

New Products 2009



Linde Hydraulics

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The Linde logo, featuring the word "Linde" in a white, elegant script font, set against a dark red background with white, curved, concentric lines that suggest motion or fluid dynamics.

The following sheets give an overview on Linde Hydraulics' product innovations in 2009 and can be included in your presentations for customers. Therefore, prices and availability dates are not indicated, please see sales info.

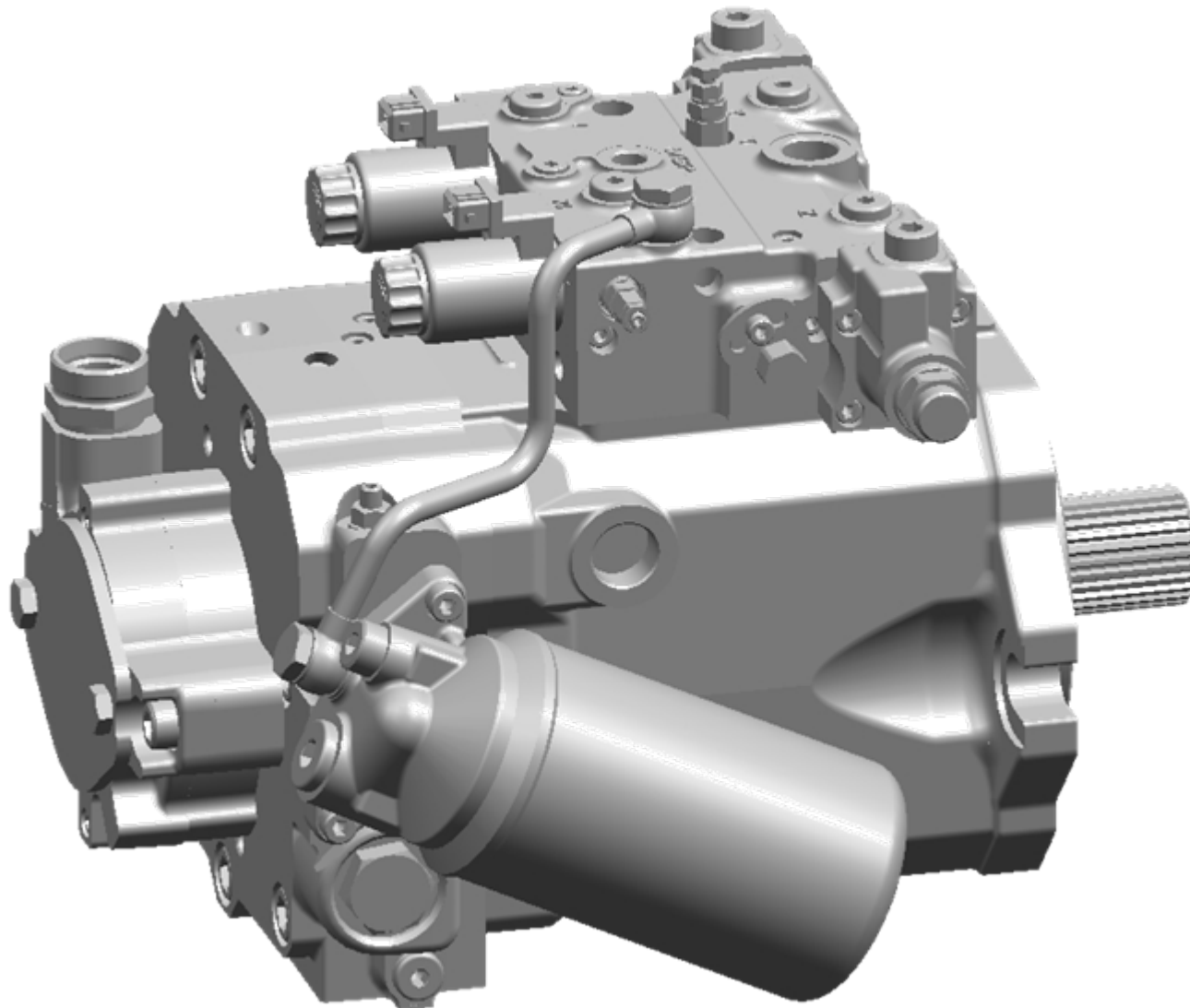
The technical data are based on the current state of development. Since the products have not yet been released for series production, the data are to be confirmed in any case.

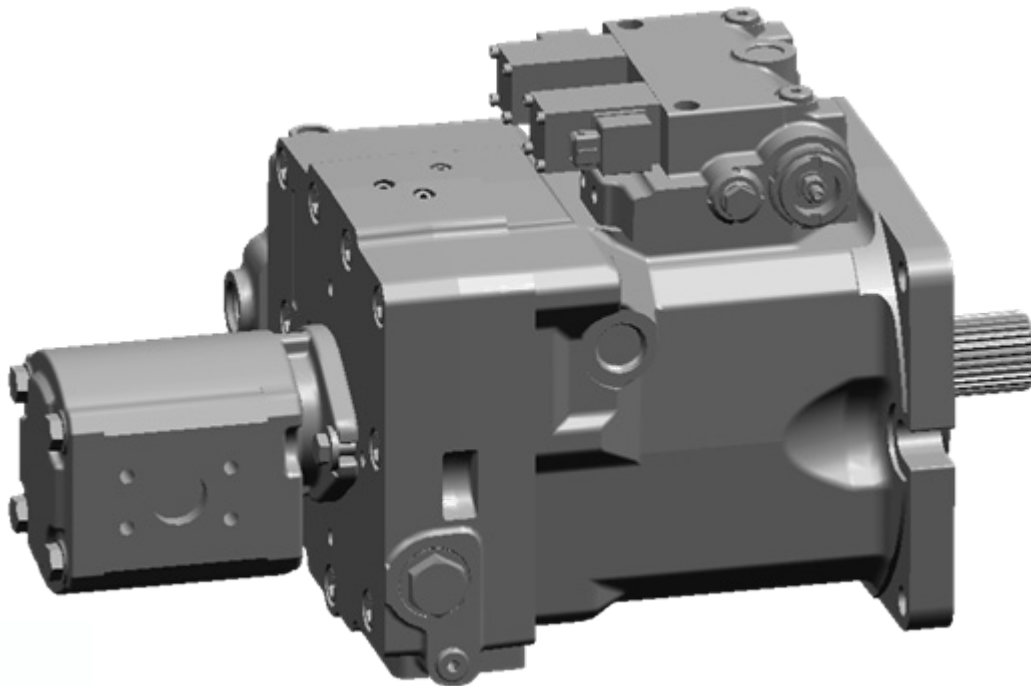
Our sales engineers will support you.

CA Control for HPV 135-02

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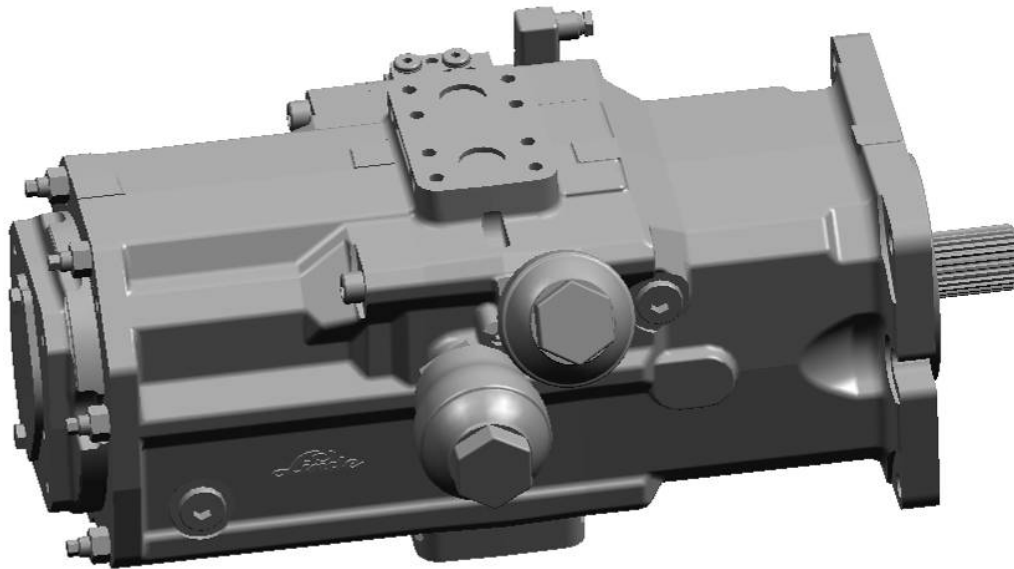
Technical Data HPV165-02

max. rotary speed	[1/min]	2500
max. displacement	[cm ³]	165
max. pump flow ¹⁾	[l/min]	412,5
continuous pressure	[bar]	250
max. operating pressure	[bar]	420
max. intermittent pressure	[bar]	500
max. case pressure (absolute)	[bar]	2,5
continuous input torque ²⁾	[Nm]	657
max. input torque ³⁾	[Nm]	1103
continuous power ²⁾	[kW]	172
max. power ³⁾	[kW]	289
weight	[kg]	120
torque of inertia	[kgm ²]	3,11·10 ⁻²

1) theoretical value at maximum displacement

2) theoretical value at maximum displacement and continuous pressure

3) theoretical value at maximum displacement and maximum operating pressure



Technical Data HPR 165D-02

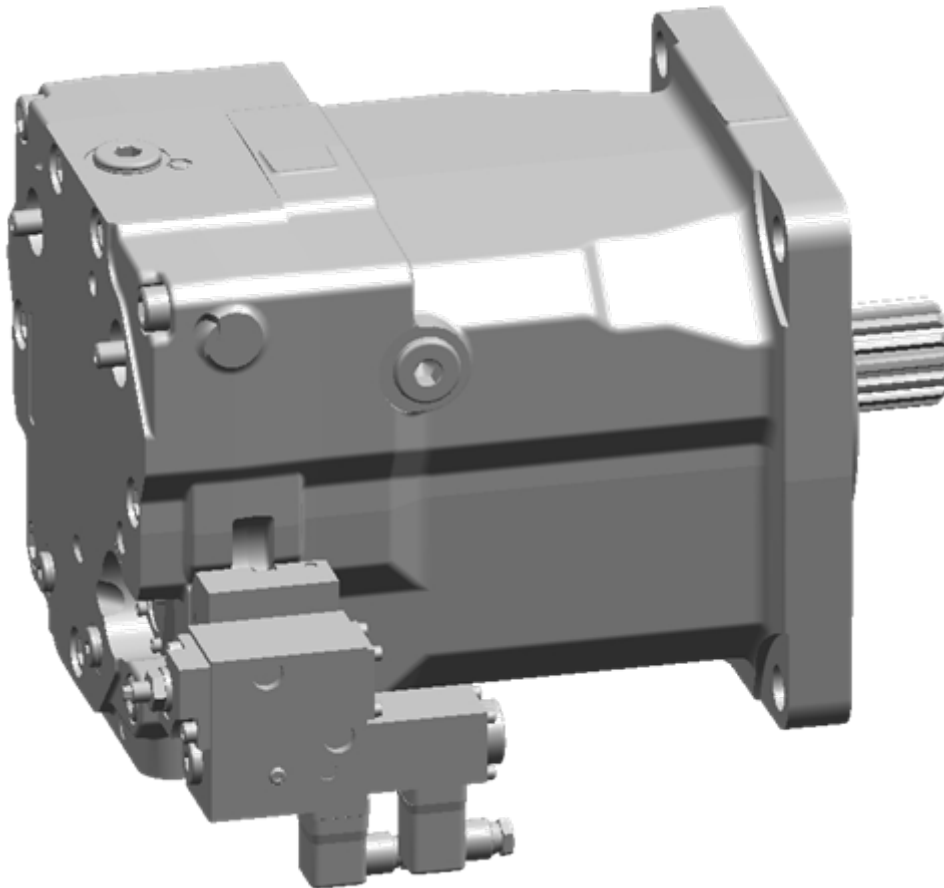
max. rotary speed	[1/min]	2100
max. displacement	[cm ³]	2x 165
max. pump flow ¹⁾	[l/min]	2x 348
continuous pressure	[bar]	250
max. operating pressure	[bar]	420
max. intermittent pressure	[bar]	500
max. case pressure (absolute)	[bar]	2,5
continuous input torque ²⁾	[Nm]	1318
max. input torque ³⁾	[Nm]	2214
continuous power ²⁾	[kW]	580
max. power ³⁾	[kW]	974
weight	[kg]	197
torque of inertia	[kgm ²]	6,88·10 ⁻²

¹⁾ theoretical value at maximum displacement

²⁾ theoretical value at maximum displacement and continuous pressure

³⁾ theoretical value at maximum displacement and maximum operating pressure

HMV 210-02 / special E4FP2 winch application design



Features / Functionality:

- Electro-proportional displacement control with default position in Vmax
- Electronically switchable two-stage pressure override controlling one of the two work ports

Advantage / Customer Benefit:

- compensation of effects due to varying efficiencies in motor and pump operation mode
- improved stability behavior while switching from hoisting to lowering mode and vice versa
- load independent and consistently reliable hoisting and lowering of weights

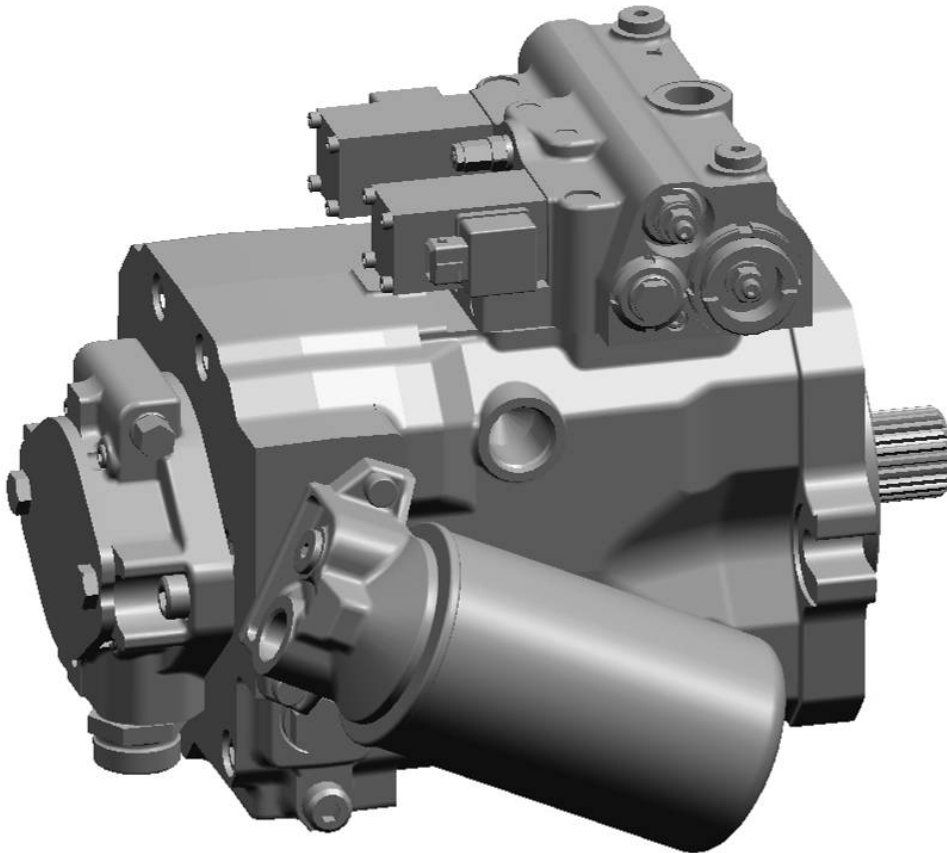
Potential Applications:

- maritime and stationary winches
- cranes

HPV-02 E1T Control

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Features / Functionality:

- electro-proportional displacement control
- hydraulic torque limiter with a linearly approximated characteristic

Advantage / Customer Benefit:

- torque limiting without any electronic components
- simple and cost efficient overload protection for the drive engine

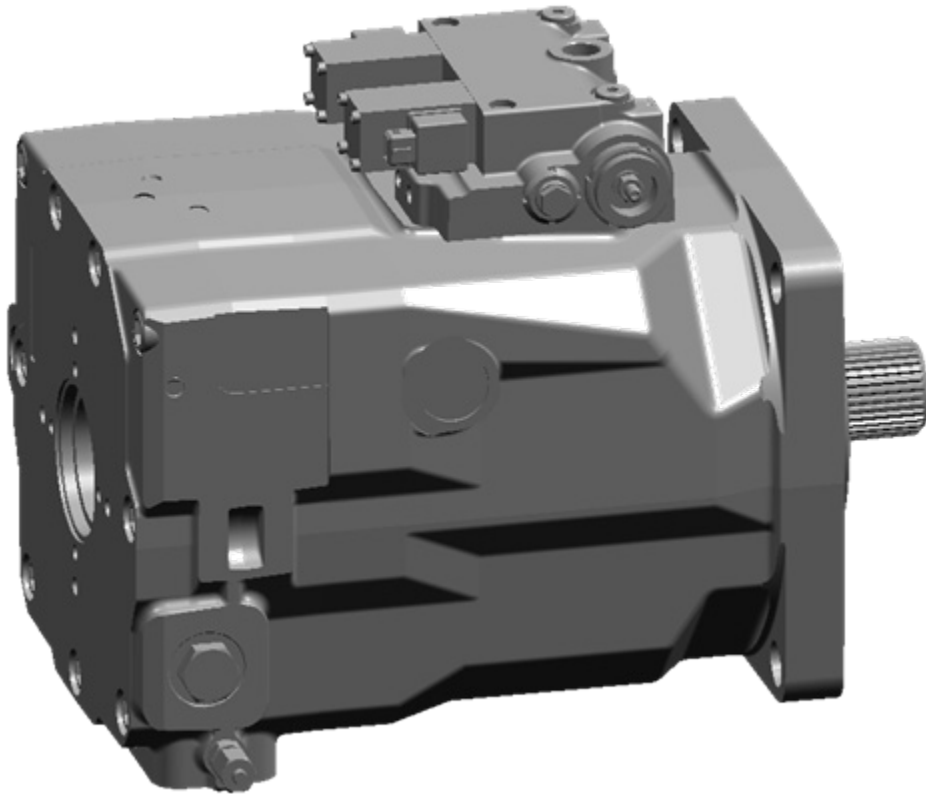
Potential Applications:

- shredder
- concrete mixer
- closed circuit power packs

HPV-02 E5 control

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Features / Functionality:

- electronically switched 3-position displacement control (-Vmax/Neutral/+Vmax)

Advantage / Customer Benefit:

- simple control activation by a simple switch or relais
- no costly control electronic is required

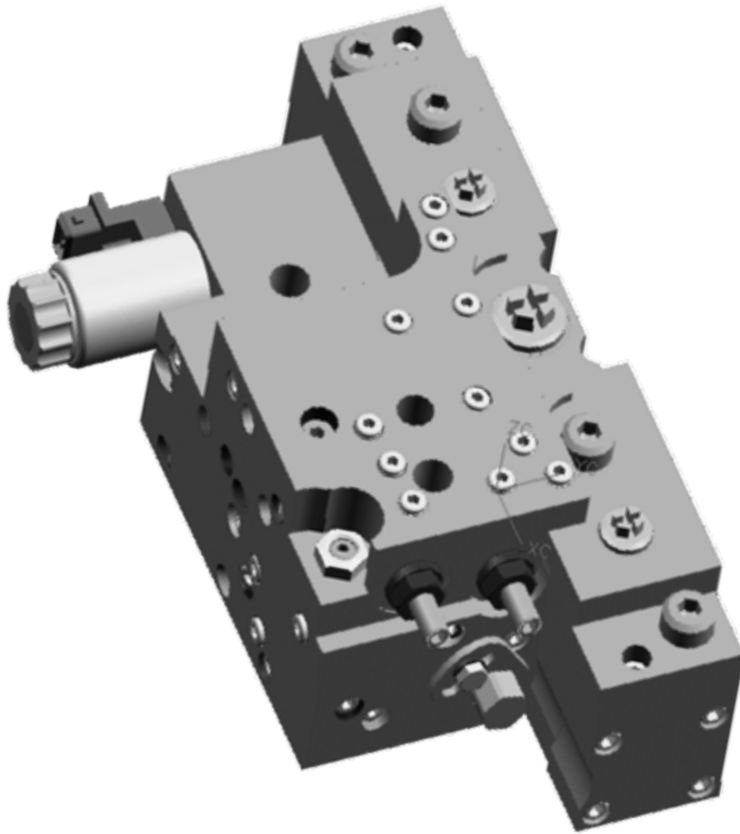
Potential Applications:

- vibration drives
- concrete mixer
- closed circuit power packs

HPV-02 H1CP Torque Control

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Features / Functionality:

- combined hydraulic proportional displacement and torque control with stroke times proportionally variable towards control pressure
- hydraulic pressure override
- electro-proportional variable hydraulic power limitation

Advantage / Customer Benefit:

- drive acceleration proportional to the joystick position
- precise controllability when starting from standstill
- highly reproducible running down
- precise controllability in counter movements
- smooth re-acceleration from breaking
- highly efficient torque control

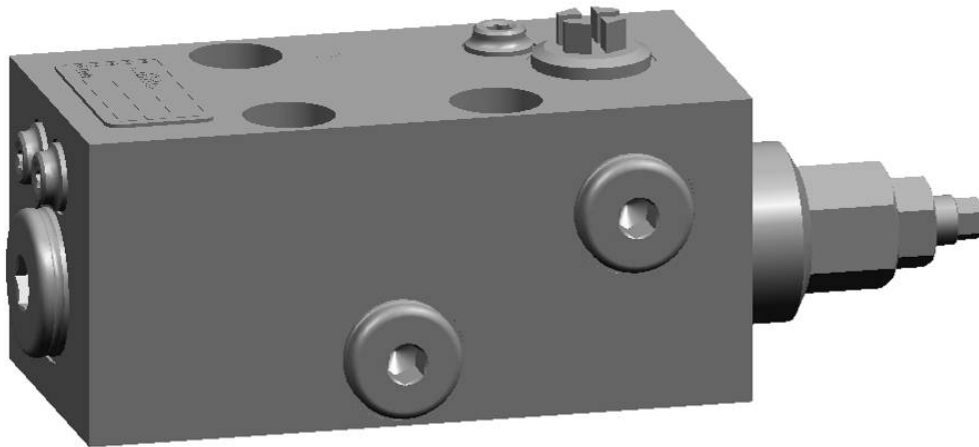
Potential Applications:

- closed loop swing drives
- propel drives with torque control

HPR-02 H1L Regulator

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Features / Functionality:

- load-sensing regulator
- hydraulic proportional override for load-sensing signal modulation
- for HPR-02 series pumps without mechanical swash plate feedback capabilities

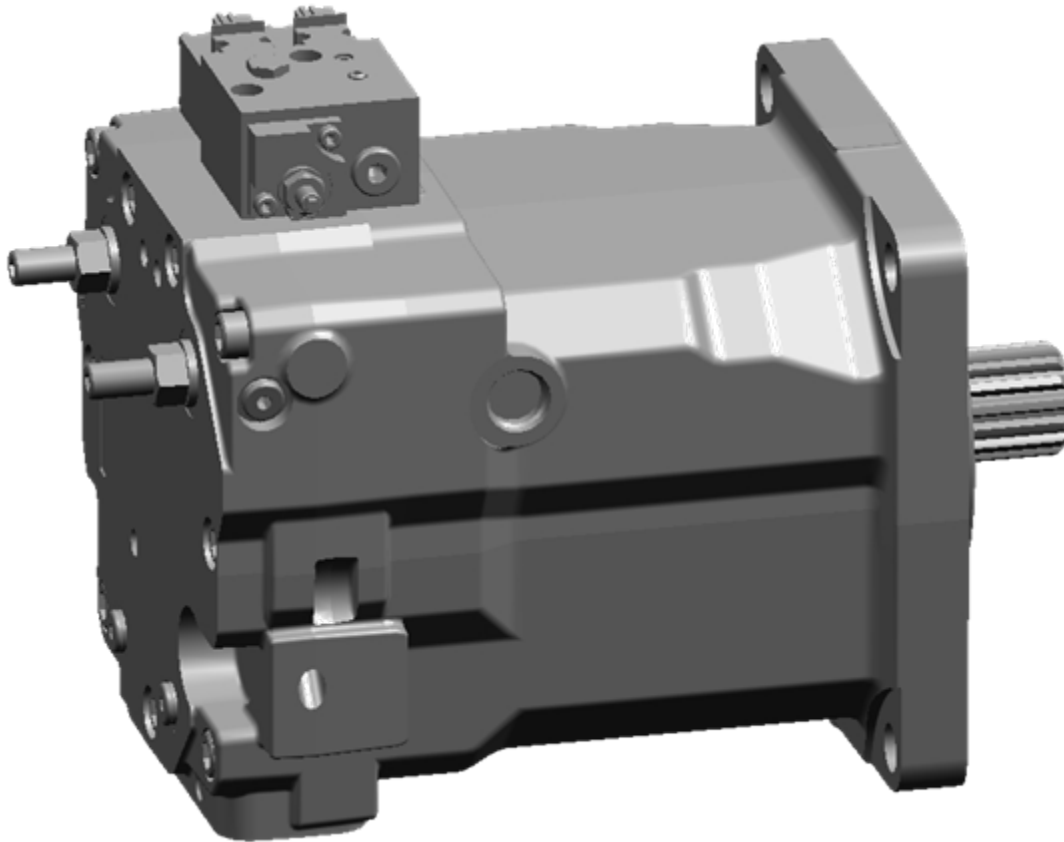
Advantage / Customer Benefit:

- most efficient pump flow regulation by system flow demand
- anti-stall and mode switching capabilities provided by an external override signal
- in a master/slave configuration the override signal can be provided by the E1L regulator of a second pump
- optimized for the operation with LSC directional control valves

Potential Applications:

- excavators
- material handling

HMR 210-02



Technical Data HMR 210-02

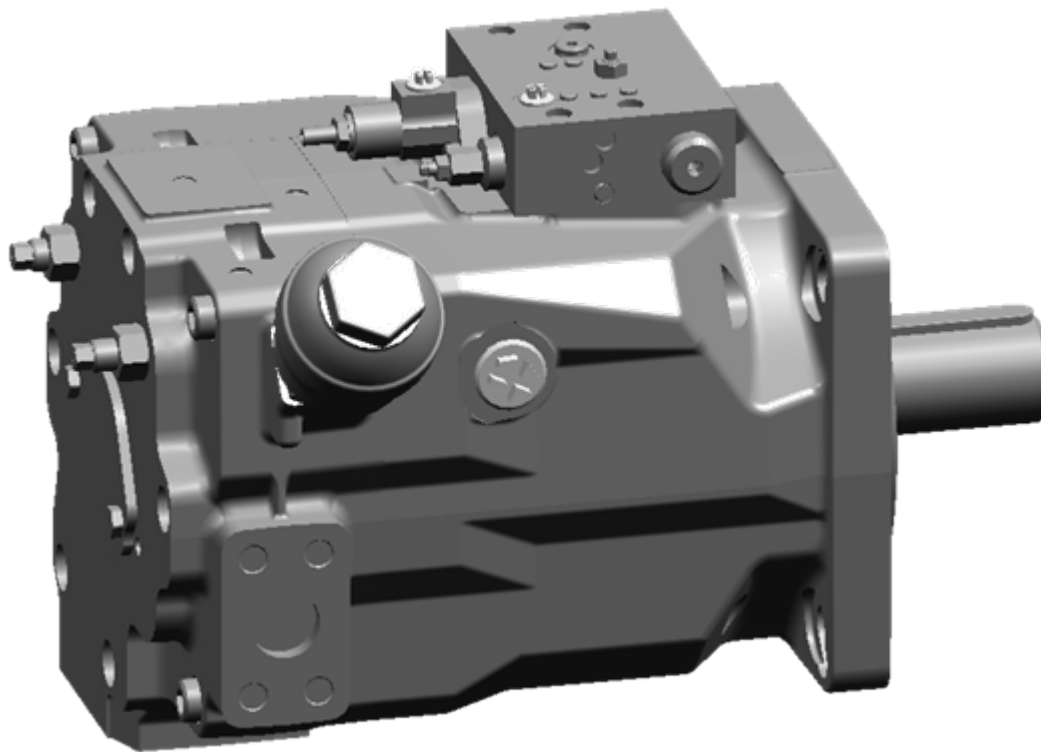
max. displacement	[cm ³]	210
max. motor flow ¹⁾	[l/min]	567
continuous pressure	[bar]	250
max. operating pressure	[bar]	420
max. intermittent pressure	[bar]	500
max. case pressure (absolute)	[bar]	2,5
weight	[kg]	101
torque of inertia	[kgm ²]	4,68·10 ⁻²
at min. displacement:		
max. continuous speed	[1/min]	3200
max. intermittent speed	[1/min]	3500
at max. displacement:		
max. continuous speed	[1/min]	2700
max. intermittent speed	[1/min]	3000
continuous output torque ²⁾	[Nm]	836
max. output torque ³⁾	[Nm]	1404
continuous power ²⁾	[kW]	236
max. power ³⁾	[kW]	397

1) theoretical value at maximum displacement

2) theoretical value at maximum displacement and continuous pressure

3) theoretical value at maximum displacement and maximum operating pressure

HPR 280-02



Technical Data HPR 280-02

max. rotary speed	[1/min]	1800
max. displacement	[cm ³]	280
max. pump flow ¹⁾	[l/min]	504
continuous pressure	[bar]	250
max. operating pressure	[bar]	420
max. intermittent pressure	[bar]	500
max. case pressure (absolute)	[bar]	2,5
continuous input torque ²⁾	[Nm]	1114
max. input torque ³⁾	[Nm]	1872
continuous power ²⁾	[kW]	210
max. power ³⁾	[kW]	353
weight	[kg]	165
torque of inertia	[kgm ²]	9,36·10 ⁻²

1) theoretical value at maximum displacement

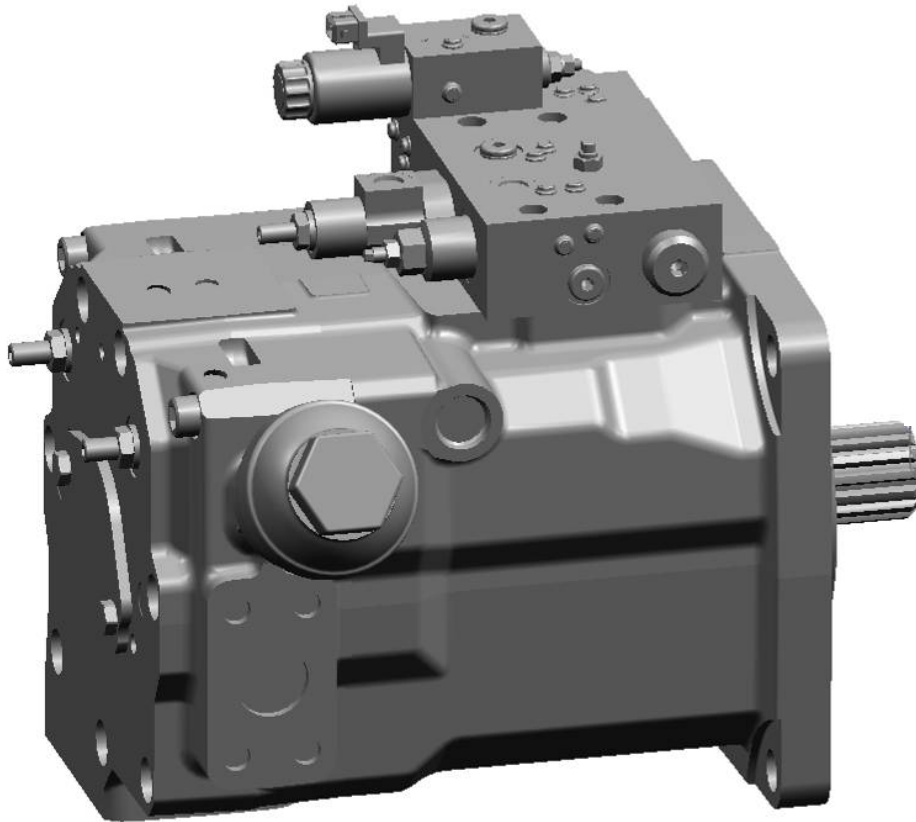
2) theoretical value at maximum displacement and continuous pressure

3) theoretical value at maximum displacement and maximum operating pressure

HPR-02 ETP Control

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Features / Functionality:

- electro-proportional displacement control
- hydraulic mechanical power limiter with
 - hyperbolic characteristic
 - hydraulic proportional remote control
- hydraulic pressure limiter with hydraulic proportional remote control
- for HPR-02 series pumps with mechanical swash plate feedback capabilities

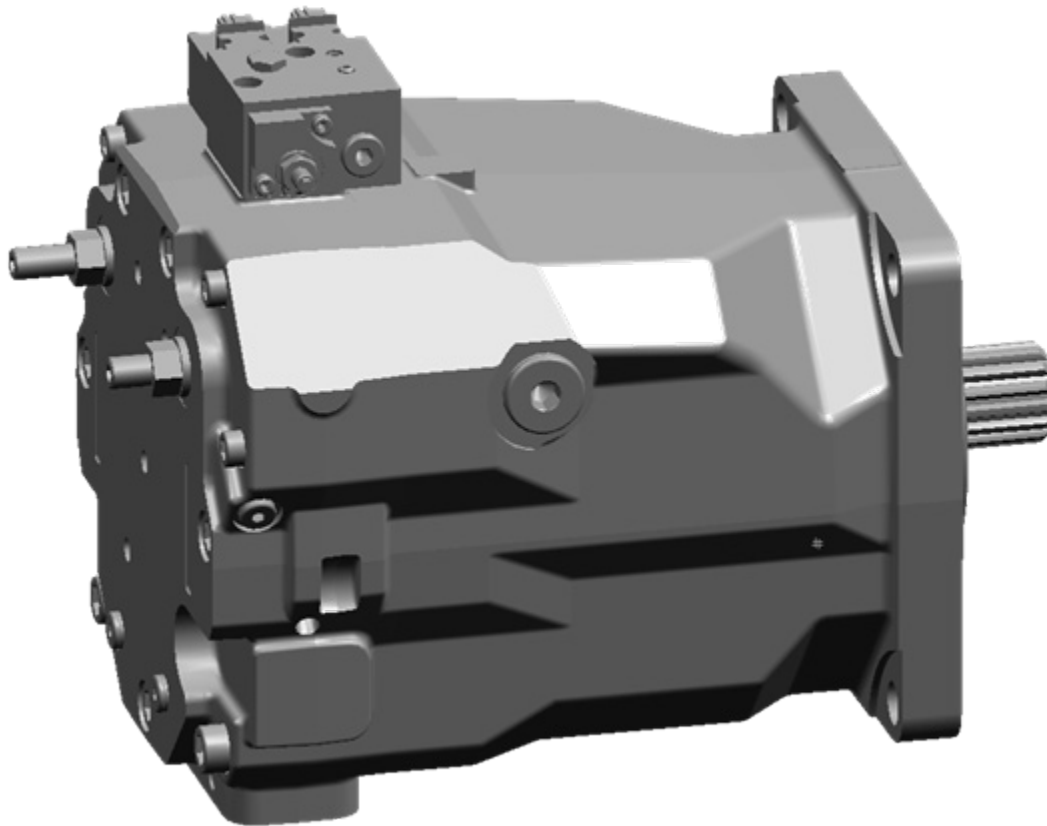
Advantage / Customer Benefit:

- most exact electronic displacement control
- most efficient drive engine overload protection due to fully hyperbolic power limiting
- most efficient hydraulic circuit protection due to pressure limiter

Potential Applications:

- mobile concrete pumps
- industrial presses
- high performance power packs

HMR 280-02



Technical Data HMR 280-02

max. displacement	[cm ³]	280
max. motor flow ¹⁾	[l/min]	672
continuous pressure	[bar]	250
max. operating pressure	[bar]	420
max. intermittent pressure	[bar]	500
max. case pressure (absolute)	[bar]	2,5
weight	[kg]	146
torque of inertia	[kgm ²]	9,36·10 ⁻²
at min. displacement:		
max. continuous speed	[1/min]	2900
max. intermittent speed	[1/min]	3200
at max. displacement:		
max. continuous speed	[1/min]	2400
max. intermittent speed	[1/min]	2700
continuous output torque ²⁾	[Nm]	1114
max. output torque ³⁾	[Nm]	1872
continuous power ²⁾	[kW]	280
max. power ³⁾	[kW]	470

1) theoretical value at maximum displacement

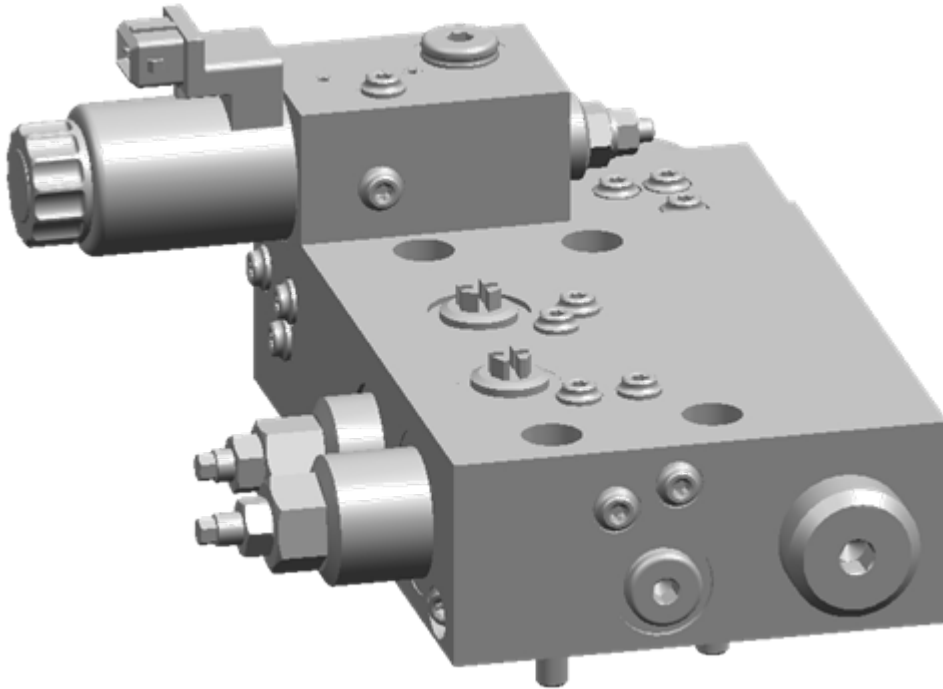
2) theoretical value at maximum displacement and continuous pressure

3) theoretical value at maximum displacement and maximum operating pressure

HPR-02 LEP regulator

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Features / Functionality:

- load-sensing regulator
- electro-proportional stroke limiter
- hydraulic pressure limiter with hydraulic proportional remote control
- for HPR-02 series pumps with mechanical swash plate feedback capabilities

Advantage / Customer Benefit:

- most efficient pump flow regulation by system flow demand
- most exact electronic limiting of the pump displacement in certain operating points
- most efficient hydraulic circuit protection due to pressure limiter
- optimized for the operation with LSC directional control valves

Potential Applications:

- forestry machines with high performance saw drives

Excellence at work.



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