



email: sales@halehamilton.com

HALE HAMILTON

DOME LOADED RL SERIES CONTROLLERS

RLI to RL6

This range of Controllers is designed for higher gas or hydraulic flows than are available from hand controllers but with compactness retained by use of a gas loaded diaphragm controlled from a dome which may be pressurised and sealed off by means of the Needle Valve provided. Alternatively the dome may be controlled from adjustable remote source such as a hand-Controller Series 28/15, described elsewhere in the section.

These Controllers provide an economical and simple unit for medium pressures with higher flow capacities in the larger units than are available from the RH series. As they have main valves which are unbalanced, the outlet pressure will rise as the inlet pressure falls. The variation is in accordance with the inlet/outlet pressure correction factor given in this leaflet.

The domes of certain of these valves may be loaded from the inlet pressure side providing the medium is a gas and these are termed Body-Loading Valves.

If the dome pressure is obtained from an external source only, the valve is termed Mono-Loading.

It should be noted that at all times the dome must be loaded with a gas and not a liquid.

All these valves are issued from our works with no pressure in the dome for transportation purposes. It is necessary therefore for customer to charge the dome after installation on site before the valve can work.

NATO STOCK NUMBER REFERENCE

Type RL1 B Mk 3			
Aluminium	Bronze	4820 - 99 - 536 - 5150	
Type RL2B			
Aluminium	Alloy	6685 - 99 - 456 - 1855	
Type RL3B			
Aluminium	Alloy	4820 - 99 - 526 - 7065	
Type RL3M Mk 7			
Aluminium	Bronze	6685 - 99 - 790 - 4156	
Type RL5B			
Aluminium	Alloy	4820 - 99 - 536 - 9855	
Type RL6D			
Aluminium	Alloy	4820 - 99 - 546 - 6011	

TYPE VARIANTS AND PERFORMANCE

Type	Valve Size in mm	Dome and Body Material*	Inlet Pressure Range bar psi	Outlet Pressure Range bar psi	Weights kg lb	Inlet:Outlet Pressure Correction Factor (See Note 1)	Flow Capacity Factor
RL1	5/16 8	A.A.	0.35 - 35 5 - 500	0.07 - 31 1 - 450	1.6 3 1/2	4.5%	1.1
	5/16 8	A. Br.	0.35 - 69 5 - 1000	0.07 - 65 1 - 950	3.6 8	4.5%	
RL2	3/8 9	A.A.	0.35 - 35 5 - 500	0.07 - 31 1 - 450	1.6 3 1/2	4.5%	1.6
	3/8 9	A. Br.	0.35 - 69 5 - 1000	0.07 - 65 1 - 950	3.6 8	4.5%	
RL3	9/16 14	A.A.	0.35 - 35 5 - 500	0.07 - 31 1 - 450	1.6 3 1/2	9.0%	3
	9/16 14	A. Br.	0.35 - 69 5 - 1000	0.07 - 65 1 - 950	3.6 8	9.0%	
RL4 and RL5	3/4 19 1 25	A.A.	0.35 - 69 5 - 1000	0.07 - 65 1 - 950	6.4 14	4.2%	6
		A. Br.	0.35 - 69 5 - 1000	0.07 - 65 1 - 950	14.5 32	6.7%	
RL6	2 51	A.A.	0.35 - 35 5 - 500	0.07 - 31 1 - 450	21.6 48	9.0%	32

*A.A. = Aluminium Alloy A.Br. = Aluminium Bronze

Note 1

Inlet:Outlet pressure correction factor. This is the percentage change of outlet pressure that results from a given change of inlet pressure. For example, with a correction of 4.5%, if the inlet pressure rises by 10 p.s.i. the outlet would fall by 0.45 bar or vice versa.

Flow Capacity: See Flow Charts in Appendix

OTHER MATERIALS

- Valve Pad ... Nitrile Rubber or Polythene
- Valve Seat ... Aluminium Alloy or Bronze
- Diaphragm ... Nitrile Rubber

Note:

The Types RL4, RL5 and RL6 have a separate valve seat.

On the RL1/2/3, the valve seat is integral with the body.



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Data Sheet

I.S.O. 9001 - quality throughout

ORDERING INFORMATION

Please advise: Inlet and Outlet Pressures and their maximum variations.

Maximum and minimum flow rates. Media used.

Whether body- or mono-loading is required (the RL6 is only supplied with dual-loading and for hydraulic applications only mono- or dual-loading versions should be used). Please note that at no time should hydraulic fluid be used in the domes and therefore the body-loading portions of dual-loading valves must always be kept sealed off.

Whether downstream Relief Valves mounted on the body are required. (This applies to the RL1, RL2 and RL3 only).

For ultra high flows beyond the RL 6 capacity a Type RL16 can be supplied to special order. This has a capacity factor of 60 (see Appendix). For further details, apply to our Sales Office.

SPARES KITS

Please order Spares Kits as given below:

- RL1 B K115
- RL1 M K116
- RL2B K115
- RL2M K116
- RL3B K119
- RL3M K120
- RL4 and 5B K121/1 (1") & K121/2 (3/4")
- RL4 and 5M K122/1 (1") & K122/2 (3/4")
- RL6D K123

INSTALLATION DIMENSIONS

Model	RL1		RL2		RL3		RL4		RL5		RL6	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
A	140	5½	140	5½	140	5½	222	8¾	222	8¾	330	13
B	143	5⅝	143	5⅝	143	5⅝	221	8⅞	221	8⅞	351	13⅜
C	¾" BSP		½" BSP		1" BSP		1½" BSP		2" BSP		3" BSP	
D	28	1⅛	28	1⅛	28	1⅛	59	2⅝	59	2⅝	124	4⅞
E	120	4¾	120	4¾	120	4¾	174	6⅞	174	6⅞	260	10¼
F	16	⅝	16	⅝	22	⅞	32	1¼	32	1¼	48	1⅞

NEEDLE VALVE ARRANGEMENT FOR RL6 SHOWN HERE.

