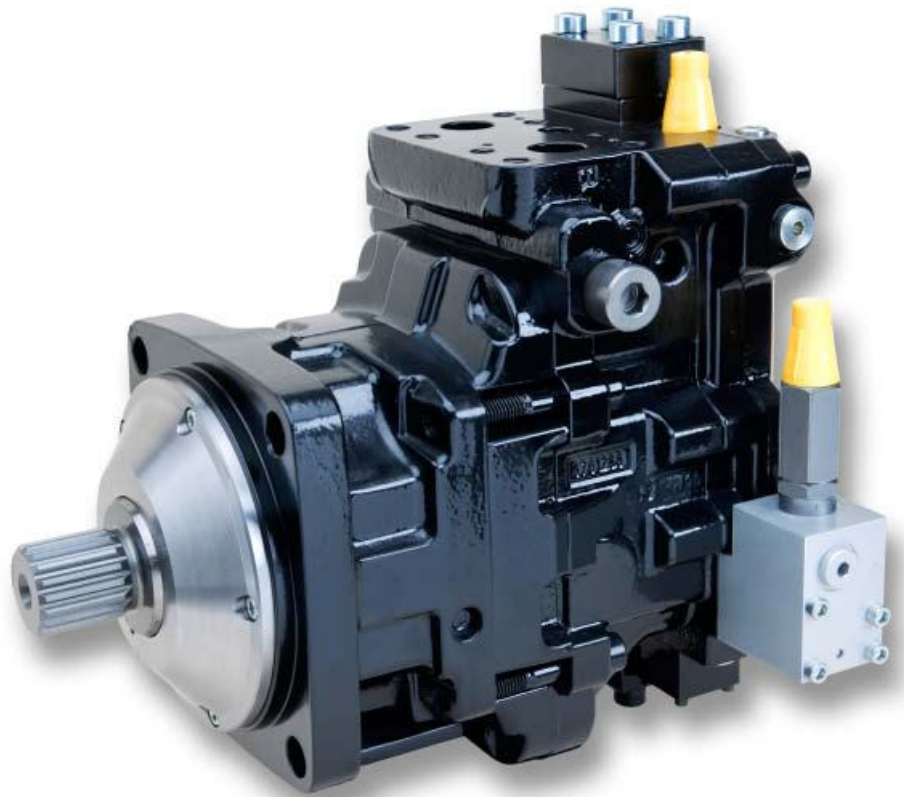




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Hydraulic Motors

Series V14 Variable Displacement
-A new control suitable for winch applications



ENGINEERING YOUR SUCCESS.

New EPC/HPC winch control, EP/HP control with pressure cut off.

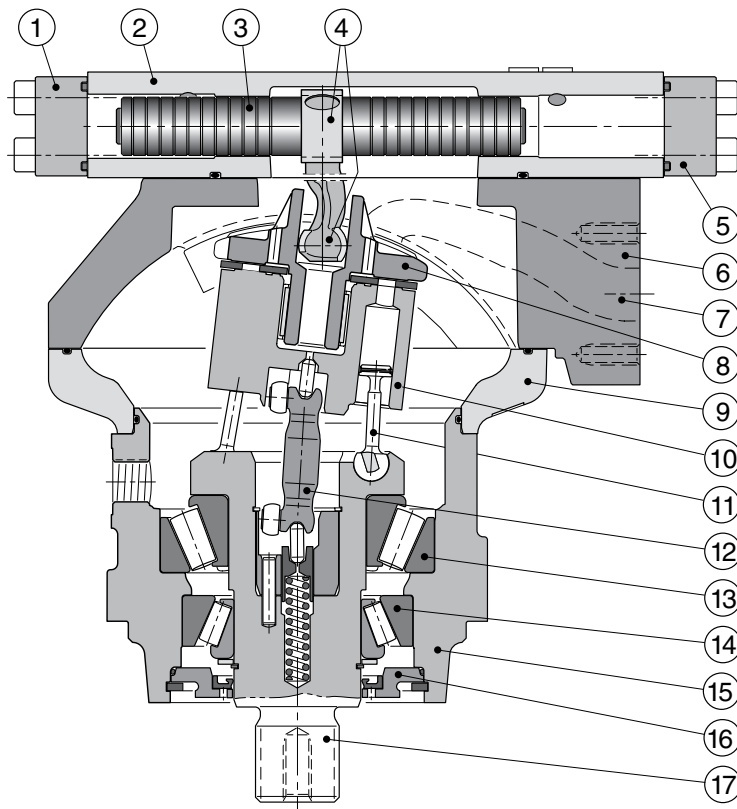
EPC/HPC - a new way to improve winch operation and productivity

| | |
|--|---|
| Smooth winch operation and good operator comfort | Control with optimal stability and response |
| High start torque and low noise | Nine piston design |
| High reliability | Capable to work under extreme conditions |
| Low operational cost | High efficiency in most working conditions |

The new EPC/HPC control will be suitable in many motor applications such as winch and hoisting drives, construction machines like mobile cranes etc.

V14 cross section

1. End cover, min displ.
2. Control module
3. Setting piston
4. Connecting arm
5. End cover, max displ.
6. Connection module
7. Main pressure port
8. Valve segment
9. Intermediate housing
10. Cylinder barrel
11. Spherical piston with laminated piston ring
12. Synchronizing shaft
13. Inner roller bearing
14. Outer roller bearing
15. Bearing housing
16. Shaft seal with retainer
17. Output shaft



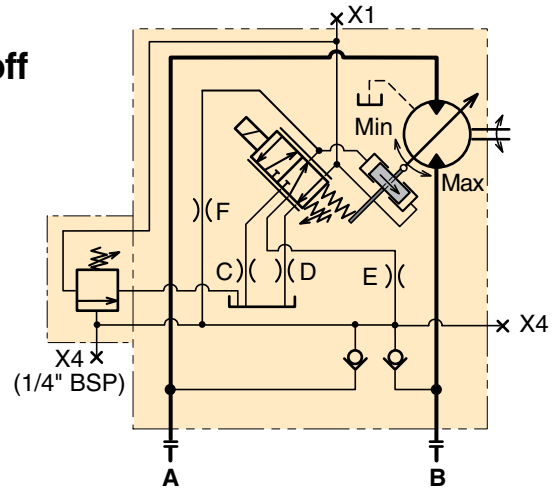
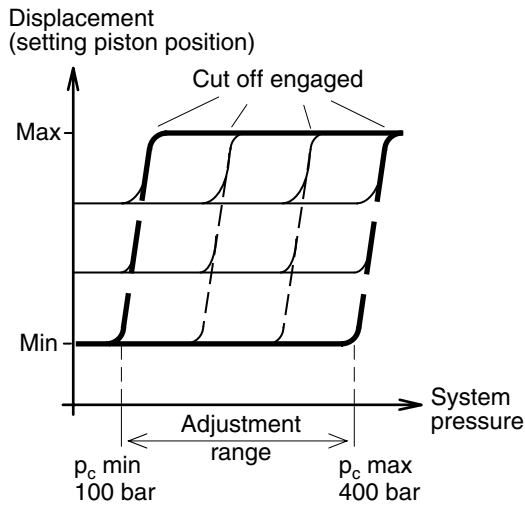
Specifications

| V14 frame size | 110 | 160 | V14 frame size | 110 | 160 |
|--|-------|-------|--|-----|------|
| Displacement [cm ³ /rev] | | | Flow [l/min] | | |
| - at 35° (max) | 110 | 160 | - max intermittent ¹⁾ | 430 | 550 |
| - at 6.5° (min) | 22 | 32 | - max continuous | 375 | 480 |
| Operating pressure [bar] | | | Output torque [Nm] | | |
| - max intermittent ¹⁾ | 480 | 480 | at 100 bar (theor.) | 175 | 255 |
| - max continuous | 420 | 420 | Max output power ¹⁾ [kW] | 262 | 335 |
| Operating speed [rpm] | | | Corner power [kW] | | |
| - max intermittent at 35° ¹⁾ | 3 900 | 3 400 | - intermittent ¹⁾ | 570 | 730 |
| - max continuous at 35° | 3 400 | 3 000 | - continuous | 440 | 560 |
| - max intermittent at 6.5°-20° ¹⁾ | 6 500 | 5 700 | Mass moment of inertia | 8.2 | 14.5 |
| - max continuous at 6.5°-20° | 5 700 | 5 000 | (x10 ⁻³) [kg m ²] | | |
| - min continuous | 50 | 50 | Weight [kg] | 54 | 68 |

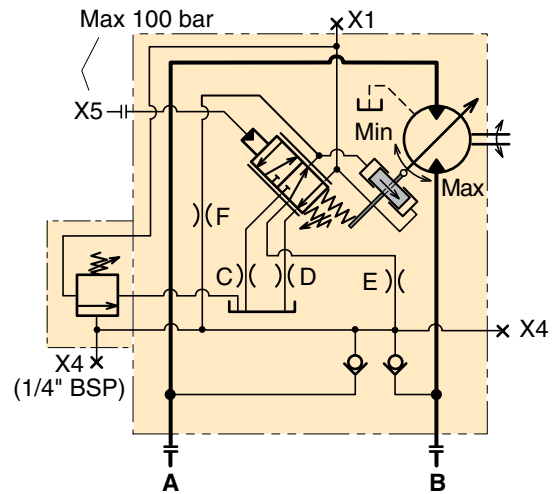
1) Max 6 seconds in any one minute.

EPC/HPC, EP/HP control with pressure cut off

- The pressure cut off overlays the EP/HP control.
- If the system pressure increase, due to the load or reduced motor displacement to the setting of the pressure cut off valve, the control increases displacement. When displacement increases, the available torque increases as well but the system pressure remains constant.
- Pressure cut off setting range is 100-400 bar.
- Threshold pressure is preset from factory to 10 bar but is adjustable between 5 and 25 bar.
- For EPC the threshold current of the 12 VDC solenoid is factory set at 400 mA; it is adjustable between 200 and 500 mA. The 24 VDC solenoid is factory set at 200 mA and is adjustable between 100 and 250 mA.



EPC schematic (control moving towards max displacement).



HPC schematic (shown: port X5 not pressurized; control moving towards max displacement).

Gauge/pilot ports (EPC control):

- X1 Setting piston pressure (decreasing displ.)
- X4 Servo supply pressure (before orifice)
- X4 Servo supply pressure (on EPC) BSP1/4" only

Port sizes:

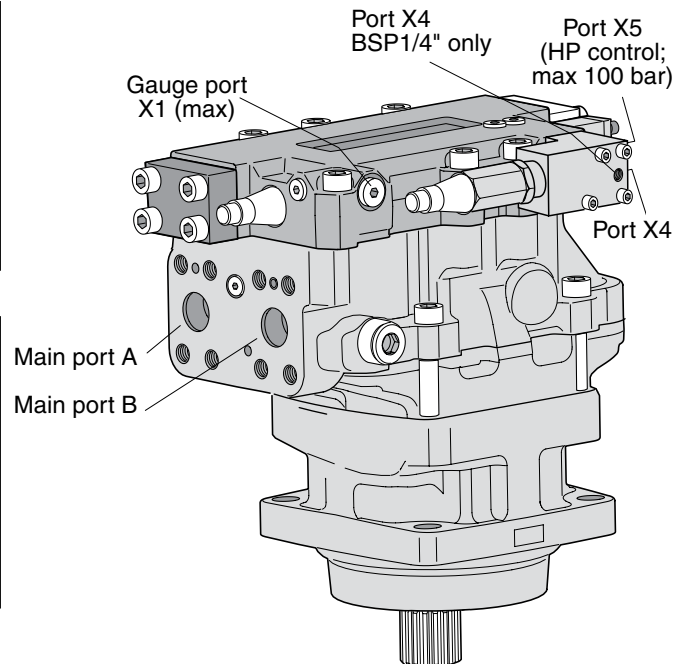
- M14x1.5 (ISO version)
- 9/16"-18 O-ring boss (SAE version).

Gauge/pilot ports (HPC control):

- X1 Setting piston pressure (decreasing displ.)
- X4 Servo supply pressure (before orifice)
- X4 Servo supply pressure (on HPC) BSP1/4" only
- X5 External pilot pressure (on HPC max 100 bar)

Port sizes:

- M14x1.5 (ISO version)
- 9/16"-18 O-ring boss (SAE version).



Port locations - V14-110 with EPC/HPC control.

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