

# Right to remain silent

WITH AVERAGE REDUCTIONS OF 10dB(A), THE SILENT PUMP IS SURE TO BE AN ARRESTING PROPOSITION FOR MANUFACTURERS DEMANDING LESS NOISE FROM THEIR MATERIAL HANDLING DESIGNS

Noise reduction is indeed becoming the real challenge in the modern industrial vehicle market. Market competitiveness and new European regulations in the handling sector, particularly for pallet trucks, are such that suppliers are compelled to develop new technologies as a means of meeting the increased requirements from their customers.

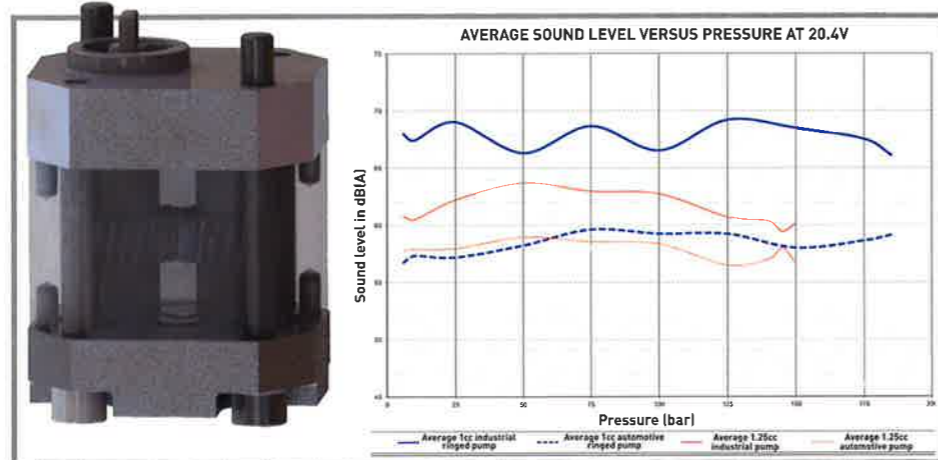
Acoustic nuisances have several origins, such as the hydraulic pulsations of the pump being propagated through hoses and pipes and then affecting the truck structure via the frame (structure-borne sound), and the aerial noise (rotational frequency of an electric motor or a pump), which can be contained by an acoustic cover.

## Making a noise at CeMat

With Jtekt HPI celebrating its 50<sup>th</sup> anniversary this year, it could hardly miss the opportunity to participate at CeMat, one of the world's leading trade fairs for intralogistics and supply chain management, held in Hannover, Germany, this June. The company showed its range of micro and mini power packs and of course its pumps, motors and distribution blocks – but above all exhibited its latest product innovation: the external gear Silent Pump for micro power packs.

On a demonstration area at the company's booth, it demonstrated to visitors the performance of the Silent Pump on an operational pallet truck. When a pallet truck is operating, the noise generated by the up and down movement of the forks is very annoying – but thanks to the Silent Pump mounted on the micro power pack, visitors could appreciate the low level of noise when using the machine. Extremely compact, the Silent Pump achieves impressive results in the reduction of noise pollution.

The R&D department of the company's production site in Blois, France, normally dedicated to automotive applications, played a key role in developing a unique profile of side plate, which is the component that enables the noise reduction. Taking advantage of the technology it has developed for steering systems over recent years, the team adapted it to applications in the handling sector. As a result of a series of new tests and research, the technology was enhanced and applied to cover a wider range of capacities and pressures in accordance with the requirements of material handling customers.



ABOVE: Comparison of 1cc/rev and 1.25cc/rev capacities using standard and silent pinion technology. The tests were realized in Jtekt HPI's own anechoic room on a power pack with a 1.2kW motor

ABOVE LEFT: Silent pump series 0  
LEFT: Unique 22-tooth helical pinion set

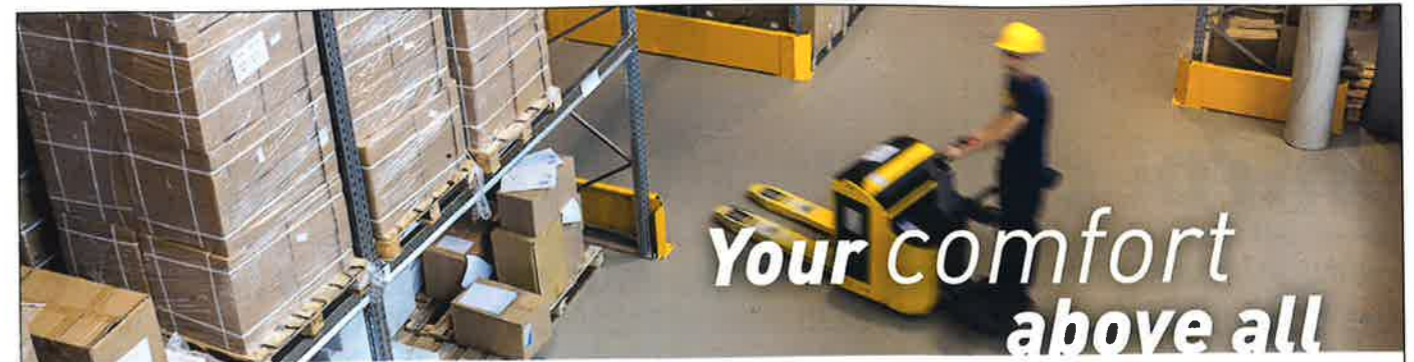
profile on series 0 pumps, unique for that size of pump, reduces the hydraulic pulsations considerably.

The capacities available are 1, 1.25, 1.5, 1.7 and 2cc/rev, handling operating pressures from 125-250 bar. All of these Silent Pumps are available on all HPI micro power packs (2G, 3G and 4G), for pallet truck applications.

Jtekt HPI is well aware of the technical constraints and needs of the industrial handling sector. This is why its R&D department will extend its Silent Pump range with the series 1 pumps that will be dedicated to mini power packs for stacker applications. The 17-tooth helical profile covers capacities ranging from 2-5cc/rev for a pressure range of 150-250 bar. **ALT**

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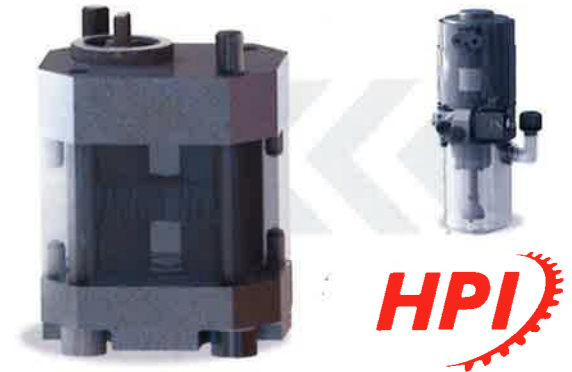
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## New Silent Pump for Micro Power Pack

- + Noise reduction up to - 10 dBA
- + Operating frequency ranges adapted

CAPACITIES	1	1,25	1,5	1,7	2	cc/rev
OPERATING PRESSURE	250	200	175	150	125	bar



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