

MAURITIUS

OFFICE The Cubicle Industrial zone,Phoenix Mauritius **CONTACT** Phone: +230 52592488 E-mail: mu@bramston.co www.bramston.associates



HFS HYDROSUB 150



& FLODING SOLUTION

HFS HYDROSUB 150

Hydraulic driven portable submersible floating pump.

Quick access to any open water source at any distance up to 60 metres. Powered by a diesel hydraulic powerpack.

Handling facilities: hookloader lift-off connections, hoisting eye/pockets, fork pockets. Equipped with 6 cylinder turbo diesel Volvo engine.

Fixed hydraulic displacement pump. Maximum operating pressure of 350 bar. Hydraulic driven support winch with pulling force of 400 kg and equipped with 60 metres steel cable.



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GENERAL DESCRIPTION





PORTABILITY

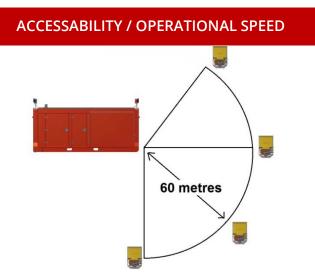


The limited weight of the submersible pump of approximately 125kg provides the ability for two persons to place (throw) the pump in the water. The pump is equipped with wheels and four handles to enable a four person lift.

SUBMERSIBLE / FLOATING



The submergibility and floating features guarantees operation with cleanest possible water, not affected by the water level or by waves. Even in cases where water is being pumped from very shallow locations and consequently the risk of cavitation exists, the pump will still maintain its operation.



The portability and the 60 meter hydraulic hose length guarantees access to almost all open waters, providing a very speedy water supply without any capacity loss or time loss due to draft problems at a reach of up to 60 meter or with a lift of up to 60 meter.

HYDRAULIC TRANSMISSION



The hydraulic transmission consists of a high-efficient axial-piston hydraulic pump. Hydraulic transmission components, powering a hydraulic motor attached to the centrifugal water pump. Hydraulic system pressure maximum 350 bar.

OPERATION



The capacity is engine speed controlled on the instrument panel. The unit is equipped with an advanced control system.

The ergonomically designed control panel uses IQAN technology for easy operation.

All vital parameters are measured and automatically maintained, such as oil pressure, oil temperature, fuel level, motor temperature, etc.

The display also shows the calculated water output.

Audible and visible alarms are generated when a parameter falls outside its maximum or minimum settings.

If alarms are ignored for a prolonged time, the unit will automatically regulate itself to a safe to operate output performance level and as such prevent the unit from being damaged permanently.



CONTROL PANEL



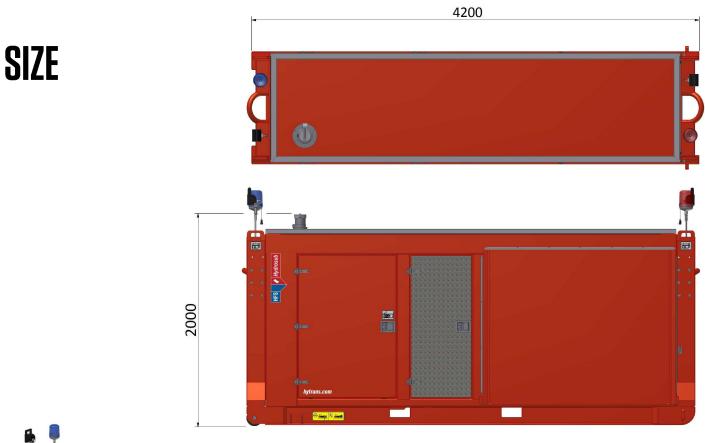
- 1 Rotary switch 0-I-S
- "off/ on/ system start".
- 2 Pushbutton "Start engine".
- 7 Pushbutton "▲", increase capacity.
- 8 Pushbutton "▼", decrease capacity.
- 9 Pushbutton "Acknowledge alarm".
- 11 Pushbutton "Emergency stop".
- 12 Rotary switch "Obstacle light".
- 13 Rotary switch "Work light".
- 14 Rotary switch "Internal lighting".
- 16 Display
- 17 Switch "control panel illumination"
- 18 Power socket 24 V 10A
- 21 Control panel illumination.



Information

A flashing button indicates that its operation is allowed. Push buttons are operated when continuously lit.

BUT	FON OR SWITCH	DESCRIPTION
1	rotary switch 0-I-S "off/ on/ system start".	This is the control system main switch. With this switch, the control system can be started. Turn the display on by turning rotary switch to position "S" and hold it until the control system has been started.
		If, during operation the rotary switch is turned to "0", the engine will stop. To return to the start menu, turn the rotary switch to position "I".
		After an emergency stop: Turn to the switch to position "S", before restart is possible.
2	Pushbutton "start engine".	This is the start engine button. (The engine will be pre-heating if necessary)
7/8	Pushbutton "▲"/"▼".	With this buttons the engine speed can be adjusted.
9	Pushbutton "Acknowledge alarm".	With this button, an alarm can be acknowledged If the beeper sounds and the alarm beacon is on, there is an alarm. Turn the alarm off by pressing this button. The alarm will repeat until the cause of the alarm is solved.
11	Pushbutton "emergency stop".	This is the emergency stop. Press this button in emergency situations. The engine will safely shut down. Rotate the emergency stop button to release it. Turn the rotary switch 0-I-S to position "S", before restart is possible.
12	Rotary switch "Obstacle light".	With this switch, the obstacle light can be turned on
13	Rotary switch "work light".	With this switch, the work light can be turned on
14	Rotary switch "internal lighting".	With this switch, the internal lighting can be turned on
16	Display	See 4.5 Operation of the display, page 23
17	Control panel illumination switch.	This is the switch of the control panel illumination. The control panel illumination turns on when the door is open
18	Power socket 24 V 10A	· · · · · · · · · · · · · · · · · · ·
21	Control panel illumination.	















RISK MANAGEMENT

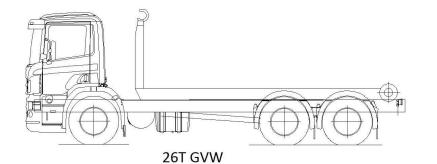
RE and R

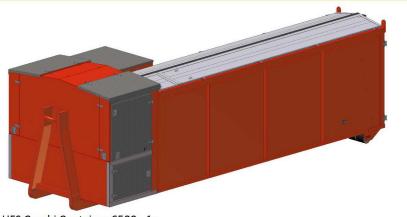
CER

HFS PACKAGE PROPOSAL A4-2000

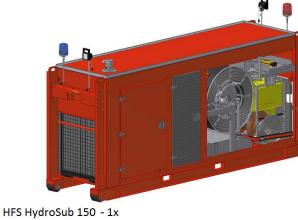
Combi Container Set:

- 1. HydroSub 150
- 2. Hose Recovery Unit 200
- 3. Squezze ramp
- 4. 6"Hose (2100 meter)
- 5. Hardware



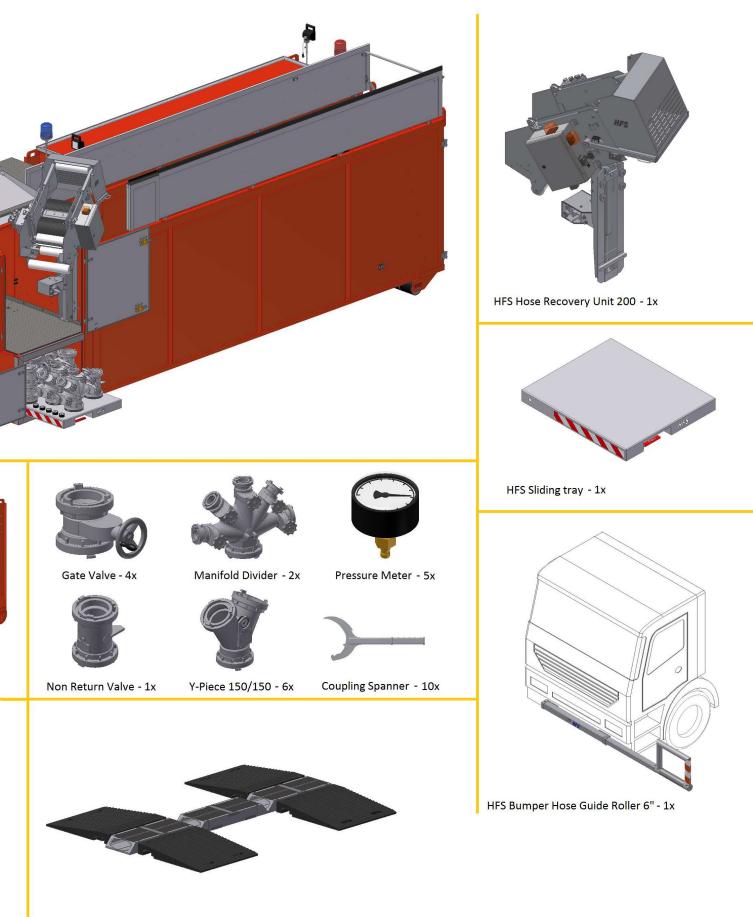


HFS Combi Container 6500 - 1x





1x Set of 2000 meter 152mm (6") hose at lengths of 50 meter + 100 meter in short lengths



Squeeze Ramp - 2x

HFS HYDROSUB 150 SPECIFICATIONS

Hytrans Systems B.V.
HFS HydroSub 150
4200mmx1162mmx1840mm
3.000 kg
110 / 230 Volt 16 Amp.
350 bar
3.000 lpm @11 bar
-10°C - +45°C
-30°C - +60°C
+ 40° / - 40°
+ 3.5° /- 3.5°
+ 4° /- 4°
+ 3.5° /- 3.5°

ENGINE	
Manufacturer	Volvo
Туре	TAD 660 VE
Exhaust emission	EPA Tier3 / EU stage 3A
Number of cylinders	6
Displacement	5.7 litres
Power	147 kW @ 2300 rpm
Fuel consumption Nom / Max	32 / 40 lph
Oil capacity	19 litres
Oil specification	Kroon Oil Dieselfleet CD+LSP 15W40
	(Equivalent: Shell Rimula 15W40)
Oil filter	HS4028050011
Air filter cartridge	HS4028030001
Multi belt	HS4028050045

ELECTRICAL SYSTEM		
Voltage	24 VDC	
Generator	28 V / 80 A	
Battery	2 x12V-70Ah	

COOLING SYSTEM	
Engine cooling	Radiator / Aftercooler
Coolant	Kroon Oil Coolant - SP12
	(Equivalent: Shell Glycoshell Longlife)
Coolant capacity	30 litres

FUEL SYSTEM	
Fuel	Diesel ASTM - D975 – 1D/2D EN590
Tank Capacity	160 litre
Operating time at Nom. Capacity	Min. 4 hours
Pre fuel filter	HS4028050044
Fuel fine filter	HS4028050043

HFS 3000	
3.000 lpm	
8.000 lpm	
115 kg	
935 x 710 x 580mm (HxLxW)	
	HS6062186518
	HS6062186520
	HS61030020
	HS61030021
	3.000 lpm 8.000 lpm 115 kg

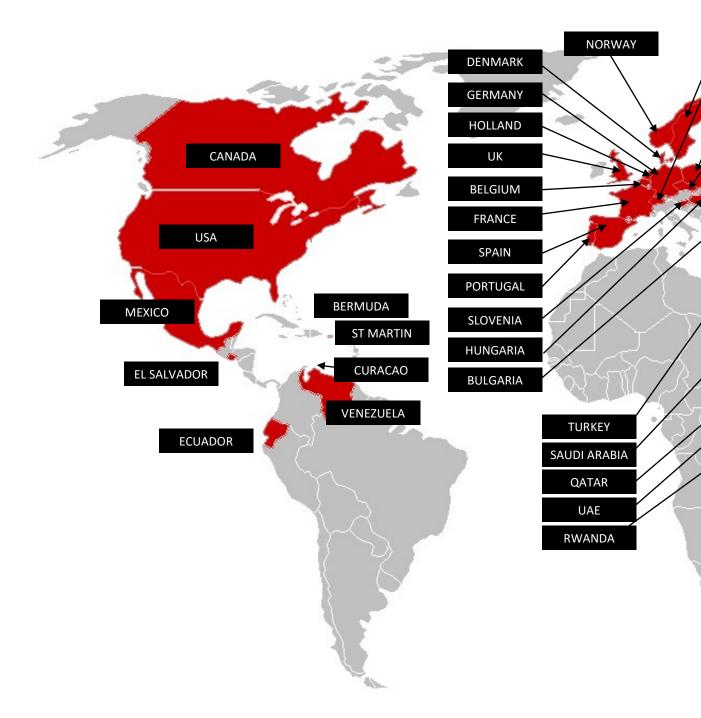
HYDRAULIC SYSTEM SUBMERSIBLE PUMP		
Hydraulic oil	Kroon Oil Perlus Super HVI 32/46	
	(Equivalent: Shell Tellus T32/46)	
or		
Biodegradable hydraulic oil	Kroon Oil Perlus Biosynth 32/46	
	(Equivalent: Shell Naturelle HF-E 32	2/46)
Oil Capacity	170 litres	
Filter element	1x Filter rating 10 micron	HS30050011
Hydraulic pumps	1x Axial piston pump 110 cc	
Max. Working Pressure	350 bar	
Oil cooler	1x Fan drive 24VDC-0,25kW	

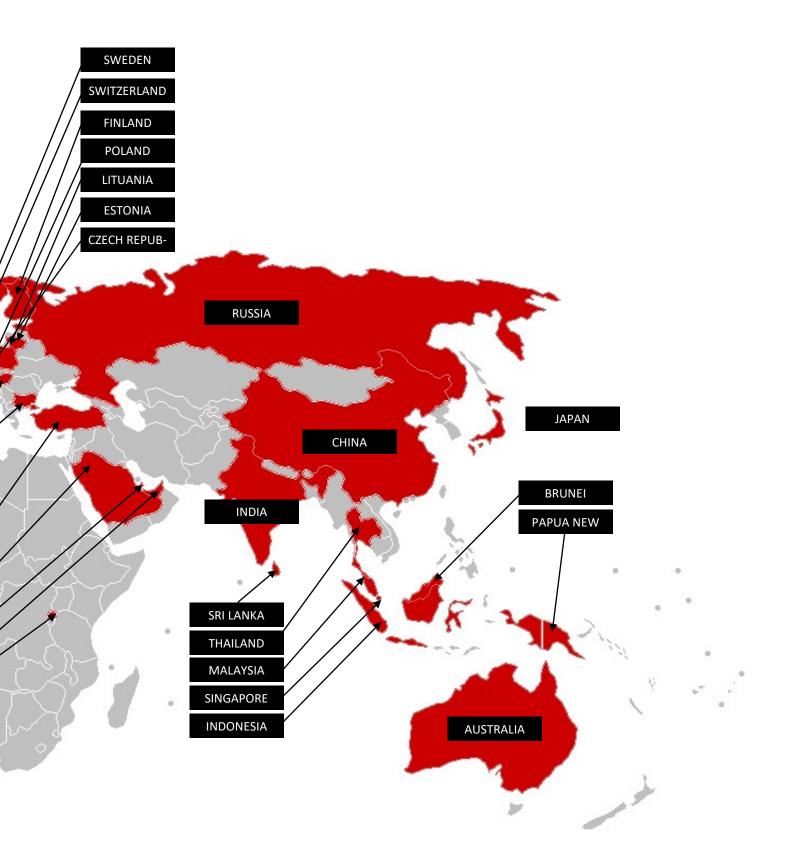
WINCH/REEL HYDRAULICS	
Max. Working Pressure	85 bar
HOSE REELS	
Hose length	60 m
Pressure hose	NW 25 max. WP 380 bar
Return hose	NW 32 max. WP 65 bar

WINCH	
Cable length	60 m / 197 ft
Pulling Force Nom / Max	4000 N / 6000 N on first winding

PRESERVTION FOR RED PA	ARTS
1 ^e coating	Zandleven Monopox ZF Universal primer 70 micron
2 ^e coating	Zandleven Monopox HB coating 80 micron
3 ^e coating	PPG DTM 50 micron
	Colour RAL 3000 'Hytrans red' Gloss 50% of 7042

HYTRANS FIRE SYSTEM: A WORLD OF REFERENCES





AUSTRALIA

BP Brisbane Caltex Refinery Puma Engergy Scoresby Fire Brigade Shell Australia

BELGIUM

Fire department of Brussel Fire department of Aalst Harbour authority Antwerp Fire department of Hasselt Fire department of Gent The Belgium government, Civil Defence Department Ministry of Interior Fire department of Antwerp Fire department of Hoogstraten Fire department of Aarschot Fire department of Knokke Fire department of Roeselare Fire department of Dendermonde Fire department of Turnhout Fire department of Lommel Fire department of Genk Fire department of Brugge Fire department of Puurs Fire department of Crisnee Fire department of Deinze Fire department of Boom Electrabel GDS Suez

BERMUDA

Fire department Bermuda.

BULGARIA

Ministry of Interior (12 units)

BRUNEI

Shell Refinery

CANADA

Fire Department of Vancouver

CZECH REPUBLIC

Fire brigade of Ostrava Fire brigade of Pilsen Fire brigade of Kladno Fire brigade of Usti nad Labem Oil refinery Unipetrol RPA s.r.o. Litvinov Fire Brigade of Zbiroh

CHINA

The Chinese Military, several units as well as the China Fire Service Fire Brigade of Dalian Chinese Army in Jiangsu Fire Brigade of Fushan Fire Brigade of Zhejiang Fire Brigade of Liaoning Tianjin Industry Fire Service of Qing Dao Fire Brigade of Fushan Fire Brigade of Shenzen City of Shenyang City of Liuzhou City of Linyi City of Yantai

CURACAO

Refinery Isla

DENMARK

Fire brigade of Aarhus

ECUADOR

Cuenca Fire Brigade

EL SALVADOR

Refineria Petrolera Acajutla S.A. – Rasa

ESTONIA

Tallinn Harbour/Rescue Board

FINLAND

Neste Oil Co of Tornio

FRANCE

Fire department of Le Havre Fire department of Rouen Fire department of Nantes Fire department of Lyon GDF National Gas Company France, several units EDF National Electricity Company SDIF 77 Areca Tricastin

GERMANY

Fire brigade City of Duisburg Fire brigade City of Bremen InfraServ – Hoechst Chemicals, Gendorf Erdöl Raffinnerie Emsland AG, BP Germany, Lingen Nord-West-Ölgesellschaft mbH, Wilhelmshaven Wilhelmshavener Raffinerie Gesellschaft, Wilhelmshaven Fire brigade city of Mannheim IGS Chemicals, Gersthofen Fraport, International Airport in Frankfurt am Main (several units) Ministry of Interior, Rheinland-Pfalz, Civil Defence Dept (3 units) Fire Brigade of Flörsheim.

BP Germany, Werk Scholven Wacker Chemie, Nünchritz Fire brigade City of Hamburg Bayern Oil Refinery of Neustad a.d. Donau Fire brigade City of Emden Fire brigade City of Düsseldorf Fire brigade City of Krefeld Holborn Europa Refinery, Hamburg Fire brigade City of Hannover Basell Münchsmünster. several systems MIRO Raffinerie, Karlsruhe H&R ChemPharm, Salzbergen BP Germany, Werk Horst Landratsamt Pfaffenhofen Fire brigade City of Magdeburg Fire brigade City of Essen Fire brigade City of Braunschweig Ministry of Interior Baden -Württemberg (7 units), Fire brigade City of Osnabrück Ministry of Interior Bavaria (6 units) **GDF** Suez Germany Bezirksregierung Düsseldorf

HOLLAND

The Dutch government CIVIL DEFENCE Dept. Ministry of Interior. Dutch Oil & Gas company, NAM, several Super Large capacity Systems. Verbrugge Terminals,. General Electrics, Bergen op Zoom SFS, Rotterdam Fire Brigade Terneuzen Fire Brigade Wieringermeer Sitech Services, Geleen Safety Region Zeeland Zeeland Refinery Shell Pernis

HUNGARY

MOL Refinery

INDIA

Pune Municipal Corporation

INDONESIA

Fire brigade of Jakarta

JAPAN

Fire brigade of Tokyo Japan, Plus several Hose Recovery Units in other locations all over Japan. Japanese civil defence, Several Electric Power Companies Fire department of Akashi Tokyo Police Department

LITUANIA

Nota Bene UAB

MALAYSIA

Bomba, Fire department of Malaysia, several complete systems

MEXICO

PEMEX, Petroleos Mexicanos, has chosen on large scale at several locations for the HFS super water supply system Laguna Verde nuclear power plant

NORWAY

Ocean Rig, fire prot. during maintenance at drilling platforms Offshore.

PAPUA NEW GUINEA InterOil Refinery

InterOli Reimer

PORTUGAL

City of Lisboa City of Porto

POLAND

Refinery of Pern

QATAR

Internal Security Force Qatar Qatar Petroleum Qatar Civil Defence

RWANDA

UN refugee camps, drinking water supply.

RUSIAN FEDERATION

Ministry of Interior

SAINT MARTIN

Centre de Secours de Saint Martain

SAUDI ARABIA

Saudi Aramco Fire Protection Department

SINGAPORE

SINGAPORE CIVIL DEFENCE FORCE has chosen for several units of the HFS duo-containerised system.

SLOVENIA

Krsko Nuclear Power Plant

SPAIN

Fire Brigade Barcelona Repsol Nuclear Power Plant of Asco Nuclear Power Plant of Vandellos Port of Tarragona

SRI LANKA

Fire Department of Colombo

SWEDEN

Swedish Fire brigades of Stockholm, Gothenburg, Malmo and Sundsvall in close cooperation with the cities oil industries. Swedish Civil defence

SWITZERLAND

Fire department of Zug Fire brigade of Basel Armasuisse Mr. Streit at Bern +41 313245660 This organisation has just like Holland chosen for large quantities HFS HydroSubs. (Federal Dept. of Defence, Civil Protection and Sport DDPS) Industrial Fire Department of Cimo Industrial Fire Department of Lonza

THAILAND

Thailand Bangkok Fire brigade. Bangkok, Municipality Agency Thai Civil Defence

TURKEY

Next to The fire service organisation of the region IZMIR has the City of Istanbul, chosen on large scale for the containerised HFS system.

UNITED STATES OF AMERICA

Several Fire Services in the US amongst them Fire brigade of Berkeley California. City of New York Sunoco

UNITED ARAB EMIRATES

The civil defence fire brigade of Abu Dhabi has also chosen

for the containerised version of the HFS equipment.

UNITED KINGDOM

Fire dept. of Shropshire Fire dep. Of West Yorkshire ESSO Refinery, Fawley Homeoffice, has chosen for LARGE QUANTITIES HFS Systems Ineos Manufacturing Scotland. Leicestershire Fire & Rescue Service Highway Agency

VENEZUELA

Refinery PVDSA

HydroSub 150 delivered to Civil Defence organisations	
BELGIUM	12
BULGARIA	12
CZECH REP.	10
ESTONIA	6
GERMANY	25
INDIA	1
JAPAN	6
MALAYSIA	20
NETHERLANDS	193
QATAR	1
RUSSIA	11
SINGAPORE	2
SLOVAKJA	11
SWITZERLAND	56
THAILAND	72
UAE	1
UK	59



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GET IN TOUCH



Bramston & Associates (Mauritius)

OFFICE

The Cubicle Industrial zone,Phoenix Mauritius

CONTACT

Phone: +230 5477 9993/94/95/96 E-mail: mu@bramston.co www.bramston.associates

URGENT REQUEST +230 5259 2488 +230 55858 5100