

# HYDRECO

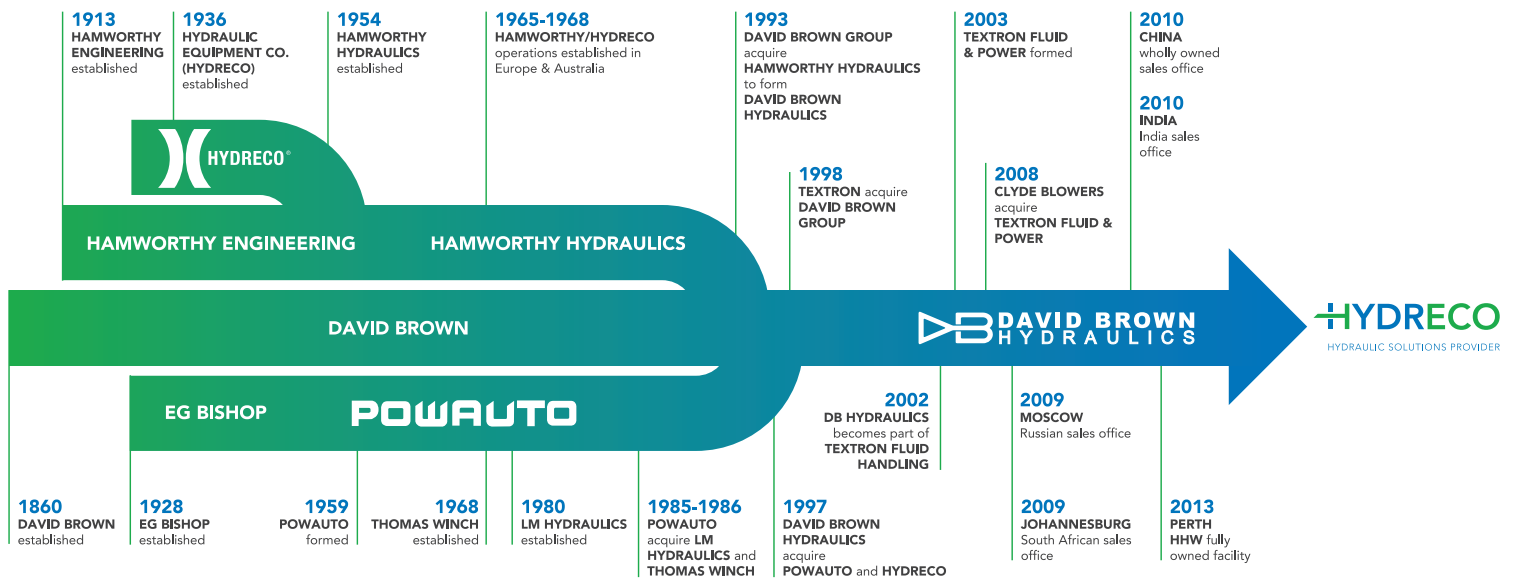
HYDRAULIC SOLUTIONS PROVIDER

## MV-059 OPEN CENTRE

DIRECTIONAL CONTROL VALVE FOR LOADERS



250 BAR - 375 L/MIN.



# 100 YEARS OF HYDRAULICS EXPERIENCE

Hydreco Hydraulics is the designer, manufacturer and distributor of products servicing the transport and mobile hydraulics sector. Hydreco has a combined history of 100 years in developing solutions through a rich heritage of legacy companies. The joining of David Brown Hydraulics, Powauto and Hydreco in 1997 brought together some of the most respected products, people and heritage brands in the business.

Engineering excellence is at the core of our organization, the product range is geared towards offering the best possible solution for many applications within Construction, Earth moving, Transport, Industrial, Materials handling, and many more. We pride ourselves on supporting customers through leading edge products, designed to provide optimum performance and extensive reliability in continual hard working applications. With innovative technology our products have evolved and developed, leading to a range of some of the highest quality products available in the market

place. The business is positioned to respond to your hydraulic needs through a worldwide network of manufacturing and sales facilities.

Hydreco has an extensive range of low noise helical gear, aluminium and cast iron gear pumps and standard spur gear models from its David Brown heritage. Its valve range covers multi-spool sectional and monoblock models with electro hydraulic, hydraulic and lever control. Dual axis, stackable and single axis hydraulic pilot valves, with an extensive range of handle options including ergonomic handles with many switches and button options. The valves are available with spring centred and electric detent options.

Under the name Hydreco Powauto, with heritage back to 1928, we sell our range of Transport hydraulics products. The product range covers power take-off units, pumps, valves, cylinders and accessories for on and off road vehicles. This World Class brand possesses a strong footprint in Asia Pacific building on its excellent reputation.



The manufacturing engineering office from the 1950's



The Tool Room from 1947

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# MV.059 DIRECTIONAL CONTROL VALVE

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The MV.059 is a 3-spool monobloc directional valve designed especially for the operation of bucket, boom and auxiliary hydraulics on medium/large wheeled or tracked loaders and incorporates many standard and optional features for these machines. When matched to the Hydreco HPVL pilot controller best performance can be achieved.

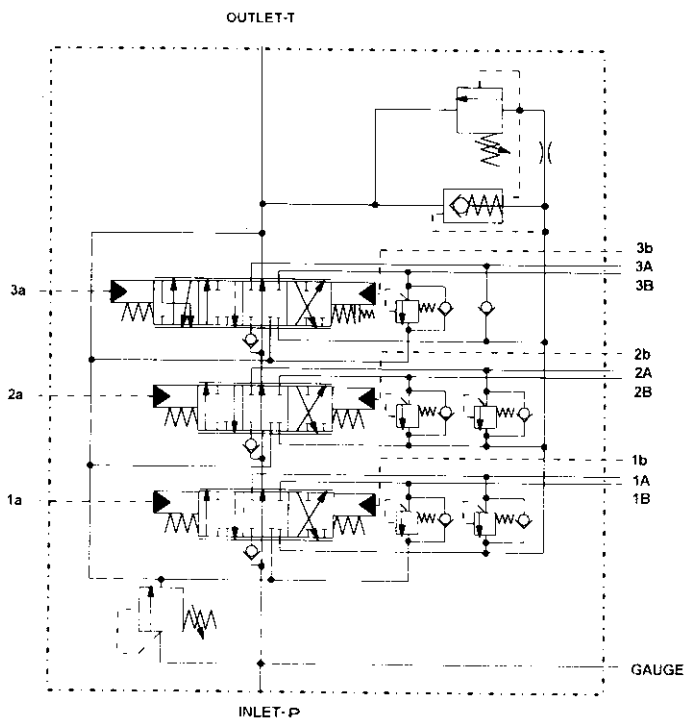
- ▶ Specialist loader valve
- ▶ Tandem circuit - open centre
- ▶ Monobloc construction
- ▶ Range of spools - including 'float'
- ▶ Compatible with HPVL pilot valve
- ▶ Integral main relief valve
- ▶ Service port relief valves
- ▶ High performance anti-cavitation valves
- ▶ Optional unloader valve
- ▶ Optional back pressure valve

# MV.059 TECHNICAL DATA

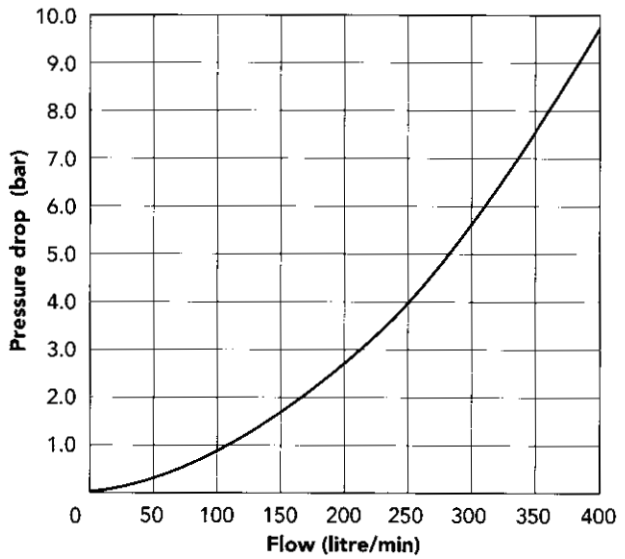
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TECHNICAL DATA	
<b>Nominal Capacity</b>	375 L/min
<b>Construction</b>	Monobloc
<b>Installation</b>	No attitude limitation
<b>Number of Spools</b>	3
<b>Operating Pressure</b>	Inlet (P) 250 bar (max.) Service (A) & (B) 300 bar (max.) Outlet (T) 10 bar (max.)
<b>Operating Temperature</b>	-10°C to +80°C
<b>Ambient Temperature</b>	-40°C to +60°C
<b>Maximum viscosity for normal working conditions</b>	250mm <sup>2</sup> /sec (cSt)
<b>Minimum permissible viscosity</b>	10mm <sup>2</sup> /sec (cSt)
For optimum life and efficiency, fluid viscosity should be in the range of 15 to 25mm <sup>2</sup> /sec (cSt) during normal working conditions.	
<b>Fluid cleanliness</b>	ISO4406 - 19/15 max

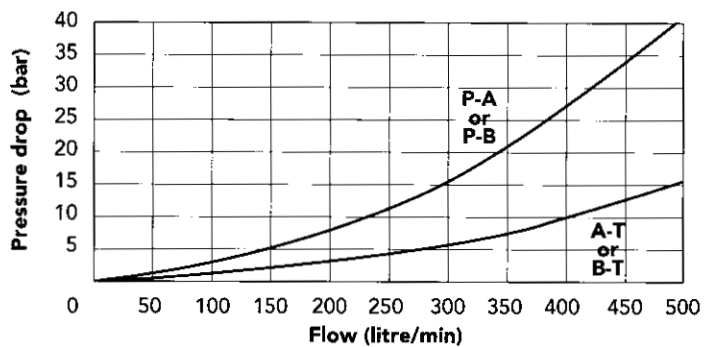
## Typical circuit diagram (shown with optional back pressure valve)



## Pressure drop P-T spools in neutral



## Pressure drop P-A1/B-T spools selected



## Service port leakage

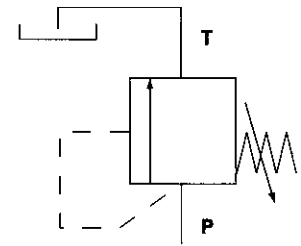
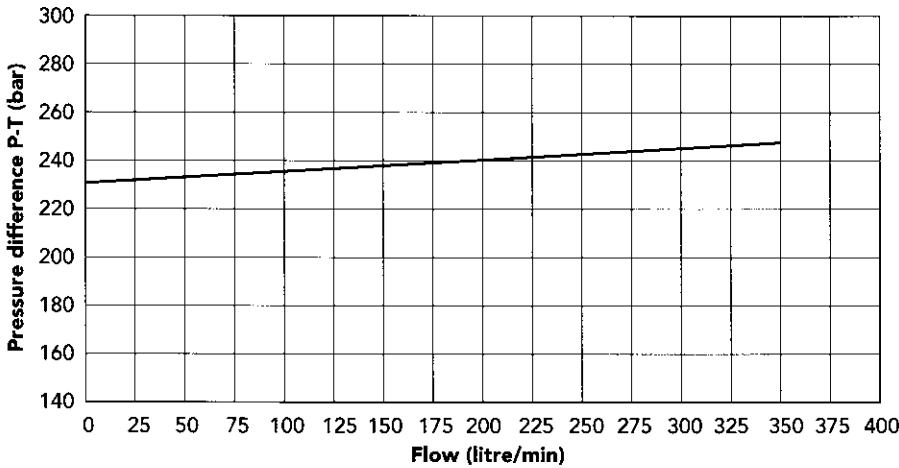
Maximum leakage from service ports A or B to T with spools in neutral will not exceed 50 ml/min at 100 bar with fluid viscosity 23 mm<sup>2</sup>/sec (cSt).

ALL PERFORMANCE DATA AT 23 mm<sup>2</sup>/sec (cSt) FLUID VISCOSITY.

# MV.059 OPTIONAL FEATURES

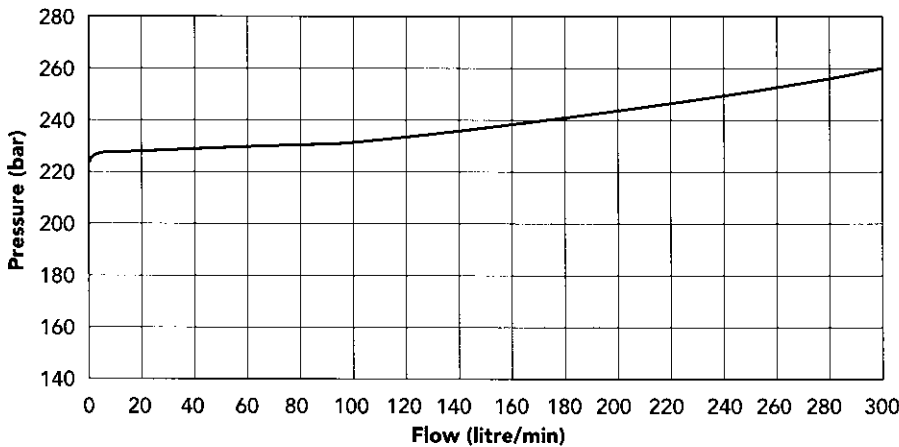
## MAIN RELIEF VALVE

Pump is protected at settings up to 250 bar

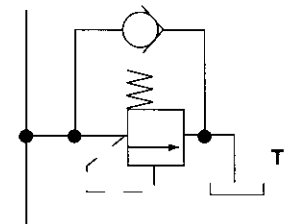


## SERVICE PORT RELIEF VALVES

Service port relief valve combined with anti-cavitation valve. Service lines are protected at settings up to 300 bar. Optional on any service port A or B.

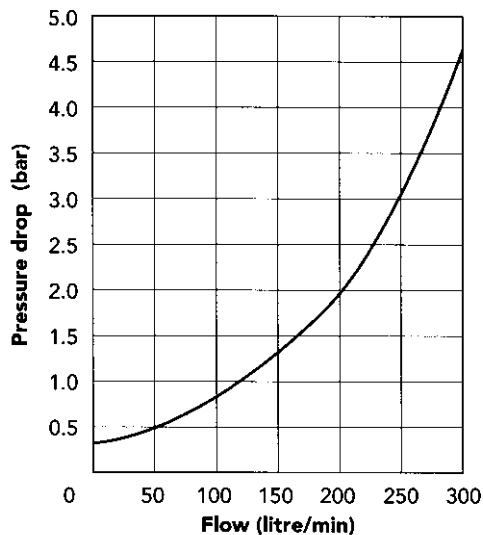


### Service port A or B

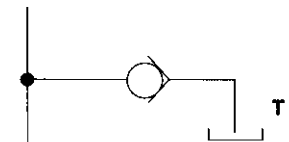


## ANTI-CAVITATION CHECK VALVES

Optional for any service port A or B with or without service port relief valve.



### Service port A or B

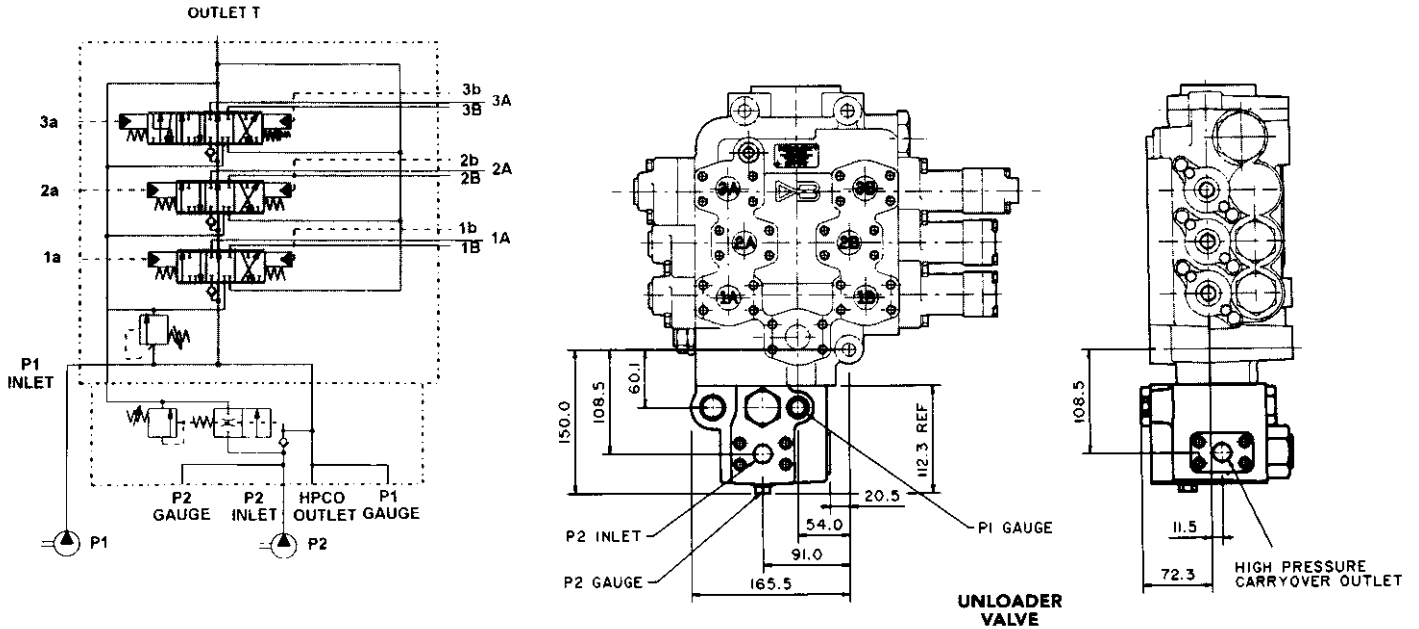


Anti-cavitation check valve performance can be enhanced by fitting the optional back pressure valve. See page 5.

# MV.059 OPTIONAL FEATURES

## UNLOADER VALVE

A bolt-on unloader valve can be mounted at the inlet of the MV.059 so that a second pump (P2) can supplement flow from the first pump (P1) to the main loader hydraulics. At a pre-set pressure the flow from the second pump is switched to tank. The machine can then be run at higher pressure but lower flow.



The connection of flows from P2 to P1 may be internal or external to the valves.

## BACK PRESSURE VALVE

The optional back pressure valve is used to raise the pressure available to assist the anti-cavitation valves to maintain full cylinders and is factory adjustable.

For circuit diagram see page 3.

For location see page 6

## SPOOL TYPES & VALVE CIRCUIT

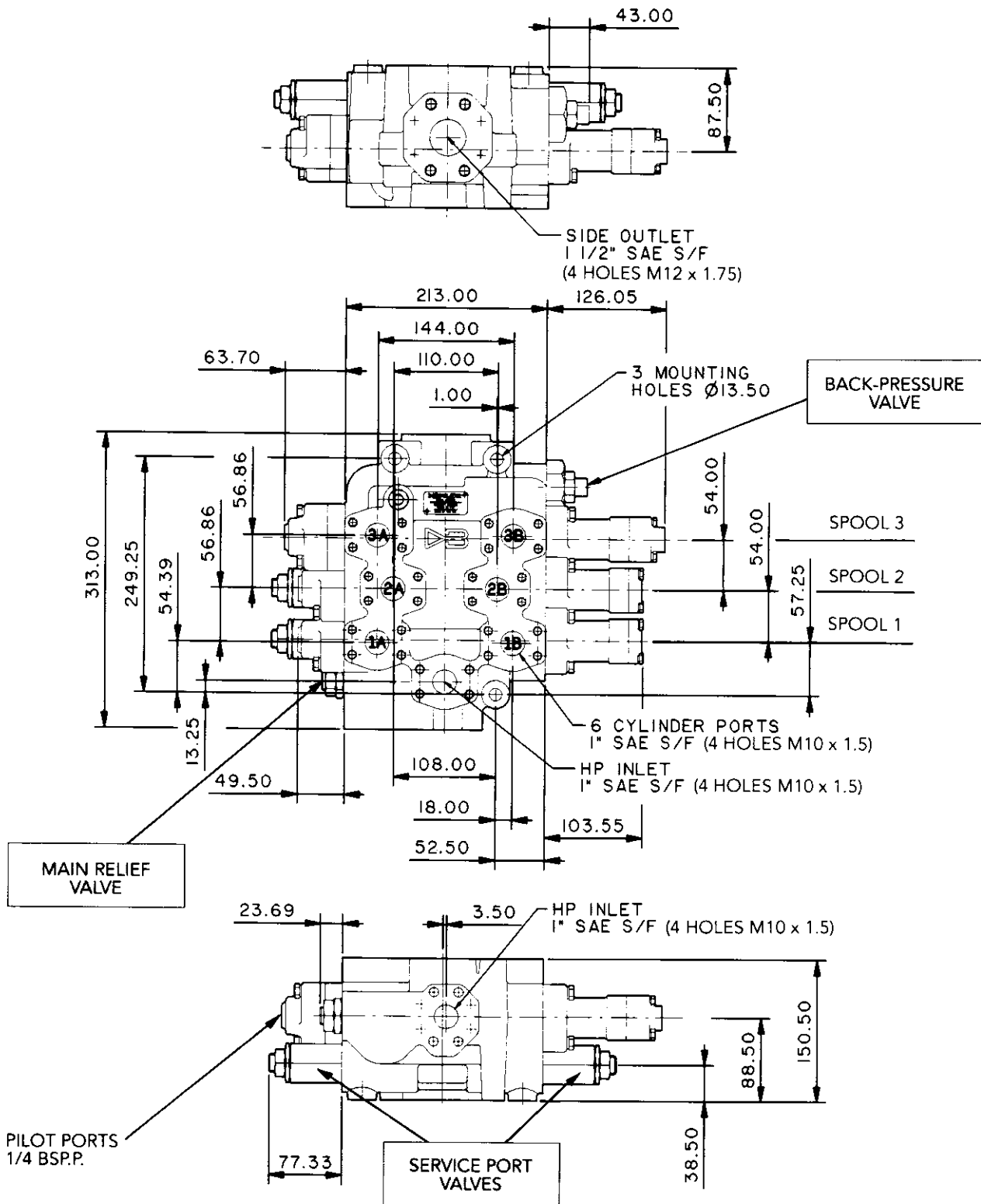
The tandem circuit allows full flow to the first (nearest to the inlet) spool selected isolating downstream spools. The MV.059 is designed for the following configuration.

No.1 spool	Auxiliary service	Double acting (D) or Inoperative (P)
No. 2 spool	Bucket crowd/tip	Double acting (D)
No. 3 spool	Lift/lower/float	Float spool (F)

## SPOOL ACTUATION

The MV.059 is designed to be driven by the Hydreco type HPV L low pressure hydraulic pilot valve. Also available is the SUH pilot supply valve. See page 7.

# MV.059 INSTALLATION DATA



## PORTS

For alternative types please refer to your Hydreco Hydraulics representative.

## ENQUIRIES

Please consult your Hydreco Hydraulics representative who will discuss your exact needs, finalise the specification and provide you with a quotation.



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