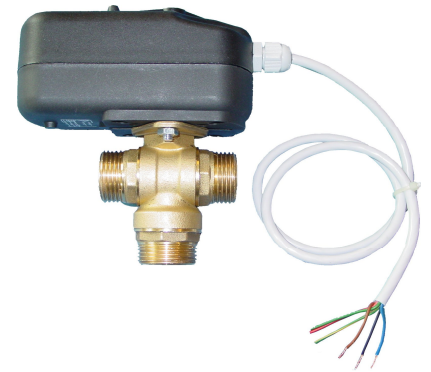


Ball valves PN16

ON – OFF motorized valves

I/SBC28..
I/SBC48..
I/VBZ.. I/XBZ..



Ball valves for use in heating, ventilation, air conditioning and refrigeration systems for water based control of hot, chilled and cooling water.

- Two-port and three-port version available.
- 230 VAC and 24 VAC actuator with end switch
- On/off control
- Available sizes: DN ½" to 2" for 2 port I/VBZ..
 DN ¾" to 2" for 3 port I/XBZ..

I/SBC28.2: on-off actuator 230VAC with end switch for valves DN 1/2" .. 1 ¼"

I/SBC28.3: on-off actuator 230VAC with end switch for valves DN 1 ½" and 2" .

I/SBC48.2: on-off actuator 24VAC with end switch for valves DN 1/2" .. 1¼"

I/SBC48.3: on-off actuator 24VAC with end switch for valves DN 1½" and 2".

Application/Media

For use in heating and air conditioning system and the control of hot or cold water. Suitable for use with diesel oil for heating, (glycol max temp. - 8°C, with glycol application, the actuator will be SBC 28...48...R and a different type of valve), and in the plant with compressed air.

Function

The valves are without spring return. An on/off controller (thermostat) is required to drive the motorized valve actuators. If the measured temperature deviates from the setpoint, the controller sends a control signal which drives the actuator (the valve opens). When the measured temperature reaches the setpoint, the control signal causing the valve closes.

The auxiliary contact will be close or open according to the position of the valve.

Auxiliary contact: Close = Valve open Open = Valve closed

Type summary

VALVES

DN	mm	Two port valve	Kvs m ³ /h	Dp max kPa	Three port valve	Kvs m ³ /h	Dp max kPa
½ "	15	I/VBZ 1/2"	15	500	-----	----	----
¾ "	20	I/VBZ 3/4"	30	500	I/XBZ 3/4"	25	500
1"	25	I/VBZ 1"	50	500	I/XBZ 1"	42	500
1 ¼ "	32	I/VBZ 1 ¼"	75	500	I/XBZ 1 ¼"	65	500
1 ½ "	40	I/VBZ 1 ½"	125	500	I/XBZ 1 ½"	105	500
2"	50	I/VBZ 2"	220	500	I/XBZ 2"	190	500

ACTUATORS

Type	Power Supply	Control - signal
I/SBC28. 2 / 3 (for 2/3 port valve)	230V AC, 50/60 Hz	On - off
I/SBC48. 2 / 3 (for 2/3 port valve)	24V AC, 50/60 Hz	On - off

Accessories

FITTINGS

Types of valves	Types of thread	Fittings details	Weight (Kg)
I/VBZ ½"	2 way M/F	enclosed	0,360
I/VBZ ¾"	2 way M/F	enclosed	0,510
I/VBZ 1"	2 way M/F	enclosed	0,780
I/VBZ 1 ¼"	2 way M/F	enclosed	1,170
I/VBZ 1 ½"	2 way F/F	No ALG...required	1,260
I/VBZ 2"	2 way F/F	No ALG...required	2,060
I/XBZ ¾"	3 way M/M/M	3 x ALG15-VS	0,540
I/XBZ 1"	3 way M/M/M	3 x ALG20-VS	0,830
I/XBZ 1 ¼"	3 way M/M/M	3 x ALG25-VS	1,280
I/XBZ 1 ½"	3 way F/F/F	No ALG...required	1,820
I/XBZ 2"	3 way F/F/F	No ALG...required	3,080

Ordering

When ordering please indicates name and type reference of valve, actuator and the accessories where required. Example: three port valve and actuator 230V AC and possible fittings

I/XBZ ¾" + I/SBC 28.2 + 3 ALG15-VS

Actuator, valve and accessories are packed and delivered separately.

Mechanical design

Valve

Brass body PN16, Sphere of brass with chromium plating, Set ring of P.T.F.E, O-ring of Viton, Body end of brass.

- Available diameters two port valves: DN ½ "...2".

- Available diameters three port valves: DN ¾ "...2"

Actuator

Plastic case, supply voltage 230VAC / 24VAC, with end switch, manual operator switch and 0,80m cable 1x6 wires.

Engineering notes

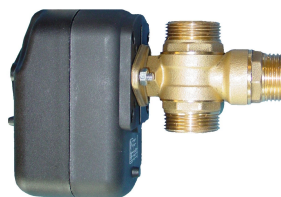
- Two and Three port valves must be mounted with actuators SBC28/48.2..3
- Three port valves must be always used as a flow control valve for **diverting functions**.
- Pay attention at the hydraulic installation of the three port valve.
- **In three port valve the central bottom port is the common inlet port.**

Mounting

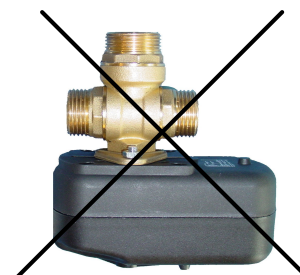
The valve is supplied with mounting instruction. Actuator must be fitted with two screws.



Permissible



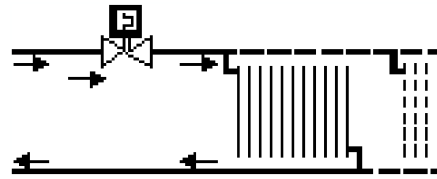
Permissible



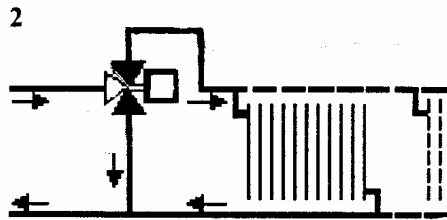
Not permissible

Hydraulic and electric connections

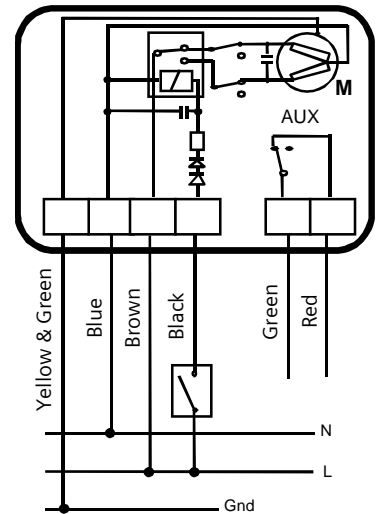
The electric connections must be in accordance with local law on electric installation as well as the connecting diagram. The connection cable may not be replaced. Having to extend the cable a shunt box must be used.



(Or a FCU coil/s)



(Or a FCU coil/s)



Brown	Live
Black	Connected: valve open. Not connected: valve close
Blue	Neutral
Red/Green	End switch terminals – 3A 250V AC
Yellow/Green	Ground

Technical data

Valves

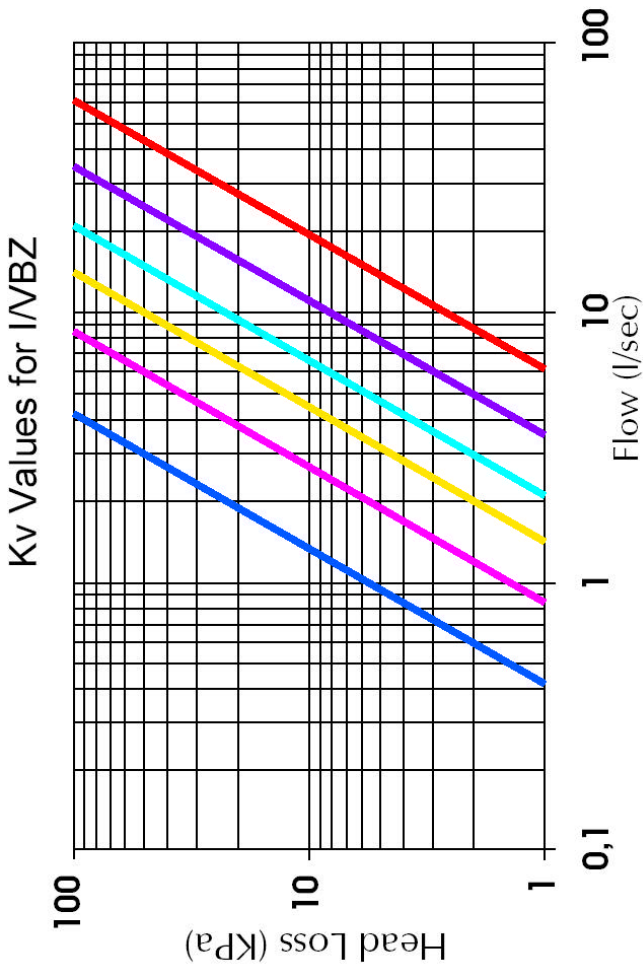
Working pressure	PN16 for hot water 90°C. PN20 for chilled water
Leakage rate	no Leakage rate
Temperature of fluid	Water 0°C...90°C Max. -10°C with glycol (actuator code R)
Flow direction	Indifferent for 2 port.
Rotation angle	90°
Thread	Gas UNI ISO 228
Material:	Brass OT58, UNI575/65
Valve body and end	Brass
Stem	Seat ring in P.T.F.E.
Gasket	O-ring in EPDM antiseize
Sphere	Brass with chromium plating
Weights	See table

Electric actuator

Power supply	
I/SBC28.2.3	230VAC, +10% - 15%
I/SBC48.2.3	24VAC ±10%
Frequency	50Hz
Power consumption	4 VA
Running time (open/close)	90" up to 1 ¼" and 180" for 1 ½" and 2"
Auxiliary contact (end switch)	250V 3A (resistive)
Ambient temperature condition	
Operation	0 ... + 50 °C
Transport and storage	- 10 ... + 80 °C
Humidity	Class G, DIN 40040
IP Protection	IP 54
Connection cable	6 x1 mm ² , lenght 0,8m (with one end switch)
Weight	0,45 Kg

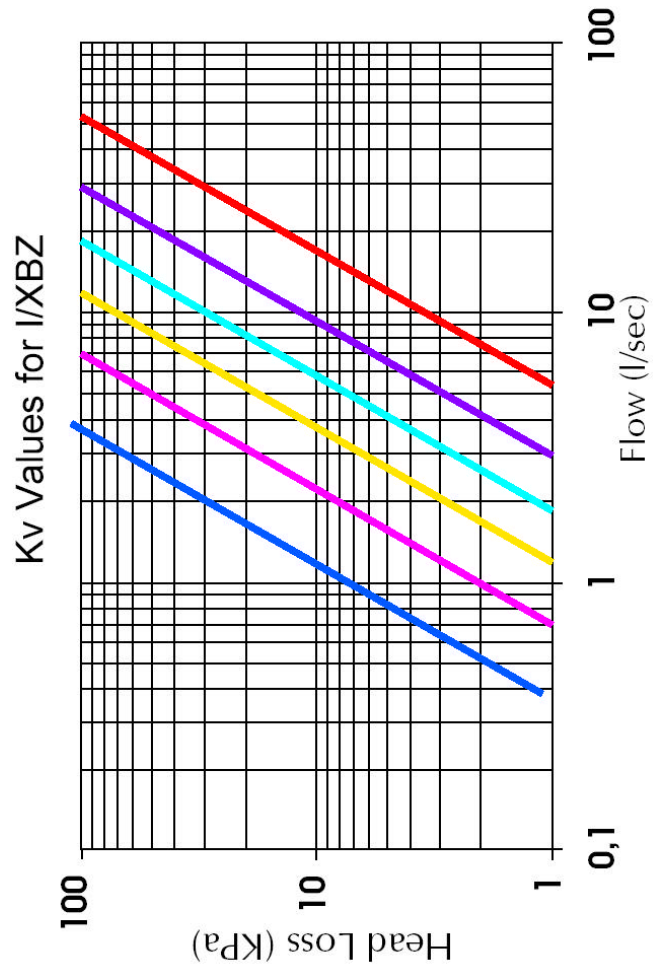
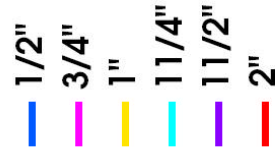
Valves diagram:

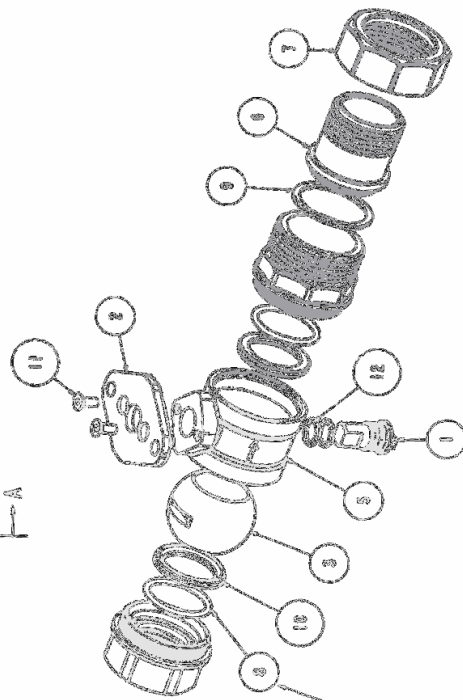
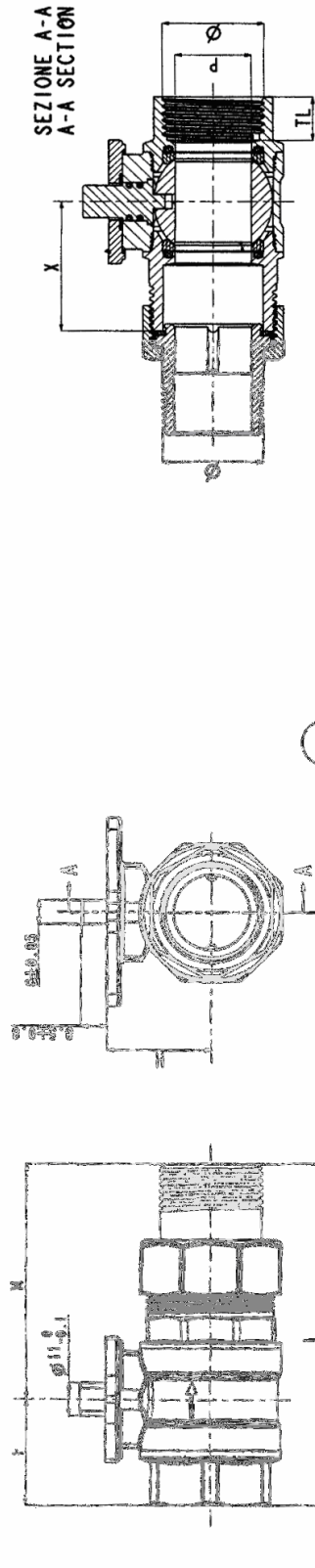
Ø	Cv (Usg/min)	Kv (m ³ /h)
1/2"	17	15
3/4"	34	30
1"	58	50
1 1/4"	87	75
1 1/2"	145	125
2"	255	220



PERDITE DI CARICO HEAD LOSS

Ø	Cv (Usg/min)	Kv (m ³ /h)
1/2"	15	13
3/4"	30	25
1"	50	42
1 1/4"	75	65
1 1/2"	125	105
2"	222	190



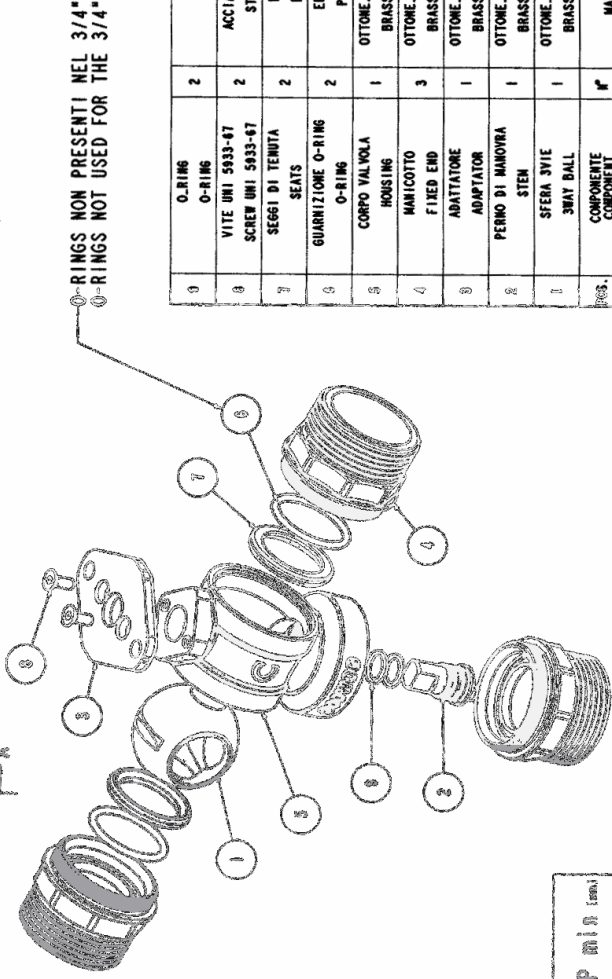
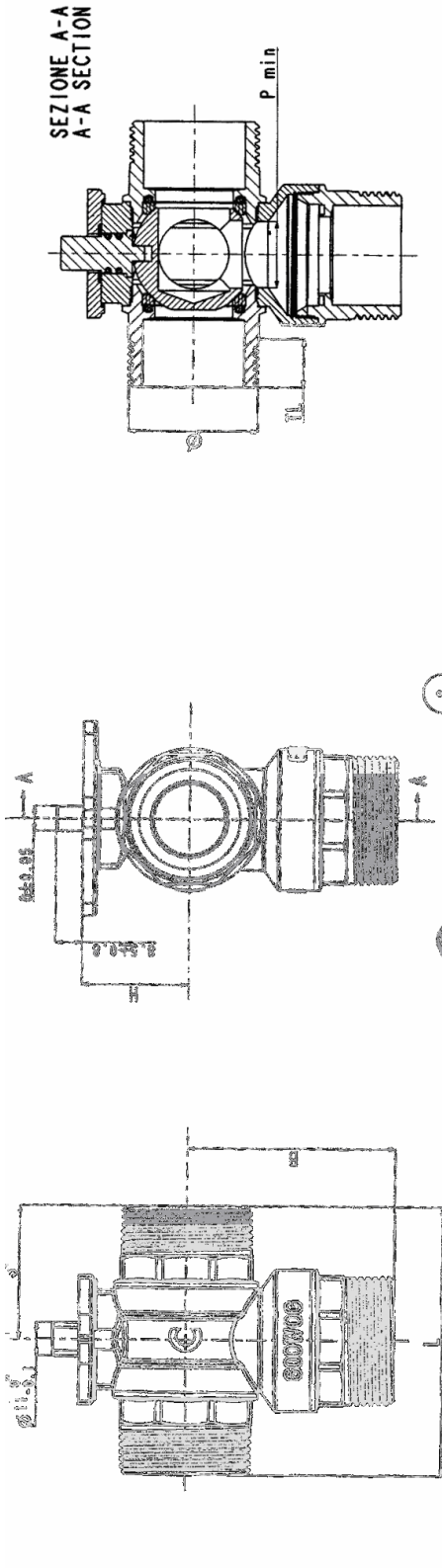


O-RINGS NOW PRESENTI NEL 1/2" E 3/4"
O-RINGS NOT USED FOR THE 1/2" & 3/4"

12	O-RING	2	VITON (R)
11	O-RING	2	VITON (R)
10	VITE UNI 5933-47	2	ACCIAIO ZINCATO BIANCO
9	SCHER UNI 5933-47	2	STEEL ZINC PLATED
8	SEGGI DI TENUTA	2	PTFE_BS_4564/2
7	SEAT	2	PTFE_BS_4564/2
6	GUARNIZIONE	1	PTFE_BS_4564/2
5	GASKET	1	PTFE_BS_4564/2
4	GUARNIZIONE O-RING	2	EPDM PEROSSIDICO
3	O-RING	2	PEROSSIDICO EPDM
2	CALOTTA	1	OTTONE.CW17M.UNI.EN.12145
1	UNION NUT	1	BRASS ASTM B293-C3700
12	BACCHETTO	1	OTTONE.CW17M.UNI.EN.12145
11	UNION END	1	BRASS ASTM B293-C3700
10	CORPO VALVOLA	1	OTTONE.CW17M.UNI.EN.12145
9	HOUSING	1	BRASS ASTM B293-C3700
8	MANICOTTO	2	OTTONE.CW17M.UNI.EN.12145
7	FILED END	2	BRASS ASTM B293-C3700
6	SFERA CROMATA	1	OTTONE.CW17M.UNI.EN.12145
5	CHROMIUM PLATED BALL	1	BRASS ASTM B293-C3700
4	ADATTATORE	1	OTTONE.CW17M.UNI.EN.12145
3	ADAPTOR	1	BRASS ASTM B293-C3700
2	PERNO DI MANOVRA	1	OTTONE.CW17M.UNI.EN.12145
1	STEM	1	BRASS ASTM B124-C3700
POS.	COMPONENTE COMPONENT	1*	MATERIALE MATERIAL / ASTM

SCALA	DATA	13 Settembre 2002
DESCRIZIONE	VALVOLA A SFERA IN OTTONE 2 VIE PER ATTUATORE	
	PARALLELA LATERALE FILETTATE F/M ISO 228/1-G # 2 WAY MOTORIZED	
	BRASS BALL VALVE FULL PORT ISO 228/1-G F/M THREADED ENDS	
CODICE DISEGNO	FILE DWG	PROD_CODE
F32550TAB594	F32550TAB.594	F32550TAB594
IL PRESENTI DISEGNO A TERMINI DI LEGGE NON PUO' ESSERE RIPRODOTTO O RESO PUBBLICO SENZA LA NOSTRA AUTORIZZAZIONE SCRITTA		

Ø (in)	L (mm)	F (mm)	M (mm)	H (mm)	X (mm)	TL (mm)	P (mm)
1/2	84.6	24.5	60.3	27.6	33	14.5	15
3/4	95.7	29	66.7	30.5	37	12	20
1	115.8	35.5	79.3	34.3	43.5	14.5	25
1 1/4	131.4	42	89.4	39.6	51.3	16	32



Ø (mm)	L (mm)	B (mm)	S (mm)	H (mm)	TL (mm)	P min (mm)
3/4	74	54.5	37	29.5	13	16.2
1	87	66.5	43.5	34.3	15	21.6
1 1/4	102.6	76.8	51.3	39.0	16	20.5

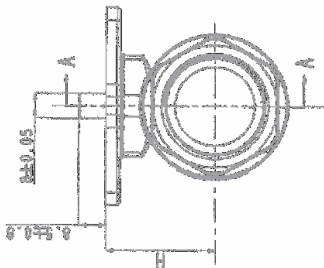
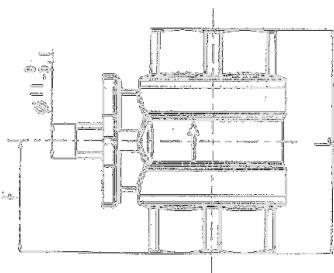
Q-RING	O-RING	2	VITON (R)
1	VITE UNI 5933-47	2	ACCIAIO ZINCATO BIANCO
2	SCHIVI UNI 5933-47	2	STEEL ZINC PLATED
3	SEGGI DI TENUTA SEATS	2	PTFE BS-6564/2
4	GUARNIZIONE O-RING	2	EPDM PEROSSIDICO
5	O-RING	2	PEROSSIDICO EPDM
6	CORPO VALVOLA	1	OTTONE CW117N UNI-EN-12145
7	MANICOTTO	1	BRASS ASTM B283-C37700
8	FIXED END	3	OTTONE CW117N UNI-EN-12145
9	ADATTATORE	1	OTTONE CW117N UNI-EN-12145
10	ADATTATORE	1	BRASS ASTM B283-C37700
	PERNO DI MANOVRA	1	OTTONE CW117N UNI-EN-12145
	STEM	1	BRASS ASTM B124-C37700
	SPERA 3VIE	1	OTTONE CW117N UNI-EN-12145
	3WAY BALL	1	BRASS ASTM B124-C37700
	COMPONENTE		MATERIALE
			ASTM

SCALA DATA 16 Settembre 2002

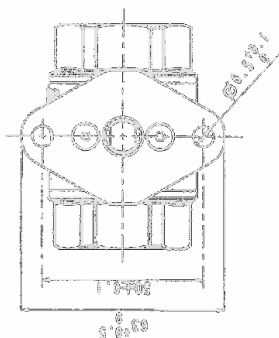
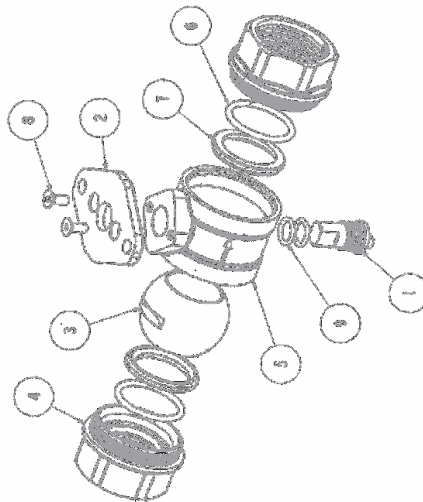
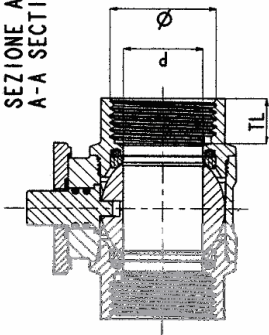
DESCRIZIONE VALVOLA A SFERA IN OTTONE 3 VIE PER ATTUATORE
 "POMPA" FILETTATE M/M ISO 228/1-6 # 3 WAY MOTORIZED
 BRASS BALL VALVE ISO 228/1-6 M/M THREADED ENDS

CODICE DISEGNO FILE DWG PROD_CODE
 F32TStab.596 F32TStab.596 F32TStab.596

IL PRESENTE DISEGNO A TERMINI DI LEGGE NON PUO' ESSERE RIPRODOTTO O RESO
 PUBBLICO SENZA LA NOSTRA AUTORIZZAZIONE SCRITTA



SEZIONE A-A
A-A SECTION



Ø (mm)	L (mm)	F (mm)	H (mm)	T _L (mm)	P (mm)
1 1/2	99	48	52.8	17	40
2	113.4	58.7	60.5	18	50

9	O-RING O-RING	2	VITON (R) VITON (R)
8	VITE UNI 5933-67 SCREW UNI 5933-67	2	ACCIAIO ZINCATO BIANCO STEEL ZINC PLATED
7	SEGGI DI TENUTA SEATS	2	P1FE_BS_6564/2 P1FE_BS_6564/2
6	GUARNIZIONE O-RING O-RING	2	EPDM PEROSSIDICO PEROSSIDIC EPDM
5	CORPO VALVOLA BODY	1	OTTONE CW617N UNI EN 12165 BRASS ASTM B283-C3700
4	MANICOTTO FIXED END	2	OTTONE CW617N UNI EN 12165 BRASS ASTM B283-C3700
3	SFERA CROMATA CHROMIUM PLATED BALL	1	OTTONE CW617N UNI EN 12165 BRASS ASTM B283-C3700
2	ADATTATORE ADAPTATOR	1	OTTONE CW617N UNI EN 12165 BRASS ASTM B283-C3700
1	FERRO DI MANOVRA STEM	1	OTTONE CW617N UNI EN 12164 BRASS ASTM B124-C3700
POS.	COMPONENTE COMPONENT	N°	MATERIALE MATERIAL / ASTM#
SCALA	7:10	DATA	16 Settembre 2002
DESCRIZIONE VALVOLA A SFERA IN OTTONE 2 VIE PER ATTUATORE PASS. ESTERNA FILETTATE F/E ISO 228/1-6 # 2 WAY MOTORIZED BRASS BALL VALVE FULL PORT ISO 228/1-6 F/E THREADED ENDS			
CODICE DISEGNO F325SOTAB.595		FILE DWG F325SOTAB.595	PROD. CODE F325SOTAB.595
IL PRESENTE DISEGNO A TERMINI DI LEGGE NON PUO' ESSERE RIPRODOTTO O RESO PUBBLICO SENZA LA NOSTRA AUTORIZZAZIONE SCRITTA			