

The AgX Hydraulics library allows for fast, accurate and stable simulation of hydraulic components in real time. Because of the tight integration with AgX Dynamics, both the mechanical and the hydraulics simulation can be solved within the same system.



FEATURES AND TECHNOLOGY

- ✓ Directional valves with instantaneous closing and opening.
- ✓ Reliable safety valve with fast continuous response.
- ✓ Stable simulations even for large (60hz) time steps.
- ✓ Hard limits on piston ranges.
- ✓ Components for mechanical coupling such as clutch, torque converter, engine etc.

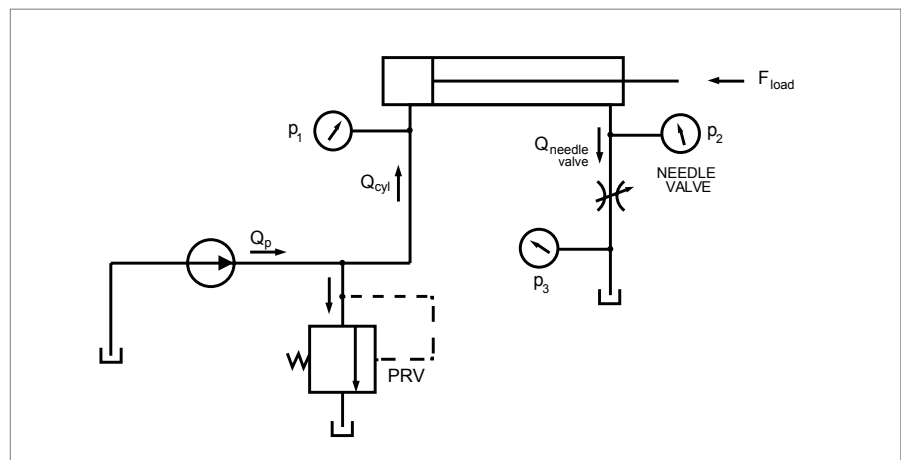
CUSTOMER BENEFITS

- ✓ Automatic coupling between mechanics and hydraulics.
- ✓ Support complete hydraulic schemas.
- ✓ Integrated with mechanical simulations.
- ✓ Instant system response to pressure fluctuations.
- ✓ Control parameters in real time.
- ✓ Design, prototype and evaluate hydraulic systems.

PERFORMANCE AND PRECISION

The mathematical foundations and numerical methods of the AgX software now comes with a deeply integrated hydraulics library providing high stability.

AgX Dynamics is designed to handle contacts and stiff forces. Discontinuities and sharp nonlinearities are handled with retained performance. This allows for real-time execution of large interactive hydraulic systems.



AgX Hydraulics enables you to bridge the gap between hydraulics and mechanical simulations.

AgX Hydraulics can be used to simulate any general hydraulic system, e.g., excavators, cranes, offshore winches or similar.

HYDRAULIC COMPONENTS

Component	Symbol	Component	Symbol
Accumulator		Fixed displacement pump	
Binary valve		Needle valve	
Check valve		Relief valve	
Constant flow valve		Spool valve	
Cylinder (single rod, double acting)		Variable displacement pump	
Fixed displacement motor		Variable displacement motor	