HPP Application Profile

04/02

HPP-Units are hydraulically powered by using the oil pressure and oil flow of a carrier vehicle. The multitude of available sizes and variations allows most different applications about as follows:

1. Selection within Technical Data Table

a. Hydraulically Driven High Pressure Washers 150 to 250 bar

HPP 26/20 to HPP 32/20:	power 1 to 10 kW/13 hp
HPP 30/25 to HPP 38/25:	power 1 to 14 kW/19 hp
HPP 34/30 to HPP 38/30:	power 1 to 30 kW/40 hp

b. Replacing Centrifugal Pumps: These show bad efficiencies particularly in the upper load range, and they produce only little remaining flows, there. To reach higher pressure they contain multi-stages and consequently become big, heavy and expensive, and they show further decreased efficiencies up to stalling the system.

Vice versa the HPP shows a nearly direct proportionality between driving and driven pressure, and between driving and driven flow, it is small, light and cost-saving particularly when comparing to multi-stage centrifugal pumps, their efficiencies and danger of stalling. The HPP – when technically possible- will produce what actually is desired:

HPP 20/36 to HPP 24/36:	pressures up to 35 bar/500 psi flows up to 120 LpM/ 32GpM and a multitude thereof

c. High Pressure, High Flow Units up to 100 LpM

HPP 30/36 to HPP 38/36:	power up to 30 kW/140 bar
HPP 34/30 to HPP 38/30:	power up to 21 kW/200 bar

These units presently are the cheapest of their power class: A conventional reduction gear is no longer required. And no power gear can be cheaper than a gear pump produced in large series.

d. Ultra-High Pressure Jetting and Tooling: To realize this, secondary pressures of up to 500 bar/7000 psi to 2000 bar/28000 psi are required as e.g. from:

HPP 32/12 to HPP 38/12:	power 1 to 27 kW

e. Industrial Units: Within the given transmission ratios nearly the whole HPP product range is used at smallest to large power.

2. Combined Jetting and Tooling Techniques

The central hydraulic pump of a vehicle can simultaneously or successively feed several HPP units. This allows various applications within Fire Extinguishing and Rescue Techniques:

a. Fire Extinguishing Techniques

- Low Pressure Systems with small drive oil consumption
- High Pressure Systems for fogging techniques
- Impulse Techniques for soft fogging
- Cooling Fog Shield to protect personnel

b. Tooling and Rescue Techniques

- Operating rescue scissors
- Operating rescue spreaders
- Operating rescue cylinders and tools
- Lifting, recovering and rerailing techniques

c. Powerful High Pressure Cleaning

- Deeply penetrating the pores of road surfaces
- Clearing clogged drains and pipes
- Quickly emptying cellars, excavations etc
- Powerful high pressure cleaning of own vehicles

d. General Side Works

- Quick refilling of water tanks
- Sandblasting
- Operating generators for 220V-AC
- Watering and long range jetting

3. Multiple Functions with Just One HPP: Multi-functional applications with just one large-flow HPP can be easily covered at high pressure, large and small flows as is done in case of sweepers:

a. Jetting Bar Operation: large flows up to 120 LpM/32 GpM
b. Mobile Pressure Washing: high pressures 150-250 bar/ 2000/3.500 psi
c. Dust Suppression: small flows/pressures

Instead of using three different pumps expensively, just one HPP is required which due to the possibilities of oil and water control takes up all sofar existing, separate functions.

This frequently means that the original main function (e.g. jetting bar operation) is replaced by another and more important function (e.g. fully mobile pressure washing) at extremely low additional expenses (pressure hose, pistole, lance, nozzle). **This means to unveil additional markets which sofar had only rarely been touched and give evidence of a corresponding and sofar undiscovered sales potential.**

4. Test Rig Approved Add-On Modules: It is difficult to keep full control of oil hydraulics. Water („harder", corrosive, more abrasive) is even more difficult to handle. Their combination can become uncontrollable. To solve such problems, test-rig approved add-on modules are offered to complement the HPP. The designer from his desk on therefore can use experienced units and the end user must not struggle around with unidentified problems:

a. Prefabricated Water Modules
complete suction inlet
main tap (electric or mech.)
externally accessible filter
self-cleaning suction filters
air exhaust (electric or mech.)
draining (electric or mech.)
overheat switch-off
ice switch-off
level switch
water shortage switch-off
quick coupling system
pressure indicator
pressure limitation
vibration switch-off
false air switch-off
contamination indicator
complete electric circuits

b. Prefabricated Oil Modules
quick coupling system
flow limitation
switching pressure indicator
safety filter
overheat switch-off
housing safety valve
wrong connection protector
on/off electric valve
pressure indicator
pressure limitation
automatic switching modules
- for pressures
- for flows
- for 2-step-operation
- for unloading

complete electric circuits

5. Ready-To-Use Automatic Modules: End users do not wish to mount hydraulic systems and make them workable, but they wish to buy fully workable and approved equipment. To allow this, ready-to-use HPP-modules are offered:

C-Automatic when using constant flow oil pumps:

- oil flow is idled upon gun release
- energizes automatically upon gun operation
- simultaneous operation of other users difficult

V-Automatic when using variable flow oil pumps:

- oil flow cut off upon gun release
- energizes automatically upon operating the gun
- simultaneous operation of other consumers possible

Z-Automatic to allow quick, powerful operation:

- speed cycle at normal pressure without HPP (velocity)
- automatic work cycle at increased pressure (force)

F-Automatic to prefill and work:

- increased oil flow (speed) of filling cycle
- automatic overdrive towards work cycle (force)

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