions of swing.
- Can be used in a wide range of materials, including sticky clay, where other tools are unsuitable.
- Close spacing of buckets limits size of the particle entering the dredge pump, as ring size clearance between buckets is the smallest aperture in the entire hydraulic system.
- Built-in root cutter.
- Minimum clayball formation
- Accurate, selective dredging with flat bottom attainable by the combination of dredging wheel and spud carriage.
- Smooth dredging process and constant feed to treatment plant.

Features

- Completely assembled and fully tested afloat before delivery
- Simple, rapid reassembly and dismantling
- Ready for operation after reassembly at site
- Special tools for connecting pontoons and maintenance of dredge pump and engine are supplied
- Standard design, which implies early delivery and favorable price
- Spare parts available from stock
- Transportable by road, rail or sea
- Failsafe hydraulic system
- Fuel efficient
- One-man operation
- Wide range of optional equipment available

Principal particulars

- Length overall, ladder raised	37.07 m
- Length over pontoons	29.50 m
- Breadth	8.39 m
- Depth	1.80 m
- Main pontoon	18.00 x 3.40 x 2.75 m
- Side pontoons	22.00 x 2.44 x 1.78 m
- Mean draught with full bunkers approx.	1.20 m
- Maximum standard dredging depth	12.00 m
- Internal diameter of suction pipe	500 mm
- Internal diameter of discharge pipe	450 mm

Submerged dredge pump

- Type IHC 900-300-450, 3-bladed impeller
- Power at shaft 440 kW (598 hp)

Diesel engine

Caterpillar 3512 DI-TA developing 876 kW (1190 hp) continuous power at 1,600 rev/min. Specific fuel consumption 216 g/kW/hr.

Electric installation

- Voltage 24 V
- Capacity 400 Ah

Dredging wheel

- Type BW 3217
- Power 170 kW (231 hp)
- Diameter 3.20 m

- Maximum speed 15 rev/min
- Maximum ring size clearance abt. 165 m

Winches

	Ladder winch	Swing winches
- Line pull, 1st layer (kN)	120	65
- Max. line speed (m/min)	20	20
- All winches have independent hydraulic drive.		
- The two swing winches are supplied with wires of 100 m and anchors of 495 kg.		

Spud system

- Spud length approx. 14.5 m
- Spud diameter 660 mm
- Spud hoisting ram stroke 2.10 m
- Spud stroke each time approx. 3.50 m
- Spud carriage stroke 4.00 m
- Spud carriage ram pushing force 160 kN

Swing width with 35° swing each side

- At max. dredging depth 27.5 m
- At min. dredging depth 34.0 m

Deck crane

- Lifting power 30 kN
- Outreach 3.25 m

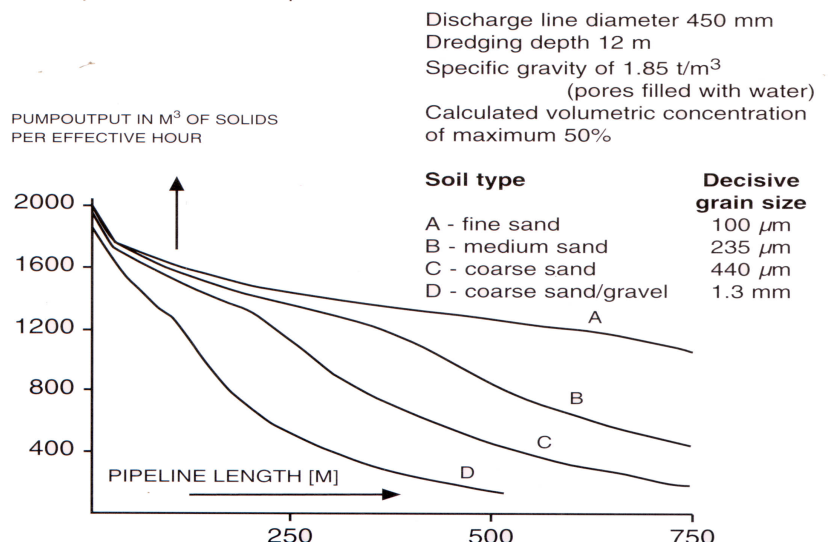
Optional equipment

- Electric shore supply
- Production measuring equipment
- Swivel bend
- Non-return valve
- Airconditioning

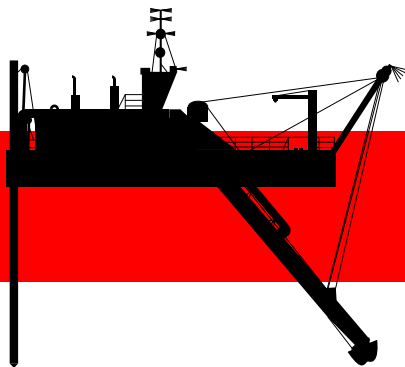
Custom-built

Together with the optional equipment a choice of wheel and pump drive powers, suction and discharge pipe diameters and dredging depths is available to enable the standard design to be expanded into a 'custom built' dredger. Fully custom-built designs incorporating, for example, wheel units for special applications, smaller pontoons to suit restricted transport dimensions, or only a single pontoon, can be prepared.

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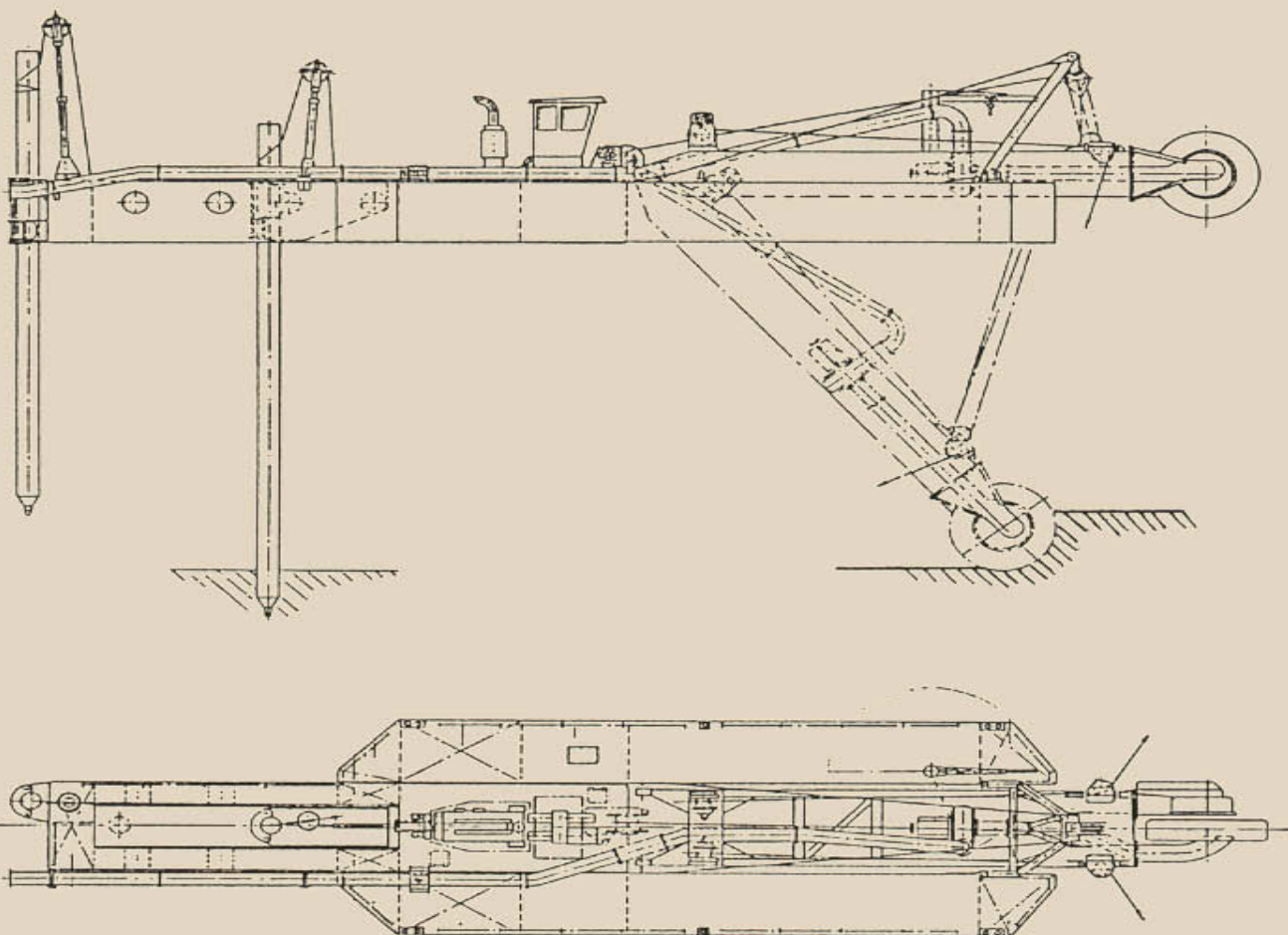


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Features and Figures

IHC Beaver 1600 wheel dredger (short discharge distance)



IHC Beaver dredgers are well known for their heavy duty construction, reliability and high performance. The Beaver 1600 W, with its IHC dredging wheel, is an efficient, high-output dredger which is ideally suited to alluvial mining. The hull consists of three pontoons, a main pontoon, which contains the engineroom, and two side pontoons. These are connected by hooks at the bottom and bolts at deck level, an arrangement which permits quick dismantling and reassembly of the vessel. Also mounted in or on the main pontoon are the ladder with dredging wheel unit and a submerged pump, the ladder

and swing winches, control cabin, diesel engine and auxiliary machinery, and the auxiliary spud with lifting ram. The working spud, with its lifting ram, is mounted in a carriage which moves backwards and forwards in a well in the main pontoon.

The side pontoons house fuel and water ballast tanks and storage compartment. A service crane is mounted on the port side pontoon.

The dredging wheel, dredge pump and winches are powered by piston-type hydraulic motors.



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IHC BEAVER 1600 wheel dredger (short discharge distance)

Advantages

- High solids content of mixture obtainable by dredging wheel with submerged pump affords low operating costs and minimum water in slurry feed to the treatment plant.
- High production, low spillage, thanks to patented features (close placing of bottomless buckets and lip).
- Especially suitable for alluvial mining, with smooth material feed from cutting and forced feed to suction inlet.
- Equal production in both directions of swing.
- Can be used in a wide range of materials, including sticky clay, where other tools are unsuitable.
- Close spacing of buckets limits size of the particle entering the dredge pump, as ring size clearance between buckets is the smallest aperture in the entire hydraulic system.
- Built-in root cutter.
- Minimum clayball formation
- Accurate, selective dredging with flat bottom attainable by the combination of dredging wheel and spud carriage.
- Smooth dredging process and constant feed to treatment plant.

Features

- Completely assembled and fully tested afloat before delivery
- Simple, rapid reassembly and dismantling
- Ready for operation after reassembly at site
- Special tools for connecting pontoons and maintenance of dredge pump and engine are supplied
- Standard design, which implies early delivery and favorable price
- Spare parts available from stock
- Transportable by road, rail or sea
- Failsafe hydraulic system
- Fuel efficient
- One-man operation
- Wide range of optional equipment available

Principal particulars

- Length overall, ladder raised	41.00 m
- Length over pontoons	33.00 m
- Breadth	8.60 m
- Depth	2.46 m
- Main pontoon	19.00 x 3.50 x 2.46 m
- Side pontoons	23.50 x 2.50 x 2.44 m
- Mean draught with full bunkers approx.	1.90 m
- Maximum standard dredging depth	14.00 m
- Internal diameter of suction pipe	550 mm
- Internal diameter of discharge pipe	500 mm

Submerged dredge pump

- Type IHC 1050-325-500, 3-bladed impeller
- Power at shaft 528 kW (718 hp)

Diesel engine

Caterpillar 3516 DI-TA developing 1156 kW (1572 hp) continuous power at 1,600 rev/min. Specific fuel consumption 207 g/kW/hr.

Electric installation

- Voltage 24 V
- Capacity 400 Ah

Dredging wheel

- Type BW 3932
- Power 320 kW (435 hp)
- Diameter 3.90 m

- Maximum speed 13 rev/min
- Maximum ring size clearance abt. 180 mm

Winches

	Ladder winch	Swing winches
- Line pull, 1st layer (kN)	180	100
- Max. line speed (m/min)	20	20
- All winches have independent hydraulic drive.		
- The two swing winches are supplied with wires of 100 m and anchors of 720 kg.		

Spud system

- Spud length approx. 19 m
- Spud diameter 700 mm
- Spud hoisting ram stroke 2.60 m
- Spud stroke each time approx. 3.65 m
- Spud carriage stroke 5.00 m
- Spud carriage ram pushing force 250 kN

Swing width with 35° swing each side

- At max. dredging depth 31.0 m
- At min. dredging depth 38.0 m

Deck crane

- Lifting power 30 kN
- Outreach 3.5 m

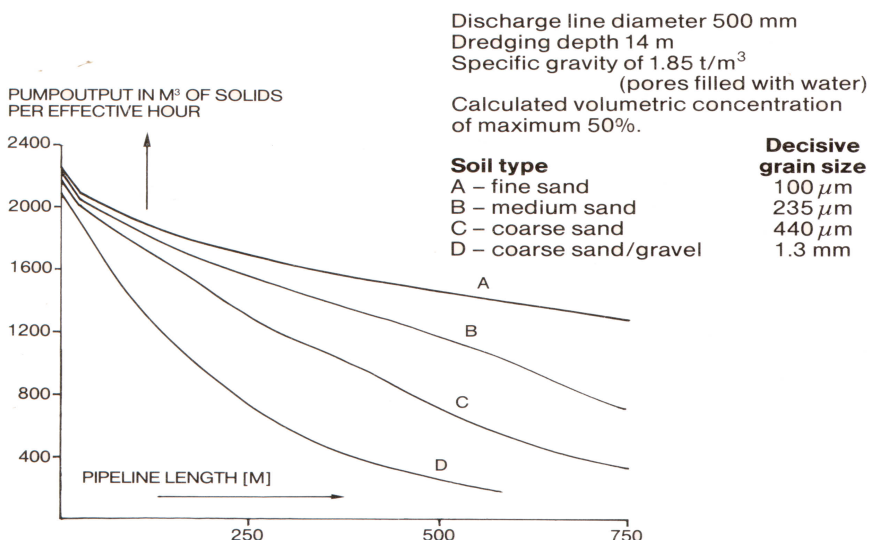
Optional equipment

- Electric shore supply
- Production measuring equipment
- Swivel bend
- Non-return valve
- Airconditioning

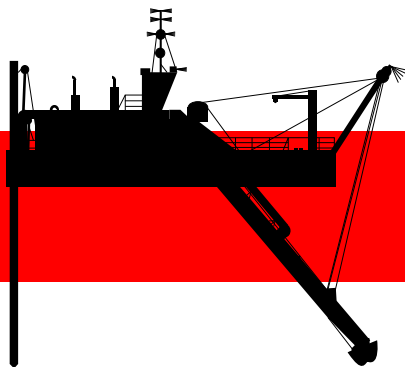
Custom-built

Together with the optional equipment a choice of wheel and pump drive powers, suction and discharge pipe diameters and dredging depths is available to enable the standard design to be expanded into a 'custom built' dredger. Fully custom-built designs incorporating, for example, wheel units for special applications, smaller pontoons to suit restricted transport dimensions, or only a single pontoon, can be prepared.

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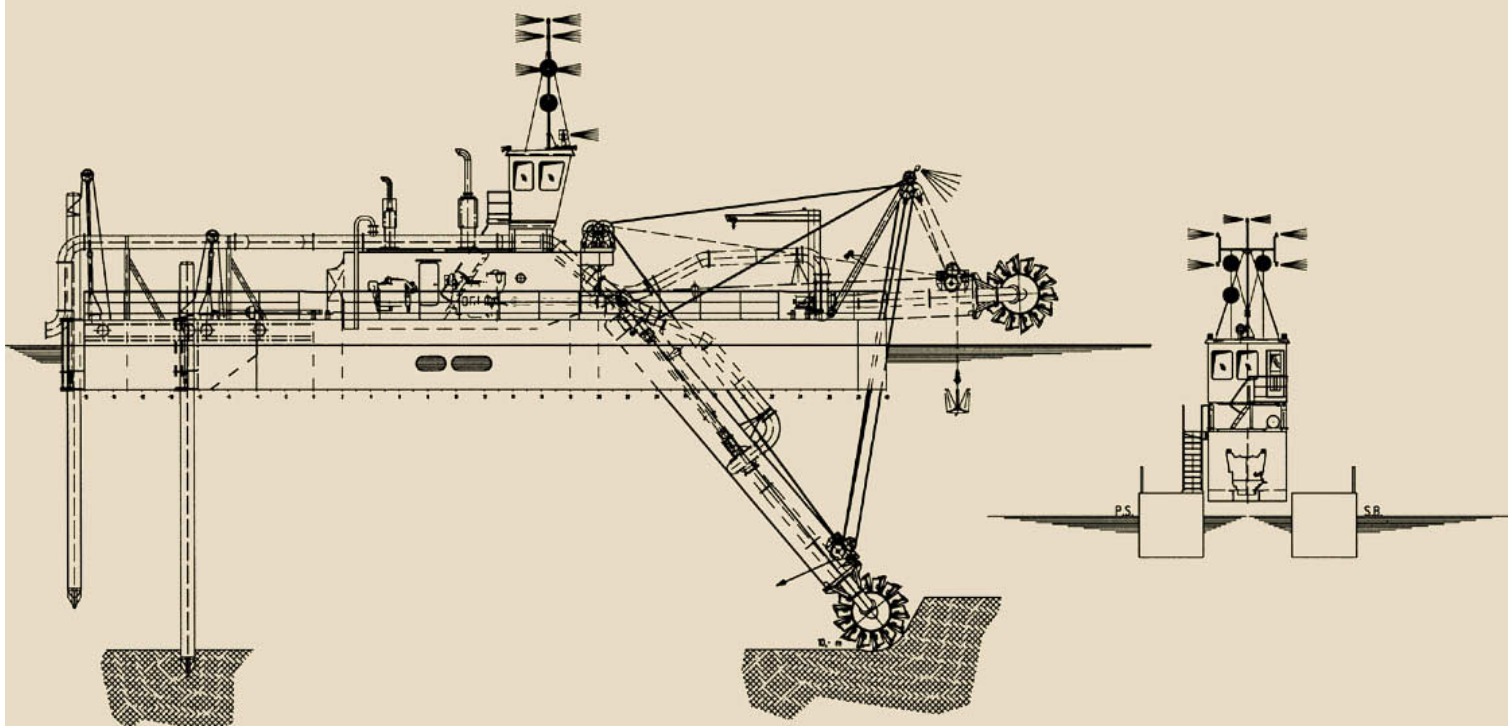


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Features and Figures

New Generation IHC Beaver 4010 W wheel dredger



The IHC Beaver is well known for its robust construction, reliable operation and excellent performance. To date IHC Holland have supplied over 600 of these standard cutter and wheel dredgers worldwide.

As a result of intensive research combined with the latest technology, the **New Generation** IHC Beaver Dredgers are now available to dredging industry. The improvements in efficiency and savings in fuel consumption are spectacular. The existing relationship to installed power and type designation is no longer valid. The installed power in the **New Generation** series is significantly lower than before while providing, however, the **same** or even **higher** dredging output.

The complete range of demountable standard dredgers comprises seven models of cutter as well as wheel dredgers with delivery pipelines ranging in diameter from 400 mm up to and including 750 mm. The **New Generation** dredgers have a catamaran shaped hull with the engine room located at deck level. The dredgers are equipped with a single high pressure submerged dredge pump mounted on the ladder. This **High Efficiency** dredge

pump is directly driven by the diesel engine via the **IHC Pivoting Gearbox**.

The prime mover for the dredge pump is a modern computer controlled diesel engine with low fuel consumption and low NOx and soot emission.

The above combination results in the **lowest costs per cubic metre** of dredged material for cutter and wheel dredgers.

The type designation of the New Generation IHC Beaver series is related to the diameter of the delivery pipeline, the dredging depth and cutting tool.

This type is called **New Generation IHC Beaver 4010 W**

40 -> diameter of the delivery pipeline is 400 mm
10 -> max. dredging depth is 10 metres
W -> dredger is equipped with a wheel

This dredger can also be supplied as a standard cutter dredger, the **New Generation IHC Beaver 4510 C** with a \varnothing 450 mm delivery pipeline.



IHC HOLLAND



New Generation IHC BEAVER 4010 W wheel dredger

Features

- Highly efficient in terms of fuel consumption and overall operational costs
- New high effective cutter/wheel drive system
- Fresh water cooling system
- Hull consists of two side pontoons connected by small coupling pontoons
- Completely assembled and fully tested before delivery
- Very simple and fast assembly, afloat as well as onshore
- Ready for operation on arrival at site
- Equipped as standard with spud carriage
- Equipped as standard with production measuring equipment
- Standard design, short delivery times
- Standard spare parts available from stock
- Designed as standard to qualify for Coastal Waters Certificate
- Optional equipment available

Principal particulars

- Length overall, ladder raised 35.40 m
- Length over pontoons, moulded 28.00 m
- Breadth, moulded 8.23 m
- Depth, moulded 2.44 m
- Side pontoons, moulded 28.00 x 2.44 x 2.44 m
- Mean draught with full bunkers approx. (standard execution) 1.55 m
- Maximum standard dredging depth 10.00 m
- Internal diameter of suction tube 450 mm
- Internal diameter of discharge pipes 400 mm
- Total installed power 745 kW (1013 hp)
- Total dry weight approx. 154 t

Dredgepump

- Type IHC HR/MD 81-17-40
- Power at shaft 505 kW (687 hp)
- Prime mover Caterpillar 3412 E developing 548 kW (745 hp) continuous power at 1,800 rev/min.
- Specific fuel consumption 213 g/kW/hr.
- Dredgepump driven through pivoting gearbox
- Ball clearance 171 mm

Auxiliary power

- (wheel, winches, spuds)
- Caterpillar 3306 B DI-TA developing 214 kW (290 hp) medium duty power at 1,800 rev/min.
- Specific fuel consumption 212 g/kW/hr.

Electric installation

- Voltage 24 V
- Capacity 400 Ah
- Voltage 230/400 V AC 50 Hz
- Capacity 12.5 kVA

Dredging wheel

- Type IHC 2711
- Power at shaft 110 kW (150 hp)
- Diameter 2700 mm
- Maximum speed approx. 17 rev/min

Winches

- | | Ladder winch | Swing winches |
|-----------------------------|--------------|---------------|
| - Line pull, 1st layer (kN) | 70 | 45 |
| - Max. line speed (m/min) | 20 | 20 |
| - Wire diameter (mm) | 20 | 16 |

- Drum diameter (mm) 421 324
- All winches have independent hydraulic drive
- The two swing winches are supplied with wires of 100 m and anchors of 300 kg

Spuds

- Length 13.9 m
- Diameter 457 mm
- Weight 2575 kg

Spud hoisting rams

- Force 257 kN
- Ram stroke 2.10 m
- Spud stroke each time approx. 3.15 m

Swing width with 35° swing each side

- At max. dredging depth 29 m
- At min. dredging depth 110 m

Deck crane

- Lifting power 12 kN
- Outreach 2.8 m

Classification

Bureau Veritas Class I, ∇ 3/3, Coastal Waters
Engine installation after construction • MOT

Tools

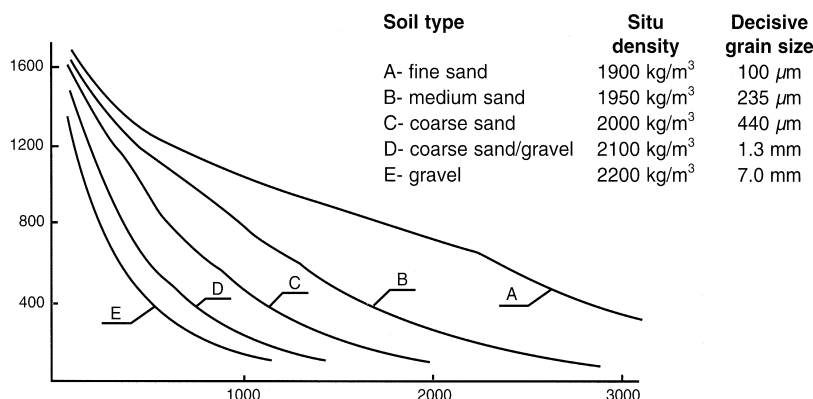
Special tools for connecting and disconnecting pontoons and cutter ladder, and for maintenance of dredgepump and diesel engine are supplied

Options

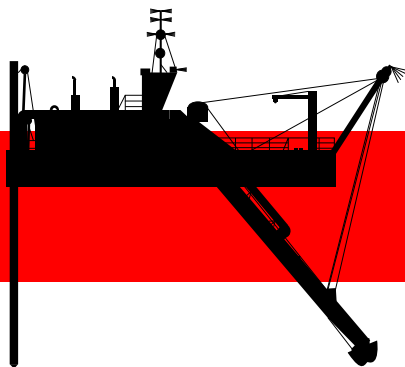
- Anchor booms
- Increased dredging depth
- Double walled dredge pump
- Dredge automation systems
- Swivel bend
- Spud tilting facility
- Airconditioning
- Harbour set

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PUMP OUTPUT IN M³ OF SOLIDS PER EFFECTIVE HOUR
Discharge line diameter 400 mm
Dredging depth 10 m
Maximum average volumetric mixture concentration of 50%

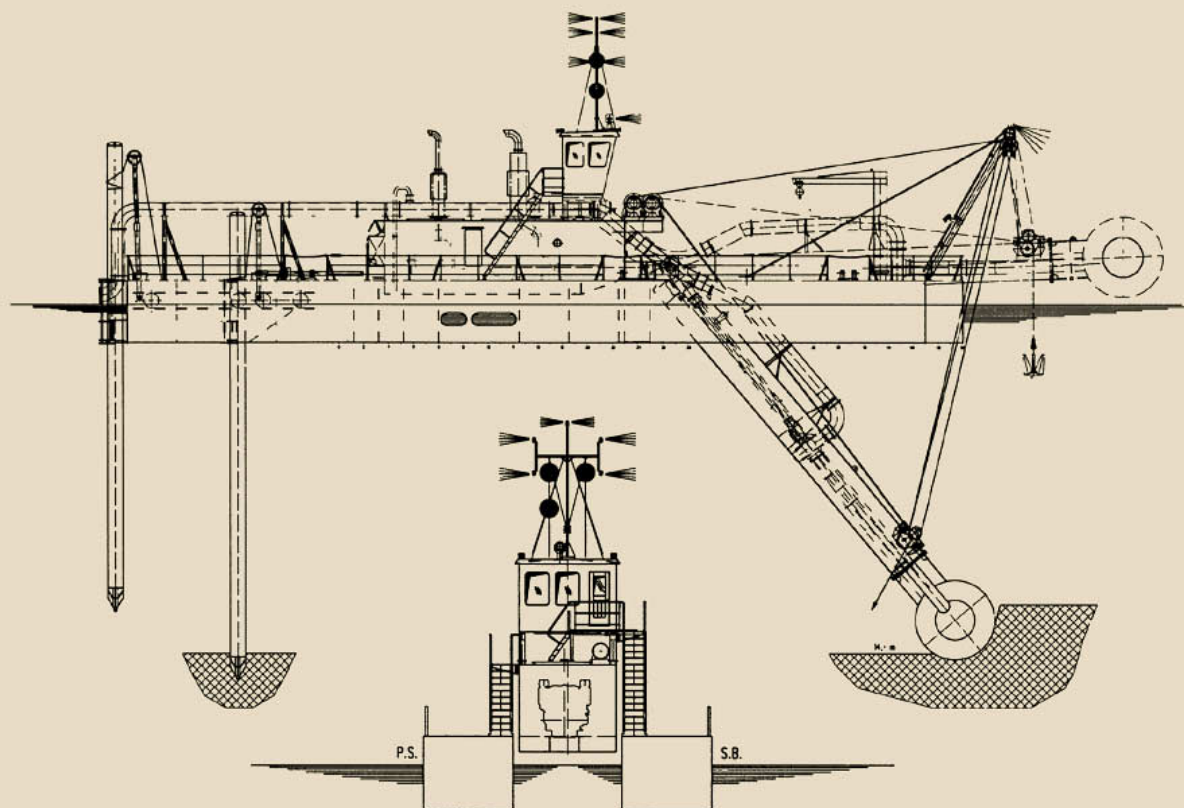


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Features and Figures

New Generation IHC Beaver 4514 W wheel dredger



The IHC Beaver is well known for its robust construction, reliable operation and excellent performance. To date IHC Holland have supplied over 600 of these standard cutter and wheel dredgers worldwide.

As a result of intensive research combined with the latest technology, the **New Generation** IHC Beaver Dredgers are now available to dredging industry. The improvements in efficiency and savings in fuel consumption are spectacular. The existing relationship to installed power and type designation is no longer valid. The installed power in the **New Generation** series is significantly lower than before while providing, however, the **same** or even **higher** dredging output.

The complete range of demountable standard dredgers comprises seven models of cutter as well as wheel dredgers with delivery pipelines ranging in diameter from 400 mm up to and including 750 mm. The **New Generation** dredgers have a catamaran shaped hull with the engine room located at deck level. The dredgers are equipped with a single high pressure submerged dredge pump mounted on the ladder. This **High Efficiency** dredge

pump is directly driven by the diesel engine via the **IHC Pivoting Gearbox**.

The prime mover for the dredge pump is a modern computer controlled diesel engine with low fuel consumption and low NOx and soot emission.

The above combination results in the **lowest costs per cubic metre** of dredged material for cutter and wheel dredgers.

The type designation of the New Generation IHC Beaver series is related to the diameter of the delivery pipeline, the dredging depth and cutting tool.

This type is called **New Generation IHC Beaver 4514 W**

45 -> diameter of the delivery pipeline is 450 mm
14 -> max. dredging depth is 14 metres
W -> dredger is equipped with a wheel

This dredger can also be supplied as a standard cutter dredger, the **New Generation IHC Beaver 5014 C** with a Ø 500 mm delivery pipeline.

New Generation IHC BEAVER 4514 W wheel dredger

Features

- Highly efficient in terms of fuel consumption and overall operational costs
- New high effective cutter/wheel drive system
- Fresh water cooling system
- Hull consists of two side pontoons connected by small coupling pontoons
- Completely assembled and fully tested before delivery
- Very simple and fast assembly, afloat as well as onshore
- Ready for operation on arrival at site
- Equipped as standard with production measuring equipment
- Equipped as standard with spud carrier
- Standard design, short delivery times
- Standard spare parts available from stock
- Designed as standard to qualify for Coastal Waters Certificate
- Optional equipment available

Principal particulars

- Length overall, ladder raised 42.70 m
- Length over pontoons, moulded 33.50 m
- Breadth, moulded 9.50 m
- Depth, moulded 2.46 m
- Side pontoons, moulded 33.50 x 2.95 x 2.46 m
- Mean draught with full bunkers approx. (standard execution) 1.50 m
- Maximum standard dredging depth 14.00 m
- Internal diameter of suction tube 500 mm
- Internal diameter of discharge pipes 450 mm
- Total installed power 1115 kW (1516 hp)
- Total dry weight approx. 214 t

Dredgepump

- Type IHC HR/MD 91-19-45
- Power at shaft 746 kW (1015 hp)
- Prime mover Caterpillar 3508 B developing 794 kW (1080 hp) continuous power at 1,600 rev/min. Specific fuel consumption 196 g/kW/hr.
- Dredgepump driven through pivoting gearbox
- Ball clearance 192 mm

Auxiliary power

(wheel, winches, spuds)

Caterpillar 3406 DI-TA developing 321 kW (436 hp) medium duty power at 1,800 rev/min.
Specific fuel consumption 201 g/kW/hr.

Electric installation

- Voltage 24 V
- Capacity 400 Ah
- Voltage 230/400 V AC 50 Hz
- Capacity 16.5 kVA

Dredging wheel

- Type 3117
- Power at shaft 170 kW (230 hp)
- Diameter 3070 mm
- Maximum speed approx. 16 rev/min

Winches

- | | Ladder winch | Swing winches |
|-----------------------------|--------------|---------------|
| - Line pull, 1st layer (kN) | 110 | 65 |
| - Max. line speed (m/min) | 20 | 20 |
| - Wire diameter (mm) | 24 | 20 |

- Drum diameter (mm) 457 421
- All winches have independent hydraulic drive
- The two swing winches are supplied with wires of 100 m and anchors of 430 kg

Spuds

- Length 18.6 m
- Diameter 610 mm
- Weight 6208 kg

Spud hoisting rams

- Force 257 kN
- Ram stroke 2.1 m
- Spud stroke each time approx. 3.15 m

Swing width with 35° swing each side

- At max. dredging depth 34 m
- At min. dredging depth 41.5 m

Deck crane

- Lifting power 20 kN
- Outreach 3.5 m

Classification

Bureau Veritas Class I, \approx 3/3, Coastal Waters
Engine installation after construction • MOT

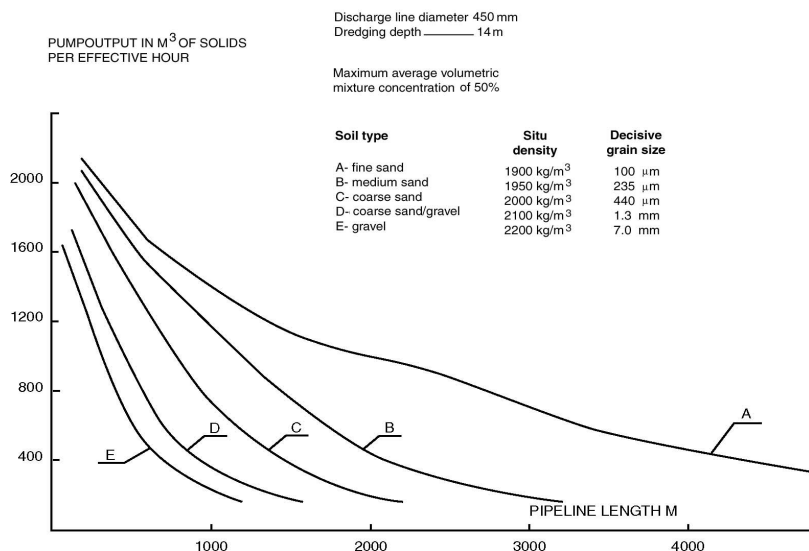
Tools

Special tools for connecting and disconnecting pontoons and cutter ladder, and for maintenance of dredgepump and diesel engine are supplied

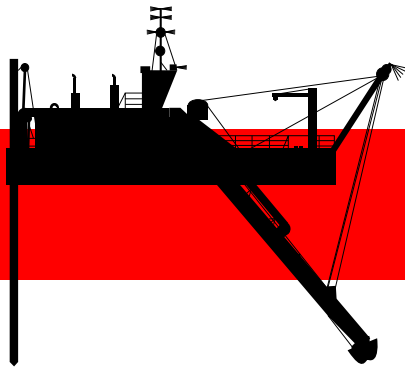
Options

- Anchor booms
- Increased dredging depth
- Double walled dredge pump
- Dredge automation systems
- Swivel bend
- Spud tilting facility
- Airconditioning
- Harbour set

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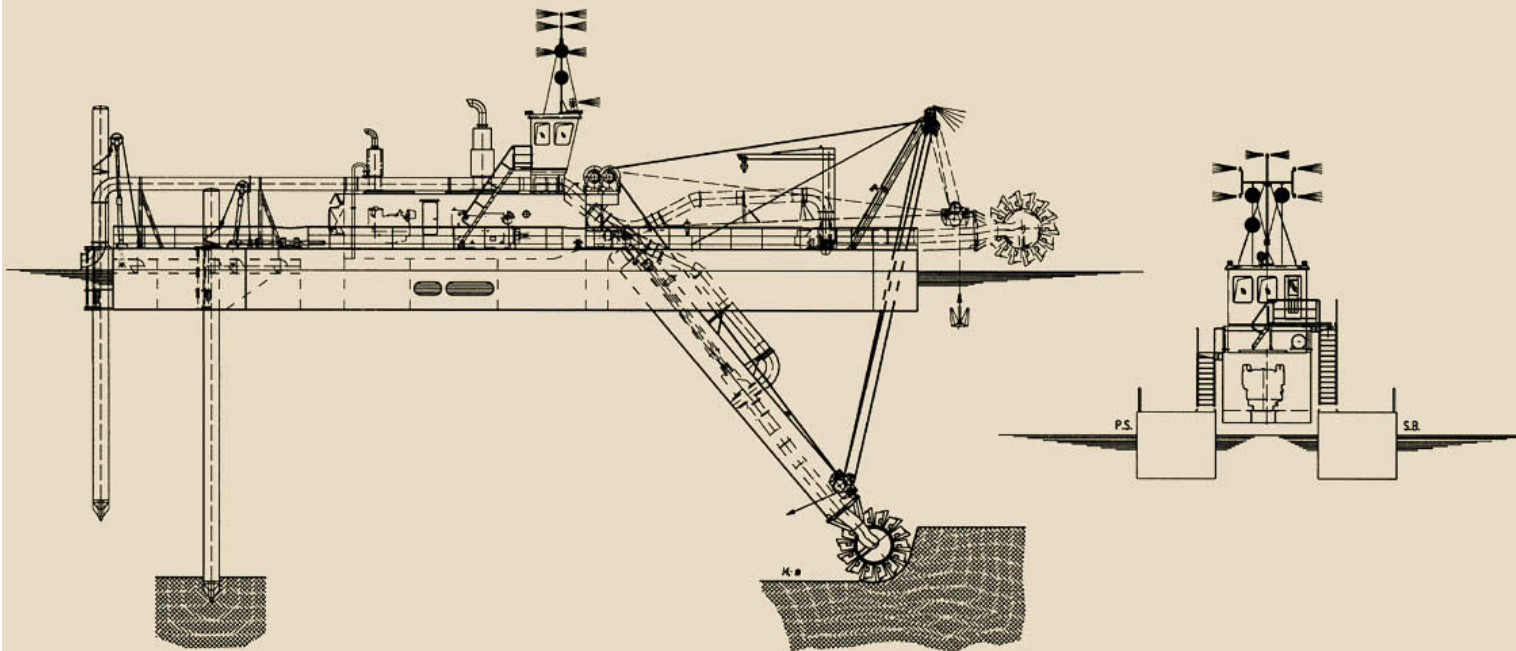


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Features and Figures

New Generation IHC Beaver 5014 W wheel dredger



The IHC Beaver is well known for its robust construction, reliable operation and excellent performance. To date IHC Holland have supplied over 600 of these standard cutter and wheel dredgers worldwide.

As a result of intensive research combined with the latest technology, the **New Generation** IHC Beaver Dredgers are now available to dredging industry. The improvements in efficiency and savings in fuel consumption are spectacular. The existing relationship to installed power and type designation is no longer valid. The installed power in the **New Generation** series is significantly lower than before while providing, however, the **same** or even **higher** dredging output.

The complete range of demountable standard dredgers comprises seven models of cutter as well as wheel dredgers with delivery pipelines ranging in diameter from 400 mm up to and including 750 mm. The **New Generation** dredgers have a catamaran shaped hull with the engine room located at deck level. The dredgers are equipped with a single high pressure submerged dredge pump mounted on the ladder. This **High Efficiency** dredge

pump is directly driven by the diesel engine via the **IHC Pivoting Gearbox**.

The prime mover for the dredge pump is a modern computer controlled diesel engine with low fuel consumption and low NOx and soot emission.

The above combination results in the **lowest costs per cubic metre** of dredged material for cutter and wheel dredgers.

The type designation of the New Generation IHC Beaver series is related to the diameter of the delivery pipeline, the dredging depth and cutting tool.

This type is called **New Generation IHC Beaver 5014 W**

50 -> diameter of the delivery pipeline is 500 mm

14 -> max. dredging depth is 14 metres

W -> dredger is equipped with a wheel

This dredger can also be supplied as a standard cutter dredger, the **New Generation IHC Beaver 5514 C** with a \varnothing 550 mm delivery pipeline.

New Generation IHC BEAVER 5014 W wheel dredger

Features

- Highly efficient in terms of fuel consumption and overall operational costs
- New high effective cutter/wheel drive system
- Fresh water cooling system
- Hull consists of two side pontoons connected by small coupling pontoons
- Completely assembled and fully tested before delivery
- Very simple and fast assembly, afloat as well as onshore
- Ready for operation on arrival at site
- Equipped as standard with spud carriage
- Equipped as standard with production measuring equipment
- Standard design, short delivery times
- Standard spare parts available from stock
- Designed as standard to qualify for Coastal Waters Certificate
- Optional equipment available

Principal particulars

- Length overall, ladder raised 44.50 m
- Length over pontoons, moulded 36.50 m
- Breadth, moulded 10.64 m
- Depth, moulded 2.75 m
- Side pontoons, moulded 36.50 x 3.22 x 2.75 m
- Mean draught with full bunkers approx. (standard execution) 1.80 m
- Maximum standard dredging depth 14.00 m
- Internal diameter of suction tube 550 mm
- Internal diameter of discharge pipes 500 mm
- Total installed power 1491 kW (1954 hp)
- Total dry weight approx. 298 t

Dredgepump

- Type IHC HR/MD 101-21-50
- Power at shaft 900 kW (1224 hp)
- Prime mover Caterpillar 3512 DI-TA developing 954 kW (1298 hp) continuous power at 1,600 rev/min. Specific fuel consumption 214 g/kW/hr.
- Dredgepump driven through pivoting gearbox
- Ball clearance 213 mm

Auxiliary power

(wheel, winches, spuds)
Caterpillar 3412 DI-TA developing 537 kW (730 hp)
medium duty power at 1,600 rev/min.
Specific fuel consumption 213 g/kW/hr.

Electric installation

- Voltage 24 V
- Capacity 460 Ah
- Voltage 230/400 V AC 50 Hz
- Capacity 20 kVA

Dredging wheel

- Type 3528
- Power at shaft 280 kW (380 hp)
- Diameter 3500 mm
- Maximum speed approx. 15 rev/min

Winches

- | | | |
|-----------------------------|--------------|---------------|
| | Ladder winch | Swing winches |
| - Line pull, 1st layer (kN) | 180 | 90 |
| - Max. line speed (m/min) | 20 | 20 |
| - Wire diameter (mm) | 32 | 22 |

- Drum diameter (mm) 660 445
- All winches have independent hydraulic drive
- The two swing winches are supplied with wires of 125 m and anchors of 600 kg

Spuds

- Length 19 m
- Diameter 711 mm
- Weight 7507 kg

Spud hoisting rams

- Force 449 kN
- Ram stroke 2.10 m
- Spud stroke each time approx. 3.05 m

Swing width with 35° swing each side

- At max. dredging depth 36 m
- At min. dredging depth 43.5 m

Deck crane

- Lifting power 20 kN
- Outreach 3.5 m

Classification

Bureau Veritas Class I, ∇ 3/3, Coastal Waters
Engine installation after construction • MOT

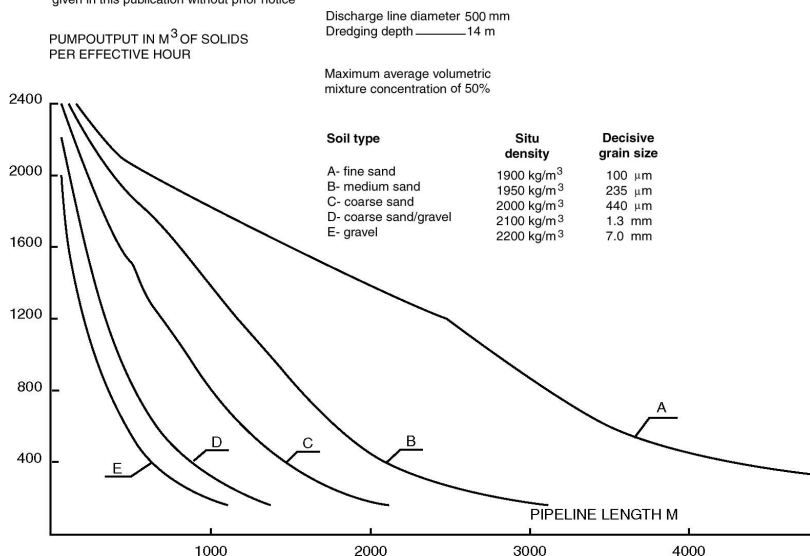
Tools

Special tools for connecting and disconnecting pontoons and cutter ladder, and for maintenance of dredgepump and diesel engine are supplied

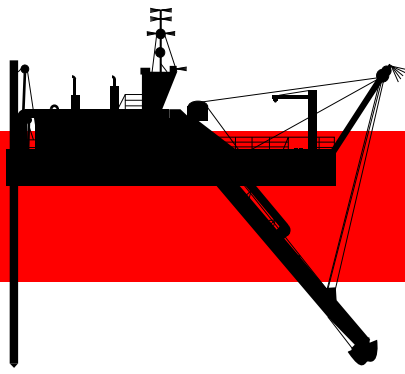
Options

- Anchor booms
- Increased dredging depth
- Double walled dredge pump
- Dredge automation systems
- Swivel bend
- Spud tilting facility
- Airconditioning
- Harbour set

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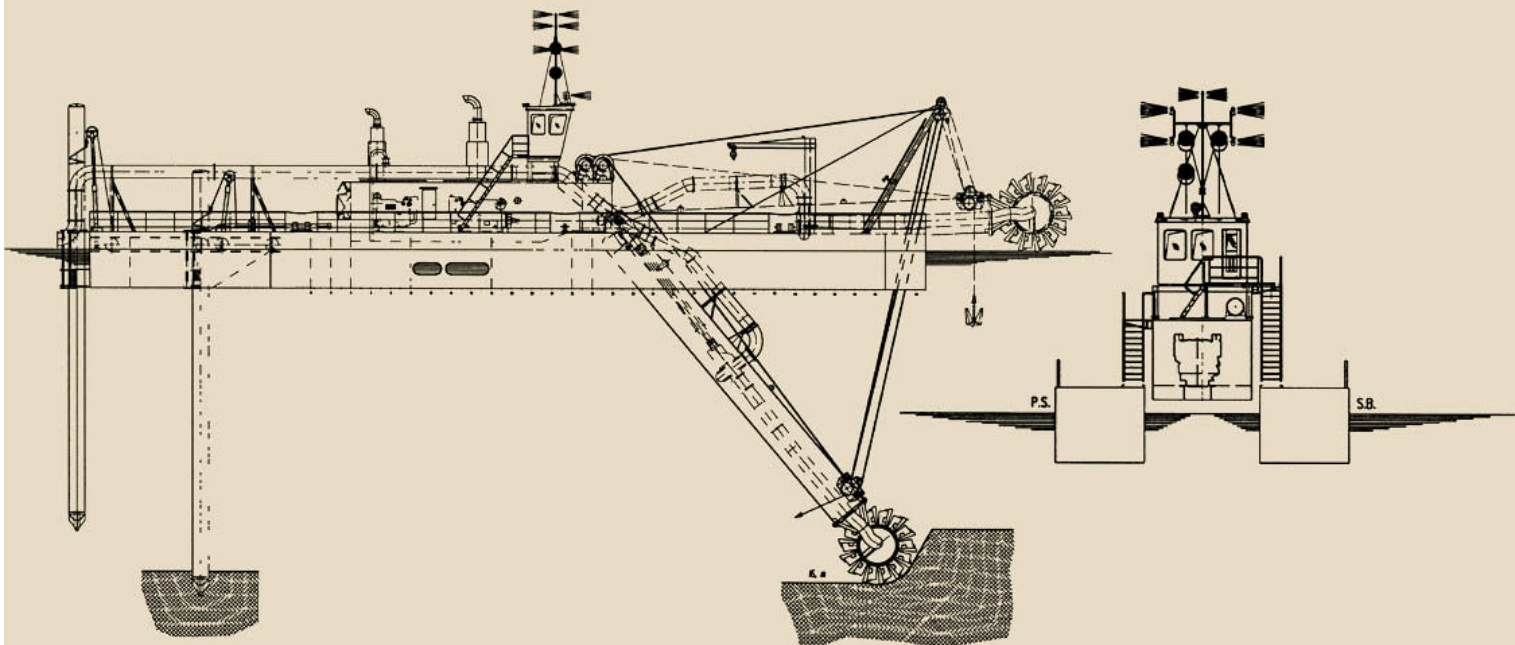


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Features and Figures

New Generation IHC Beaver 5516 W wheel dredger



The IHC Beaver is well known for its robust construction, reliable operation and excellent performance. To date IHC Holland have supplied over 600 of these standard cutter and wheel dredgers worldwide.

As a result of intensive research combined with the latest technology, the **New Generation** IHC Beaver Dredgers are now available to dredging industry. The improvements in efficiency and savings in fuel consumption are spectacular. The existing relationship to installed power and type designation is no longer valid. The installed power in the **New Generation** series is significantly lower than before while providing, however, the **same** or even **higher** dredging output.

The complete range of demountable standard dredgers comprises seven models of cutter as well as wheel dredgers with delivery pipelines ranging in diameter from 400 mm up to and including 750 mm. The **New Generation** dredgers have a catamaran shaped hull with the engine room located at deck level. The dredgers are equipped with a single high pressure submerged dredge pump mounted on the ladder. This **High Efficiency** dredge

pump is directly driven by the diesel engine via the **IHC Pivoting Gearbox**.

The prime mover for the dredge pump is a modern computer controlled diesel engine with low fuel consumption and low NOx and soot emission.

The above combination results in the **lowest costs per cubic metre** of dredged material for cutter and wheel dredgers.

The type designation of the New Generation IHC Beaver series is related to the diameter of the delivery pipeline, the dredging depth and cutting tool.

This type is called **New Generation IHC Beaver 5516 W**

55 -> diameter of the delivery pipeline is 550 mm

16 -> max. dredging depth is 16 metres

W -> dredger is equipped with a wheel

This dredger can also be supplied as a standard cutter dredger, the **New Generation IHC Beaver 6016 C** with a Ø 600 mm delivery pipeline.

New Generation IHC BEAVER 5516 W wheel dredger

Features

- Highly efficient in terms of fuel consumption and overall operational costs
- New high effective cutter/wheel drive system
- Fresh water cooling system
- Hull consists of two side pontoons connected by small coupling pontoons
- Completely assembled and fully tested before delivery
- Very simple and fast assembly, afloat as well as onshore
- Ready for operation on arrival at site
- Equipped as standard with spud carriage
- Equipped as standard with production measuring equipment
- Standard design, short delivery times
- Standard spare parts available from stock
- Designed as standard to qualify for Coastal Waters Certificate
- Optional equipment available

Principal particulars

- Length overall, ladder raised 50.40 m
- Length over pontoons, moulded 41.50 m
- Breadth, moulded 10.64 m
- Depth, moulded 2.75 m
- Side pontoons, moulded 41.50 x 3.22 x 2.75 m
- Mean draught with full bunkers approx. (standard execution) 1.90 m
- Maximum standard dredging depth 16.00 m
- Internal diameter of suction tube 600 mm
- Internal diameter of discharge pipes 550 mm
- Total installed power 1796 kW (2443 hp)
- Total dry weight approx. 360 t

Dredgepump

- Type IHC HR/MD 111-23-55
- Power at shaft 1121 kW (1525 hp)
- Prime mover Caterpillar 3512 B developing 1193 kW (1622 hp) continuous power at 1,600 rev/min. Specific fuel consumption 192 g/kW/hr.
- Dredgepump driven through pivoting gearbox
- Ball clearance 235 mm

Auxiliary power

(wheel, winches, spuds)
Caterpillar 3508 developing 675 kW (918 hp)
medium duty power at 1,600 rev/min.
Specific fuel consumption 216 g/kW/hr.

Electric installation

- Voltage 24 V
- Capacity 460 Ah
- Voltage 230/400 V AC 50 Hz
- Capacity 20 kVA

Dredging wheel

- Type 4038
- Power at shaft 380 kW (517 hp)
- Diameter 4000 mm
- Maximum speed approx. 14 rev/min

Winches

- | | Ladder winch | Swing winches |
|-----------------------------|--------------|---------------|
| - Line pull, 1st layer (kN) | 240 | 110 |
| - Max. line speed (m/min) | 20 | 20 |
| - Wire diameter (mm) | 36 | 24 |

- Drum diameter (mm) 762 445
- All winches have independent hydraulic drive
- The two swing winches are supplied with wires of 150 m and anchors of 730 kg

Spuds

- Length 21.4 m
- Diameter 711 mm
- Weight 1051 kg

Spud hoisting rams

- Force 534 kN
- Ram stroke 2.10 m
- Spud stroke each time approx. 3.05 m

Swing width with 35° swing each side

- At max. dredging depth 40.5 m
- At min. dredging depth 49.0 m

Deck crane

- Lifting power 26 kN
- Outreach 3.8 m

Classification

Bureau Veritas Class I, \approx 3/3, Coastal Waters
Engine installation after construction • MOT

Tools

Special tools for connecting and disconnecting pontoons and cutter ladder, and for maintenance of dredgepump and diesel engine are supplied

Options

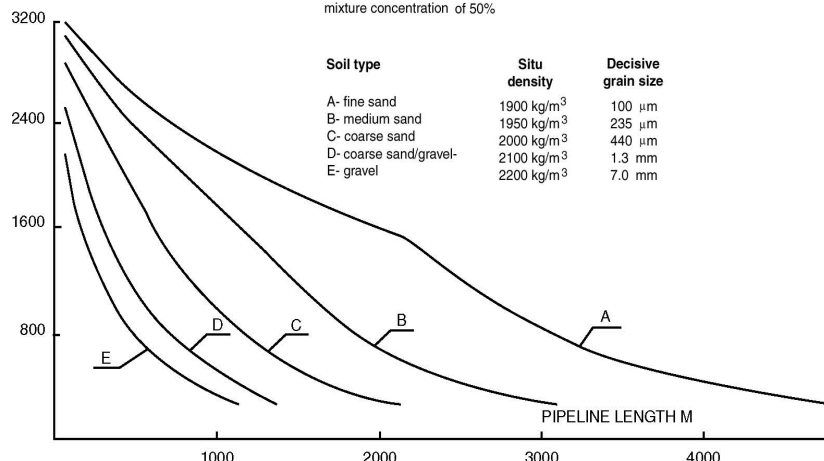
- Anchor booms
- Increased dredging depth
- Double walled dredge pump
- Dredge automation systems
- Swivel bend
- Spud tilting facility
- Airconditioning
- Harbour set

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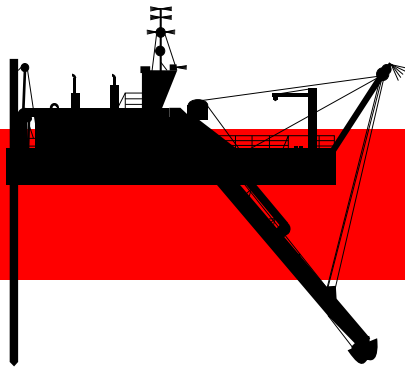
PUMPOUTPUT IN M³ OF SOLIDS PER EFFECTIVE HOUR

Discharge line diameter 550 mm
Dredging depth — 16 m

Maximum average volumetric mixture concentration of 50%

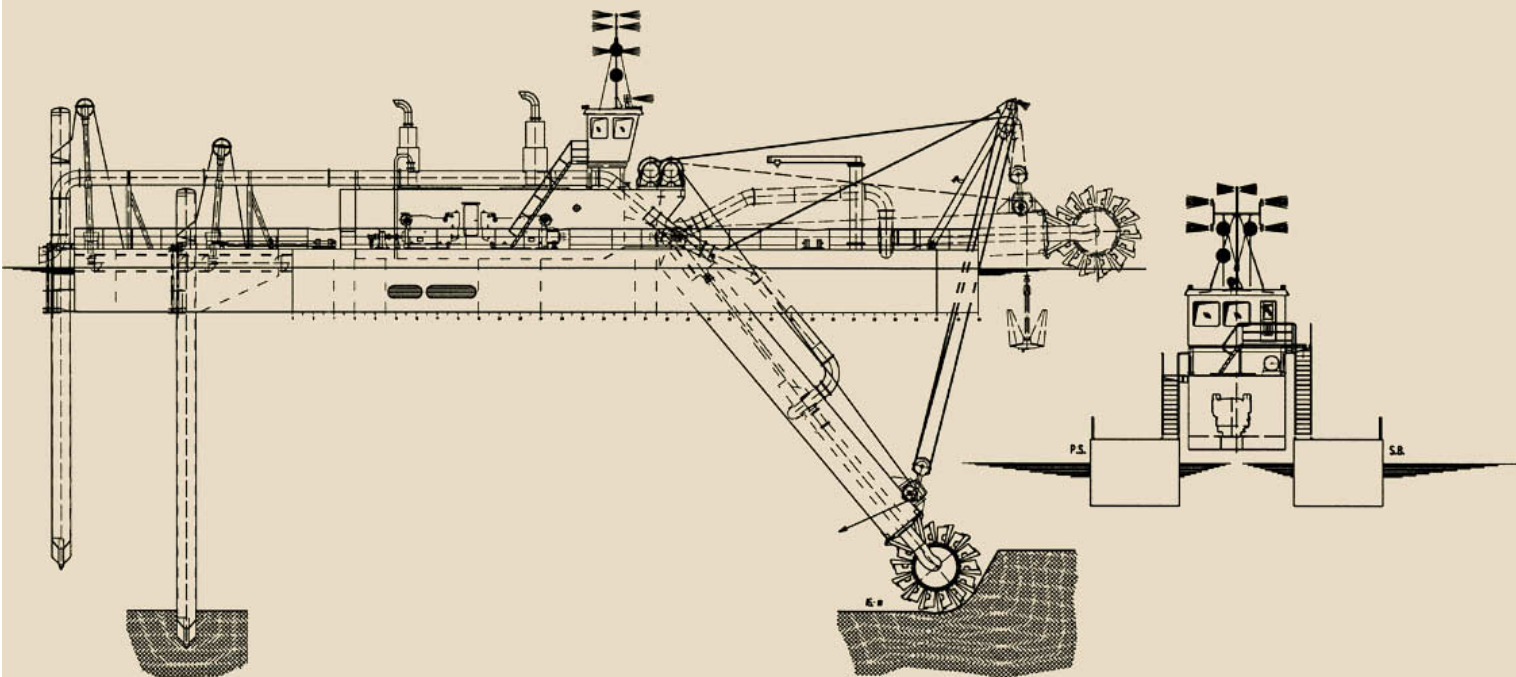


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Features and Figures

New Generation IHC Beaver 6016 W wheel dredger



The IHC Beaver is well known for its robust construction, reliable operation and excellent performance. To date IHC Holland have supplied over 600 of these standard cutter and wheel dredgers worldwide.

As a result of intensive research combined with the latest technology, the **New Generation IHC Beaver Dredgers** are now available to dredging industry. The improvements in efficiency and savings in fuel consumption are spectacular. The existing relationship to installed power and type designation is no longer valid. The installed power in the **New Generation** series is significantly lower than before while providing, however, the **same** or even **higher** dredging output.

The complete range of demountable standard dredgers comprises seven models of cutter as well as wheel dredgers with delivery pipelines ranging in diameter from 400 mm up to and including 750 mm. The **New Generation** dredgers have a catamaran shaped hull with the engine room located at deck level. The dredgers are equipped with a single high pressure submerged dredge pump mounted on the ladder. This **High Efficiency** dredge

pump is directly driven by the diesel engine via the **IHC Pivoting Gearbox**.

The prime mover for the dredge pump is a modern computer controlled diesel engine with low fuel consumption and low NOx and soot emission.

The above combination results in the **lowest costs per cubic metre** of dredged material for cutter and wheel dredgers.

The type designation of the New Generation IHC Beaver series is related to the diameter of the delivery pipeline, the dredging depth and cutting tool.

This type is called **New Generation IHC Beaver 6016 W**

60 -> diameter of the delivery pipeline is 600 mm

16 -> max. dredging depth is 16 metres

W -> dredger is equipped with a wheel

This dredger can also be supplied as a standard cutter dredger, the **New Generation IHC Beaver 6516 C** with a Ø 650 mm delivery pipeline.



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New Generation IHC BEAVER 6016 W wheel dredger

Features

- Highly efficient in terms of fuel consumption and overall operational costs
- New high effective cutter/wheel drive system
- Fresh water cooling system
- Hull consists of two side pontoons connected by small coupling pontoons
- Completely assembled and fully tested before delivery
- Very simple and fast assembly, afloat as well as onshore
- Ready for operation on arrival at site
- Equipped as standard with spud carriage
- Equipped as standard with production measuring equipment
- Standard design, short delivery times
- Standard spare parts available from stock
- Designed as standard to qualify for Coastal Waters Certificate
- Optional equipment available

Principal particulars

- Length overall, ladder raised 53.10 m
- Length over pontoons, moulded 43.50 m
- Breadth, moulded 12.44 m
- Depth, moulded 2.97 m
- Side pontoons, moulded 43.50 x 3.72 x 2.97 m
- Mean draught with full bunkers approx. (standard execution) 2.10 m
- Maximum standard dredging depth 16.00 m
- Internal diameter of suction tube 650 mm
- Internal diameter of discharge pipes 600 mm
- Total installed power 2602 kW (3538 hp)
- Total dry weight approx. 455 t

Dredgepump

- Type IHC HR/MD 121-26-60
- Power at shaft 1493 kW (2030 hp)
- Prime mover Caterpillar 3516 B developing 1588 kW (2160 hp) continuous power at 1,600 rev/min.
- Specific fuel consumption 193 g/kW/hr.
- Dredgepump driven through pivoting gearbox
- Ball clearance 256 mm

Auxiliary power

(wheel, winches, spuds)

Caterpillar 3512 DI-TA developing 1014 kW (1380 hp) medium duty power at 1,600 rev/min.
Specific fuel consumption 214 g/kW/hr.

Electric installation

- Voltage 24 V
- Capacity 550 Ah
- Voltage 230/400 V AC 50 Hz
- Capacity 25 kVA

Dredging wheel

- Type 4458
- Power at shaft 585 kW (795 hp)
- Diameter 4400 mm
- Maximum speed approx. 13 rev/min

Winches

- | | Ladder winch | Swing winches |
|-----------------------------|--------------|---------------|
| - Line pull, 1st layer (kN) | 290 | 150 |
| - Max. line speed (m/min) | 20 | 20 |
| - Wire diameter (mm) | 40 | 28 |

- Drum diameter (mm) 813 610
- All winches have independent hydraulic drive
- The two swing winches are supplied with wires of 150 m and anchors of 800 kg

Spuds

- Length 21.4 m
- Diameter 900 mm
- Weight 1348 kg

Spud hoisting rams

- Force 798 kN
- Ram stroke 2.60 m
- Spud stroke each time approx. 3.65 m

Swing width with 35° swing each side

- At max. dredging depth 43.5 m
- At min. dredging depth 52.0 m

Deck crane

- Lifting power 30 kN
- Outreach 3.8 m

Classification

Bureau Veritas Class I, ∇ 3/3, Coastal Waters
Engine installation after construction • MOT

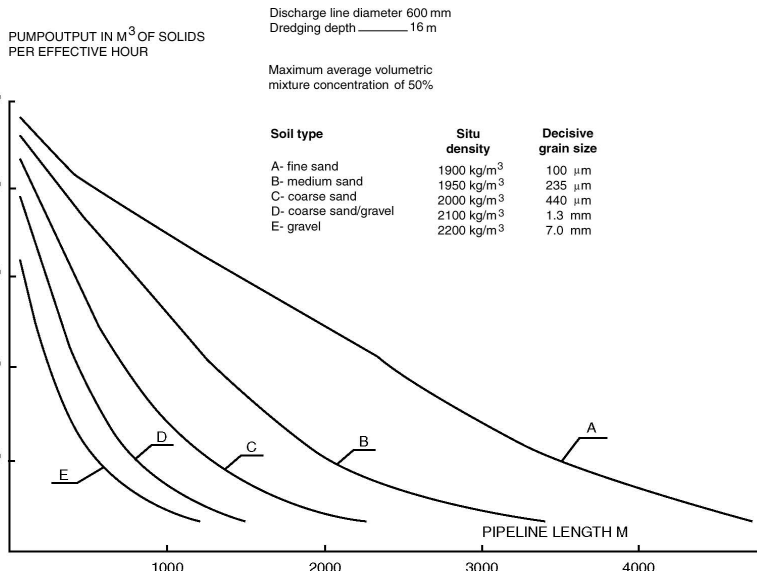
Tools

Special tools for connecting and disconnecting pontoons and cutter ladder, and for maintenance of dredgepump and diesel engine are supplied

Options

- Anchor booms
- Increased dredging depth
- Double walled dredge pump
- Dredge automation systems
- Swivel bend
- Spud tilting facility
- Airconditioning
- Harbour set

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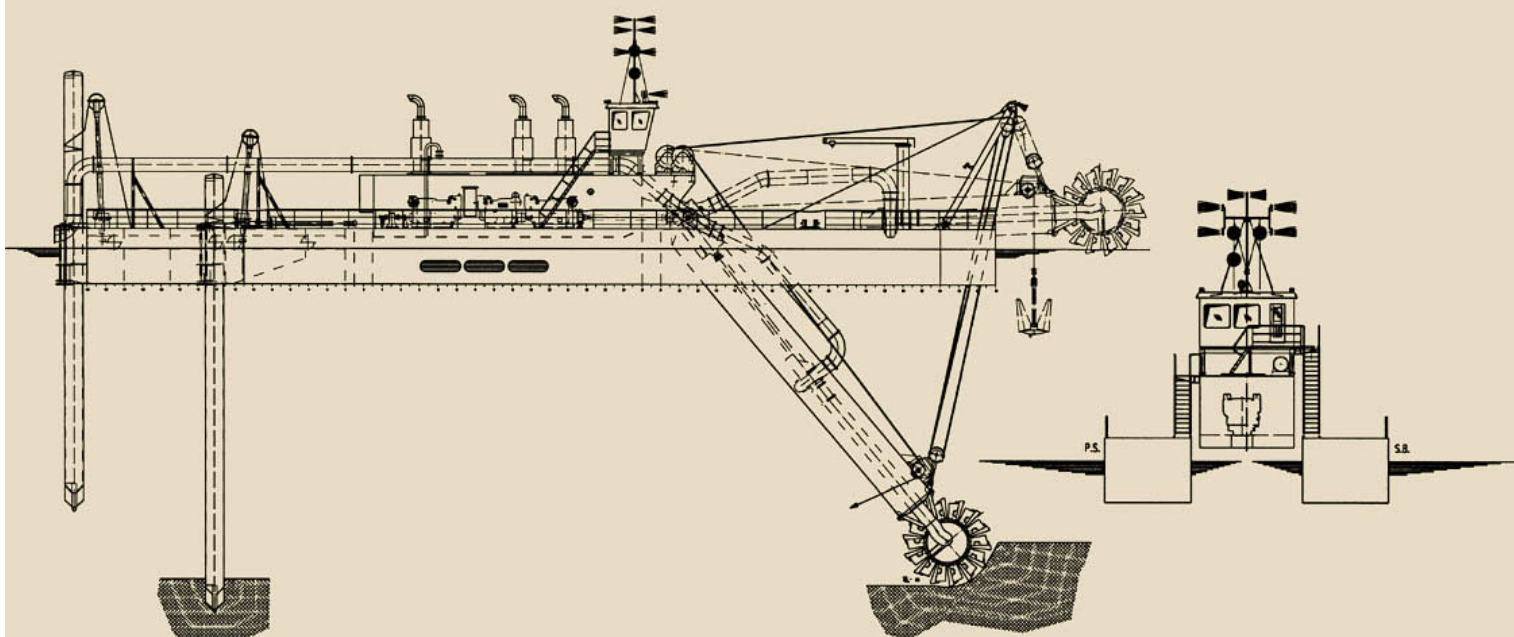


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Features and Figures

New Generation IHC Beaver 6518 W wheel dredger



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The complete range of demountable standard dredgers comprises seven models of cutter as well as wheel dredgers with delivery pipelines ranging in diameter from 400 mm up to and including 750 mm. The **New Generation** dredgers have a catamaran shaped hull with the engine room located at deck level. The dredgers are equipped with a single high pressure submerged dredge pump mounted on the ladder. This **High Efficiency** dredge

pump is directly driven by the diesel engine via the **IHC Pivoting Gearbox**.

The prime mover for the dredge pump is a modern computer controlled diesel engine with low fuel consumption and low NOx and soot emission.

The above combination results in the **lowest costs per cubic metre** of dredged material for cutter and wheel dredgers.

The type designation of the New Generation IHC Beaver series is related to the diameter of the delivery pipeline, the dredging depth and cutting tool.

This type is called **New Generation IHC Beaver 6518 W**

65 -> diameter of the delivery pipeline is 450 mm

18 -> max. dredging depth is 14 metres

W -> dredger is equipped with a wheel

This dredger can also be supplied as a standard cutter dredger, the **New Generation IHC Beaver 7018 C** with a Ø 700 mm delivery pipeline.



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New Generation IHC BEAVER 6518 W wheel dredger

Features

- Highly efficient in terms of fuel consumption and overall operational costs
- New high effective cutter/wheel drive system
- Fresh water cooling system
- Hull consists of two side pontoons connected by small coupling pontoons
- Completely assembled and fully tested before delivery
- Very simple and fast assembly, afloat as well as onshore
- Ready for operation on arrival at site
- Equipped as standard with spud carriage
- Equipped as standard with production measuring equipment
- Standard design, short delivery times
- Standard spare parts available from stock
- Designed as standard to qualify for Coastal Waters Certificate
- Optional equipment available

Principal particulars

- Length overall, ladder raised 59.00 m
- Length over pontoons, moulded 49.00 m
- Breadth, moulded 13.00 m
- Depth, moulded 2.97 m
- Side pontoons, moulded 49.00 x 3.95 x 2.97 m
- Mean draught with full bunkers approx. (standard execution) 2.10 m
- Maximum standard dredging depth 18.00 m
- Internal diameter of suction tube 700 mm
- Internal diameter of discharge pipes 650 mm
- Total installed power 3148 kW (4281 hp)
- Total dry weight approx. 531 t

Dredgepump

- Type IHC HR/MD 131-28-65
- Power at shaft 1775 kW (2414 hp)
- Prime mover Caterpillar 3512 B + 3508 B in tandem position developing 1888 kW (2567 hp) continuous power at 1,600 rev/min.
- Specific fuel consumption 197 g/kW/hr.
- Dredgepump driven through pivoting gearbox
- Ball clearance 277 mm

Auxiliary power

(wheel, winches, spuds)
Caterpillar 3512 B developing 1260 kW (1713 hp) medium duty power at 1,600 rev/min.
Specific fuel consumption 194 g/kW/hr.

Electric installation

- Voltage 24 V
- Capacity 660 Ah
- Voltage 230/400 V AC 50 Hz
- Capacity 35 kVA

Dredging wheel

- Type 4970
- Power at shaft 700 kW (952 hp)
- Diameter 4900 mm
- Maximum speed approx. 13 rev/min

Winches

- | | Ladder winch | Swing winches |
|-----------------------------|--------------|---------------|
| - Line pull, 1st layer (kN) | 340 | 165 |
| - Max. line speed (m/min) | 20 | 20 |
| - Wire diameter (mm) | 44 | 30 |

- Drum diameter (mm) 912 650
- All winches have independent hydraulic drive
- The two swing winches are supplied with wires of 150 m and anchors of 825 kg

Spuds

- Length 24 m
- Diameter 1000 mm
- Weight 1672 kg

Spud hoisting rams

- Force 950 kN
- Ram stroke 2.60 m
- Spud stroke each time approx. 3.65 m

Swing width with 35° swing each side

- At max. dredging depth 47.5 m
- At min. dredging depth 57.0 m

Deck crane

- Lifting power 35 kN
- Outreach 4.8 m

Classification

Bureau Veritas Class I, \approx 3/3, Coastal Waters
Engine installation after construction • MOT

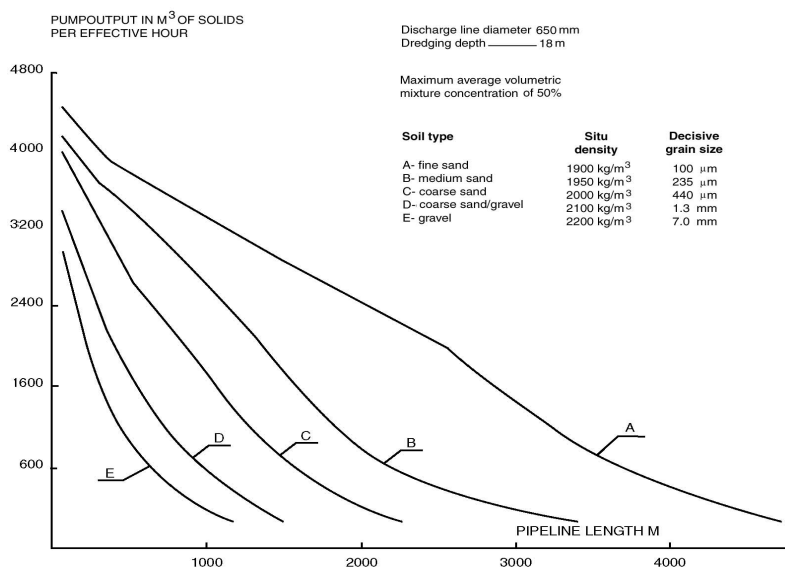
Tools

Special tools for connecting and disconnecting pontoons and cutter ladder, and for maintenance of dredgepump and diesel engine are supplied

Options

- Anchor booms
- Increased dredging depth
- Double walled dredge pump
- Dredge automation systems
- Swivel bend
- Spud tilting facility
- Airconditioning
- Harbour set

IHC Holland reserves the right to amend dimensional or other data given in this publication without prior notice



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