



Braukmann DU146M



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Automatic bypass and differential pressure Valve

For Installation in District Heating Systems

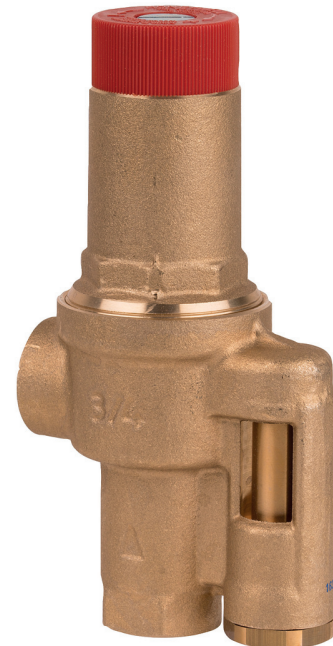
APPLICATION

The automatic bypass and differential pressure valve controls water flow in the heating circuit according to the water pressure across it and is used to maintain a minimum flow rate through the boiler and to limit circulation pressure when other water paths are closed. A bypass circuit must be installed if the Boiler manufacturer requires one, or specifies that a minimum flow rate has to be maintained whilst the Boiler is firing. The use of automatic bypass valves becomes particularly important when heating systems include large numbers of thermostatic radiator valves (TRVs) - whilst the TRVs are open the automatic bypass valve remains closed, however, as the TRVs start to close, the automatic bypass valve starts to open maintaining the required water flow through the boiler.

Using an automatic bypass valve is also likely to reduce noise in systems caused by excess water velocities. It also helps to reduce the corrosion caused by flue gas condensation as the boiler return temperature is raised.

SPECIAL FEATURES

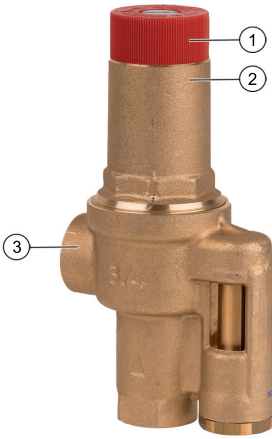
- Maintain minimum flow through a boiler
- Minimises flow noise
- Hinders boiler corrosion
- Full metal housing for higher temperatures and differential pressures - suitable for district heating installations
- Differential pressure finely adjustable
- Presetting accessible directly
- Setting value is in meters water column
- No external controls required



TECHNICAL DATA

Media	
Medium:	Water or water-glycol mixture, quality to VDI 2035
pH-value:	8 - 9.5
Connections/Sizes	
Connection sizes:	3/4" and 1 1/4"
Operating temperatures	
Max. operating temperature medium:	130 °C (266 °F)
Pressure values	
Max. operating pressure:	16 bar (232 psi)
Differential pressure presetting range:	0.05 - 0.5 bar (0.7 - 7.3 psi)
Specifications	
Factory setting:	0.2 bar (2.9 psi)

CONSTRUCTION

Overview	Components	Materials
	1 Adjuster knob	High-quality synthetic material
	2 Spring bonnet	Untreated brass
	3 Body with internally threaded inlet and outlet	Unpolished brass
	Not depicted components:	
	Valve piston	Brass
	Valve disc	Brass
	Spring	Stainless steel
	Seals	EPDM

METHOD OF OPERATION

The automatic bypass and differential pressure valve is installed between the supply and return mains pipeline. The differential pressure is set according to the minimum flow required for the boiler and the available pump head. When the differential pressure is reached, for example because of closing TRVs, the valve starts to open. As the differential pressure increases across the valve the valve is further opened and the flow increased. When the differential pressure decreases, for example because TRVs are opening again, the valve closes and the flow is redirected from the bypass to the heating loop.

TRANSPORTATION AND STORAGE

Keep parts in their original packaging and unpack them shortly before use.

The following parameters apply during transportation and storage:

Parameter	Value
Environment:	clean, dry and dust free
Min. ambient temperature:	0 °C
Max. ambient temperature:	40 °C
Max. ambient relative humidity:	75 % *

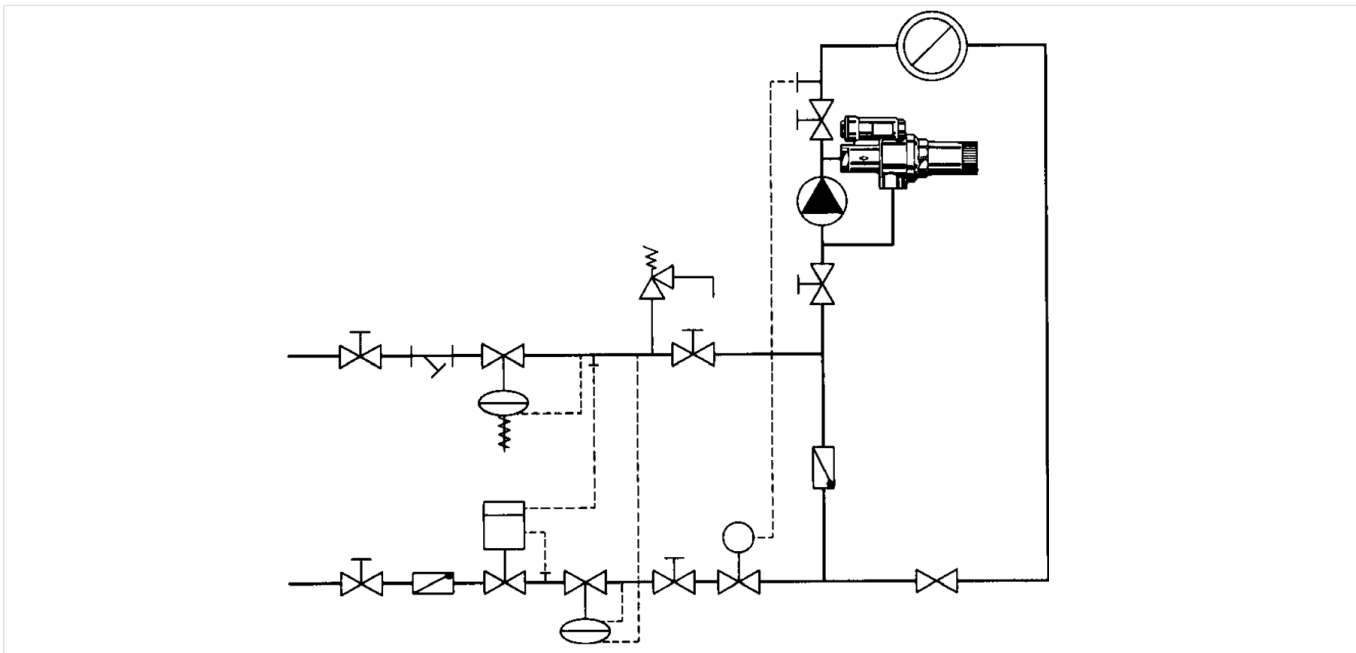
*non condensing

INSTALLATION GUIDELINES

Setup requirements

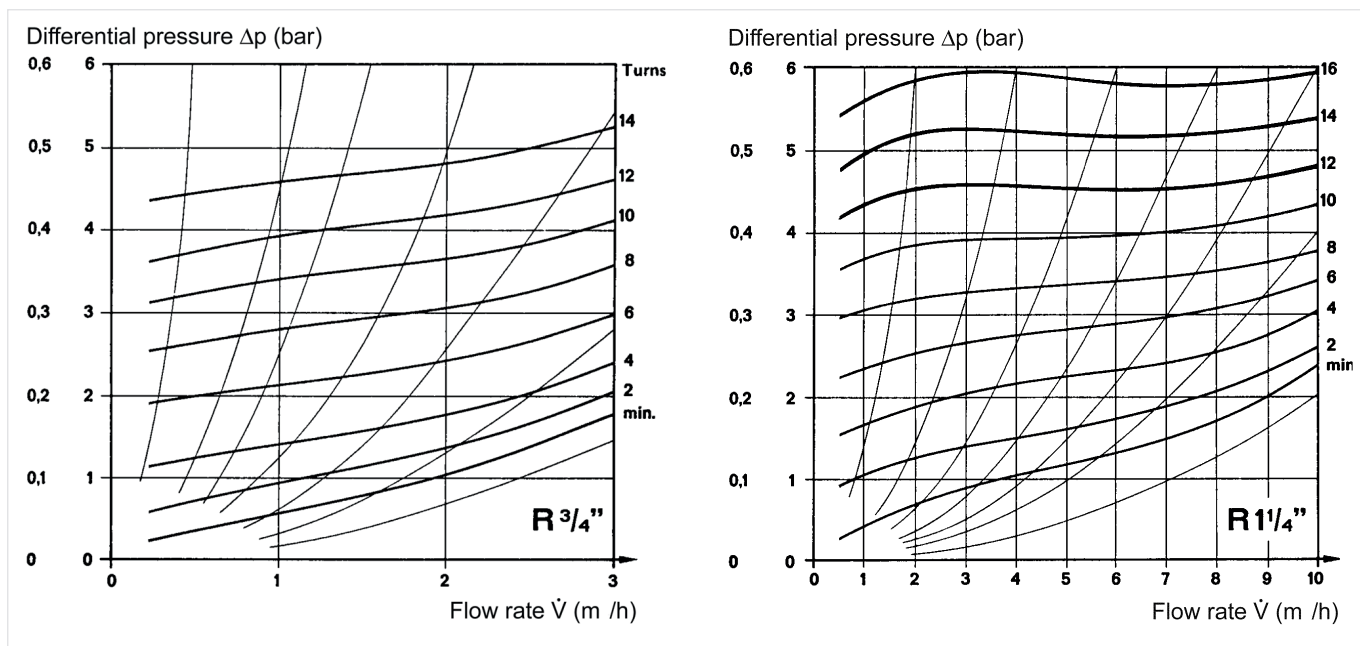
- For maintenance purposes it is recommended that shut-off valves be fitted on both sides of the bypass valve
- DU146M valves are specifically designed for district heating schemes, but they can also be used for heating installations with three and four way mixer valves, for example on gas fired hot water circulation systems

Installation Example



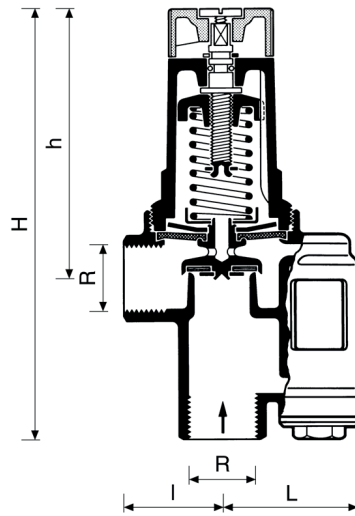
TECHNICAL CHARACTERISTICS

Flow Chart



DIMENSIONS

Overview



Parameter		Values	
Connection sizes:	DN	3/4"	1 1/4"
Dimensions:	L	50	58
	H	160	213
	h	100	155
	l	36	51
Flow rate:	V m ³ /h	3	10
OS-No.:		DU146M-3/4A	DU146M-1 1/4A

Note: All dimensions in mm unless stated otherwise.

ORDERING INFORMATION

The following tables contain all the information you need to make an order of an item of your choice. When ordering, please always state the type, the ordering or the part number.

Options

The valve is available in the following sizes: 3/4" and 1 1/4"

- standard
- not available


		DU146M-3/4A	DU146M-1 1/4A
Connection sizes:	with internal threads Rp 3/4"	•	-
	with internal threads Rp 1 1/4"	-	•

Note: Special Versions available on request

Note: Ordering number example for 1 1/4" and type A valve: DU146M-11/4A

Spare Parts

Boiler Room Valve DU146M.

Overview	Description	Dimension	Part No.
	1 Valve insert		
		3/4"	0900311
		1 1/4"	0900312



Manufactured for
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