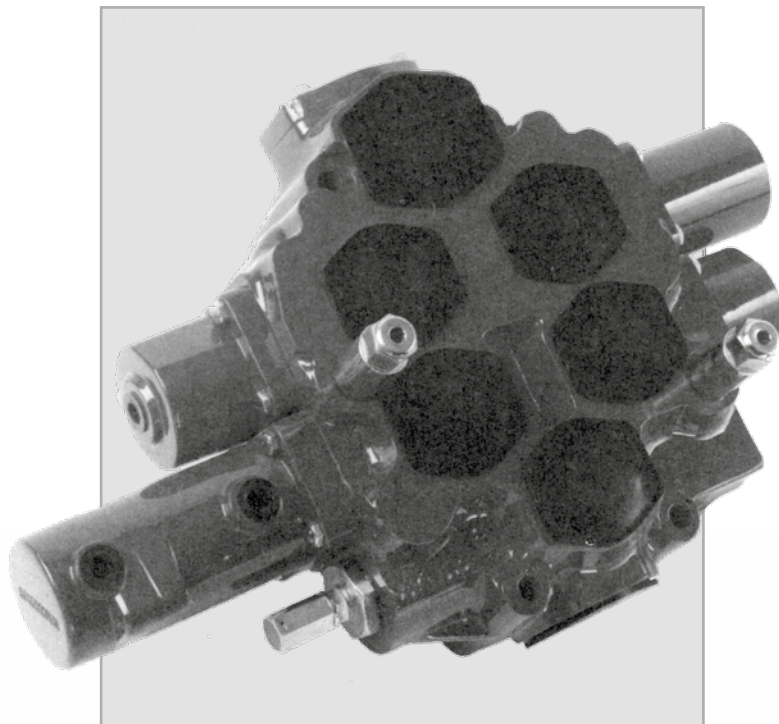


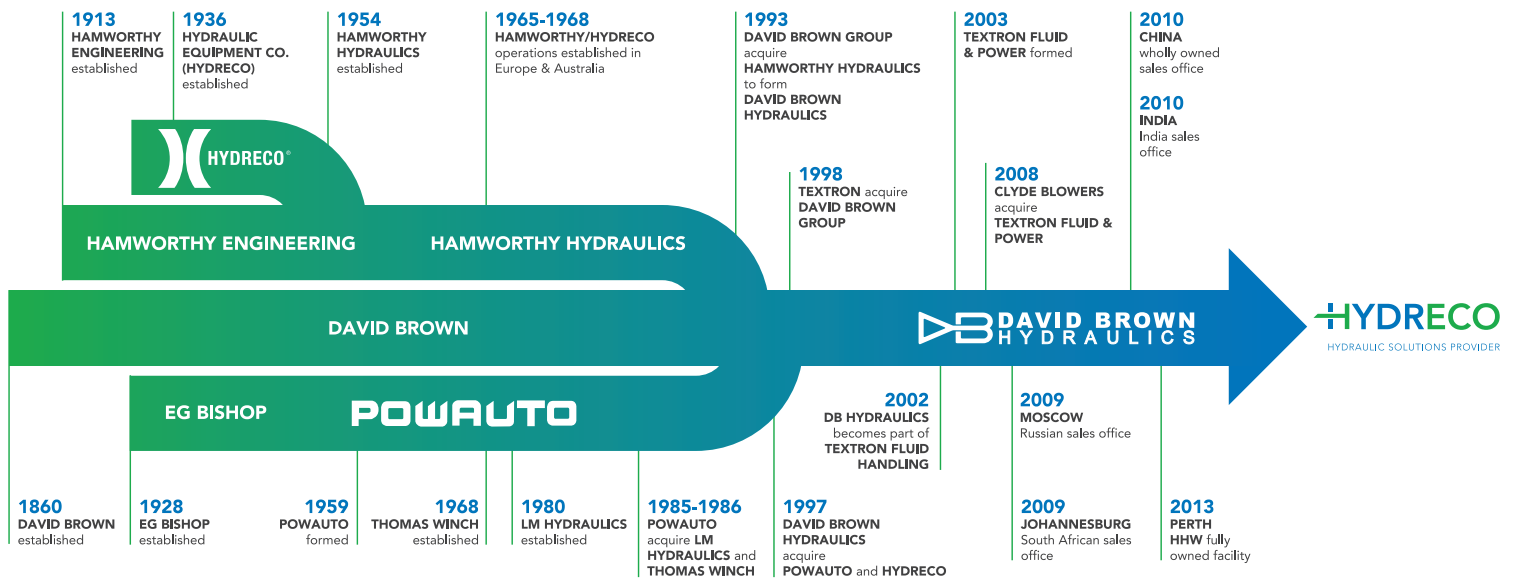
HYDRECO

HYDRAULIC SOLUTIONS PROVIDER

V3A4011 MONOBLOCK - OPEN CENTRE MOBILE DIRECTIONAL VALVES



230 BAR 270 L/MIN
(3350 PSI 70 USGAL/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

V3A4011 SERIES

MOBILE DIRECTIONAL VALVES

V3A4011 Series valves are available in 1, 2 and 3 spool monoblock form.

High grade cast-iron housings provide strength for minimum deflection under load and free spool movement.

Potential leak points are minimised.

Spools and centring springs are designed for remote hydraulic pilot operation by the Hydreco HPV* pilot controller range. See page 7.

Valves with manual, electro-hydraulic and pneumatic control are also available - please consult your Hydreco representative.

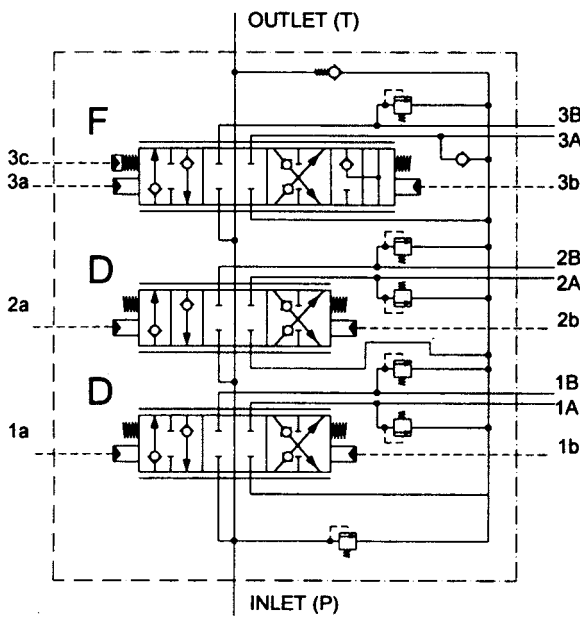
- Tandem circuit - open centre
- Monoblock construction
- Range of spools - including float
- Compatible with HPV pilot valves
- Integral main relief valve
- Service port relief valves
- High performance anti-cavitation valves
- Optional back pressure valve
- Optional high pressure carryover

V3A4011 TECHNICAL DATA

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Service Port Relief Valves	6
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Back Pressure Valve	6
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TECHNICAL DATA	
Flow Capacity	270 l/min (70 USgal/min)
Construction	Monoblock
Installation	No attitude limitation
Number of Spools	1, 2 or 3
Operating Pressure	Inlet (P) 230 bar (3350 psi) max Service (A) & (B) 300 bar (4350 psi) max Outlet (T) 10 bar (145 psi) max
Operating Temperature	-10°C to +80°C (+14°F to +176°F)
Ambient Temperature	-40°C to +60°C (-40°F to +140°F)
Maximum viscosity for normal working conditions	250mm ² (cSt) (1150 SSU)
Minimum permissible viscosity	10mm ² /sec (cSt) (60 SSU)
For optimum life and efficiency, fluid viscosity should be in the range of 15 to 20mm ² /sec (cSt) (80 to 100 SSU) during normal working conditions.	
Fluid cleanliness	ISO4406 - 19/15 max

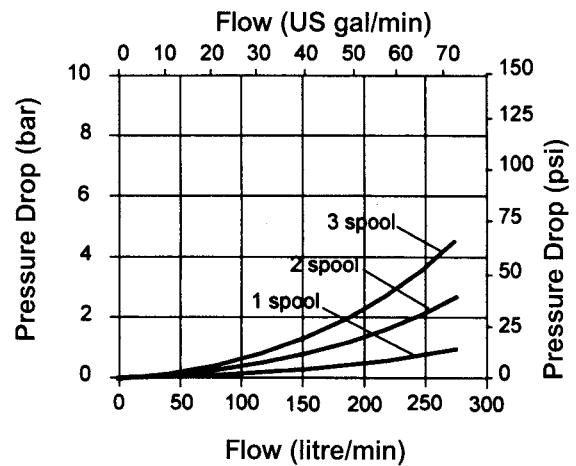
Typical circuit diagram



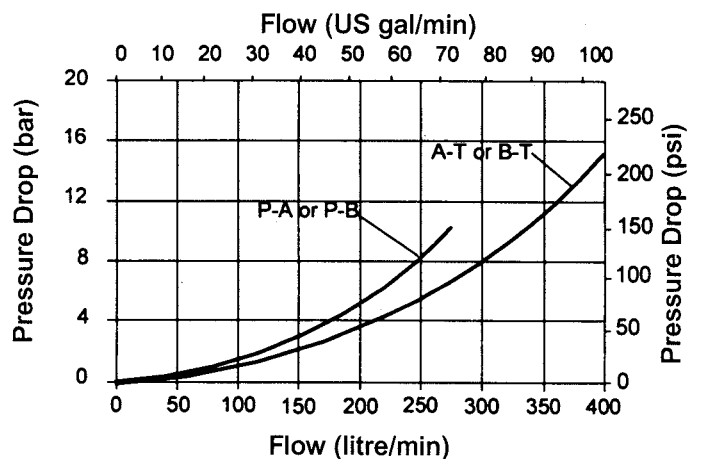
Service port leakage

Maximum leakage from service ports A or B to T with spools in neutral will not exceed 67 ml/min (4 in³/min) at 70 bar (1000 psi) with fluid viscosity 23 mm²/sec (cSt) (110 SSU).

Pressure drop P-T spools in neutral



Pressure drop P-A/B-T spools selected



ALL PERFORMANCE DATA AT 23 mm²/sec (cSt) (110 SSU) FLUID VISCOSITY

V3A4011 TECHNICAL DATA

CIRCUIT

Tandem. The fully selected spool nearest the inlet will take full pump flow.

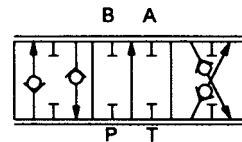
CONFIGURATIONS

Monoblock housings for 1, 2 or 3 spools.

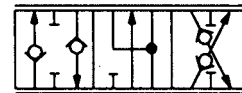
Standard housings have service ports on the top face but additional ports can be provided on the rear face. See page 6.

SPOOL TYPES

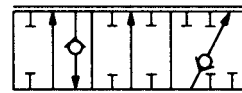
D Double acting



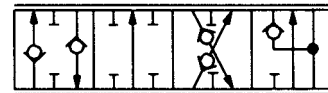
N Double acting A&B-T in neutral



S Single acting



F Float (4 position)



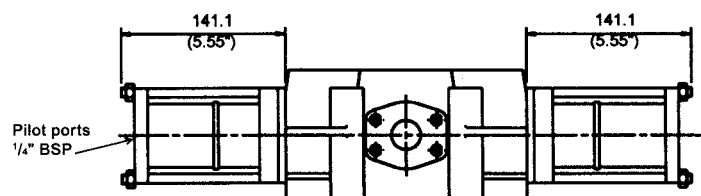
SPOOL ACTUATION

Hydraulic remote control (standard).

The V3A4011 is designed to be driven by the Hydreco type HPV or HPVL low pressure hydraulic pilot valve. Also available is the SUH pilot supply valve. See page 7.

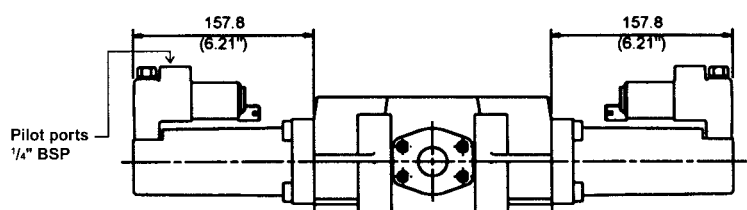
Pneumatic remote control

For use with 7 bar (100 psi) pneumatic pilot supply pressure.



Electro-hydraulic remote control

For use with Hydreco Hydraulics Proportional Electronic Controller. Double acting and float spool configurations are available for 30 bar (435 psi) hydraulic pilot systems.

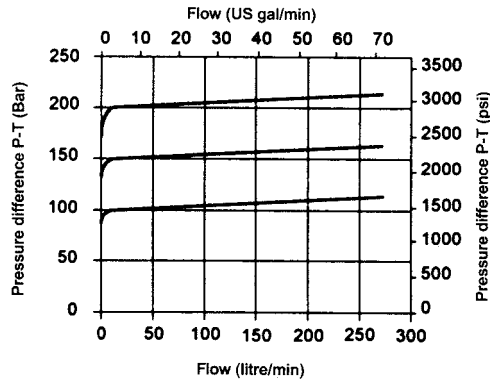


V3A4011

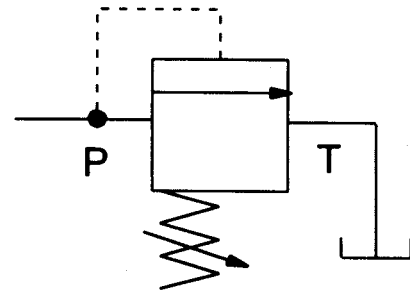
OPTIONAL FEATURES

MAIN RELIEF VALVE

Pump is protected at settings up to 230 bar (3350 psi)

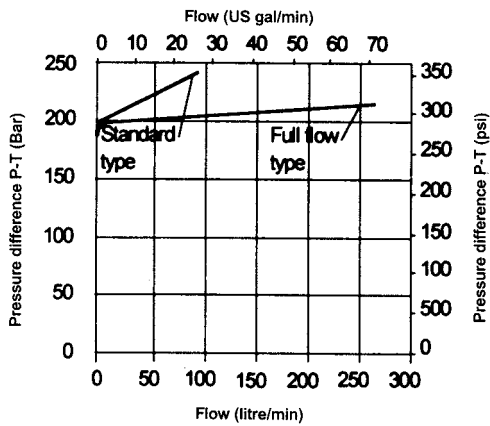


For dual setting relief valves please contact Hydreco.

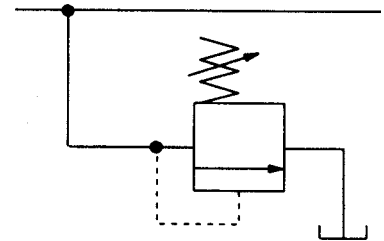


SERVICE PORT RELIEF VALVES

Service lines are protected at settings up to 300 bar (4350 psi).
Optional on any service port A or B.

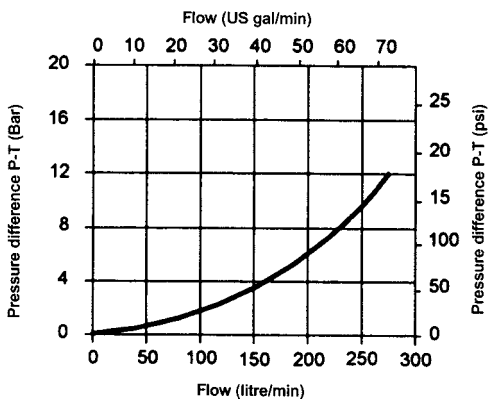


Service Port A or B

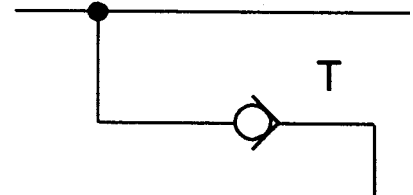


ANTI-CAVITATION CHECK VALVES

Optional for any service port A or B.



Service Port A or B



Anti-cavitation performance can be enhanced by fitting the optional back pressure valve.

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.

For circuit diagram see page 3.

For location see page 6.

HIGH PRESSURE CARRYOVER (HPCO)

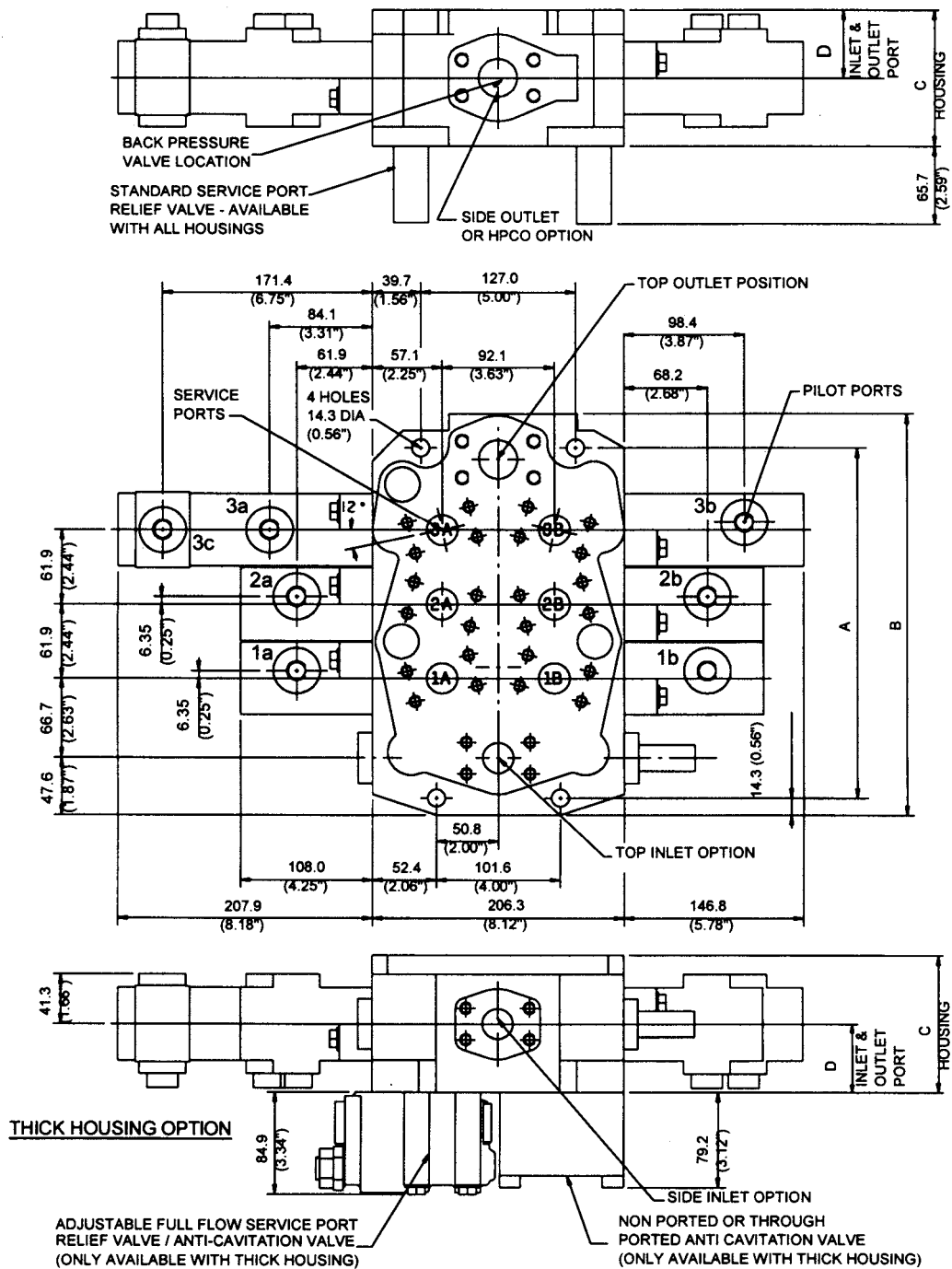
Permits pump flow to feed a downstream valve when spools are in neutral.

For location see page 6.

V3A4011

INSTALLATION DATA

THIN HOUSING OPTION



PORT DETAILS

INLET PORTS	1" SAE S/F WITH M10x1.5 THREADS (3/8" U.N.C.)
OUTLET PORTS	1.1/4" SAE S/F WITH M10x1.5 THREADS (7/16" U.N.C.)
SERVICE PORTS	1" SAE S/F WITH M10x1.5 THREADS (3/8" U.N.C.)
PILOT PORTS	M16x1.5 (3/8" BSP OR 9/16" UNF O'RING

NUMBER OF SPOOLS	A	B	C		D	
			THIN	THICK	THIN	THICK
1 SPOOL	154.0 (6.06")	196.9 (7.75")	98.4 (3.87")	X	41.3 (1.63")	X
2 SPOOL	215.9 (8.50")	258.8 (10.19")	X	114.3 (4.50")	X	57.2 (2.25")
3 SPOOL	277.8 (10.94")	320.7 (12.63")	98.4 (3.87")	114.3 (4.50")	41.3 (1.63")	57.2 (2.25")



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