walvoil
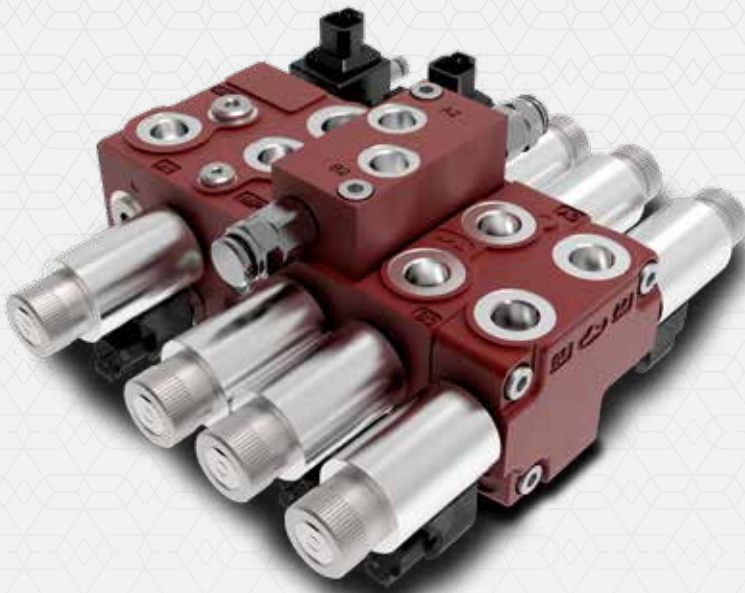## MOTION BY PEOPLE

NEW

DPM050
Directional Monoblock Valves
for Forklift applications

DPM050 VALVE

- Load Sensing Open Center
- Local compensator on tilt function (section 2)
- Zero leakage valve on tilt port
- 2 (+1) shuttle valves for Load Sensing signal management

Higher controllability for Forklifts through Walvoil technologies

In recent years the forklift market has quickly evolved towards more and more sophisticated technological solutions, driven by specific needs such as compliance with international safety regulations, energy optimization to maximize operations and the need for high performance and functionality.
Walvoil's new DPM050 has been specially designed to meet all these requirements.

It is a Load Sensing Open Center monoblock valve with 3 working sections, extendable up to 4, where each section is dedicated to a specific machine function: Lift, Tilt, Side shift, Auxiliary (with additional flangeable section).
The DPM050 is equipped with main inlet compensator for energy optimization, a specific compensator for descent control on Lift function, a dedicated compensator for Tilt function, zero leakage load check valves, electric operated check valves and overcenter valves for ridondance signal to operations enabling.

WORKING CONDITIONS

Technical specifications and diagrams measured with mineral oil of 46 mm²/s *(46 cSt)* viscosity at 40°C – *(104°F)* temperature.

Nominal flow rating	On inlet	55 l/min - *14.5 US gpm*
Max. pressure		280 bar - *4060 psi*
Compensator stand-by	On inlet	8 bar - *116 psi*
	On lowering (load indipendent)	6.8 bar - *98.6 psi*
	On tilt function	6.8 bar - *98.6 psi*
Fluid		Mineral oil-based
Fluid temperature range	With FPM seals (VITON)	from –20°C to 120°C *from -4°F to 248°F*
Viscosity	Min.	12 mm²/s – *12 cSt*
	Max.	400 mm²/s – *400 cSt*
Max. contamination level		18/16/13 - ISO 4406 *NAS 1638 - class 7*
Environmental temperature for working conditions		from –20°C to 80°C *from -4°F to 176°F*
Spool stroke		+/- 3 mm *+/- 0.11 in*

COIL TYPE		
	BH	**BER**
Nominal voltage	12 VDC - 24 VDC ± 10%	12 VDC - 24 VDC ± 10%
Nominal power	33 W	19 W

PORT THREADING*		
MAIN PORTS	**BSP**	**METRIC (ISO262)**
P inlet	G 3/8	M18x1.5
A1/A3/A4 and **B3/B4** ports	G 3/8	M18x1.5
A2 and **B2** ports	G 3/8	M16x1.5
T outlet	G 1/2	M22x1.5
MA port	G 1/4	M14x1.5
MP port	G 1/8	M10x1 - M12x1.5

(*): Connection for fittings is available on request.

DIMENSIONAL DATA

4TH ADDITIONAL SECTION
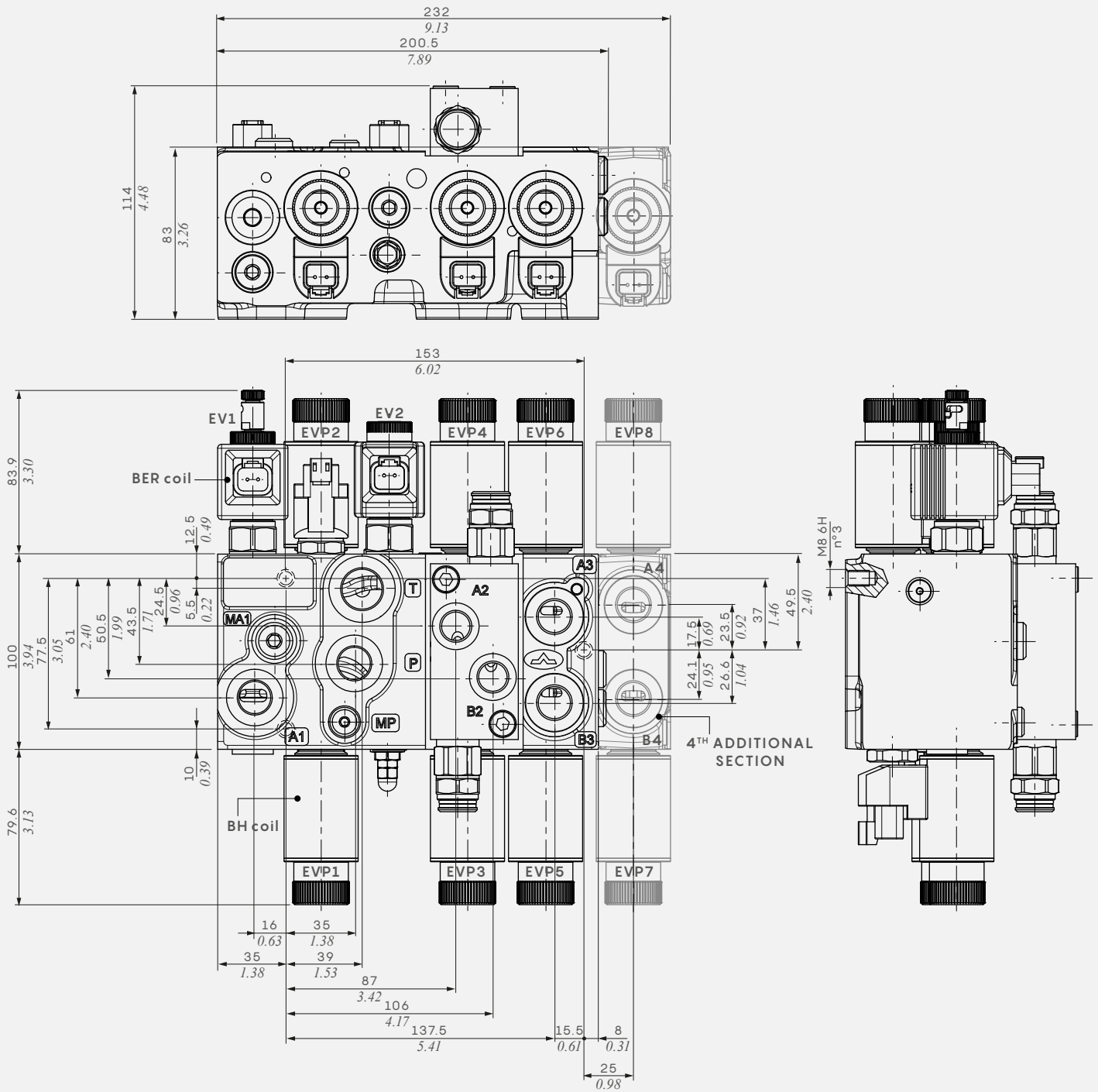
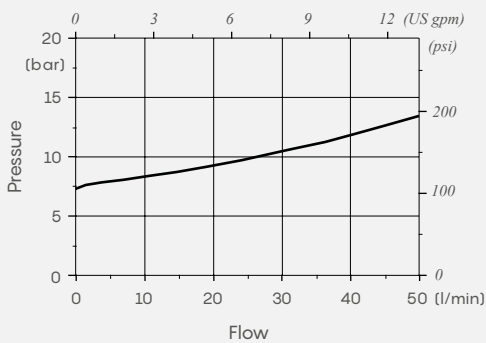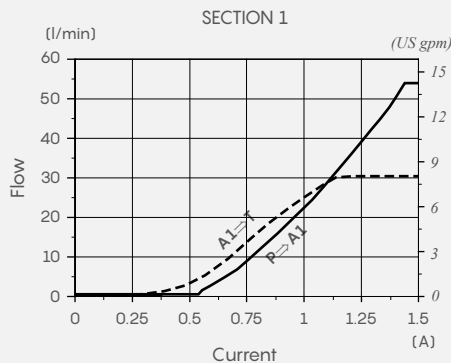# HYDRAULIC CIRCUITS

DPM050/3 – DPM050/3+1
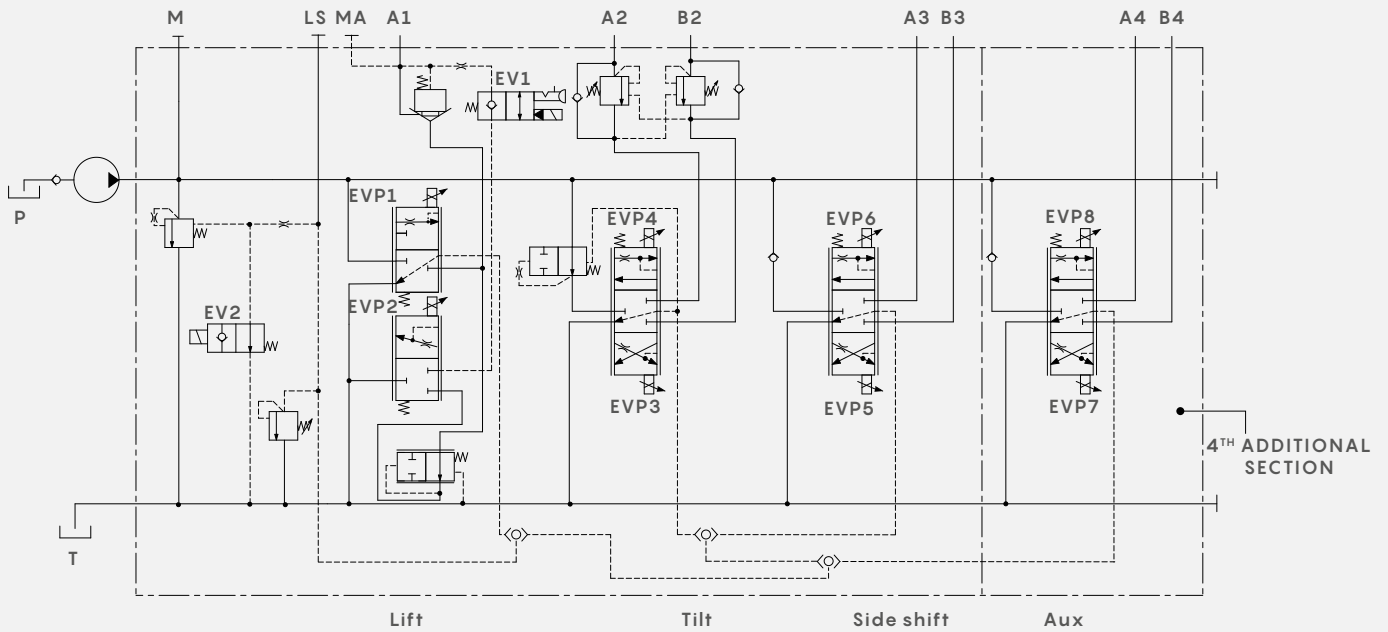
PERFORMANCE DATA

P⇒T Pressure drop inlet compensator
(margin pressure)

Flow vs. Current diagram
(P⇒A1 – Lift) (A1⇒T – Descent)

SECTION 1

Flow vs. Current diagram
(P⇒A2 – Tilt) (P⇒A3 – Side shift)

SECTIONS 2 - 3