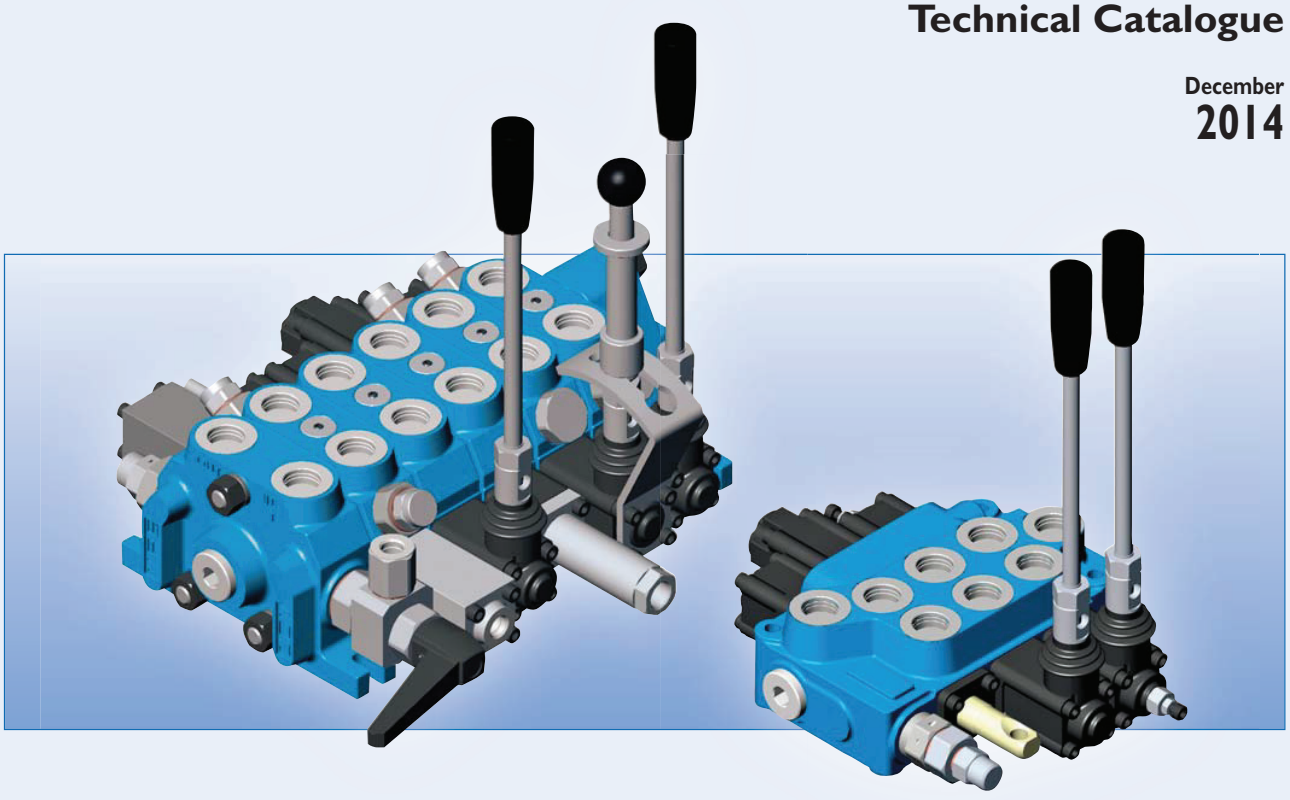
brevini fluid power COMPANY

DCV MONOBLOCK AND MODULAR VALVES

Technical Catalogue

December
2014



v.p.s. brevini

General specifications

MAIN CHARACTERISTICS

All the production VPS Brevini want to be a high quality production. Infact the project of each single valve and the choice of the better materials, machined with the highest tecnologies and under the strongest controls in each process, allow highest characteristics and numerous applications described in the following pages. Furthermore:

1. all the casting are made in Shell-Moulding, in special graphite cast iron. This kind of cast iron is in higt resistance, and it allows to have, with the same external overall dimensions, bigger internal gallery, and lower pressure drops
2. all spools are made in high resistance steel, nichel plated, radial balanced and with special notches in order to have a better sensibility. All OF THEM ARE COMPLETELY INTERCHANGEABLE
3. all springs are made in high resistence steel. Pressure setting springs are pressed before testing.
4. max tolerance of spool housing is 2 micron.
5. internal leakage at 120 bar, 50° C and oil 30 cSt is beetwen 1 and 2 cm^3/min, depending from the kind of spool and the kind of valve.

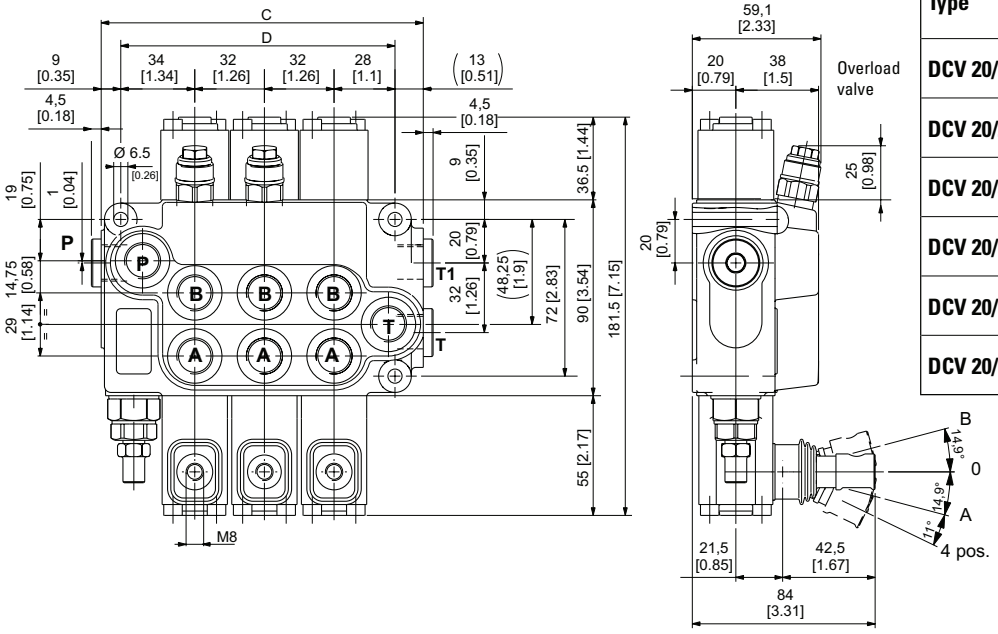
GENERAL CONDITION OF WORK

Working temperature	-25 °C ÷ +80 °C
Max back pressure	20 bar (290 PSI)
Max contamination level	NAS 1638 class 9 (19/16 ISO-4406)
Fluid oil	Mineral oil
Kinematic viscosity	10 ÷ 460 mm^2/s
Filtration	β 12 ≥ 75

Spool are available with different metering, marine protected, Viton® seals, special spring, etc.

			MONOBLOCK VALVES		MODULAR VALVES			
			DCV 20	DCV 40	DCV 30	DCV 50	DCV 80	DCV MG
Features	Max section	N.o	6	6	12	12	12	10
	Max flow	l/min	40	70	40	70	120	230
		GPM	10.6	18.5	10.6	18.5	31.7	60.7
	Max pressure	BAR	400	400	350	350	350	350
		psi	5800	5800	5075	5075	5075	5075
Circuit	Parallel		●	●	●	●	●	●
	Series				●	●	●	●
	Tandem				●	●	●	●
Main relief valve	Direct		●	●	●			
	Piloted					●	●	●
Port relief valves	Overload		●	●	●	●	●	●
	Anti cavitation				●	●	●	●
	Combined				●	●	●	●
Threads	BSP		3/8″	3/8″ ÷ 1/2″	3/8″	1/2″	1/2″ ÷ 3/4″	3/4″ ÷ 1″
	SAE		6	6 - 8	6	10	10 ÷ 12	16
Spool stroke	A ÷ B	mm	± 5	± 5	± 5	± 5	± 7	± 8
		inch	± 0.20	± 0.20	± 0.20	± 0.20	± 0.28	± 0.31
	4a position	mm	- 3.5	- 5	- 3.5	- 5	- 5.5	- 5.5
		inch	- 0.14	- 0.20	- 0.14	- 0.20	- 0.22	- 0.22
	Series	mm	—	—	± 4.5	± 4.5	± 5.5	± 8
		inch			± 0.18	± 0.18	± 0.22	± 0.31

OVERALL DIMENSIONS



Type	C mm [inch]	D mm [inch]	Weight kg [lb]
DCV 20/1	80 [3.15]	62 [2.44]	2.10 [4.62]
DCV 20/2	112 [4.41]	94 [3.70]	3.25 [7.15]
DCV 20/3	144 [5.67]	126 [4.96]	4.35 [9.57]
DCV 20/4	176 [6.93]	158 [6.22]	5.45 [11.99]
DCV 20/5	208 [8.19]	190 [7.48]	6.55 [14.41]
DCV 20/6	240 [9.45]	222 [8.74]	7.65 [16.83]

mm [inches]

MONOBLOCK

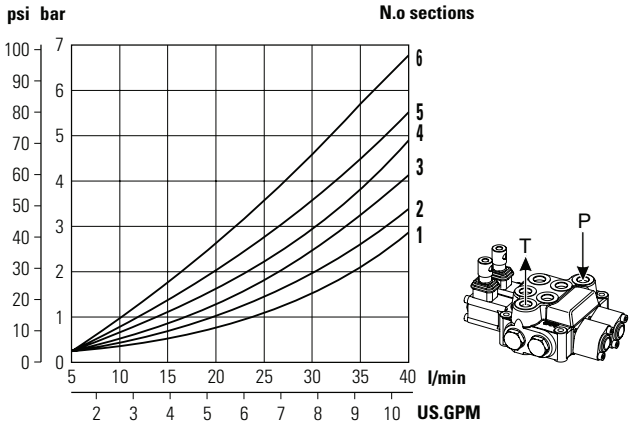
CHARACTERISTIC PRESSURE DROP FLOW CURVES

Technical data

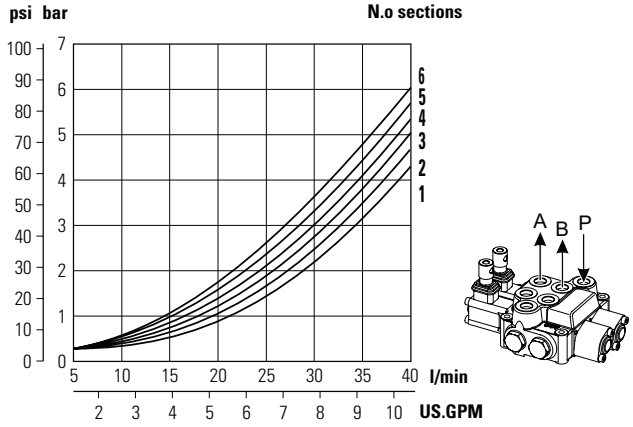
Flow	l/min	40
	GPM	10.6
Max pressure	BAR	400
	psi	5800
Oil viscosity	CST	30
Oil temperature	°C	50

Metering curves are different for each typee of spool.
Therefore particular curves are supplied on request

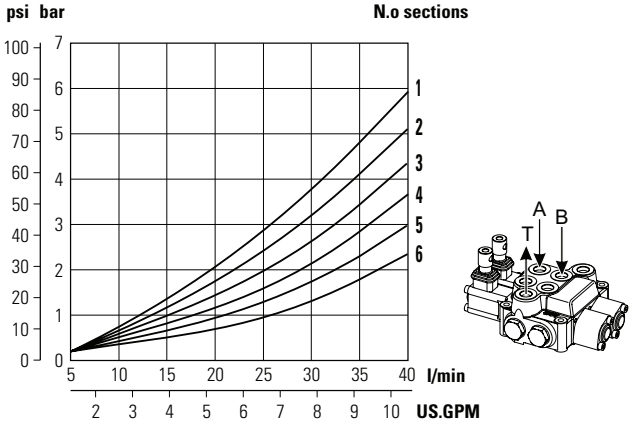
Inlet pressure drop between inlet port (P) and outlet port (T)



Inlet pressure drop between inlet port (P) and work ports (A/B)

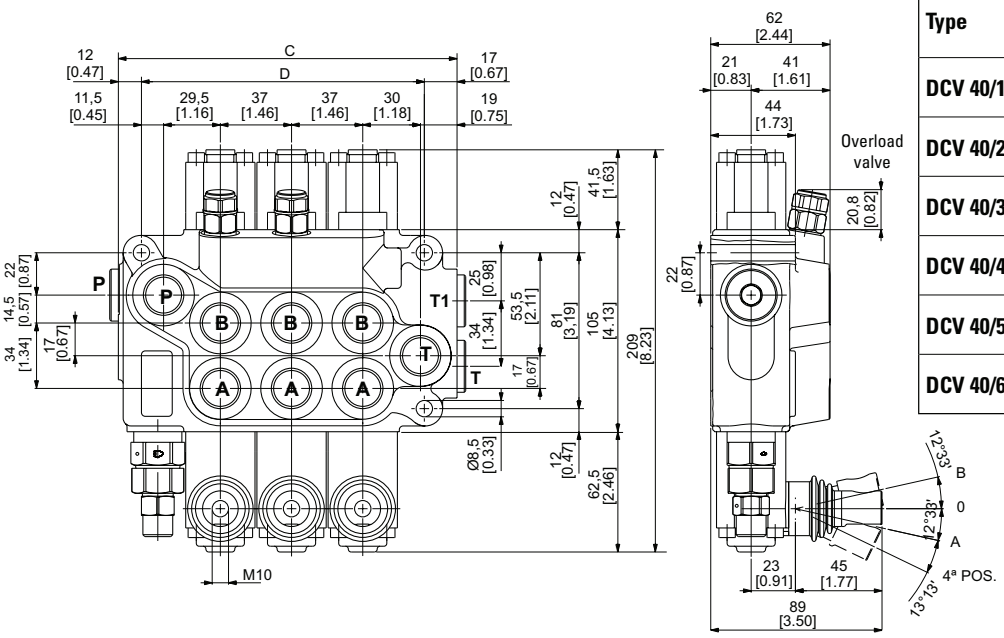


Inlet pressure drop between work ports (A/B) and outlet port (T)



MONOBLOCK

OVERALL DIMENSIONS



Type	C mm [inch]	D mm [inch]	Weight kg [lb]
DCV 40/1	102 [4.02]	73 [2.87]	3.57 [7.85]
DCV 40/2	139 [5.47]	110 [4.33]	5.45 [11.99]
DCV 40/3	176 [6.93]	147 [5.79]	7.30 [16.06]
DCV 40/4	213 [8.39]	184 [7.24]	9.15 [20.13]
DCV 40/5	250 [9.84]	221 [8.70]	11.00 [24.20]
DCV 40/6	287 [11.30]	258 [10.16]	12.85 [28.27]

mm [inches]

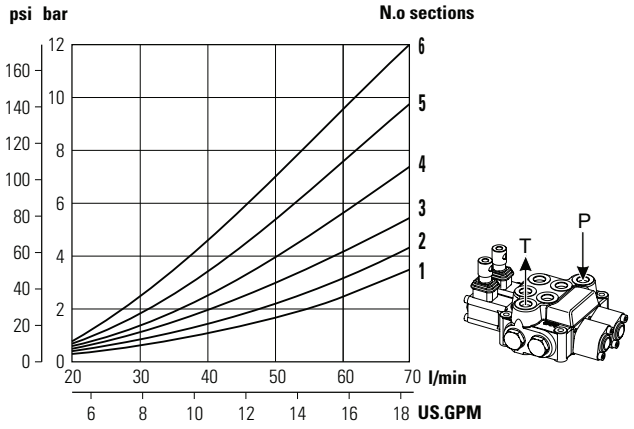
CHARACTERISTIC PRESSURE DROP FLOW CURVES

DCV 40 technical data

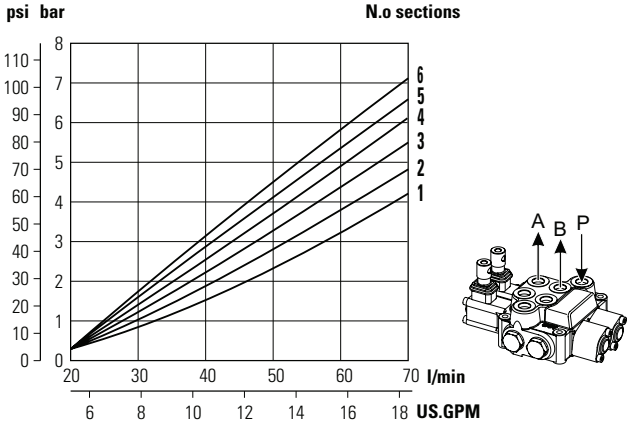
Flow	l/min	70
	GPM	18.5
Max pressure	BAR	400
	psi	5800
Oil viscosity	CST	30
Oil temperature	°C	50

Metering curves are different for each typee of spool.
Therefore particular curves are supplied on request

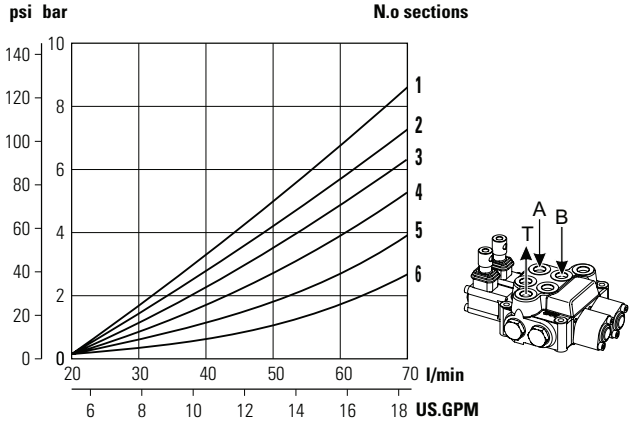
Inlet pressure drop between inlet port (P) and outlet port (T)



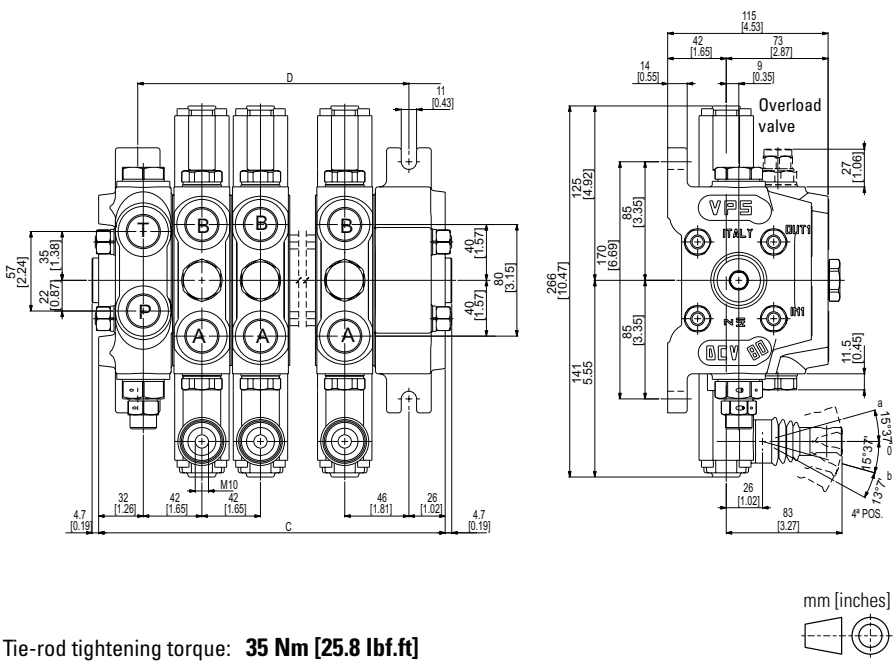
Inlet pressure drop between inlet port (P) and work ports (A/B)



Inlet pressure drop between work ports (A/B) and outlet port (T)



OVERALL DIMENSIONS



Type	C mm [inch]	D mm [inch]	Weight kg [lb]
DCV 80/1	144 [5.67]	92 [3.62]	9.80 [21.56]
DCV 80/2	186 [7.32]	134 [5.28]	13.70 [30.14]
DCV 80/3	228 [8.98]	176 [6.93]	17.60 [38.72]
DCV 80/4	270 [10.63]	218 [8.58]	21.50 [47.30]
DCV 80/5	312 [12.28]	260 [10.24]	25.40 [55.88]
DCV 80/6	354 [13.94]	302 [11.89]	29.30 [64.46]
DCV 80/7	396 [15.59]	344 [13.54]	32.20 [70.84]
DCV 80/8	438 [17.24]	386 [15.20]	37.10 [81.62]
DCV 80/9	480 [18.90]	428 [16.85]	41.00 [90.20]
DCV 80/10	522 [20.55]	470 [18.50]	44.90 [98.78]
DCV 80/11	564 [22.20]	512 [20.16]	48.80 [107.36]
DCV 80/12	606 [23.86]	554 [21.81]	52.70 [115.94]

Tie-rod tightening torque: **35 Nm [25.8 lbf.ft]**

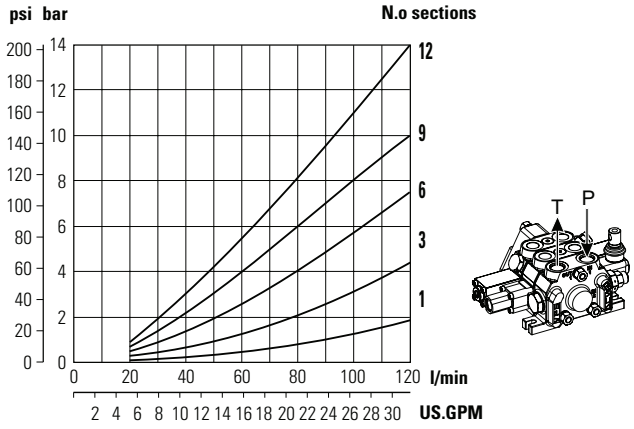
CHARACTERISTIC PRESSURE DROP FLOW CURVES

Technical data

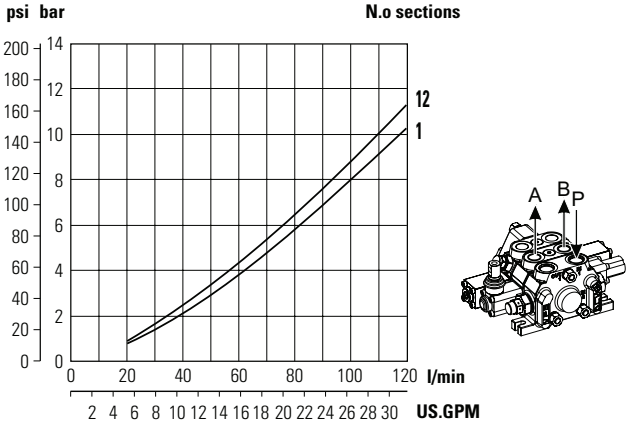
Flow	l/min	120
	GPM	31.7
Max pressure	BAR	350
	psi	5075
Oil viscosity	CST	30
Oil temperature	°C	50

Metering curves are different for each typee of spool.
Therefore particular curves are supplied on request

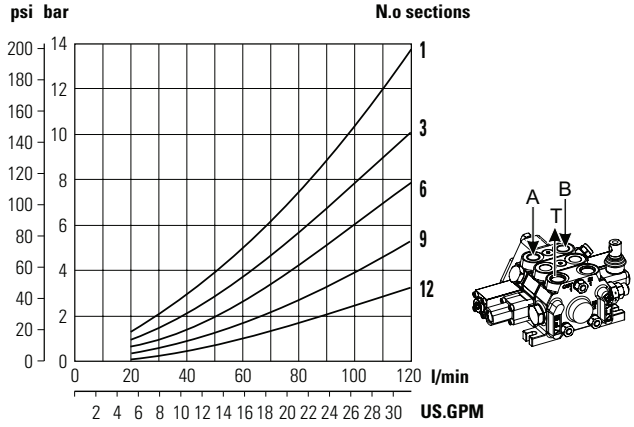
Inlet pressure drop between inlet port (P) and outlet port (T)



Inlet pressure drop between inlet port (P) and work ports (A/B)



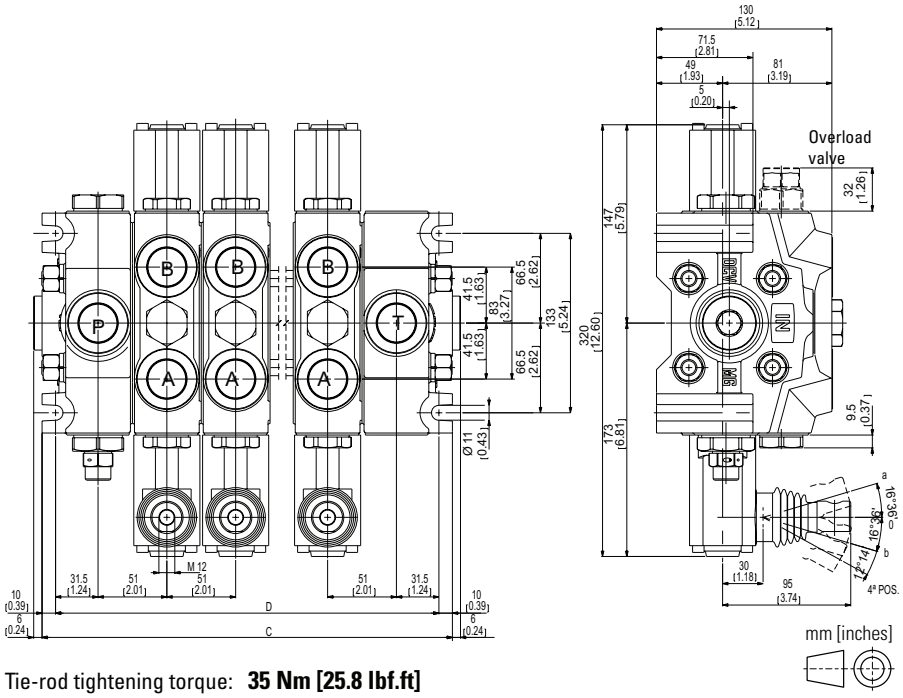
Inlet pressure drop between work ports (A/B) and outlet port (T)



MODULAR

MODULAR

OVERALL DIMENSIONS



Type	C mm [inch]	D mm [inch]	Weight kg [lb]
DCV MG/1	185 [7.28]	165 [6.50]	16.00 [35.20]
DCV MG/2	236 [9.29]	216 [8.50]	22.60 [49.72]
DCV MG/3	287 [11.30]	267 [10.51]	29.20 [64.24]
DCV MG/4	338 [13.31]	318 [12.52]	35.80 [78.76]
DCV MG/5	389 [15.31]	368 [14.49]	42.40 [93.28]
DCV MG/6	440 [17.32]	420 [16.54]	49.00 [107.80]
DCV MG/7	491 [19.33]	461 [18.15]	55.60 [122.32]
DCV MG/8	542 [21.34]	522 [20.55]	62.20 [136.84]
DCV MG/9	593 [23.35]	573 [22.56]	68.80 [151.36]
DCV MG/10	644 [25.35]	624 [24.57]	75.40 [165.88]
DCV MG/11	695 [27.36]	675 [26.57]	82.00 [180.40]
DCV MG/12	746 [29.37]	726 [28.58]	88.60 [194.92]

Tie-rod tightening torque: **35 Nm [25.8 lbf.ft]**

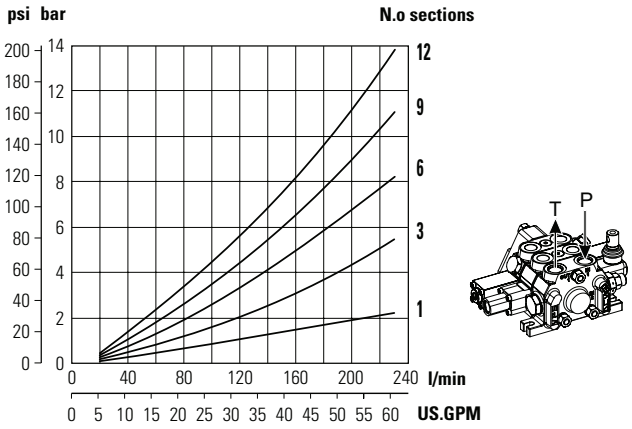
CHARACTERISTIC PRESSURE DROP FLOW CURVES

Technical data

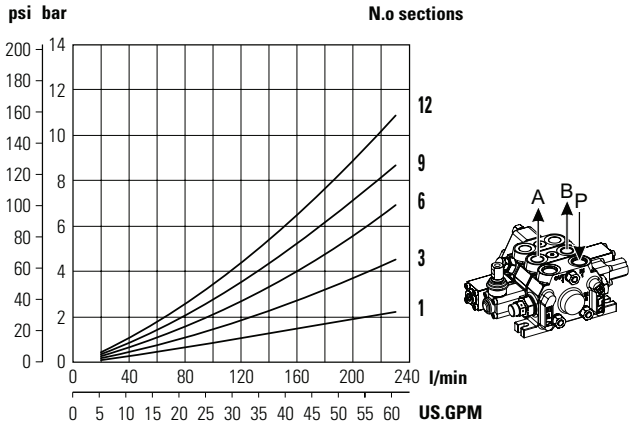
Flow	l/min	230
	GPM	60.7
Max pressure	BAR	350
	psi	5075
Oil viscosity	CST	30
Oil temperature	°C	50

Metering curves are different for each typee of spool.
Therefore particular curves are supplied on request

Inlet pressure drop between inlet port (P) and outlet port (T)



Inlet pressure drop between inlet port (P) and work ports (A/B)



Inlet pressure drop between work ports (A/B) and outlet port (T)