

# Drive Solutions for Wheeled Excavators.

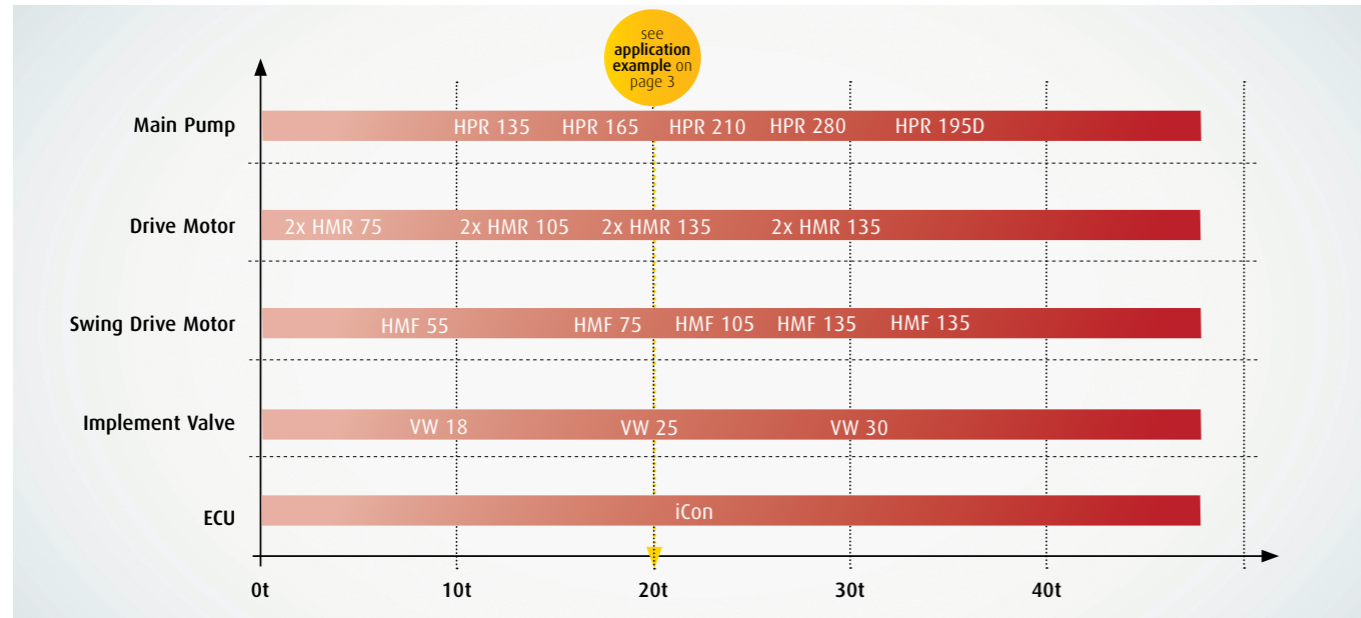
Linde Hydraulics

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# Wheeled Excavator Solutions. Our Portfolio.

By the logic combination of individual products that perfectly complement each other we offer solutions for almost every class of machines. Due to these capabilities we can always offer the best possible system to our customers.

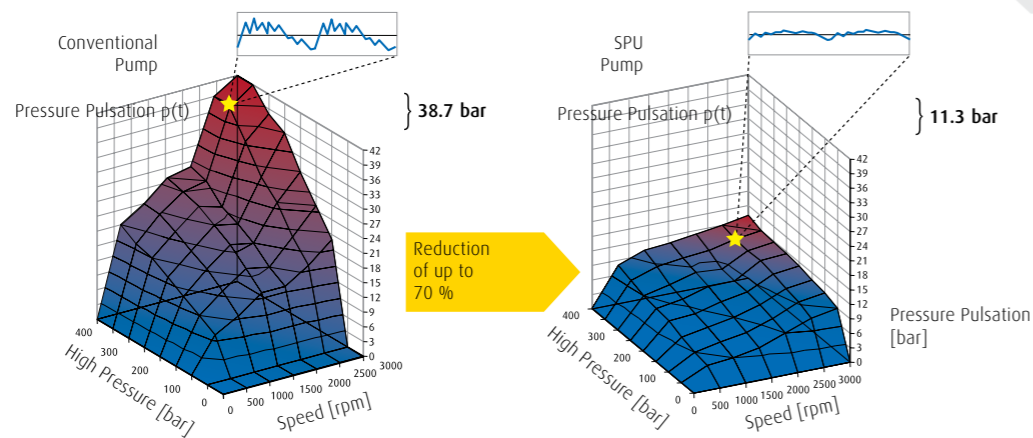


All machines with LSC feature sensitive and intuitive operation. The excavator shown, which is versatile and suitable for use in different situations, greatly benefits from this technology. Thanks to the compensation of the load influences, the machine response is always the same, regardless of which functions are operated at the same time and even if the valves are not arranged on the same control plate, as shown in this example with a swing drive motor with integrated directional control valve.

A single LS signal is enough for all actuators. As such, the driver never has to make any post-adjustments and can always concentrate fully on the task at hand. The machine is highly sensitive with continuous movements and does not experience any jerking, even at the start of movements. The directional control valves do not open the paths until the pump pressure matches the load pressure.

This means the load at the start of the function does not lower. Thanks to the social flow distribution, no actuators are stopped when the system is at full capacity. As such, even challenging tasks can be completed without any post-adjusting or interruption of the movement sequence. High workloads are possible thanks to the system dynamics with fast-response pumps. This does not compromise on efficiency because the LSC system saves fuel compared with other concepts, even in the partial load range.

The operation is not the only reason that working with the machine is a pleasure; one of the best features of the pump is the SPU silencer. This reduces pressure pulsations in the hydraulic system, thereby reducing the vibrations and noise emissions of the overall machine. This means that the excavator is comparatively quiet, which benefits not only the operator, but also the environment; something that is particularly useful in residential areas.



# Application Example. Wheeled Excavator, 20 t.

## Equipment

- A** 1x HPR 210-02 E1L SPU (working hydraulics)
- B** 1x HMF 75-02 (swing drive motor)
- C** 1x HMR 135-02 (travel motor)
- D** 1x VW25M3 (directional control valves)
- E** 1x iCon (electronic control unit)

## Advantages

- Intuitively operated universal machine
- Social flow distribution
- Fatigue-free working
- Minimal pulsation

## Options

- Single circuit or multi-circuit systems
- Adjustable behaviour via speed controls
- Adjustable start of movement, regardless of A or B side
- Hydraulic or electro-hydraulics actuation
- LSC<sup>+</sup>



# Technical Data Summary.

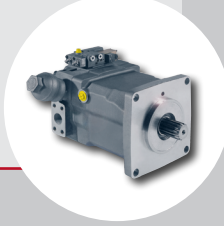
## Find the right product for your application.

SELF-REGULATING PUMPS FOR OPEN CIRCUIT OPERATION							
HPR-02		165	210	280	105D	125D	165D
Max. displacement	cc/rev	165.6	210.1	281.9	210	250	331.2
Max. operating speed w/o pressurizing	rpm	2200	2100	2000	2450	2400	2100
Max. oil flow	l/min	364.3	441.2	563.8	514.5	600.0	695.5
Nominal pressure	bar	420	420	420	420	380	420
Max. pressure (intermittent)	bar	500	500	500	500	420	500
Max. input torque	Nm	1107	1404	1884	1245	1245	1964
Corner power	kW	255	308.8	394.7	319.4	337	431.8
Weight	kg	89	116	165	96	113	177

**PRODUCT ADVANTAGES**

**HPR-02**

- energy saving operation by 'flow on demand'-control
- dynamic response
- excellent suction up to rated speed
- noise optimization over the whole range of operation
- compact design
- high power density
- high reliability
- long working life



VARIABLE DISPLACEMENT MOTORS FOR CLOSED AND OPEN CIRCUITS										
HMR-02/HMF-02		55	75	105	135	165	210	280	105D	165D
Max. displacement	cc/rev	54.7	75.9	105	135.6	165.6	210	281.9	210	331.2
Max. operating speed at Vmax	rpm	4300	3800	3700	3200	3100	2700	2400	3300	2900
Max. speed at Vmax	rpm	4400	4100	3800	3500	3400	3000	2700	3400	3100
Max. operating speed at Vmin	rpm	4700	4400	4100	3700	3500	3200	2900	4100	3500
Max. speed at Vmin	rpm	5300	5000	4700	4000	3900	3500	3200	4400	3700
Max. pressure (intermittent)	bar	500	500	500	500	500	500	500	500	500
Output torque (Δp=430 bar)	Nm	374	519	719	928	1133	1438	1929	1437	2267
Corner power	kW	184	239	309	360	415	482	586	677	878
Weight	kg	28	32	42	56	76	101	146	98	149

**PRODUCT ADVANTAGES**

**HMR-02/HMF-02**

- jerk-free low speed
- high starting torque
- large conversion range
- zero angle possible
- dynamic response
- PTO through-drive motor
- compact design
- high power density
- high reliability
- long service life




VARIABLE DISPLACEMENT MOTORS FOR CLOSED AND OPEN CIRCUITS							
CMV	60	85	115	140	170	215	
Max. displacement	cc/rev	60	85	115	140	170	215
Max. operating speed at Vmax	rpm	4450	3900	3550	3350	3100	2900
Max. speed (intermittent) at Vmin	rpm	7200	6800	6150	5800	4900	4600
Nominal pressure	bar	450	450	450	450	450	450
Peak pressure (intermittent)	bar	500	500	500	500	500	500
Output torque (Δp=430 bar and Vmax)	Nm	411	582	787	958	1163	1471
Corner power (Vmax x nmax at Vmin x Δp 430 bar)	kW	191	238	293	336	378	447
Weight	kg	27.7	36.3	44.8	59.2	62.1	76.4

**PRODUCT ADVANTAGES**

**CMV**

- high power density
- high speeds
- low windage losses
- standardized interfaces
- high external load
- standard and plug-in version

Stays at development stage  
Contact us!



MAIN CONTROL VALVE IN MONOBLOCK DESIGN				
VW Monoblock		VW18	VW25	VW30
Max. flow per section from pump to actuator	l/min	250	400	600
Return flow through block	l/min	450	700	1000
Rated pressure	bar	420	420	420
Number and size of pump ports, according to SAE ISO 6162-2		1x 1½"(DN 38) or 2x 1½" (DN38)		

**PRODUCT ADVANTAGES**

**VW Monoblock**

- optimised for crane applications
- all advantages of LSC valve technology
- piloting hydraulic, electric or combined

