

*Quality products for
demanding applications*



**PROPORTIONAL
MOBILE VALVES**

PROPORTIONAL MOBILE VALVES

The Proportional Mobile Valves (PMV) programme describes a flexible hydraulic concept that can be individually assembled and modularly adapted for any type of application. An internal pressure compensator is already integrated as standard which results in precise, load-independent and sensitive control.

PMV principally stands for a high degree of flexibility. Due to the modular design, PMV units can be designed and assembled for practically any type of application. The modules used are proportional spool valves with which the direction of movement and the speed of cylinders or hydraulic motors can be determined individually. Thanks to the built-in pressure compensator, the functions are controlled separately, continuously and at the same time load pressure compensated proportionally or via hand lever. Proportional spool valves PMV are suitable for all common pump systems. The volume flows and load pressures for the individual consumers can be set individually.



PROPERTIES

- Modular structure
- Individually adaptable
- Volume flows and load pressures can be individually adapted to the downstream consumers
- Extensive modular system with a multitude of variants and combination options
- Compact and lightweight design
- Robust and durable design for pressures up to 420 bar
- High energy efficiency due to low Delta p
- Load Sensing Signal Amplifier
- Anti-saturation module
- Load-independent flow control
- The load sensing pressure relief valves for connections A and B allow reduced energy loss.



AREAS OF APPLICATION

High power density and reliability under all working conditions have always been important requirements for the use in the mobile sector. In order to carry out heavy work with large machines efficiently and yet also precisely, hydraulics that are well-adapted to the machine are required. With the highly flexible assemblable PMV programme, these units can be used almost everywhere in mobile applications.

The areas of application are very diverse. PMV are used where very compact installation dimensions are required and a function must be sensitively controlled.

Typical applications are cylinder and motor controls for all handling functions in such as:

- Loading cranes
- Telescopic handler
- Aerial platforms
- Municipal vehicles
- Construction machinery
- Drilling equipment
- Agricultural and forestry machinery
- Offshore applications
- Underground mining

Most applications are remotely controlled with the proportional valve. However, due to the modular design, hydraulic joysticks can also directly control the valves or the functions can be controlled with built-in hand lever actuators. The PMV units are also the ideal choice for compact and efficient hydraulic systems on the high seas or in harbour facilities.



PMV CONCEPT

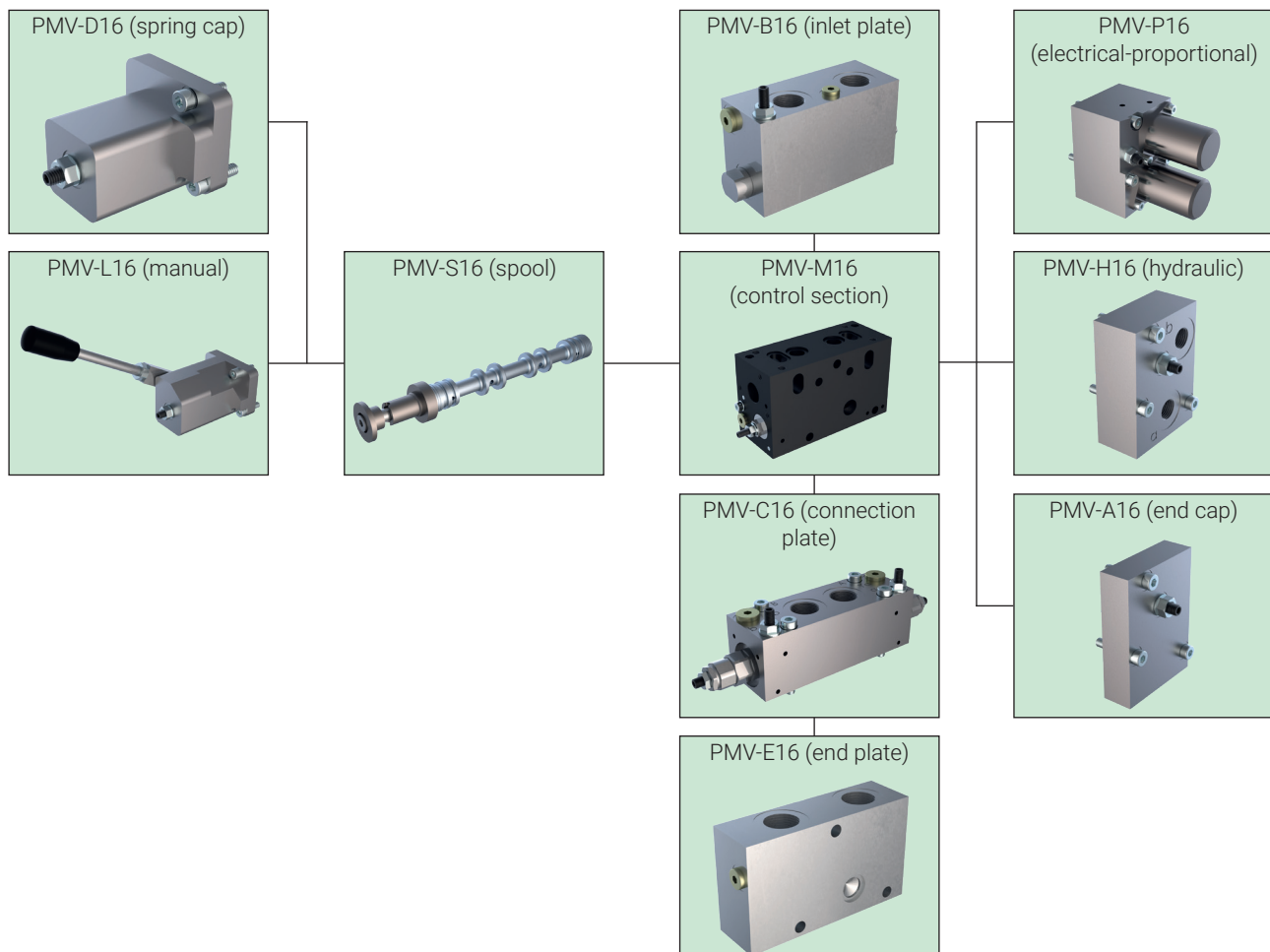
The PMV concept allows an individual composition of single modules, which are available as pre-assembled units with their own type code. Modifications can also be carried out very easily in the field.

Due to the modular design, also special solutions can be created in a flexible manner. For example, counterbalance valves integrated in the connection plate or operated non-return valves can be integrated.

The individual PMV modules in nominal size 16 are divided as follows:

- Inlet plate PMV-B16
- Control section PMV-M16
- Spool PMV-S16

- Control module
 - Electrical-proportional PMV-P16
 - Hydraulic PMV-H16
 - End cap PMV-A16
- Spring cap PMV-D16
- Manual actuation PMV-L16
- Connection plate PMV-C16
- End plate PMV-E16



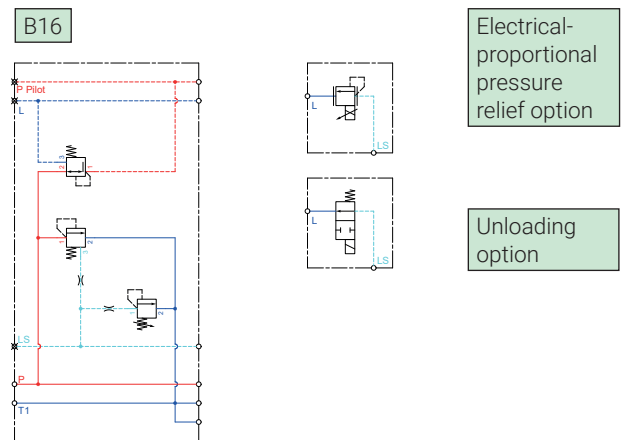
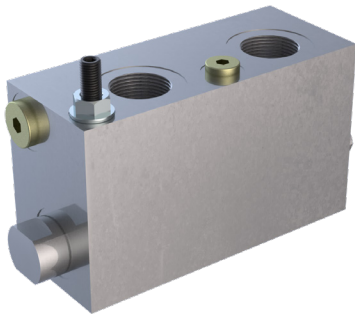
INLET AND END PLATE

The inlet plate of the PMV can be configured for all common pump types. Inlet plates are available for variable displacement pumps, fixed displacement pumps and constant pressure systems.

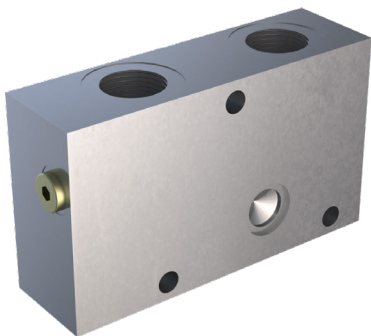
The inlet plates have a maximum pressure setting for the entire valve block. Various unloading functions, an LS signal amplifier, an anti-saturation function and an electrical-proportional pressure adjustment can be configured as special func-

tions. The end plate can be optionally designed with extra P and T connections or with preparation for serial connection of the pressure transmission («Power Beyond»).

INLET PLATE



END PLATE



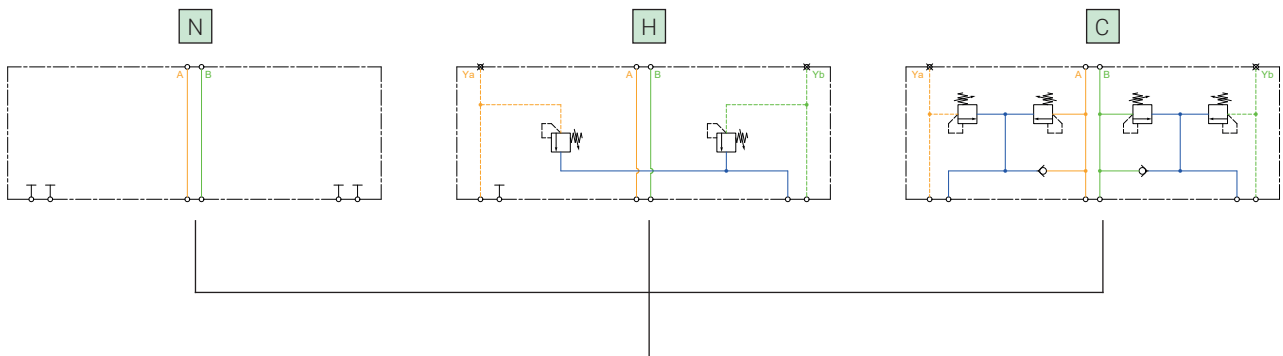
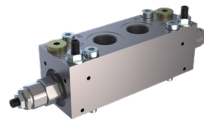
CONTROL SECTION

The control section is modularly built on the standard of a basic control unit. It is equipped with a control spool that is precisely adjusted to the function and already includes a 2-way pressure compensator in the standard version to automatically compensate internally for any load changes in the system. This pressure compensator is available with or without non-return valve function, as required.

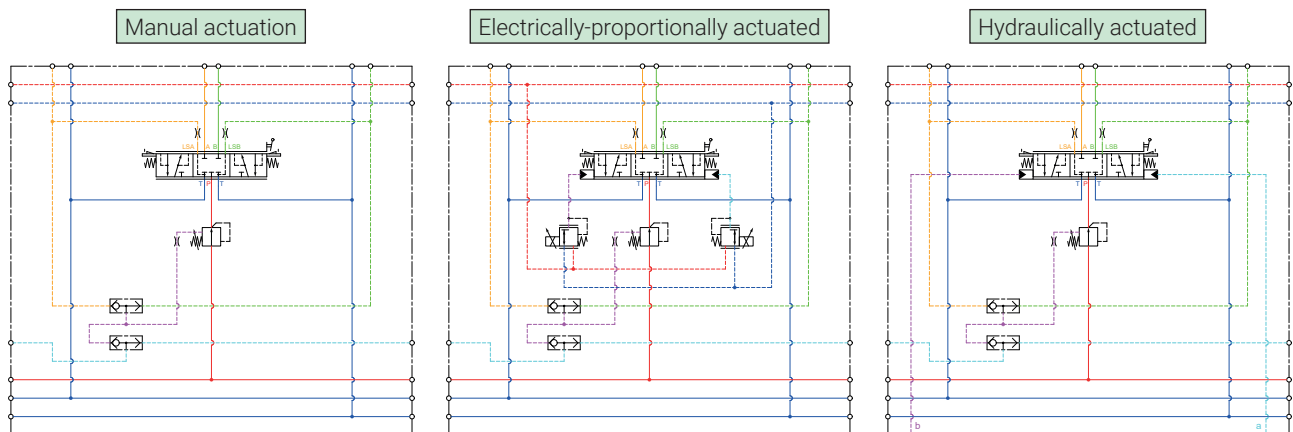
In addition to electric or hydraulic actuation, pure manual actuation or a manual override is also available as a control section. The PMV modular system can be combined in any desired way and can be configured with up to 12 control sections. For this purpose, the corresponding tie rods are available for easy assembly. The use of diverse connection plates

enables a variety of required consumer functions. Based on the modular principle, the «Build Programme» provides the required operating form as control module.

CONNECTION PLATES C16



CONTROL SECTION M16



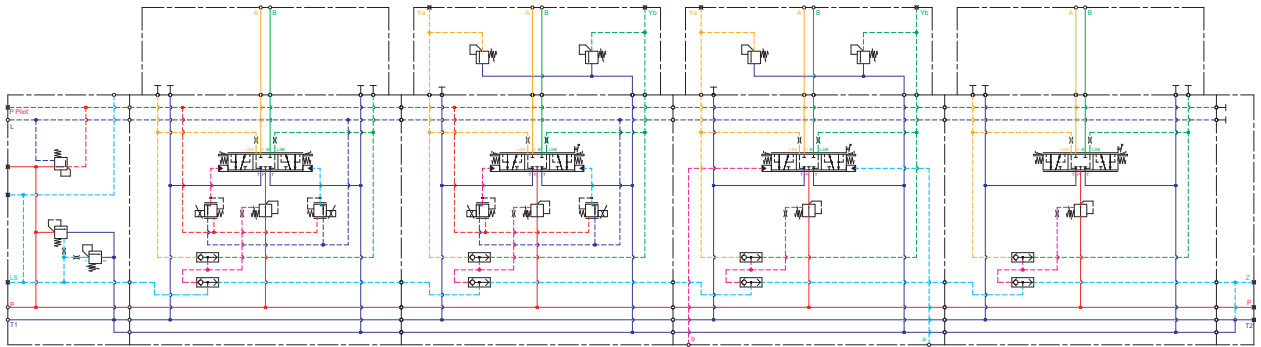
DIMENSIONS AND **DIAGRAM**

The PMV-16 control unit convinces with its high power density and optimum use of space. The example control unit shows the individual functions in detail and the optimal arrangement of the components. This ensures that the hoses, electrical connections and manual operation are routed locally separately.

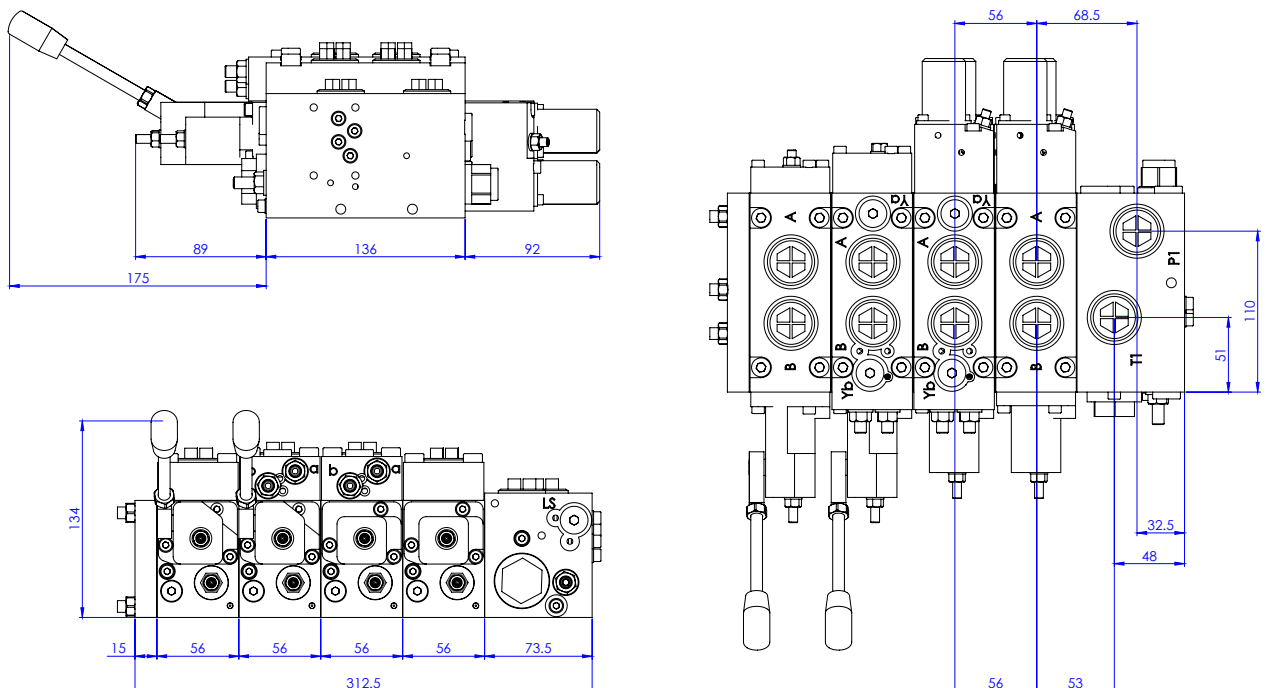
DIAGRAM OF AN EXAMPLE CONTROL UNIT PMV-16

This unit consists of an inlet plate, four control sections and an end plate, which are assembled together with tie rods. Via the various connection blocks, the control sections are hydraulically connected to the hydraulic cylinders and motors in

the system. The inlet plate contains all important control elements and in the control sections the elements are precisely adjusted to the function to guarantee optimum parameterisation of the pressures and flows.



DIMENSION DRAWING



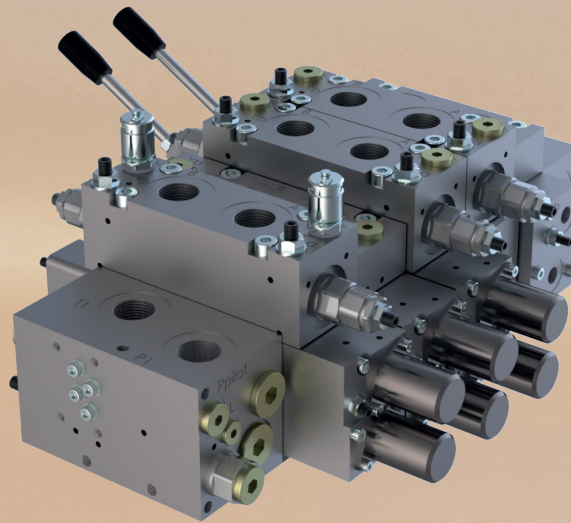
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PMV
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