

# Products to fit any of your needs

## Ideas to enhance your performance

NEM, founded in 1995, is a valve manufacturer specialising in the development of hydraulic solutions for mobile, agricultural and industrial applications.

Our goal is to be a reliable partner, providing our customers a state of the art service, delivered by highly qualified technical staff, to achieve customized solutions.

At NEM we are aware that the future of the hydraulic industry is in system engineering, therefore we are developing and manufacturing top quality products, which can be fully integrated into many different applications. NEM components

ensure the highest level of performance and safety in any application; this, together with our focus on innovation, has gained us the trust and appreciation of leading machine manufacturers worldwide.

NEM's products can count on a wide range of options, from cartridge valves and hydraulic integrated circuits to Parts-In-Body counterbalance valves and flow control valves.

All our products can be selected from our catalogues or customised by NEM's application engineers to develop a se-

lection of valves specifically designed for different applications in order to respond to any of our customer needs.

Last but not least, NEM can also provide its own range of compact directional control valves, rated for metered flows up to 40 L/min.

All these products, together with our innovative solutions for load and flow sensing control valves demonstrate our attitude towards engineering fluid power solutions.

### Mechanical and Electrical Cartridge Valves

Pressure control valves	$p_{max}$	350 bar
Counterbalance valves	$Q_{max}$	200 L/min
Directional control valves	Cavity	up to SAE 16
Flow control valves		M27x1,5



### Parts-in-Body Valves

Counter balance valves	$p_{max}$	410 bar
PO check valves	$Q_{max}$	500 L/min
Boom lowering control valves	Ports	up to 1 1/4 SAE6000
Pressure control valves		
Flow control valves		



### Hydraulic Integrated Circuits

Weight lifting	$p_{max}$	350 bar
Earth moving	$Q_{max}$	200 L/min
Agricultural vehicles		
Industrial vehicles		



### Directional Control Valves

Flow sensing	$p_{max}$	350 bar
Load sensing	$Q_{max}$	40 L/min
	Ports	BSP 3/8"



## Solutions from NEM ... ... for Cranes and Aerial Platforms



# Solutions for Cranes and Areal Platforms

## A range of counterbalance valves designed to provide maximum performance

NEM's range of counterbalance valves is quite unique, thanks to their original design NEM products are able to reach the highest working pressure and flow range of the market without any compromise.

Starting from the smaller size LHD03X series rated for 40 L/min up to LHD25X rated for 350 L/min, all the ranges are designed to

perform better than the benchmark; in particular the series LHD03X and LHD05X are the best in class for their pressure drop characteristics, while the other series LHD10X, LHD15X and LHD25X are definitely a step ahead thanks to their robust design, extended opening strokes and setting range up to 410 bar as standard.

Alongside conventional counterbalance

valves characterized by a given pilot ratio (eg. 4:1), NEM application engineers are available to support customers to develop innovative energy saving solutions. NEM's U-valves program is an engineering service that aims to promote functional principles solutions that bring the gravity force to drive load lowering operations.

Type	Q <sub>max</sub> (L/min)	p <sub>max</sub> (bar)	Pilot ratio
LHD03	40	350	4:1
LHD05	70	350	4:1; 9,5:1; 1:0
LHD10	110	410	4:1; 9,5:1; 1:0
LHD15	180	410	4:1; 8:1; 1:0
LHD25	350	410	4:1; 6:1



Variety of Parts-in-Body counterbalance valves

## VIP-02 Valve to intercept the pilot signals – EP2342253

### A great way to be always ready to start

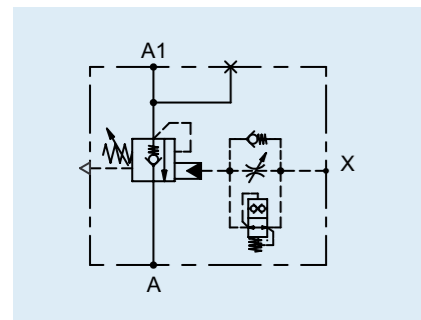
When the machine's boom lowering stability is an issue, NEM can provide a patented pilot dampening device that ensures the stability of hydraulic lifting equipment during lowering maneuvers, especially on those applications characterized by load sensing flow control systems or by variable displacement pumps.

This device (VIP-02) ensures stable piloting and quick opening of any type of counterbalance valve regardless of oil temperature or oil viscosity, even in the most critical situations.

Some of the applications where this innovation has been successfully applied are:

knuckle-boom cranes, areal platforms, telescopic handlers and wheeled loaders.

Thanks to the application of the VIP-02 cartridge valve in a pilot circuit, it is possible to reach stable performance and a fast response time regardless of oil viscosity.



Single acting counterbalance valve with pilot signal dampening (Pat)



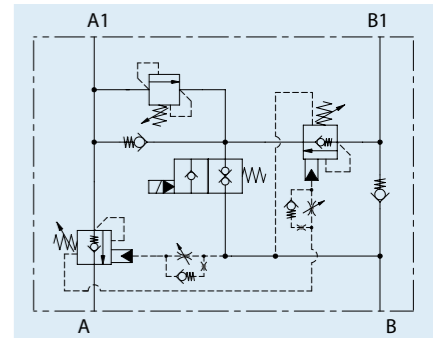
LHD 15X flanged version assembled with VIP-02 valve

## NEM's regenerative solutions for extension booms

NEM offers the best performing regenerative solutions on the market; thanks to the internal features present inside our valves we are able to provide an excellent fine control and stability.

Also for this application the original NEM design can be a key factor in improving the crane performance, from the reduction of the extending pressure to faster extending / retracting speeds.

Special solenoid cartridges specifically designed can allow switching from regenerative to conventional extension in order to generate the highest extending force. The NEM special solenoid cartridges used for this type of application allow the flow path in both directions to be locked without any additional check valve, it is also a key factor in minimizing the valve pressure losses.



Regenerative circuit with embedded cut-off  
NEM code H1583N424S0500

## PO check valves for outrigger cylinders with hardened seat to improve reliability

The range of pilot-operated check valves includes: single or double acting, with or without manual shut-off, in-line or flanged mounted. See our General Catalogue Vol.2, for the section dedicated to this type of valve (6D series).

NEM's pilot-operated check valves for outriggers have also been designed

with an eye on to the future. NEM's range of pilot-operated check valves, flanged or line mounted, can be supplied on request with hardened seats. This feature, added to the robust design, further improves the valve reliability regard to oil contamination of your machines.



Pilot-operated check valves (6D series)

## Hydraulic Integrated Circuits for Speed Control, Rated Capacity Limiters (RCLs) or Auxiliary functions

NEM range of products include a wide range of proportional electro-hydraulic flow control valves, cartridges, logic elements and Hydraulic Integrated Circuits (HIC) that can be used to develop and design the hydraulic interface of the Rated Capacity Limiter (RCL) or any other type of auxiliary function.

Consult our General Catalogues, Vol.1 (Cartridge Valves) and Vol. 2 (Parts-in-Body valves) to select the standard components for your application or consult NEM's Customer Care Team for sharing your specification and our know-how to design any type of customized solution



Examples of Hydraulic Integrated Circuits

## Compact Directional Control Valves and Flow Control Valves

The NEM range of compact electro-proportional Directional Control Valves (DCV) rated for 30 and 50 L/min, have been successfully applied on small cranes and areal platforms driven by radio remote control or electronic control devices.

NVD2 is a highly innovative Directional Control Valve rated for an inlet flow of 50 L/min, with a working function based on the flow sensing principle. The NVD2 technology (patented) impressively links constructive simplicity and high functional performance. Their most interesting features are: the sta-

bility with any type of standard counterbalance valves and its simple design.

NVS3-LS is a compact load sensing, proportional electro-hydraulic actuated DCV, designed to control a maximum inlet flow of 30 L/min.

Its architecture is based on the combination of SAE 10 DCV cartridges screwed into aluminum bodies. The most interesting features are: the light weight, obtained as a result of the aluminum body and the easy possibility to integrate inside the inlet ele-

ment any type of valves in order to obtain a customized hydraulic integrated circuit.



Consult NEM's Directional Control Valves catalogues