de pala
Italian OEM Technology

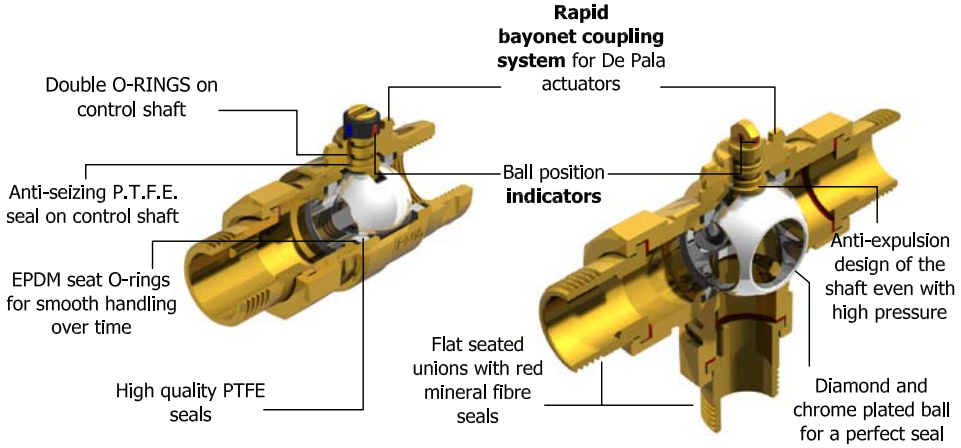
MOTORIZED BALL VALVES DE PALA

2 / 3 / 4 VIE 1/2" ÷ 1" 1/2 FEMALE THREADED - WITH UNIONS

The valves are made of brass according to robustness and reliability criteria. The full bore ball shutter guarantees minimum pressure drops and no leakage even after long periods of use. The threaded connections can be chosen female or with pipe unions according to the practicality of installation. The 3-way valves have different flow configurations, adapting to the most varied system situations.
The actuators are equipped with a robust gear reducer and have a pre-wired multipole cable to facilitate electrical connection. The colors of the actuators and cables are different according to the technical characteristics and electrical connection, for an immediate recognition. De Pala actuators absorb current only during operation, unlike spring return actuators, and have precise and repeatable positioning.
Practical cross-linked polyethylene insulating shells, levers for manual operation and spacers are available as accessories.

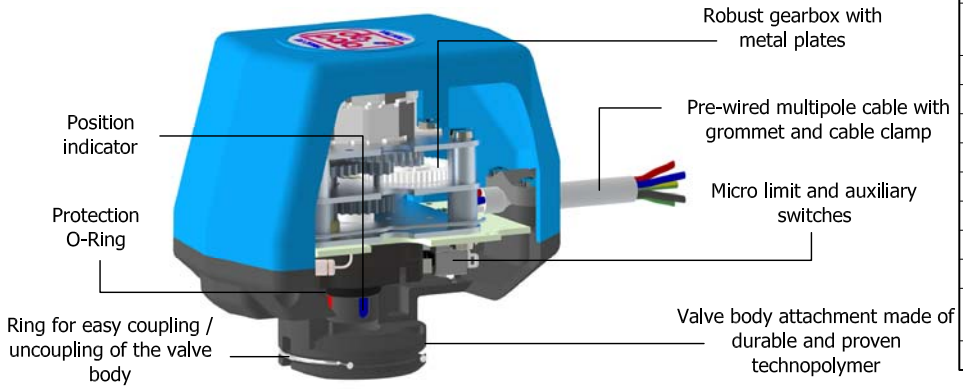
TOTAL FLOW

CONSTRUCTIONAL CHARACTERISTICS OF VALVE BODIES



Valve body : BRASS CW617N (UNI 12165)
Chromed brass ball CW617N
CW614N brass turned shaft
Maximum working pressure: 16 bar
Maximum differential pressure: 6 bar
Fluid temperature limits: 0 - 110 °C
Usable liquids: water and liquids compatible with EPDM and PTFE
Glycol max. 50%
Consult De Pala if in doubt about material compatibility

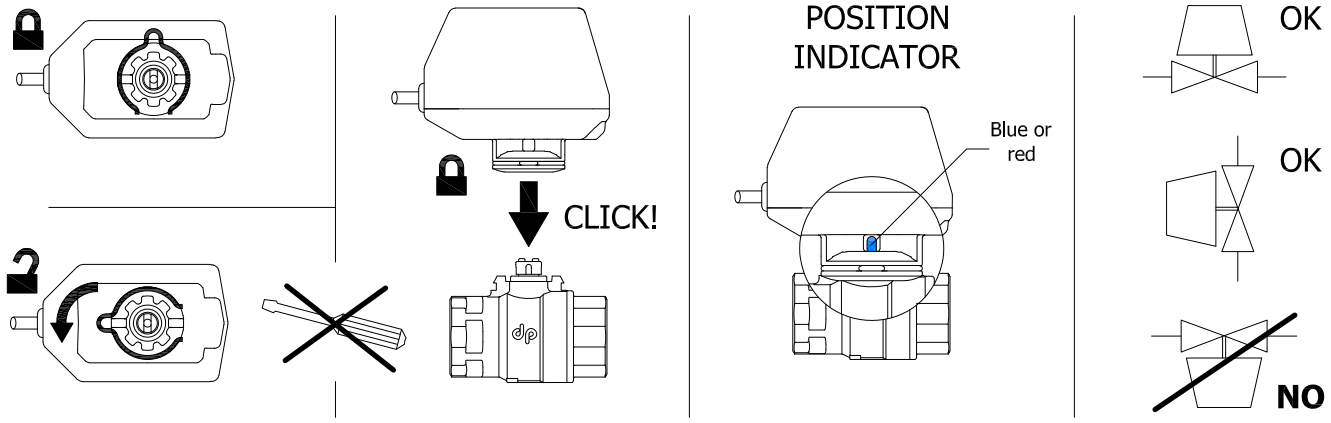
CONSTRUCTIONAL CHARACTERISTICS OF ACTUATORS



Power supply: 230 or 24 Vac 12 or 24 Vdc according to the models
Power consumption: approx. 4 VA only during operation
Uni or bi-directional rotation
Type of control: 2 or 3 wires
Starting torque: up to 12 Nm
Working times: from 8 to 120 sec.
Working environment temperature: 0÷65 °C
Electrical protection grade: IP54
Cable length: 1 meter
Clean auxiliary contact
Auxiliary contact rating: 6 (2) A for 230 Vac 0.3 (0.1) A for 24 Vac or direct current
Special models on request

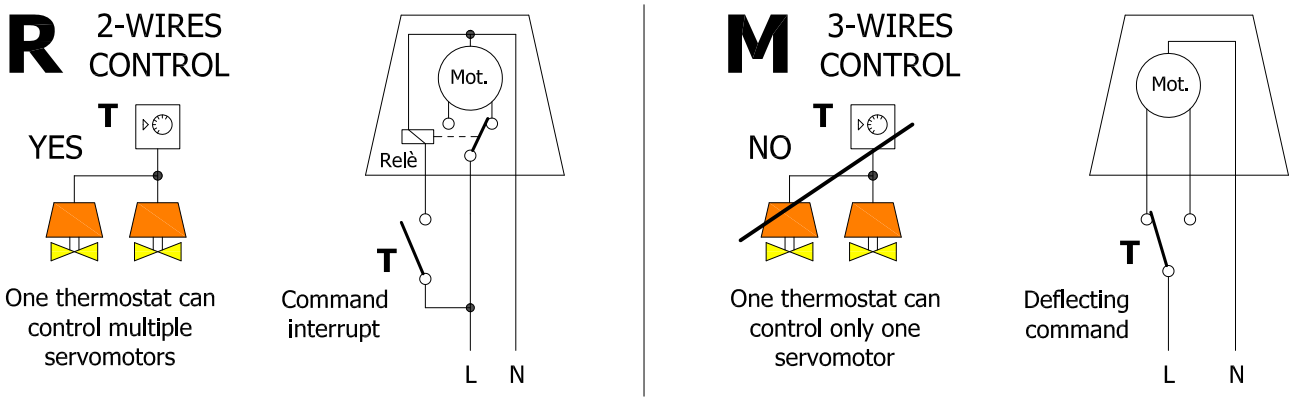
SIMPLE INSTALLATION

Thanks to a spring ring on the servomotor and to the special machining of the valve body, the coupling / uncoupling of the two components is simple, quick and does not require any tools. There is also a colored indicator, red or blue, visible even with the servomotor engaged, useful to determine the position of the ball shutter during operation.



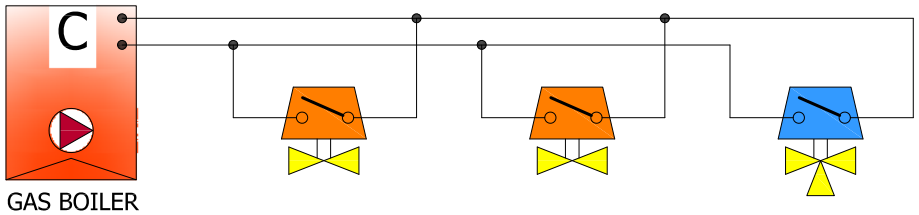
2-WIRES Control - R Servomotors or 3-WIRES Control - M Servomotors

The first letter of the servomotor code identifies the type of control that can be realized. R servomotors have an internal relay, so a single thermostat can control several servomotors. This is not possible for M servomotors, for which each thermostat must control only one servomotor. The following figures illustrate the two types of control.



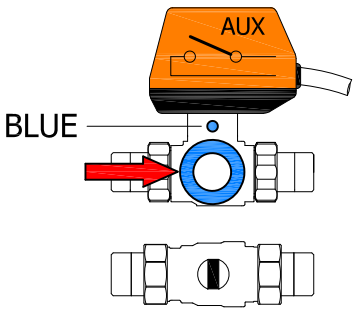
AUXILIARY CONTACTS

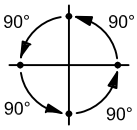
Optionally, the servomotor can be ordered with an auxiliary contact. It is a free contact, not in tension, useful for example to activate the boiler when the valve opens, to signal at distance the open-closed status by using a light bulb, or for other functions. On request, De Pala can supply servomotors with two auxiliary contacts, with closed contact when the valve is closed and in other variants.



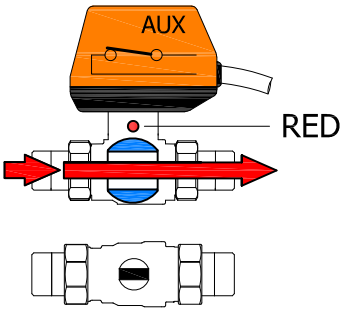
Example of parallel connection of the auxiliary contacts of several servomotors. The first contact that closes turn on the boiler, the last contact that opens turns off the boiler

2-WAYS VALVE

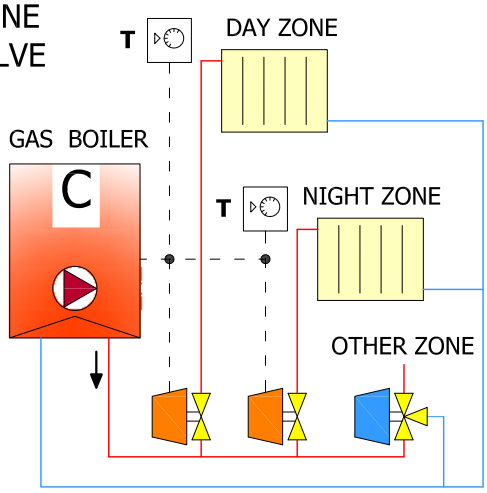




ACTUATOR
UNIDIRECTIONAL*
* DC actuators are bidirectional.



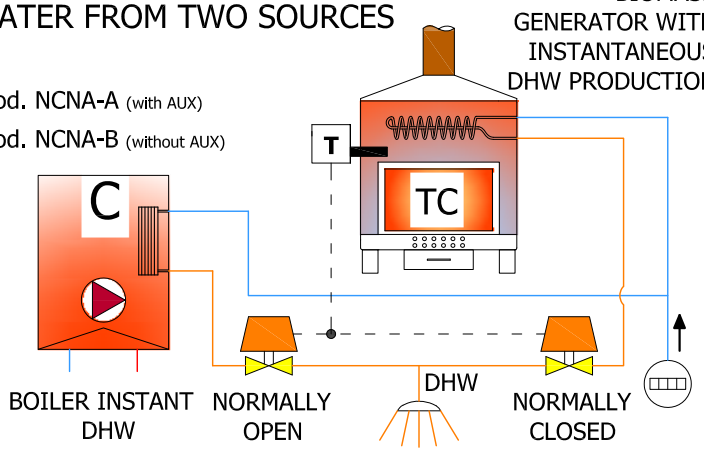
ZONE VALVE



The first auxiliary contact that closes turn on the boiler, the last contact that opens turns off the boiler

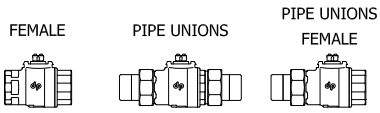
KIT FOR PRODUCTION OF HOT WATER FROM TWO SOURCES

Cod. NCNA-A (with AUX)
Cod. NCNA-B (without AUX)



Operated by a contact thermostat or a digital control unit, one valve opens, the other simultaneously closes

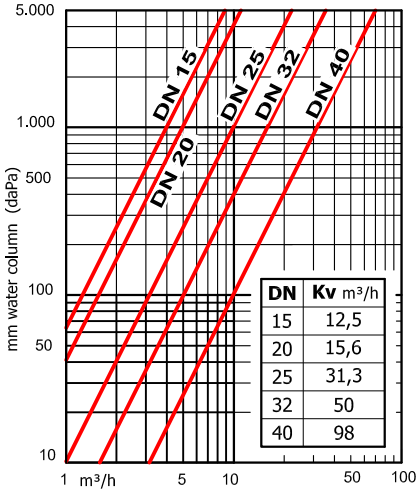
THREADED GAS CONNECTIONS ISO 228-1



1/2" DN 15	Cod. 632 F	Cod. 632 B	Cod. 632 FB
3/4" DN 20	Cod. 602 F	Cod. 602 B	Cod. 602 FB
1" DN 25	Cod. 612 F	Cod. 612 B	Cod. 612 FB
1" 1/4 DN 32	Cod. 622 F	Cod. 622 B	Cod. 622 FB
1" 1/2 DN 40	Cod. 642 F	Cod. 642 B	Cod. 642 FB

CONNECTIONS FOR SEALING WITH FLAT GASKET

3/4" DN 15	Cod. 602 M
1" DN 20	Cod. 612 M
1" 1/4 DN 25	Cod. 622 M
1" 1/2 DN 32	Cod. 642 M



DN	Kv m³/h
15	12,5
20	15,6
25	31,3
32	50
40	98

3-WIRES M actuators

One thermostat can control **only one** servomotor

	WITH AUX contact			WITHOUT AUX contact		
	230 Vac	**Height**	**24 Vac**	**230 Vac**	**Height**	**24 Vac**
60" x 90°	M6B2	H1	M6C2	M6A2	H1	M6S2
30" x 90°	M6B2V		M6C2V	M6A2V		M6S2V
15" x 90°	M6B2W	H2	M6C2W	M6A2W	H2	M6S2W
8" x 90°	M6B2X		M6C2X	M6A2X		M6S2X

2-WIRES R actuators

One thermostat can control multiple servomotors

	WITH AUX contact			WITHOUT AUX contact		
	230 Vac	**Height**	**24 Vac**	**230 Vac**	**Height**	**24 Vac**
60" x 90°	R6B2	H1	R6C2	R6A2	H1	R6S2
30" x 90°	R6B2V		R6C2V	R6A2V		R6S2V
15" x 90°	R6B2W	H2	R6C2W	R6A2W	H2	R6S2W
8" x 90°	R6B2X		R6C2X	R6A2X		R6S2X

DC R actuators

One thermostat can control multiple servomotors

	DC current 12 or 24 V		
	WITH AUX	**Height**	**WITHOUT AUX**
50" x 90°	R6B2C 24VCC	H3	R6A2C 24VCC
25" x 90°	R6B2C 12VCC		R6A2C 12VCC
12" x 90°	R6B2CW 24VCC		R6A2CW 24VCC
7" x 90°	R6B2CW 12VCC		R6A2CW 12VCC

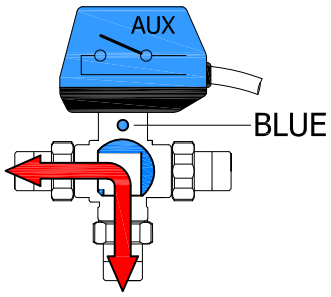
INSULATION SHELLS

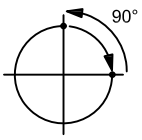
DN 15	Cod. GC02
DN 20	
DN 25	Cod. GC12
DN 32	Cod. GC22
DN 40	Cod. GC42

LEVER FOR MANUAL OPERATION

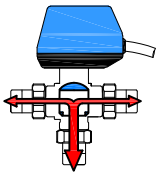
DN 15 ÷ DN 40	Cod. HM2

3-WAYS "T" BORED BALL

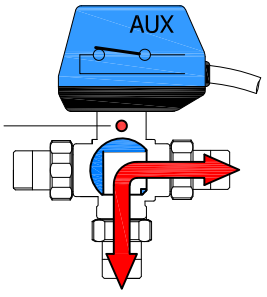


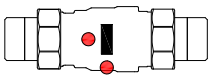


ACTUATOR
BIDIRECTIONAL

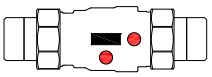


During operation, all the ways are in communication with each other making it possible, for example, to operate the plant's circulator continuously without generating excess pressure.

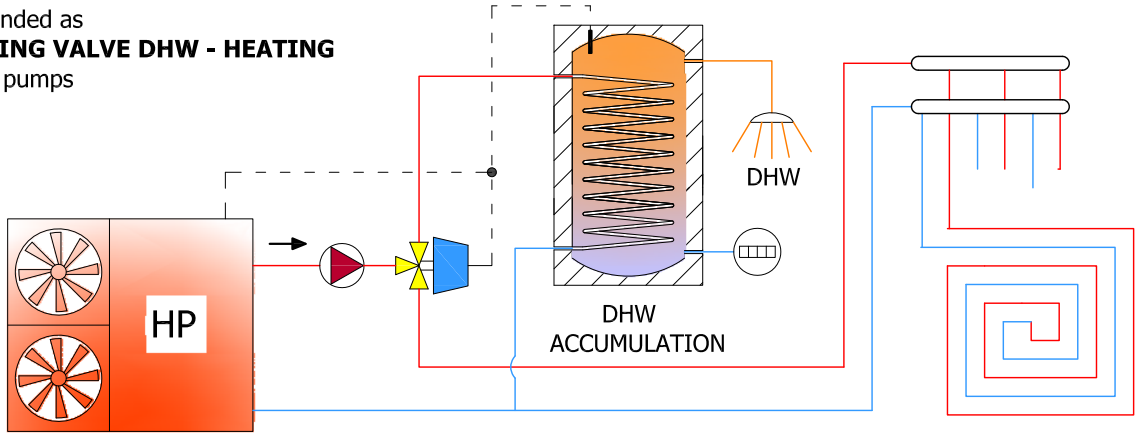




Red dots on valve body shaft allow easy identification of flows



Recommended as
SWITCHING VALVE DHW - HEATING
with heat pumps



HEAT PUMP

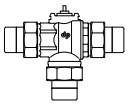
The servomotor can fully switch in only 8 / 15 seconds

RADIANT SYSTEM

THREADED GAS CONNECTIONS ISO 228-1

FEMALE

PIPE UNIONS

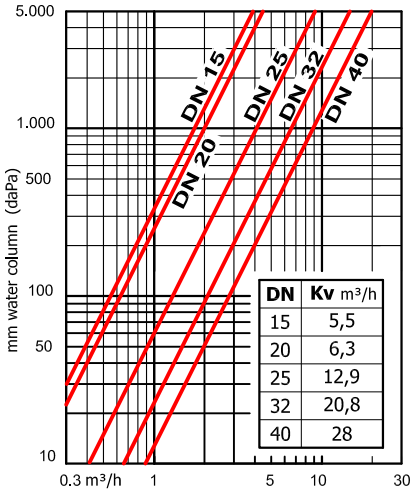


1/2" DN 15	Cod. 633 T	Cod. 633 U
3/4" DN 20	Cod. 603 T	Cod. 603 U
1" DN 25	Cod. 613 T	Cod. 613 U
1" 1/4 DN 32	Cod. 623 T	Cod. 623 U
1" 1/2 DN 40	Cod. 643 T	Cod. 643 U

CONNECTIONS FOR SEALING WITH FLAT GASKET

MALE

3/4" DN 15	Cod. 603 V
1" DN 20	Cod. 613 V
1" 1/4 DN 25	Cod. 623 V
1" 1/2 DN 32	Cod. 643 V



DN	Kv m³/h
15	5,5
20	6,3
25	12,9
32	20,8
40	28

3-WIRES M actuators
One thermostat can control **only one** servomotor

	WITH AUX contact			WITHOUT AUX contact		
	230 Vac	**Height**	**24 Vac**	**230 Vac**	**Height**	**24 Vac**
60" x 90°	M7B3	H1	M7C3	M7A3	H1	M7S3
30" x 90°	M7B3V		M7C3V	M7A3V		M7S3V
15" x 90°	M7B3W	H2	M7C3W	M7A3W	H2	M7S3W
8" x 90°	M7B3X		M7C3X	M7A3X		M7S3X

2-WIRES R actuators
One thermostat can control multiple servomotors

	WITH AUX contact			WITHOUT AUX contact		
	230 Vac	**Height**	**24 Vac**	**230 Vac**	**Height**	**24 Vac**
60" x 90°	R7B3	H1	R7C3	R7A3	H1	R7S3
30" x 90°	R7B3V		R7C3V	R7A3V		R7S3V
15" x 90°	R7B3W	H2	R7C3W	R7A3W	H2	R7S3W
8" x 90°	R7B3X		R7C3X	R7A3X		R7S3X

DC R actuators
One thermostat can control multiple servomotors

	DC current 12 or 24 V		
	WITH AUX	**Height**	**WITHOUT AUX**
50" x 90°	R7B3C 24VCC	H3	R7A3C 24VCC
25" x 90°	R7B3C 12VCC		R7A3C 12VCC
12" x 90°	R7B3CW 24VCC		R7A3CW 24VCC
7" x 90°	R7B3CW 12VCC		R7A3CW 12VCC

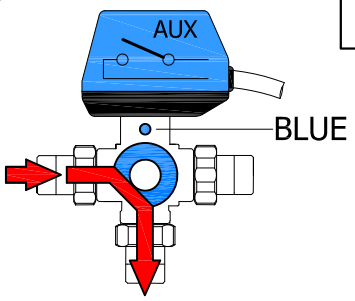
INSULATION SHELLS

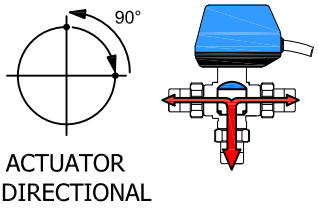
DN 15	Cod. GC03
DN 20	
DN 25	Cod. GC13
DN 32	Cod. GC23
DN 40	Cod. GC43

LEVER FOR MANUAL OPERATION

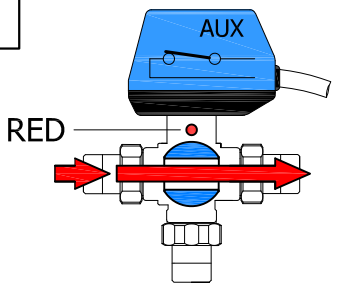
DN 15 ÷ DN 40	Cod. HM3M

3-WAY LATERAL DEVIATING

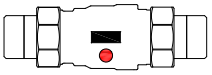




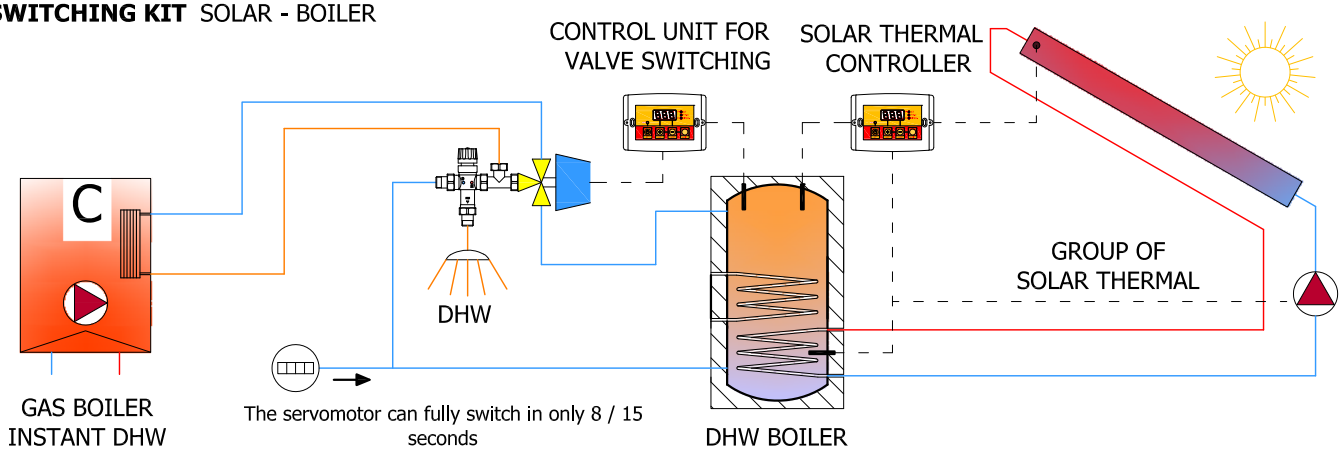
During operation, all the ways are in communication with each other making it possible, for example, to operate the plant's circulator continuously without generating excess pressure.



Red dots on valve body shaft allow easy identification of flows



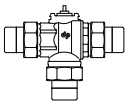
Application example :
SWITCHING KIT SOLAR - BOILER



THREADED GAS CONNECTIONS ISO 228-1

FEMALE

PIPE UNIONS

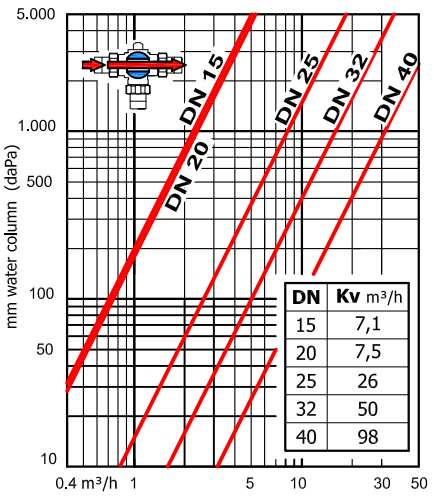


1/2" DN 15	Cod. 633 FL	Cod. 633 BL
3/4" DN 20	Cod. 603 FL	Cod. 603 BL
1" DN 25	Cod. 613 FL	Cod. 613 BL
1" 1/4 DN 32	Cod. 623 FL	Cod. 623 BL
1" 1/2 DN 40	Cod. 643 FL	Cod. 643 BL

CONNECTIONS FOR SEALING WITH FLAT GASKET

MALE

3/4" DN 15	Cod. 603 ML
1" DN 20	Cod. 613 ML
1" 1/4 DN 25	Cod. 623 ML
1" 1/2 DN 32	Cod. 643 ML



DN	Kv m³/h
15	7,1
20	7,5
25	26
32	50
40	98

3-WIRES M actuators
One thermostat can control **only one** servomotor

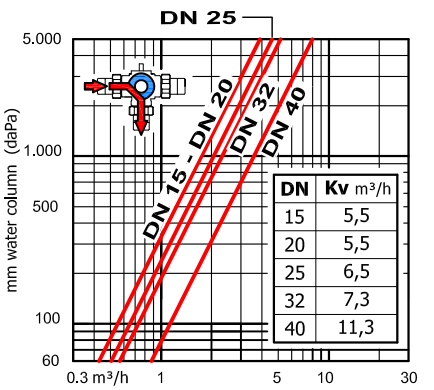
	WITH AUX contact			WITHOUT AUX contact		
	230 Vac	**Height**	**24 Vac**	**230 Vac**	**Height**	**24 Vac**
60" x 90°	M7B3	H1	M7C3	M7A3	H1	M7S3
30" x 90°	M7B3V		M7C3V	M7A3V		M7S3V
15" x 90°	M7B3W	H2	M7C3W	M7A3W	H2	M7S3W
8" x 90°	M7B3X		M7C3X	M7A3X		M7S3X

2-WIRES R actuators
One thermostat can control multiple servomotors

	WITH AUX contact			WITHOUT AUX contact		
	230 Vac	**Height**	**24 Vac**	**230 Vac**	**Height**	**24 Vac**
60" x 90°	R7B3	H1	R7C3	R7A3	H1	R7S3
30" x 90°	R7B3V		R7C3V	R7A3V		R7S3V
15" x 90°	R7B3W	H2	R7C3W	R7A3W	H2	R7S3W
8" x 90°	R7B3X		R7C3X	R7A3X		R7S3X

DC R actuators
One thermostat can control multiple servomotors

	DC current 12 or 24 V		
	WITH AUX	**Height**	**WITHOUT AUX**
50" x 90°	R7B3C 24VCC	H3	R7A3C 24VCC
25" x 90°	R7B3C 12VCC		R7A3C 12VCC
12" x 90°	R7B3CW 24VCC		R7A3CW 24VCC
7" x 90°	R7B3CW 12VCC		R7A3CW 12VCC



DN	Kv m³/h
15	5,5
20	5,5
25	6,5
32	7,3
40	11,3

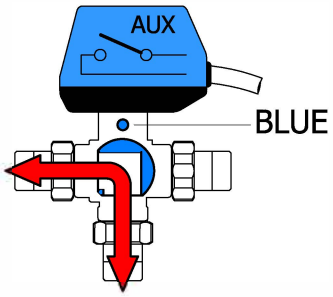
INSULATION SHELLS

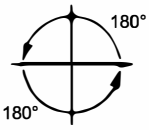
DN 15	Cod. GC03
DN 20	
DN 25	Cod. GC13
DN 32	Cod. GC23
DN 40	Cod. GC43

HANDLE FOR MANUAL OPERATION

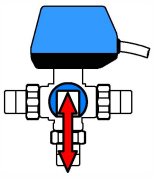
DN 15 ÷ DN 40
Cod. HM3M

3-WAYS "L" BORED BALL

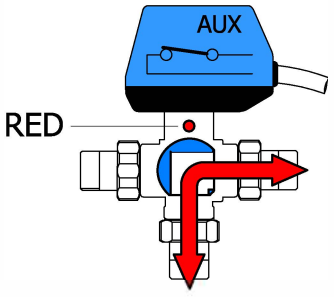


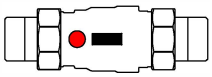


SERVOMOTORE
UNIDIREZIONALE

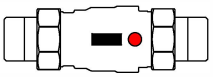


During the operation, the left and right ways are never in communication with each other. Untill one is not completely closed, the other does not open. Caution: For a short time around the midpoint position, the left and right ways are both closed.

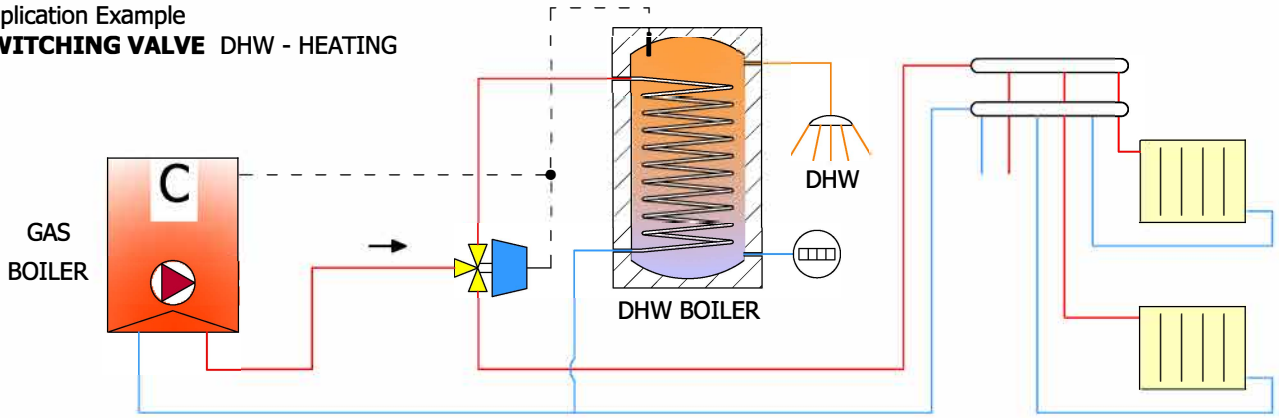




Red dots on valve body shaft allow easy identification of flows



Application Example
SWITCHING VALVE DHW - HEATING

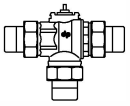


Provide a differential by-pass upstream of the valve if the boiler circulator is working while the valve is operating.

THREADED GAS CONNECTIONS ISO 228-1

FEMALE

PIPE UNIONS

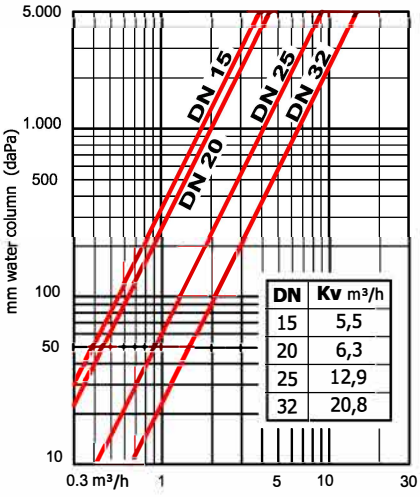


1/2" DN 15	Cod. 633 F	Cod. 633 B
3/4" DN 20	Cod. 603 F	Cod. 603 B
1" DN 25	Cod. 613 F	Cod. 613 B
1" 1/4 DN 32	Cod. 623 F	Cod. 623 B

CONNECTIONS FOR SEALING WITH FLAT GASKET

MALE

3/4" DN 15	Cod. 603 M
1" DN 20	Cod. 613 M
1" 1/4 DN 25	Cod. 623 M
1" 1/2 DN 32	Cod. 643 M



3-WIRES M actuators

One thermostat can control **only one** servomotor

	WITH AUX contact			WITHOUT AUX contact		
	230 Vac	Height	24 Vac	230 Vac	Height	24 Vac
120" x 90°	M6B3L	H1	M6C3L	M6A3L	H1	M6S3L
60" x 90°	M6B3		M6C3	M6A3		M6S3
30" x 90°	M6B3W	H2	M6C3W	M6A3W	H2	M6S3W
16" x 90°	M6B3X		M6C3X	M6A3X		M6S3X

2-WIRES R actuators

One thermostat can control multiple servomotors

	WITH AUX contact			WITHOUT AUX contact		
	230 Vac	Height	24 Vac	230 Vac	Height	24 Vac
120" x 90°	R6B3L	H1	R6C3L	R6A3L	H1	R6S3L
60" x 90°	R6B3		R6C3	R6A3		R6S3
30" x 90°	R6B3W	H2	R6C3W	R6A3W	H2	R6S3W
16" x 90°	R6B3X		R6C3X	R6A3X		R6S3X

DC R actuators

One thermostat can control multiple servomotors

	DC current 12 or 24 V		
	WITH AUX	Height	WITHOUT AUX
100" x 90°	R6B3C 24VCC	H3	R6A3C 24VCC
50" x 90°	R6B3C 12VCC		R6A3C 12VCC
24" x 90°	R6B3CW 24VCC		R6A3CW 24VCC
14" x 90°	R6B3CW 12VCC		R6A3CW 12VCC

INSULATION SHELLS

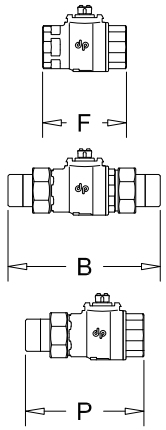
DN 15	Cod. GC03
DN 20	
DN 25	Cod. GC13
DN 32	Cod. GC23

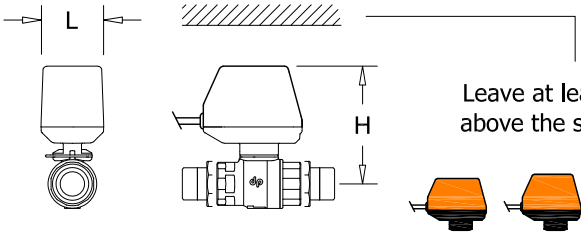
HANDLE FOR MANUAL OPERATION

DN 15 ÷ DN 32	Cod. HM3D

DIMENSIONS

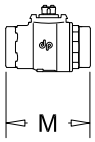
2-WAYS VALVES



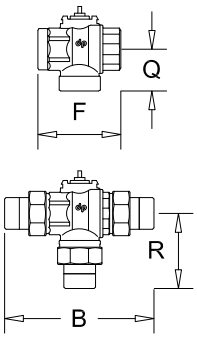


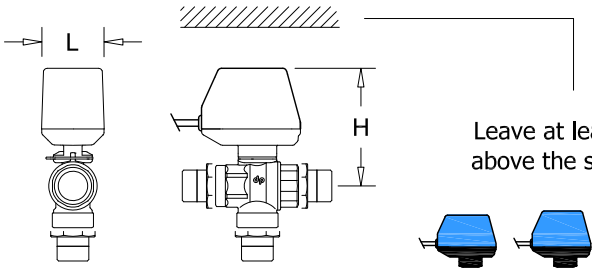
- FEMALE
- PIPE UNIONS
- FEMALE / P.U.

	F	B	P	M	L	H1	H2	H3	- MALE
1/2" DN 15	77	131	105	77	64	110	117	127	**3/4"** DN 15
3/4" DN 20		139	108						**1"** DN 20
1" DN 25	87	156	121	87		115	122	132	**1" 1/4** DN 25
1" 1/4 DN 32	94	172	133	94		120	127	137	**1" 1/2** DN 32
1" 1/2 DN 40	108	193	151	108	72	128	135	145	



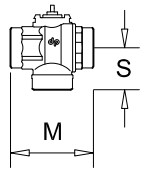
3-WAYS VALVES



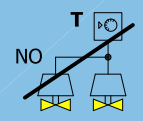
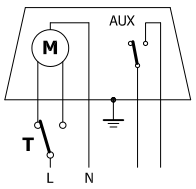
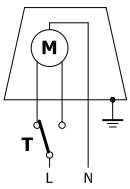
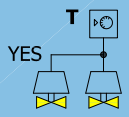
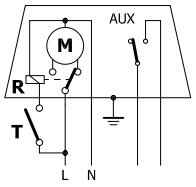
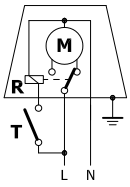
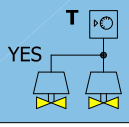
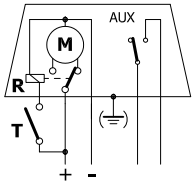
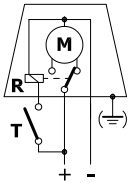


- FEMALE
- PIPE UNIONS

	F	Q=S	B	R	M	L	H1	H2	H3	- MALE
1/2" DN 15	76	38	130	65	75	64	110	117	127	**3/4"** DN 15
3/4" DN 20			136	68	76					**1"** DN 20
1" DN 25	86	43	155	78	86		115	122	132	**1" 1/4** DN 25
1" 1/4 DN 32	94	47	172	86	95		120	127	137	**1" 1/2** DN 32
1" 1/2 DN 40	108	60	193	102	-	72	128	135	145	



WIRING DIAGRAMS

	WITH AUX contact	WITHOUT AUX contact
3-WIRES M actuators 		
2-WIRES R actuators 		
DC R actuators 		

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