



- 1. Speed Governing
- 2. Genset Automation
- 3. Hydraulic Cranking
- 4. Engine Protection

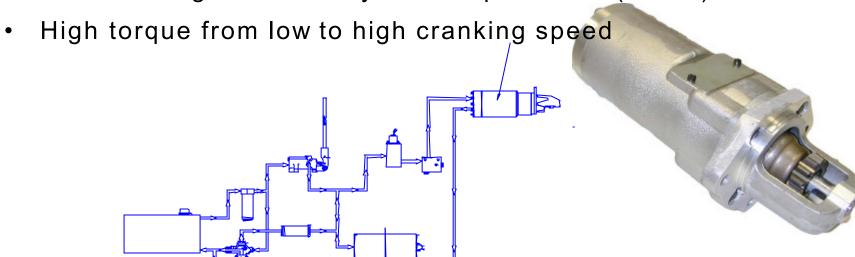


#### **Applications**



### **Applications**

- Manual, safe starting of engines in demanding environments
- Engine starting back up systems in ships (approvals ready)
- Applications in mines for spark proof starting
- Remote areas and places in deserts with lack of spares
- Safe starting even at very low temperatures (-30°C)

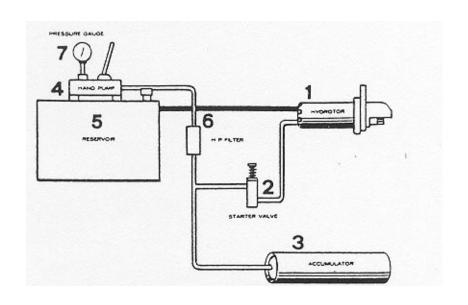




#### Various starting possibilities



#### **HPS Hand Pump System**



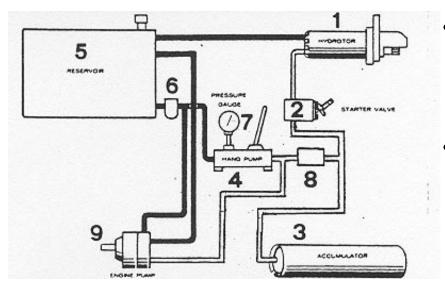
- Recommended for emergency or infrequent use. Accumulator is recharged by the Hand pump.
- The foot pedal valve can be substituted by a pilot operated valve with bowden cable for remote control.

- 1 Hydraulic Starter
- 2 Control Valve
- 3 Accumulator
- 4 Hand pump

- 5 Oil Reservoir
- 6 Oil filter (low pressure)
- 7 Pressure Gauge
- 8 High pressure filter
- 9 Engine driven hydr. pump
- 10 Pressostat switch
- 11 Electric Motor



#### **EPS Engine Pump System**



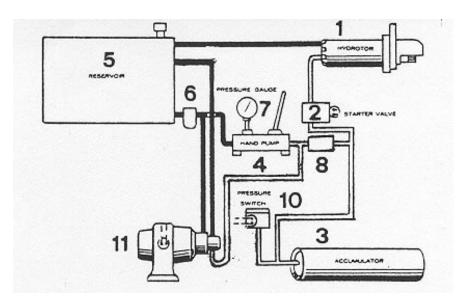
- Suitable for continuous duty service.
- Initially the accumulator is manually charged. With engine running, engine pump (9) keeps accumulator automatically charged. The engine pump can be driven by the van belt or flanged directly to the engine.

- 1 Hydraulic Starter
- 2 Control Valve
- 3 Accumulator
- 4 Hand pump

- 5 Oil Reservoir
- 6 Oil filter (low pressure)
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- 8 High pressure filter
- Engine driven hydr. pump
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- 11 Electric Motor



## MPS Electric Motor Pump System



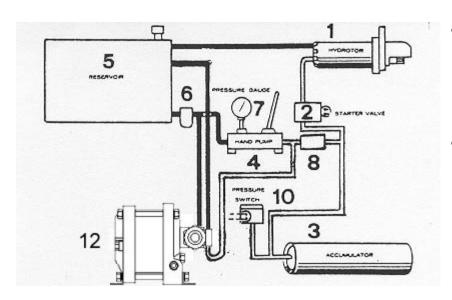
- Recommended for fully automatic installations.
- Accumulator charged automatically by electric motor pump. Hand pump for emergency purposes.
- Electro solenoid control valve has manual override. Electric motor available in explosion proof version.

- 1 Hydraulic Starter
- 2 Control Valve
- 3 Accumulator
- 4 Hand pump

- Oil Reservoir
- 6 Oil filter (low pressure)
- 7 Pressure Gauge
- 8 High pressure filter
- 9 Engine driven hydr. pump
- 10 Pressostat switch
- 11 Electric Motor



### **APS Air Motor Pump System**



- Recommended for fully automatic installations, where sufficient air is available.
- Accumulator charged automatically by an air driven charging pump. A hand pump is mounted too in case the automatic charging system fails (no air pressure, etc.).

- 1 Hydraulic Starter
- 2 Control Valve
- 3 Accumulator
- 4 Hand pump

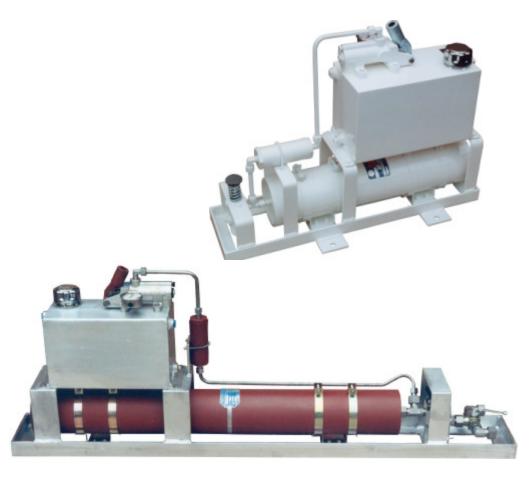
- Oil Reservoir
- 6 Oil filter (low pressure)
- 7 Pressure Gauge
- 8 High pressure filter
- 9 Engine driven hydr. pump
- 10 Pressostat switch
- 11 Electric Motor
- 12 Air Motor



#### **Customized designs**



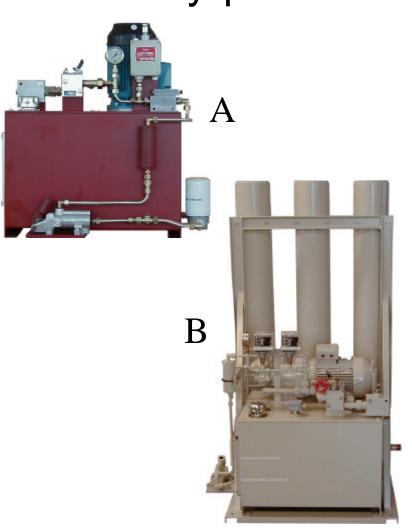
# Assembly possibilities HPS



- HPS system mounted on a frame.
- The complete system is painted according to the requirement of the customer.



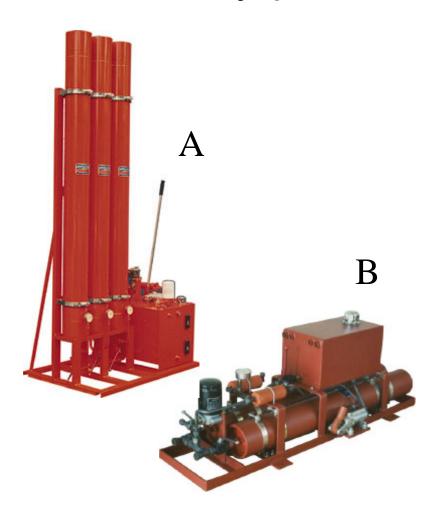
## Assembly possibilities MPS



- MPS starting system (Variation A) with all components mounted an the tank, fully piped and ground painted.
- MPS starting system (Variation B) with all components mounted on a frame. The complete system is painted according to the requirement of the customer.
- The 3 accumulators are mounted vertically.



### Assembly possibilities EPS



EPS starting system on a frame.

- (A) 3 accumulators per system, each with a shut off valve and a pressure gauge.
- The accumulators are mounted vertically.
- (B) 2 accumulators per system, each with a shut off valve and a pressure gauge. The complete system is ground painted.
- The accumulators are mounted horizontally under the tank.



# Assembly possibilities APS



 APS system mounted on a frame, ground painted

APS starting system, made out of stainless steel. The accumulators are specially painted (water proof). All components mounted on the tank with the accumulators delivered as loose parts.