

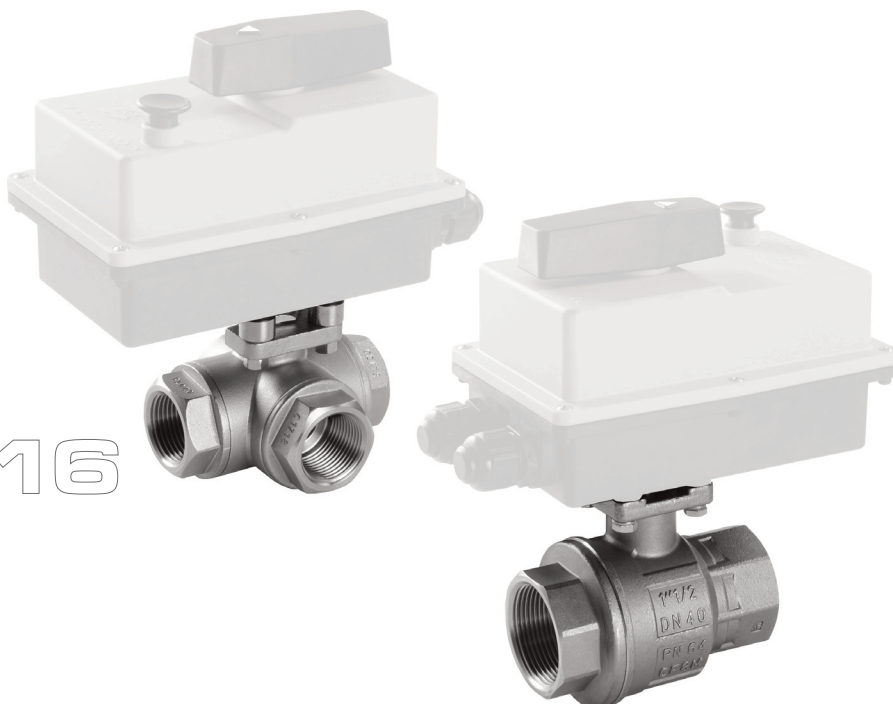
# PRO Range

AISI 316 BALL VALVES WITH ISO 5211 CONNECTION

## USE

- automation systems
- glycol cooling systems
- food processing plants (2 WAY)
- industrial systems using hot and cold fluids
- drinking water systems
- water treatment plants
- compressed air systems
- in accordance with Ministerial Decree 174, 06/04/2004

AISI 316



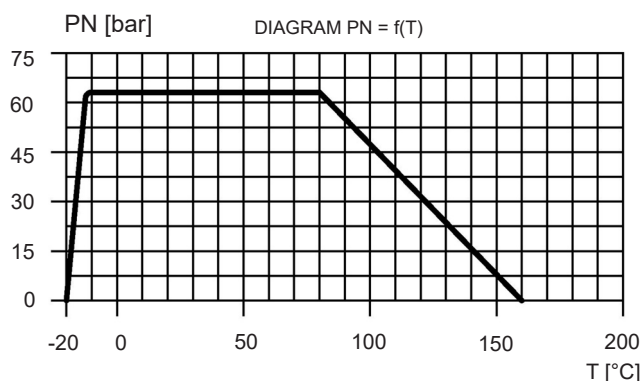
## FUNCTIONS

The 2-way and 3-way ball valves, in combination with the suitable actuator of the **PRO Range**, are used to intercept, divert and regulate fluids.

## TECHNICAL FEATURES

### BALL VALVES

**AISI 316** ISO 5211 connection, FULL BORE



When the value of the flow is known, the general expression for the calculation of pressure losses is the following:

$$\Delta p [\text{bar}] = \left[ \frac{Q [\text{m}^3/\text{h}]}{K_v} \right]^2$$

The expression provided applies to water or technically similar fluids.

**FLUIDS**      Water (glycol max 30%) and EPDM & PTFE-compatible fluids

### TEMPERATURE

Valve	
• Minimum	-10°C
• Maximum	+110 °C
Valve with spacer	
• Minimum	-20°C
• Maximum	+160°C (peak) *

\* maximum temperature that can be reached for a short period of time



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# PRO Range

AISI 316 BALL VALVES WITH ISO 5211 CONNECTION

## VERSIONS AND HYDRAULIC FEATURES



**2-WAY BALL VALVE  
FULL BORE**

DN	Connections	PN	$\Delta p_{max}$ [bar]	$Kv_s$ [m <sup>3</sup> /h]	To be combined with series
15	Rp 1/2"	64	64	19,2	DIAMANT PRO ISO
20	Rp 3/4"	64	64	35	DIAMANT PRO ISO
25	Rp 1"	64	25	64,5	DIAMANT PRO ISO COMPACT PRO
32	Rp 1 1/4"	64	64	103,8	COMPACT PRO
40	Rp 1 1/2"	64	40	174	COMPACT PRO UNIVERSAL PRO
50	Rp 2"	64	25	301,3	UNIVERSAL PRO



**3-WAY BALL VALVE, REDUCED PORT  
"T" BALL AND "L" BALL**

DN	Connections	PN	$\Delta p_{max}$ [bar]	$Kv_s^*$ [m <sup>3</sup> /h]	To be combined with series
8	Rp 1/4"	64	64	4	DIAMANT PRO ISO
10	Rp 3/8"	64	64	4	DIAMANT PRO ISO
15	Rp 1/2"	64	25	5,2	DIAMANT PRO ISO COMPACT PRO
20	Rp 3/4"	64	64	8,4	COMPACT PRO
25	Rp 1"	64	40	12	COMPACT PRO UNIVERSAL PRO
32	Rp 1 1/4"	64	64	19	UNIVERSAL PRO

The above data are the same for "T" ball and "L" ball

\* the  $Kv_s$  value refers to the most hampered way

## CODES FOR DIAMANT PRO COMPARATO CONNECTION

### BALL VALVE with SPACER for insulation with or without MANUAL OVERRIDE

2-WAY FF ball valve	DN	Connections	PN	$Kv_s$ [m <sup>3</sup> /h]	Code
SPACER					



15	Rp 1/2"	64	19,2	DC2A2BD1
20	Rp 3/4"	64	35	DC2B2BD1
25	Rp 1"	64 *	64,5	DC2C2BD1

#### SPACER and MANUAL OVERRIDE



15	Rp 1/2"	64	19,2	DC2A2BD2
20	Rp 3/4"	64	35	DC2B2BD2
25	Rp 1"	64 *	64,5	DC2C2BD2

\* maximum differential pressure ( $\Delta p_{max}$ ) 25 bar

3-WAY FF ball valve	DN	Connections	PN	$Kv_s$ [m <sup>3</sup> /h]	Code
SPACER					

#### "T" BALL



8	Rp 1/4"	64	4	DC3S6B5D1
10	Rp 3/8"	64	4	DC3R6B5D1
15	Rp 1/2"	64 *	5,2	DC3A6B5D1

#### "L" BALL

8	Rp 1/4"	64	4	DC3S5B5D1
10	Rp 3/8"	64	4	DC3R5B5D1
15	Rp 1/2"	64 *	5,2	DC3A5B5D1

#### SPACER and MANUAL OVERRIDE

#### "T" BALL



8	Rp 1/4"	64	4	DC3S6B5D2
10	Rp 3/8"	64	4	DC3R6B5D2
15	Rp 1/2"	64 *	5,2	DC3A6B5D2

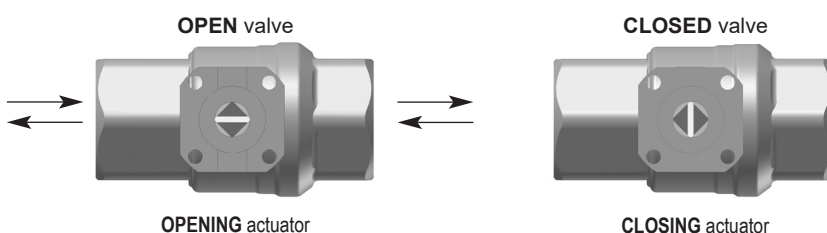
#### "L" BALL

8	Rp 1/4"	64	4	DC3S5B5D2
10	Rp 3/8"	64	4	DC3R5B5D2
15	Rp 1/2"	64 *	5,2	DC3A5B5D2

\* maximum differential pressure ( $\Delta p_{max}$ ) 25 bar

## 2-WAY BALL VALVE

The ball valve can be mounted in both flow directions, without distinction.



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# P20 Range

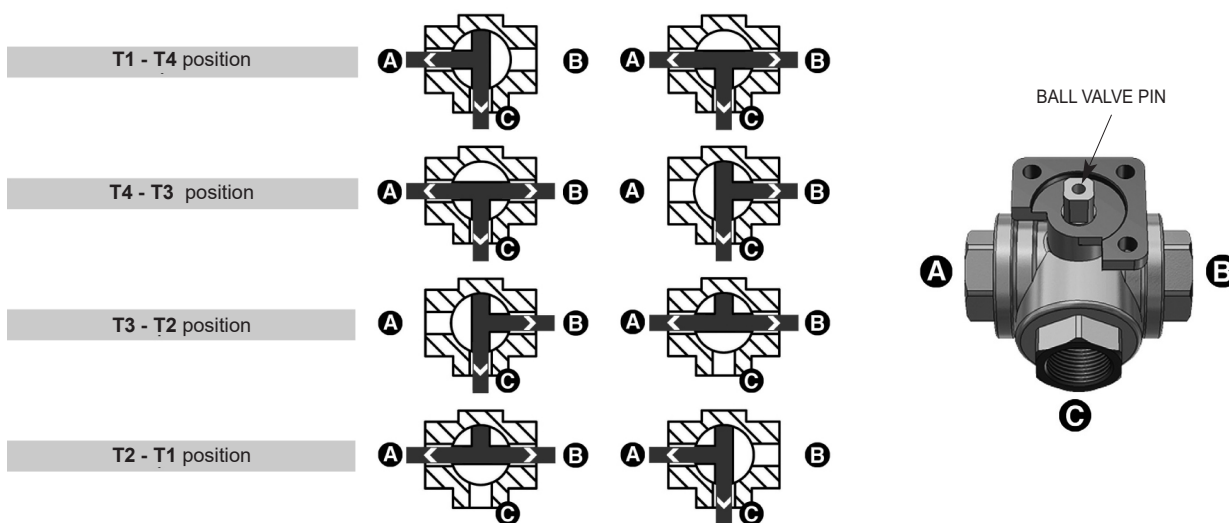
AISI 316 BALL VALVES WITH ISO 5211 CONNECTION

## 3-WAY DIVERTER BALL VALVES • REDUCED PORT

In the **AISI 316** valves with ISO 5211 connection, the horizontal 3-way version is available with T-ball or L-ball. In both cases, they are used to make deviations. The characteristic of both ball valves is the possibility to close one of the inlets when the other one begins to open: for a short while, during the operating phase, all the three ways are communicating. Despite the condition described above, however, it is not possible to carry out a mixing adjustment by means of this type of valve because the size of the sections created is too small.

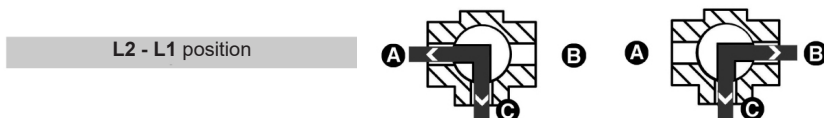
### DIVERTER BALL VALVE • “T” BALL

The T-BALL diverter valve features a ball that can be used differently depending on the initial orientation. As can be seen in the opposite picture, different configurations can be obtained through a 90° rotation. The position of the holes is indicated by a T engraved on the ball valve pin.

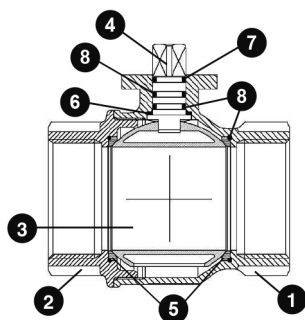


### DIVERTER BALL VALVE • “L” BALL

The L-sphere diverter ball valve has a common central way C and two ways which are put into communication with it when they make a 90° rotation. The position of the holes is indicated by an L engraved on the ball valve pin.

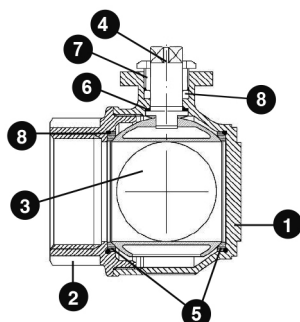


## MATERIALS USED



### 2-WAY FF BALL VALVE, AISI 316 ISO 5211

1	BODY	A351-CF8M
2	COUPLING	A351-CF8M
3	BALL	A479-Tp316/A351-CF8M
4	CONTROL ROD	A479-Tp316
5	BALL SEAL	P.T.F.E.
6	ANTIFRICTION SEAL	P.T.F.E.
7	ANTIFRICTION SEAL	P.T.F.E.
8	O-RING	FKM



### 3-WAY FFF BALL VALVE, AISI 316 ISO 5211

1	BODY	A351-CF8M
2	COUPLING	A351-CF8M
3	BALL	A182-F316
4	CONTROL ROD	A182-F316
5	BALL SEAL	P.T.F.E.
6	ROD WASHER	P.T.F.E.
7	NUT	A182-F304
8	ROD SEAL	P.T.F.E.



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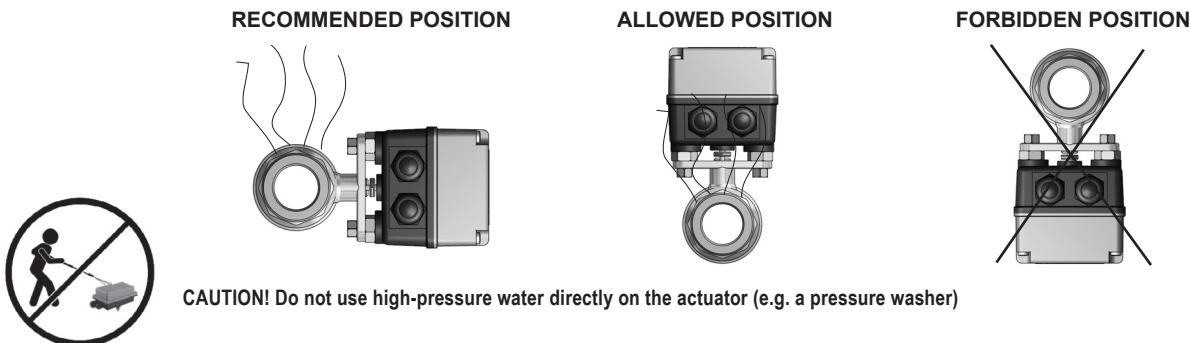
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# PRO Range

AISI 316 BALL VALVES WITH ISO 5211 CONNECTION

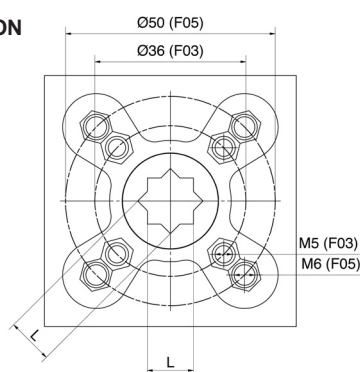
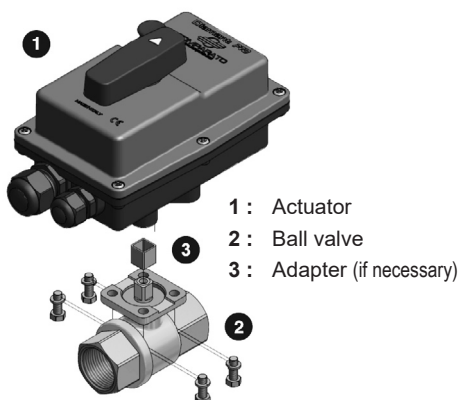
## INSTALLATION

The valve shall not be installed with the actuator's connection facing downwards.



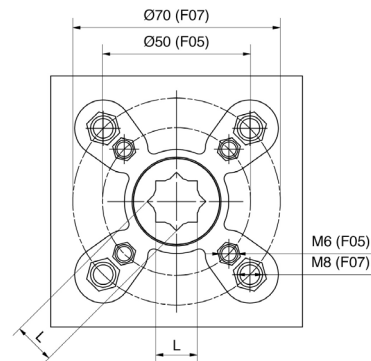
## CONNECTION TO THE BALL VALVE

### DIRECT CONNECTION TO THE VALVE - ISO 5211 CONNECTION



**Diamant PRO ISO Compact PRO**

ISO connection	L
F03	9 mm
F05	11 mm

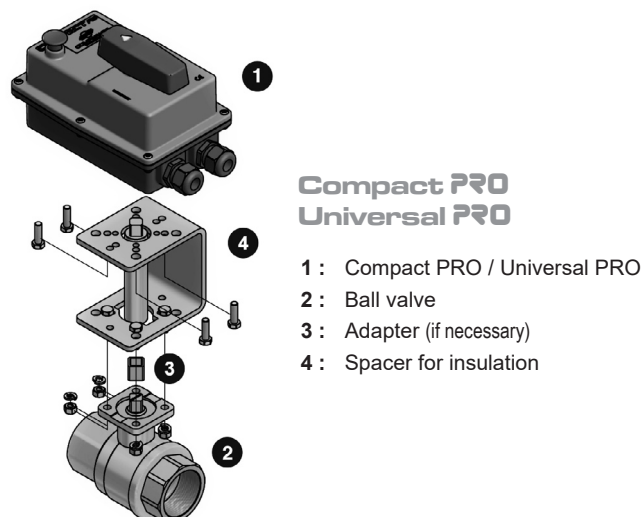
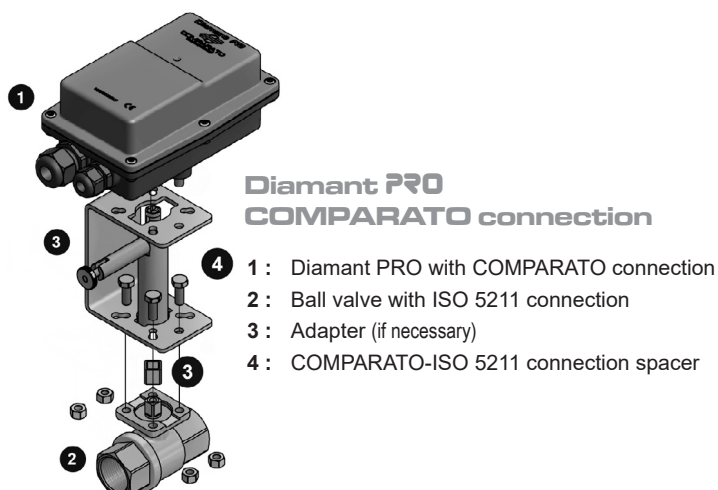


**Universal PRO**

ISO connection	L
F05	11 mm
F07	14 mm

### CONNECTION TO THE BALL VALVE WITH A SPACER

The **Diamant PRO** motorised valves are made of the actuator code and the ball valve code (with spacer or spacer and manual override). On **Compact PRO** and **Universal PRO** motorised valves, the insulation spacer can be added by adding "D1" to the end of the assembly code.



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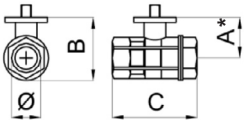
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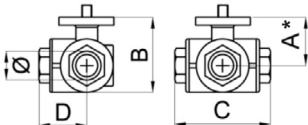
# PRO Range

AISI 316 BALL VALVES WITH ISO 5211 CONNECTION

## OVERALL SIZE

### BALL VALVES

MODEL	DN	Ø	A *	B	C	
<b>2-way</b> <b>ISO 5211</b> connection						
	15	1/2"	33	50	67	
	20	3/4"	35	55	78	
	25	1"	45	71	90	
	32	1 1/4"	48	80	100	
	40	1 1/2"	63	101	112	
	50	2"	72	114	135	

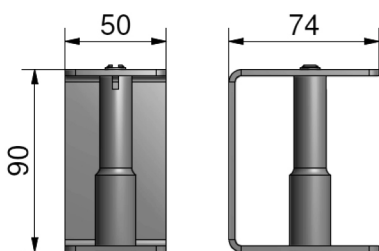
MODEL	DN	Ø	A *	B	C	D	
<b>3-way</b> <b>"T" ball</b> <b>"L" ball</b> <b>ISO 5211</b> connection							
	8	1/4"	32	44	70	35	
	10	3/8"	32	44	70	35	
	15	1/2"	36	48	76	38	
	20	3/4"	44	58	88	44	
	25	1"	50	66	102	51	
	32	1 1/4"	56	74	118	59	

\* the size of the spacer must always be added to the "A" dimension

### SPACERS for Diamant PRO with COMPARATO connection

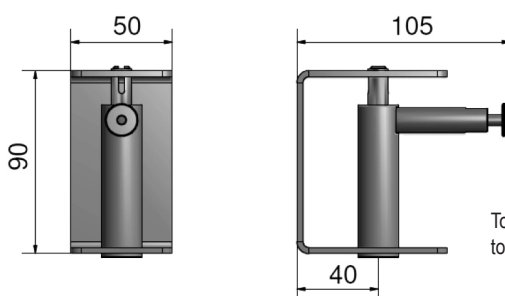
Spacer for insulation  
ISO 5211 connection • ball valve side  
COMPARATO connection • actuator side

Spare part code **DIDM01**



Spacer for insulation and manual override  
ISO 5211 connection • ball valve side  
COMPARATO connection • actuator side

Spare part code **DIDM02**



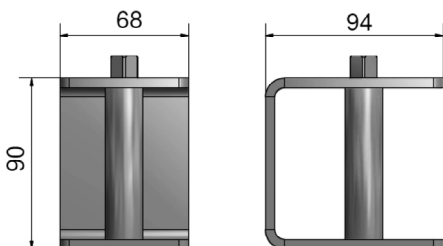
To be combined with actuators without manual top opening only

### SPACERS for Compact PRO • Universal PRO

Spacer for insulation

Compact PRO spare part code - **DICOM35**

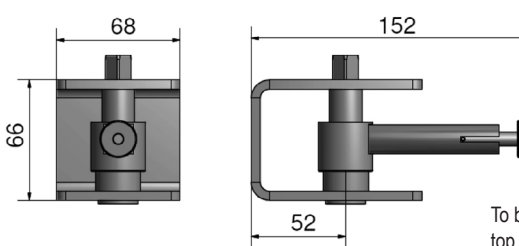
Universal PRO spare part code - **DICOM57**



Spacer for insulation with manual override

Compact PRO spare part code - **DIC005ADC**

Universal PRO spare part code - **DIC007ADC**



To be combined with actuators without manual top opening only



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# P20 Range

AISI 316 BALL VALVES WITH ISO 5211 CONNECTION

## ACTUATOR COMBINATION

The ball valves can be combined with all the IP67 and IP68 actuators in the **Diamant**, **Compact** and **Universal** range, depending on their use.

# AISI 316



DN	Ø	2-way INOX	3-way INOX
-	1/4"	-	DIAMANT PRO
10	3/8"	-	DIAMANT PRO
15	1/2"	DIAMANT PRO	DIAMANT PRO COMPACT PRO
20	3/4"	DIAMANT PRO	COMPACT PRO
25	1"	DIAMANT PRO COMPACT PRO	COMPACT PRO UNIVERSAL PRO
32	1"1/4	COMPACT PRO	UNIVERSAL PRO
40	1"1/2	COMPACT PRO UNIVERSAL PRO	-
50	2"	UNIVERSAL PRO	-

### DIAMANT PRO ISO \*

- DIAMANT PILOT
- DIAMANT SMART PRO
- DIAMANT CLIMA
- DIAMANT CRONO
- DIAMANT IP68
- DIAMANT DC

\* Direct connection to ISO 2-way and 3-way ball valves is only possible with DIAMANT PRO actuators with ISO 5211 connection

### COMPACT PRO

- COMPACT PILOT
- COMPACT SMART PRO
- COMPACT CLIMA
- COMPACT CRONO
- COMPACT IP68
- COMPACT DC

### UNIVERSAL PRO

- UNIVERSAL PILOT
- UNIVERSAL SMART PRO
- UNIVERSAL IP68

## EXAMPLE OF SPECIFICATIONS

**COMPACT PRO ACTUATOR** • ALL IN ONE, 2-point ON/OFF and 3-point ON/OFF or modulating, nominal torque: 22 Nm, power supply: 230 V - 50/60 Hz, operating time: 45 sec / 90°, operating angle: 90°, protection degree: IP67, for 2-way or 3-way ball valve, connection to ball valve via ISO 5211 F03/F05 connection, two auxiliary microswitches and manual override from the top.

**BALL VALVE** • AISI 316 ball valve A351-CF8M, PTFE seals, full bore, PN64, FF connections, EN 10226-1-Rp. Operating temperatures - 20°C...+160°C. Type of fluids: water or EPDM & PTFE-compatible fluids. ISO 5211 connection to the actuator. Complete with spacer for insulation h 90 mm. Version: 2-way FF DN32 - 1"1/4 - Kvs 103,8.

Brand: **COMPARATO**  
Code: **CY222AD2B5D1**

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