

Three-Port Valves Types MZ, MZF & MJF

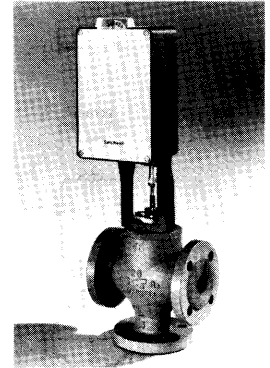
Data Sheet
DS 4.35
June 1978

MZ Three Port Screwed and MZF and MJF Flanged Valves are characterised for mixing or diverting of hot or chilled water. MZ, MZF and MJF valves are bodies only to which either a pneumatic actuator or 160° rotation 'A' series electric actuator may be fitted using the appropriate linkage kit. See Data Sheets 3.01, 3.02, 3.2, 3.4, 3.20.

The information given in this data sheet is concerned with the electrically operated versions of the valves. See DS 44.15 for information concerning the pneumatically operated types.

For electrically actuated valves, a linkage kit is required and must be ordered. It will then be supplied packed with the valve for assembly after the valve has been installed in the pipeline.

For manual override unit see Data Sheet 5.8. For linkage details and setting instructions see Data Sheet 5.4. Linkage kits contain all items and information for fitting linkage to the valve and for connecting 160° rotation 'A' actuator to the valve.



Specification

Nominal Size	Valve Ref.	Cv or Kv	Maximum Differential Pressure	Linkage Kit
MZ Valves screwed BSP to BS21				
½"	MZ 3402	2.5	13 bar (188 lbf/in ²)	LK 81/CA11
¾"	MZ 3452	4.0	"	"
1"	MZ 1502	8.0	9.7 bar (140 lbf/in ²)	LK 81/CA12
1¼"	MZ 1552	12.0	5.8 bar (85 lbf/in ²)	"
1½"	MZ 1602	20.0	4.1 bar (60 lbf/in ²)	"
2"	MZ 1652	32.0	2.4 bar (35 lbf/in ²)	"
MZF & MJF flanged valves to BS 4504: 1969 Table 16/11 (DIN 2533 ND 16)				
15mm	MJF 3426	1.0	13 bar (188 lbf/in ²)	LK 81/CA11
15mm	MJF 3427	4.0	"	"
20mm	MJF 3476	6.3	"	LK 81/CA12
25mm	MJF 3526	10.0	8.5 bar (123 lbf/in ²)	LK 81/CA12
32mm	MJF 3576	16.0	5.5 bar (80 lbf/in ²)	LK 81/CA13
40mm	MJF 3626	25.0	3.5 bar (51 lbf/in ²)	LK 81/CA13
50mm	MJF 3676	40.0	2.2 bar (32 lbf/in ²)	LK 81/CA13
65mm	MZF 3729	63.0	1.4 bar (20 lbf/in ²)	LK 81/CA13
80mm	MZF 3779	80.0	1.0 bar (14 lbf/in ²)	LK 81/CA13
100mm	MZF 3854	125.0	0.5 bar (7 lbf/in ²)	LK 81/CA13
*125mm	MZF 3904	—	—	—
*150mm	MZF 3958	—	—	—

Cv = Flow in UK gallons/min. to produce 1 lbf/in² pressure drop.

Kv = Flow in m³/hr to produce 1 bar pressure drop

* Use with pneumatic actuator only

Seats:

½" & ¾" : Top-integral with body.
Bottom - HT Brass BS 2874 CZ114

1" - 2" : Top-integral with body.
Bottom-Aluminium
brass BS 2871 CZ110

15-150mm : Leaded gunmetal BS 1400
LG2 or Aluminium Brass
to BS 2871 CZ110 or
arsenical brass

Plugs:

½" - 2" : High tensile brass BS 2874 CZ114
15-50mm : Aluminium brass BS 2871
CZ110 or arsenical brass

65-150mm : Leaded gunmetal BS 1400 LG2

Control Medium: Water: MZ & MJF, MZF
Water and antifreeze solutions: MJF
15 to 50 mm only.

Temperature Range: Water: 2°C (35°F) to 177°C (350°F)
for screwed pattern.
2°C (35°F) to 200°C (392°F) for
flanged pattern.
Antifreeze solutions -5°C (23°F) to
40°C (104°F).

Maximum Internal Pressure: 13.0 bar (188 lbf/in²) above 120°C (240°F) flanged.
16.0 bar (230 lbf/in²) up to 120°C (240°F) flanged
12.4 bar (180 lbf/in²) above 38°C (100°F) screwed
17.2 bar (260 lbf/in²) up to 38°C (100°F) screwed

Characteristic: Modified Parabolic Port 2
Linear Port 3

Body Material: ½" - 2" leaded gunmetal.
15-150mm flanged: Cast Iron BS 1452
Grade 17.

Stem:

All sizes: Stainless Steel

Let by:

0.5% of rated Cv.

Test pressure:

360/400 lbf/in².

Gland:

Non-adjustable spring loaded type in corrosion resisting brass housing
Full valve type and reference must be specified when ordering.

Replacement Gland Kit:

Kit:

Pipe Fitting:

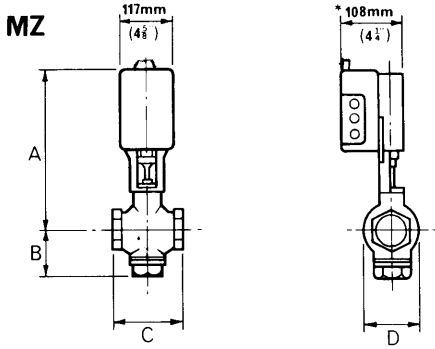
½" and ¾" ends screwed internal BSP taper thread.

1" to 2" ends screwed internal parallel thread.

Flanges:

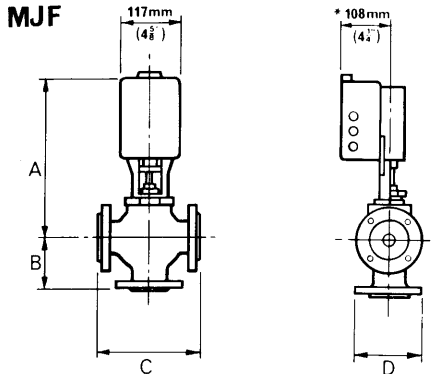
15-150mm Flanged BS 4504 16/11.
Equivalent to DIN 2533 ND 16

Dimensions

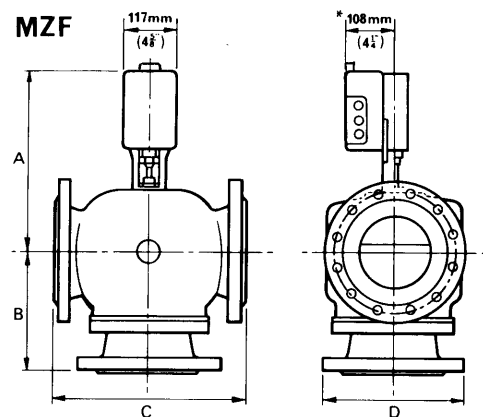


With 160° AXM, AZM, AM, AMS, AZS and AZT controller actuator

Size	A		B		C		D	
	mm	in	mm	in	mm	in	mm	in
<i>Screwed valves</i>								
½in	340	13 ¾	48	1 ⅞	63	2 ½	41	1 ⅝
¾in	340	13 ¾	41	1 ⅝	76	3	48	1 ⅞
1in	346	13 ¾	76	3	98	3 ⅞	54	2 ⅛
1¼in	352	13 ¾	76	3	108	4 ¼	73	2 ⅞
1½in	356	14	76	3	121	4 ¾	79	3 ⅛
2in	362	14 ¼	89	3 ½	146	5 ¾	98	3 ⅞



Size	A		B		C		D	
	mm	in	mm	in	mm	in	mm	in
15mm	356	14	76	3	130	5 ⅛	95	3 ¾
20mm	352	13 ¾	76	3	152	6	108	4 ¼
25mm	359	14 ⅛	95	3 ¾	162	6 ⅜	118	4 ⅝
32mm	375	14 ¾	118	4 ⅝	181	7 ⅛	143	5 ⅝
40mm	375	14 ¾	118	4 ⅝	200	7 ⅞	152	6
50mm	375	14 ¾	118	4 ⅝	232	9 ⅛	165	6 ½



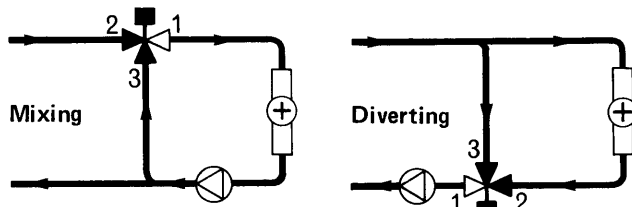
Size	A		B		C		D	
	mm	in	mm	in	mm	in	mm	in
65mm	362	14 ¼	165	6 ½	238	9 ⅜	187	7 ⅝
80mm	365	14 ⅜	181	7 ⅛	254	10	200	7 ⅞
100mm	381	15	206	8 ⅝	292	11 ½	222	8 ¾

For access to actuator allow additional 150mm (6in) to dimension *

Installation

- Select location for valve which is reasonably clean with adequate access for fitting and wiring to actuator. Ambient temperature limits 0 to 50°C for actuator.
 - Ensure that when installed the actuator shaft is horizontal, (the linkage may be turned through 360° on the valve body so that it may be conveniently located) and that the flow is in the same direction as the arrows cast on the valve body.
 - For any diverting application the valve must be installed in the return circuit.
 - For water temperature in excess of 100°C the valve should preferably be mounted in a vertical pipe run to avoid undue heating of the actuator.
 - The valve should be mounted such that any leakage or condensation cannot fall onto the actuator, for this reason the valve should not be installed with the actuator directly beneath the valve body.
- Install the valve as follows:—
 - Remove all protective materials from the valve flanges. Check that the valve and flanges are undamaged.
 - Remove all foreign matter from the pipework.
 - Fit valve into pipework using the minimum quantity of jointing materials.

It is essential that valves are installed in the return pipe for diverting applications.



Maintenance

A periodic check of the valve gland should be made.

WARNING: INTERFERENCE WITH THOSE PARTS UNDER SEALED COVERS RENDERS THE GUARANTEE VOID.

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