

SENSITIVE LIFTING AND LOWERING

FIELD OF APPLICATION

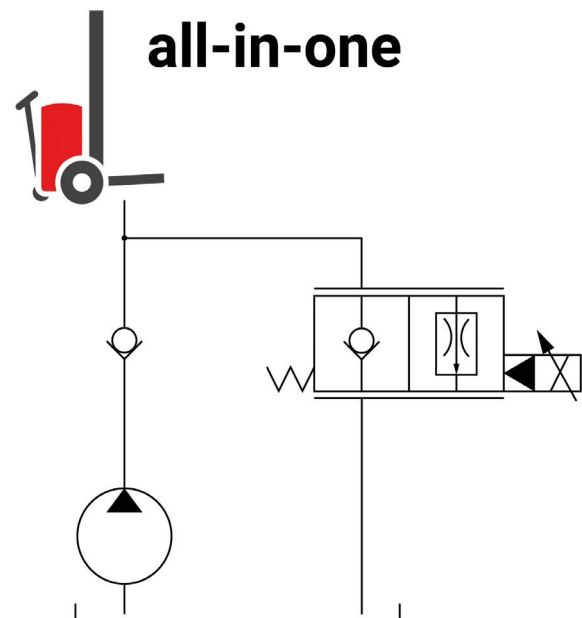
A core task of hydraulics is the lifting and lowering of loads, especially in forklift trucks, but also with lifting platforms, cranes, elevators, winches, etc. For small and medium-sized industrial trucks, such as forklift trucks, lowering is usually controlled via proportional valves in the bypass. For reasons of productivity, the lifting and lowering speed of the fork should be as high as possible without exceeding a maximum safety speed. This is limited by means of load-independent flow controllers. However, a high fork speed requires the appropriate technology for smooth lifting and lowering of the load. Various valves and hydraulic concepts can be used for this purpose. The best choice are the all-in-one proportional 2-way flow control cartridges with pressure compensator and a seat function in the normally closed switching position developed for this purpose.

HYDRAULIC CONCEPT / DIAGRAM

The all-in-one solution is one of the best ways to control forklift trucks sensitively and load-compensated. The characteristics of this solution are:

- Seat tight in deenergised state, keeps the fork in stable position
- The oil quantity is sensitively regulated in proportion to the control current
- Due to its construction, the valve keeps the lowering speed constant, independent of the load.

Because the all-in-one solution combines multiple functions in one valve, the hydraulic diagram is considerably simplified by eliminating load holding and speed limiting valves. This leads to lower costs and a compact system where the bouncing effect can be excluded.



VALVE TYPES

Function	Designation	Data sheet
All-in-one proportional valve	QSPPU10_25	2.6-638
All-in-one proportional valve	QSPPM33_80	2.6-661

For smaller all-in-one solutions QSPPU10 valves (UNF10 up to 35 l/min) are used, for larger hydraulic systems M33 valves (over 100 l/min) are used.

The all-in-one solution is a proven and long-term tested valve type that can be adapted easily to the conditions of a mechanical system. Various amplifier and controller electronics cards from Wandfluh are available for this purpose.

ANIMATION FUNCTIONING



The smaller all-in-one proportional valve QSPPU10_25



The larger all-in-one proportional valve QSPPM33_80

