

3-WAYS SERVOMOTOR MODELS DEVIATING "T" BORED /BY-PASS DEVIATING LATERAL TYPE



1/2" – 3/4" – 1" – 1 1/4"

TECHNICAL INSTRUCTION

R7A3 Model (normal)

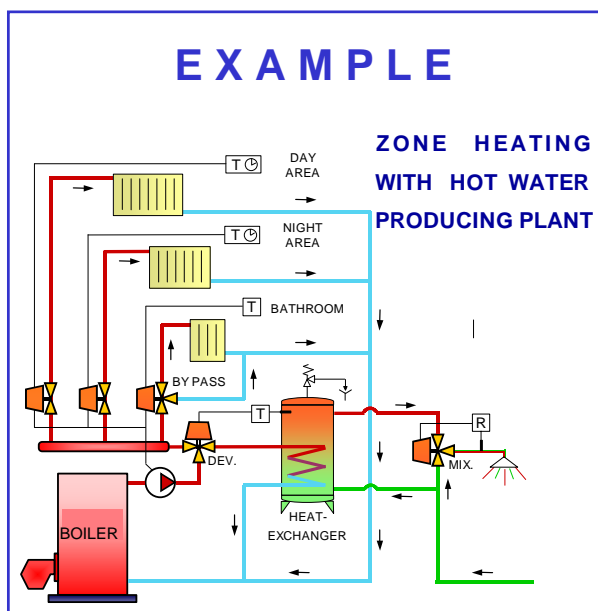
R7B3 Model (auxiliary switch)

□ OPERATION

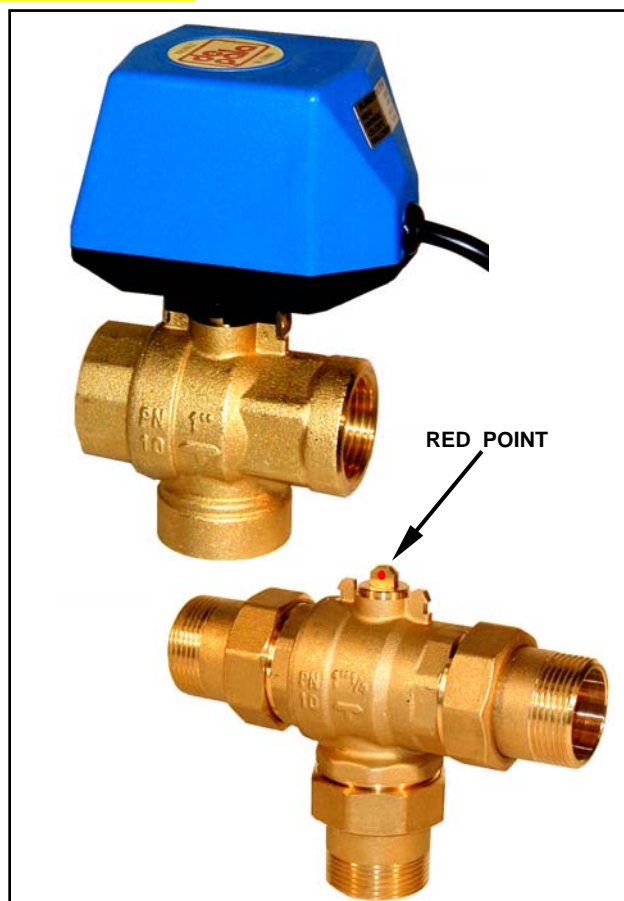
3-WAY DEVIATING "T" BORED, 3-WAY with BY-PASS and 3-WAY DEVIATING LATERAL TYPE VALVES have the same kind of servomotor (R7A3 or R7B3) which is a **2 senses of march** servomotor and it is joined to the valve by a bayonet coupling system. Servomotor opens and closes valve with a 90° movement. With the auxiliary switch version it is possible to stop circulation pump when the last zone valve is closed. Motorized zone valve has to be controlled by using a **2 wires** room-thermostat (**OPEN-CLOSE**) or by every ON/OFF electrical control. With an 180° reversing action, the bayonet coupling system allows to choose closing position in relation with the heating plant. A **manual operation** is possible by rotating the servomotor when it is partly disconnected.

□ GENERAL USES

DE PALA ZONE VALVE can be used for thermoregulation in zone heating plants, with sanitary water, with wood-burning boiler or thermo-fireplace, in plants with automatic adjustment of warm and cold flows. All the fluids **must be compatible** with P.T.F.E. and EPDM rubber.

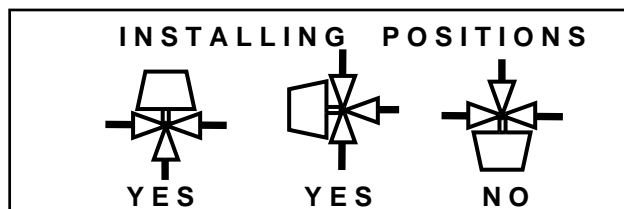


2 WIRES CONTROL – 60" OPEN/CLOSE



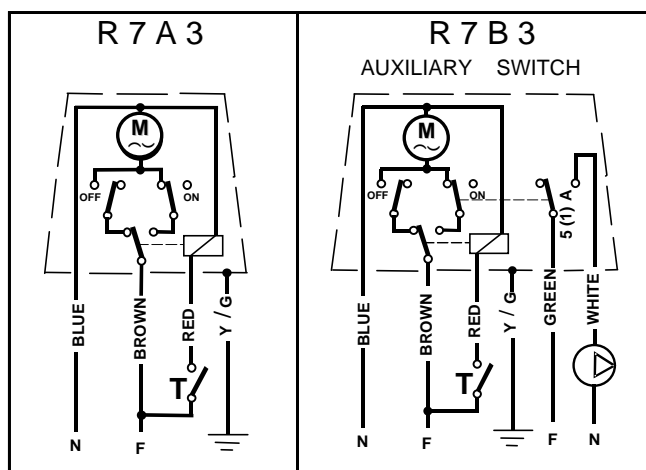
□ INSTALLING

Ball valves have to be installed referring to the technical instructions included; please look at the flows according to the heating plant. Before installing make sure that in pipeworks there is no extraneous matter such as remains of welding or threading. Servomotor and valve are separately supplied so that it is possible to install valve before and servomotor after, just when all building works are finished. It's easy to connect them with a bayonet coupling system. The disconnecting can be carried out easily by widening the two reeds with a screwdriver.



FEATURES OF ZONE BALL VALVE

COMPONENTS		OVERALL DIMENSIONS					
SERVO - MOTORS	BALL VALVES	H	A min	B	F	P	
R7A3 or R7B3	633 T/R 633 FL	110	120	--	76	38	
	603 T/R 603 FL	110	120	--	76	38	
	613 T/R 613 FL	115	125	--	86	43	
	623 T/R 623 FL	120	130	--	94	47	
R7A3 or R7B3	633 U/S 633 BL	110	120	130	--	65	
	603 U/S 603 BL	110	120	136	--	68	
	613 U/S 613 BL	115	125	155	--	78	
	623 U/S 623 BL	120	130	172	--	86	



ELECTRICAL CONNECTIONS

The electric actuator has been equipped with a strong gear-box and steel gears. The auxiliary switch and a low rotation time avoid high boiler pressure. The electric connections of servomotor have to be connected with the multipolar electric cable (4 or 6 wires) by reading technical instructions above-stated. The auxiliary switch (GREEN and WHITE) that stops circulation pump, is a "CLEAN" type, therefore it's insulated from the control of the valve. The two wires (GREEN and WHITE) have to be parallel connected with the power supply of circulation pump.

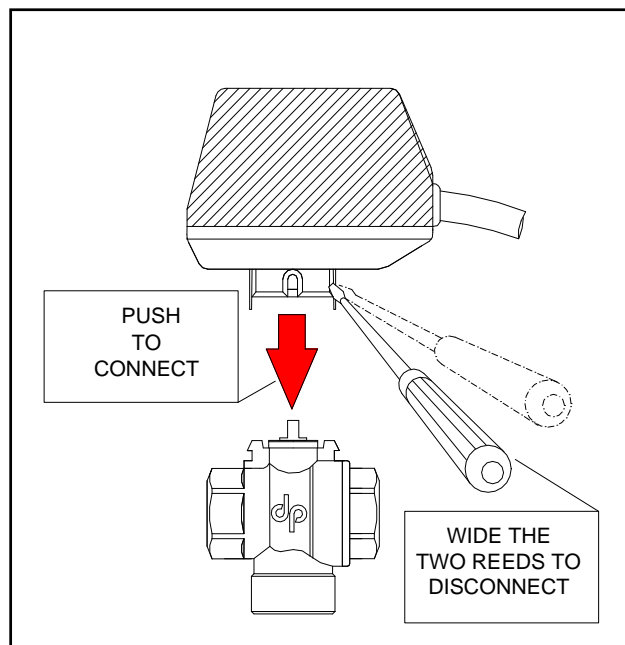
The possible hour-meter has to be connected between OPEN (RED) and NEUTRAL (BLUE) conductors.

BALL VALVES 633 603 613 623

- Valve body : **BRASS CW617N (UNI 12165)**
- Ball : **BRASS CW617N (nichel-chromium plated)**
- Rod : **EXTRUDED OT CW614N (UNI 12164)**
- SEALS on the ball and on the rod : **P.T.F.E. and EPDM O-RINGS**
- Nominal operating pressure : **10 bar**
- Maximum differential operating pressure : **6 bar**
- Fluid temperature field : **FROM 0 °C to 100 °C**
- Utilisable fluids : **WATER or Fluids compatible with PTFE and EPDM rubber**
- Attachments : **Internal GAS or Flat sealing union attachments**
- Load loss : **no effect (TOTAL FLOW TYPE)**

SERVOMOTORS R7A3 – R7B3

- Supply voltage : **230 V 50 Hz**
- Absorbed power : **4 VA**
- Torque on the control rod : **7 Nm (70 Kg • cm)**
- Ambient operating temperature : **0 °C ÷ 65 °C**
- Opening or closing time : **60 sec.**
- Type of control : **2 wires control – ON/OFF type**
- Auxiliary contact capability : **5A 250V**
- Electrical protection level : **IP 54**
- Cable length : **1000 mm**



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1/2" – 3/4" – 1" – 1 1/4"

TECHNICAL INSTRUCTION

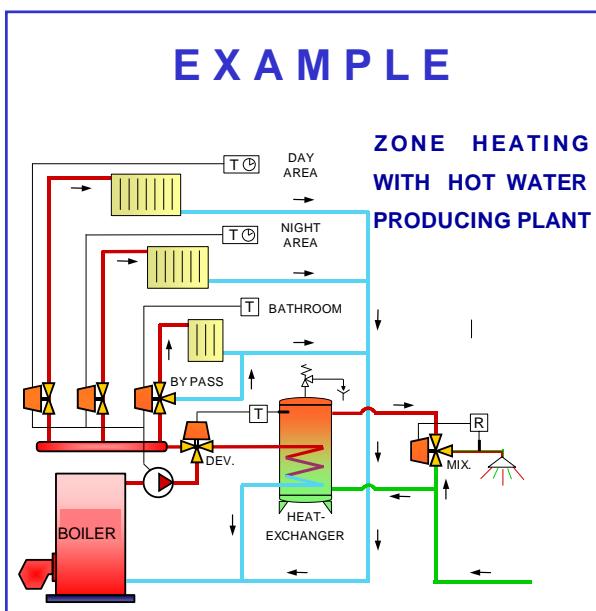
M73AN Model (normal) M73BN Model (auxiliary switch)

□ OPERATION

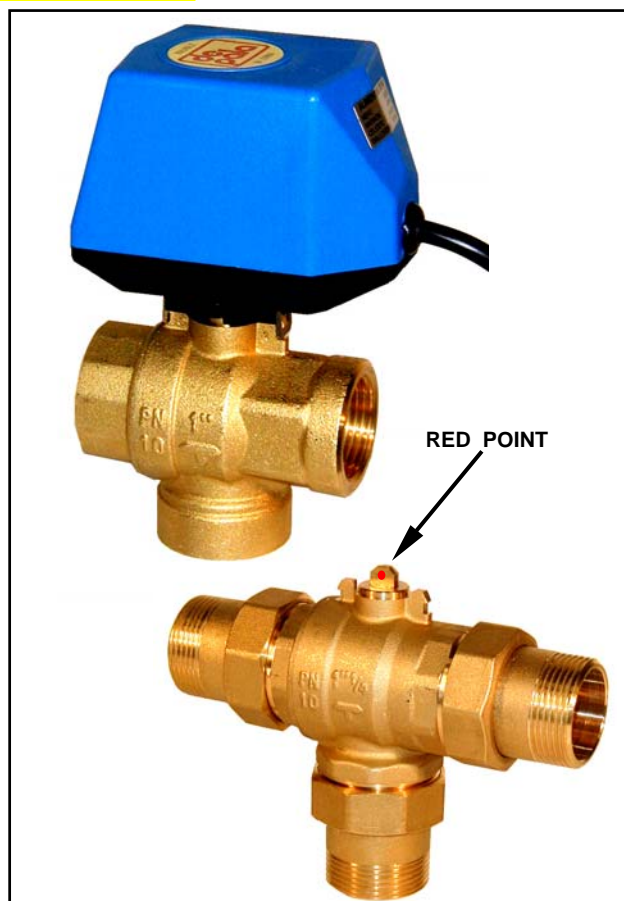
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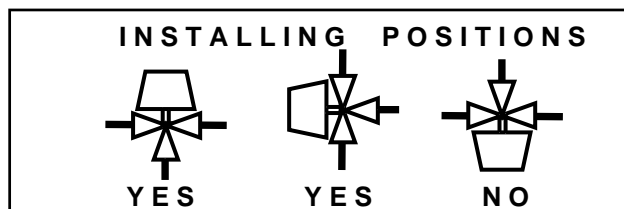


3 WIRES CONTROL – 60" OPEN/CLOSE

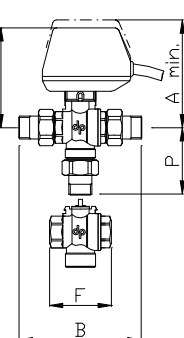


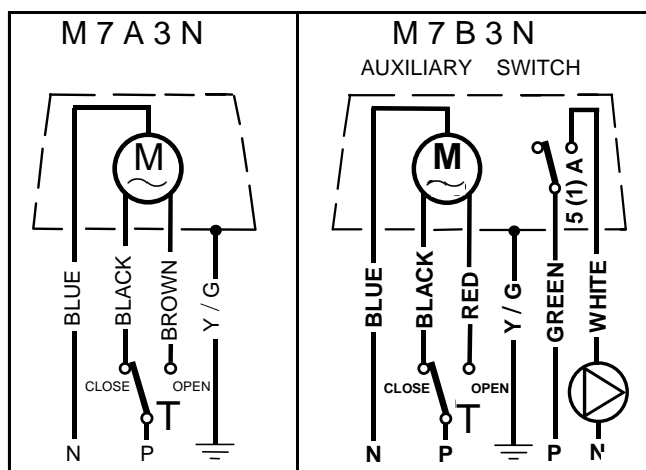
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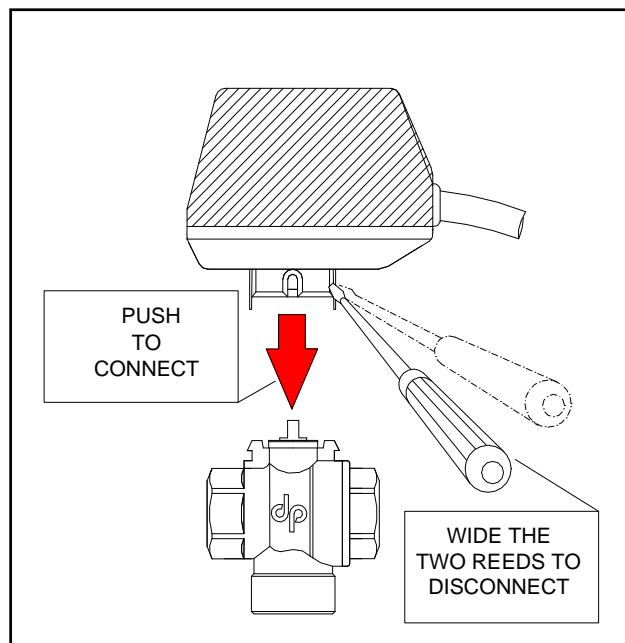
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- Fluid temperature field : **FROM 0 °C to 100 °C**
- Utilisable fluids : **WATER or Fluids compatible with PTFE and EPDM rubber**
- Attachments : **Internal GAS or Flat sealing union attachments**
- Load loss : **no effect (TOTAL FLOW TYPE)**

SERVOMOTORS M7A3N – M7B3N

- Supply voltage : **230 V 50 Hz**
- Absorbed power : **4 VA**
- Torque on the control rod : **7 Nm (70 Kg • cm)**
- Ambient operating temperature : **0 °C ÷ 65 °C**
- Opening or closing time : **60 sec.**
- Type of control : **3 wires control – deviating type**
- Auxiliary contact capability : **5A 250V**
- Electrical protection level : **IP 54**
- Cable length : **1000 mm**



3-WAY MOTORIZED VALVE DEVIATING "T" BORED

inocal

1/2" - 3/4" - 1" - 1 1/4"

TECHNICAL INSTRUCTION

Models 633T – 603T – 613T – 623T (FEMALE)
633U – 603U – 613U – 623U (PIPE UNIONS)

□ OPERATION

3-WAY VALVE with a "T" bored ball which departs at the same time the flow from central way **A** to lateral ones **B C**.

If it is used as a deviating valve the main flow is deviated to lateral ones and so that it is possible to calculate the ratio between the two positions.

If it is used as a mixing valve, and so there are two entrances and one exit, the valve performs a set-point mixing action; in this case the servomotor must be controlled by pulse modulation system with delivery filler.

The motorized zone valve (Code M7..) is designed for operation by **3 wires** room thermostat (**COMMON-OPEN-CLOSE**) or by every deviating electrical control.

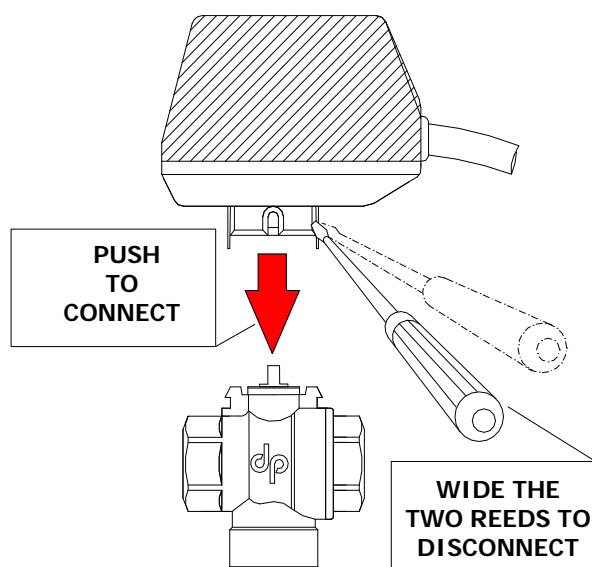
If you need a **2 wire CONTROL (ON-OFF)** there is a special servomotor (Code R7..) with an internal relay.

RED POINT RED POINT



ROD POSITION			
FLOWS			
	OPEN AB CLOSED AC	OPEN AB OPEN AC	OPEN AB CLOSED AC
BALL VALVE MODELS	ATTACHMENTS	FEMALE	PIPE-UNIONS
	1/2 "	633 T	633 U
	3/4 "	603 T	603 U
	1 "	613 T	613 U
	1" 1/4	623 T	623 U

HOW TO CONNECT OR DISCONNECT A SERVOMOTOR TO A BALL VALVE



□ INSTALLING

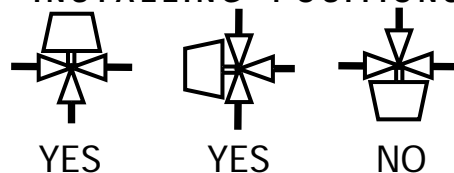
The ball valve has to be fitted up with 3rd way **A** connected to the main flow.

If it is used as deviating valve, the pump has to be installed after the motorized valve; if it is used as mixing valve, the pump has to be installed before the motorized valve.


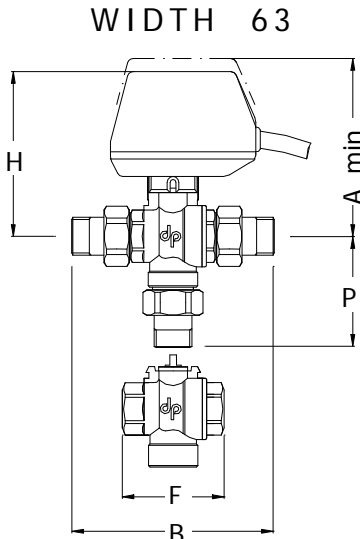
There are two red points on the control rod and they indicate the open ways, so that it is possible to set the zone valve in relation with the heating plant.

Before installing make sure that in pipeworks there is no extraneous matter such as remains of welding or threading.

INSTALLING POSITIONS

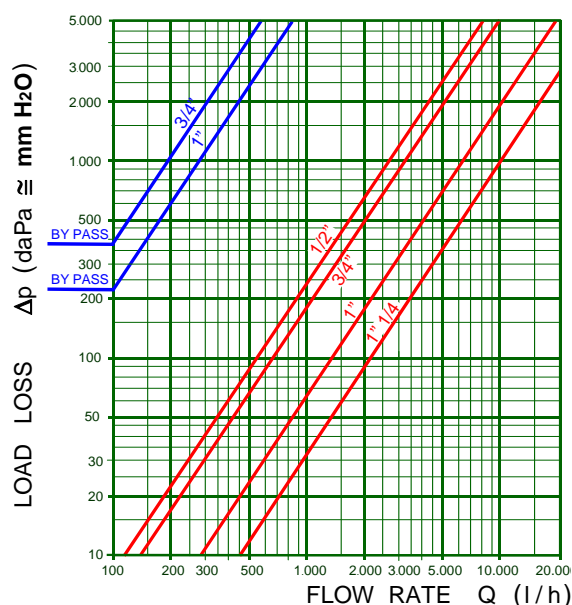


FEATURES OF 3-WAYS ZONE BALL VALVE 3-WAYS DEVIATING "T" BORED

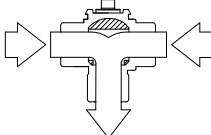
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- Fluid temperature field : **FROM 0 °C TO 100 °C**
- Utilisable fluids : **WATER** or Fluids which are compatible with PTFE and EPDM rubber
- Attachments : **Internal GAS or Flat sealing union attachments**
- Load loss : **no effect (TOTAL FLOW TYPE)**



COUPLED SERVOMOTORS

<div>3 – WAY BALL VALVE</div> <div>MIXING TYPE</div> <div></div>	TYPE OF CONTROLS	AUXILIARY SWITCH	CODE	ELECTRICAL CONNECTIONS	POWER SUPPLY
	3 WIRES	NO	M7A3N	READ THE INSTRUCTION INCLUDED WITH THE SERVOMOTOR	230V - 50 Hz on request 24V - 50Hz
	3 WIRES	SINGLE	M7B3N		
	2 WIRES	NO	R7A3	READ THE INSTRUCTION INCLUDED WITH THE SERVOMOTOR	
	2 WIRES	SINGLE	R7B3		