

the **dynamics** of water



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Heavy Duty DPV
multi-stage centrifugal pumps
for demanding operating conditions

Heavy Duty DPV

for demanding operating



The Heavy Duty version of our DPV pumps has been specifically adapted to be able to withstand even more extreme conditions for longer. In boiler feed, RO or other, often demanding industrial applications, pumps have to take a lot of punishment.

In some of these applications extreme pump loads cannot be avoided, or it is decided to sacrifice the life of the pump in favour of the process or the design of the complete installation. It's precisely in these cases that the longer service life of the Heavy Duty DPV can be advantageous:

- Lower costs for pump replacement
- Less downtime of the installation

The Heavy Duty design addresses the major causes of pump failure

- Air in the medium, for example due to cavitation, reduces the lubricating properties required for the maximum life of the bearings and the mechanical seal in the pump.
- Imbalance and vibrations, caused by the so-called 'running off the graph', or as a result of cavitation, make the pump load excessively high.
- Short dry running, because the medium is not immediately available at start-up, or due to poor venting of the pump, results in heating and extreme wear of the bearings and the mechanical seal.

- Due to thermo shock, where cold liquid cools the heated bearing extremely quickly, the bearing material may fail.
- Extreme axial forces caused by upthrust, caused by suddenly running outside the graph (start-up without back pressure for example) can cause unwanted mechanical stress.

The Heavy Duty DPV is equipped as standard with:

Low NPSH-r version

A Low NPSH impeller in the first stage. This gives greatly improved NPSH properties so that cavitation does not occur (or occurs later).



Low NPSH-r version



Standard version

conditions



Heavy duty DPV	
Range	VCF 10/15 B (2/4/6 follow later)
Pressure class	PN16/25 optionally PN40
Medium temperature	-20°C - 140°C

Cavitation is caused by a too low suction pressure in relation to the vapour pressure of a liquid. Imploding vapour bubbles cause 'removal' of metal and extra wear due to imbalance and the decreased cooling and lubricating properties of the cavitating liquid. Without cavitation you are assured of a stable, quiet and especially long-lasting problem-free pump operation.

Tough TUC/TUC bearings

Because vibrations, axial forces and reduced lubrication mainly load the bearings, the Heavy Duty standard is equipped with tougher TUC/TUC bearings in a reinforced construction.



Cartridge mechanical seal

The Heavy Duty version is equipped as standard with a cartridge mechanical seal, which is available in a number of material versions (depending on the medium).



Cartridge mechanical seal

The Heavy Duty version combines some of the many options that our range of stainless steel multi-stage vertical DVP pumps offer. In addition, the Heavy Duty version can be equipped with all other options that are also available for the DPV.

For example:

- Electrolytically polished and passivated hydraulic package
- ATEX EEXe II T3/EEXd IIC T4 versions
- Acceptance and test certificates (including 2.1; 2.2; 3.1 and LR, BV, ABS, DNV GL 3.2)
- Seals with various certifications
- Various voltage versions



dp pumps

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