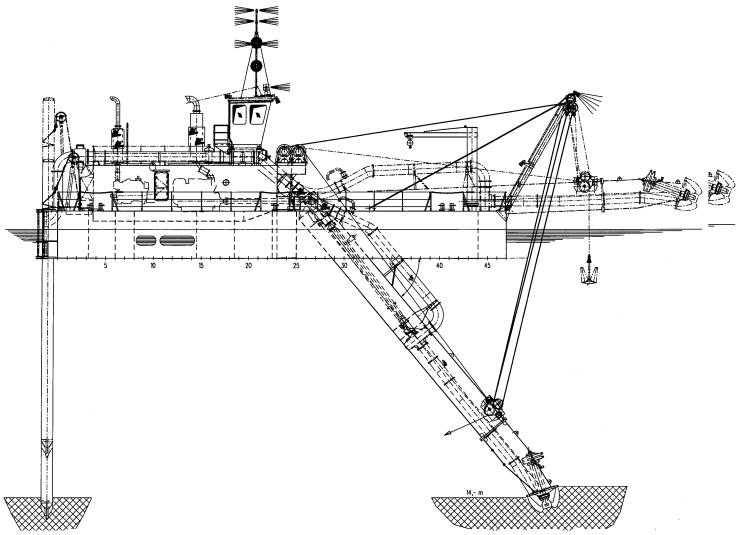
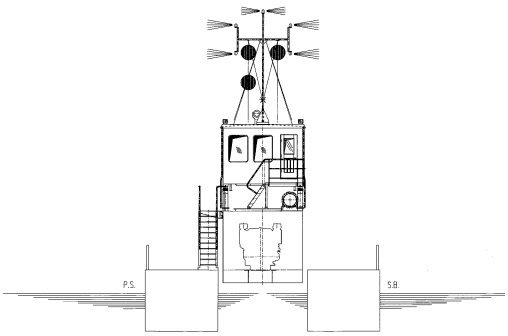
IHC Beaver 5014 C Cutter Suction Dredger





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

Intensive research combined with the latest technology mean that the New Generation IHC Beaver Dredgers are available to the dredging industry. The improvements in efficiency and savings in fuel consumption are spectacular. The relationship between installed power and type designation in past dredgers is no longer applicable. The installed power in the NG series is significantly lower than with its predecessors, yet equivalent or even higher dredging output is still provided.

The full range of demountable standard dredgers consists of several models of both cutter dredger and wheel dredger. The NG 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 emissions.

This combination results in the lowest possible costs per cubic meter of dredged material, for both cutter and wheel dredgers. The type designation of the NG IHC Beaver series relates to the diameter of the delivery pipeline, the dredging depth and the cutting tool.

This type is designated the NG IHC Beaver 5014 C.

50 - diameter of the delivery pipeline is 500mm
14 - max. dredging depth is 14 metres
C - dredger is equipped with a cutter

The dredger can also be supplied as a standard wheel dredger, designated the NG IHC Beaver 4514 W, with a delivery pipeline with a diameter of 450mm.

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IHC Beaver 5014 C Cutter Suction Dredger

Features

- Highly efficient fuel consumption and overall operating costs
- New highly 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 or onshore
- Ready for operation on arrival at site
- Standard design, allowing 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 2.46m		
- Mean draught with full bunkers approx. (standard design)	:	1.50 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	:	1,091 kW 1,484 hp
- Total dry weight approx.	:	174 t

Dredge pump

- Type IHC HR/MD 91-19-45

- Power at shaft	:	690 kW 938 hp

- Prime mover: Caterpillar 3508 B-SCAC developing 746kW (1,015hp) continuous power at 1,600rev/min
  Specific fuel consumption 202g/kWhr
- Dredge pump driven via pivoting gearbox

- Ball clearance	:	192 mm

Auxiliary power

(cutter, winches, spuds)

- Caterpillar 3406C developing 345kW (469hp) prime power at 1,800rev/min
  Specific fuel consumption 208g/kWhr

Electrical installation

- Voltage	:	24 V DC
- Battery capacity	:	400 Ah
- Voltage (50 Hz)	:	230/400 V AC
- Installed electrical power	:	16.50 kVA

Cutter

- Type IHC 10-CB-AL-1455-180

- Power at shaft	:	170 kW
	:	231 hp
- Diameter	:	1,455 mm
- Maximum speed (approx.)	:	30 rev/min

Winches

(ladder winch / swing winches)

- Line pull, 1st layer	:	110 / 110 kN
- Max. line speed	:	20 / 20 m/min
- Wire diameter	:	24 / 24 mm
- Drum diameter	:	457 / 457 mm

- All winches have independent hydraulic drive
- The two swing winches are supplied with wires of 100m and anchors of 730kg

Spuds

- Length	:	18.60 m
- Diameter	:	610 mm
- Weight	:	6,208 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	:	30.50 m
- At min. dredging depth	:	39.00 m

Deck crane

- Lifting power	:	20 kN
- Outreach	:	3.50 m

Classification

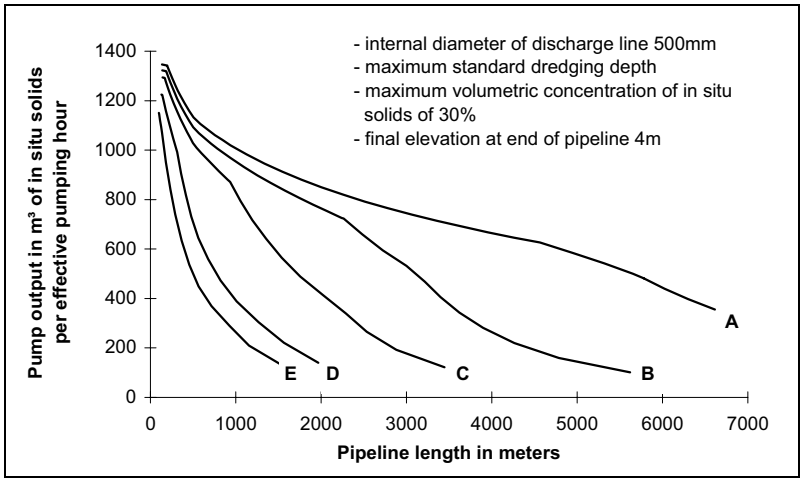
- Bureau Veritas Class I, ✠ Hull dredger coastal area
  Engine installation after construction • MOT

Tools

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

Optional equipment

- Anchor booms
- Spud carrier
- Increased dredging depth
- Double walled dredge pump
- Dredge automation systems
- Swivel bend
- Spud tilting facility
- Air conditioning
- Harbour set
- Production measuring equipment



Output calculated for:

Soil type	Decisive grain size	Situ density
A - fine sand	100µm	1,900kg/m³
B - medium sand	235µm	1,950kg/m³
C - coarse sand	440µm	2,000kg/m³
D - coarse sand + gravel	1.30mm	2,100kg/m³
E - gravel	7.00mm	2,200kg/m³