

## INSTALLATION, OPERATION AND MAINTENANCE GUIDE THROTTLE VALVES DN / SW / TW / JU series

### STORAGE AND SHELF LIFE

Handle with care. Max storage period before putting the valve into service is 5 years (indicative temperature -20 +40 °C – air humidity 50-75%) as long as the valve conserved in its envelope and in a clean place.

Before use, visual check that no damages happened to any parts.

### UNPACKING

Make a correct disposal of packaging according local waste regulations.

### GENERAL

The butterfly valves, metal to metal sealing with thin steel blade (or full tightening type with o-ring blade), are used on power transformer with the scope to allow the disconnection of a component of the circuit (i.e. buchholz relay or radiator) without having to lower the oil below the level of the component itself.

These kinds of valves are preferred to the conventional gate valves for their compact overall dimensions in the direction of the oil flow.

Type TW-80 B with o-ring blade (acc. to pag.5.81)

Type SW-80 DIN 42560 (acc. to pag.5.82-5.83)

Type DN25-DN50-DN80 (acc. to pag.5.84)

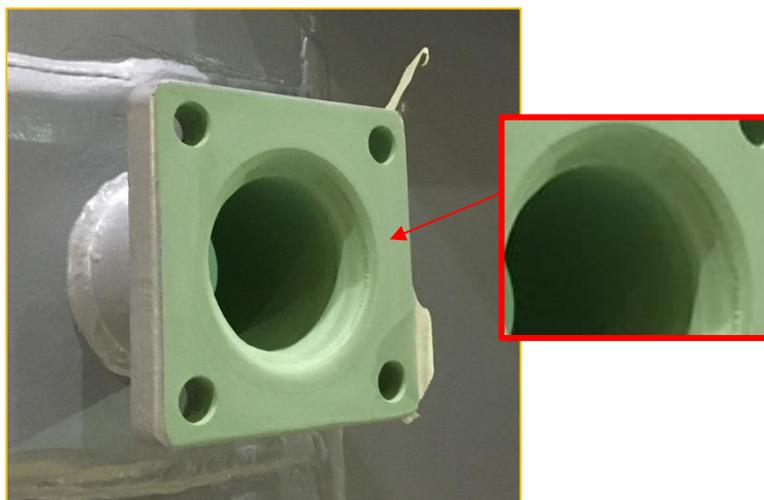
Type JU (acc. to pag.5.85)

### INSTALLATION

The throttle valve has to be mounted as shown on reference drawings and mounting sketch 5.86 (dwg.3845). For the mounting, based on the model, it will be necessary 4 off or more screws / rods, washers, nuts and 2 off o-ring to be fit inside the grooves in the flange.

#### **Installation detail for TW80**

Follows an example on how the flange of tube coming from tank or radiator should be made in order to ensure correct clearance and free movement during opening/closing of throttle:



## OPERATING INSTRUCTIONS

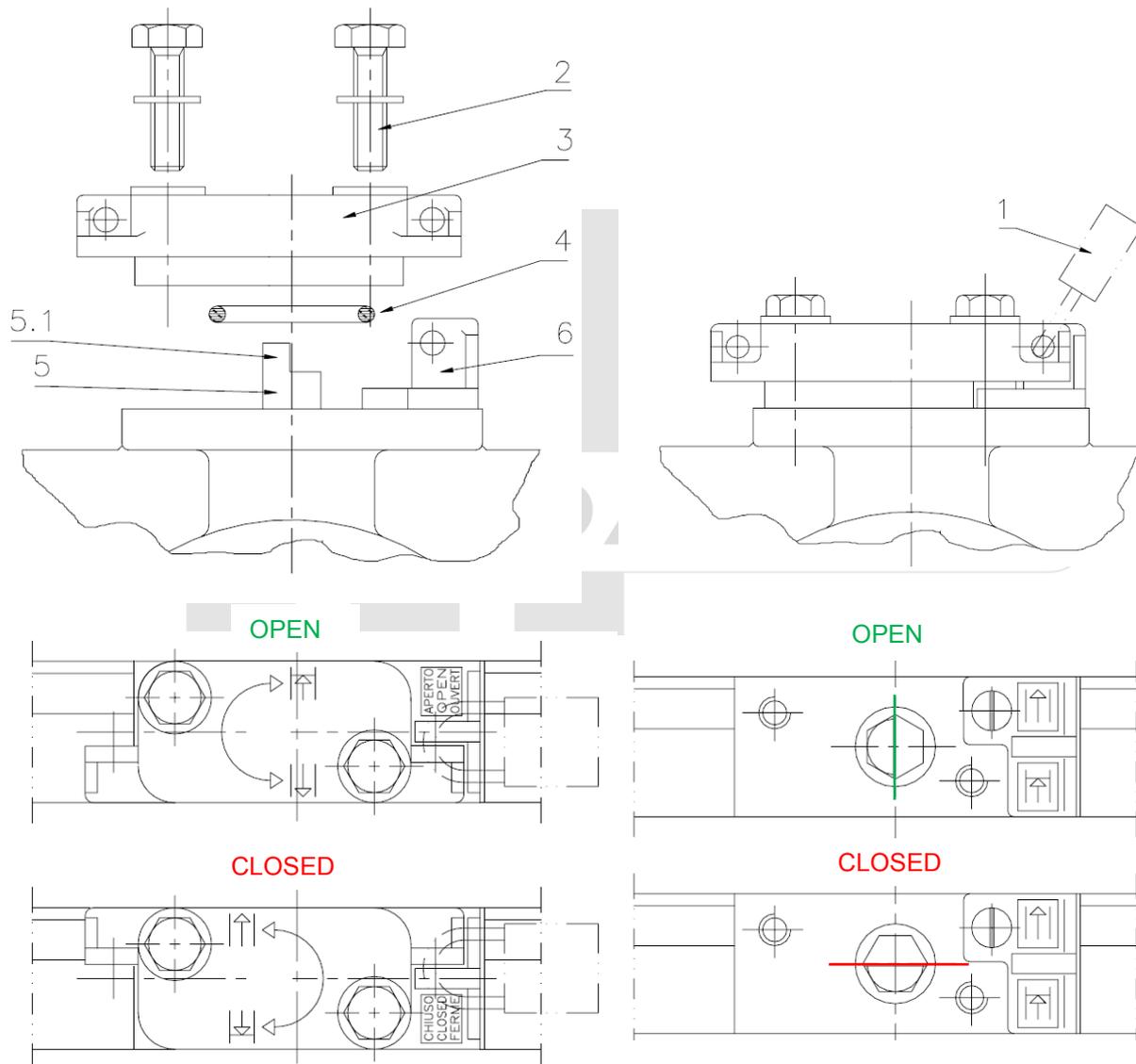
The design of the operating system is common to all valves: to open and close the valve operate as follows (please refer to drawings).

### TW80/SW80/DN valves:

- The marking on plate (10) shows the valve position;
- To close the valve first remove the seal or padlock (if there);
- With spanner no.17 (17 mm) turn the drive (2) clockwise 90° to close the valve; counter clockwise 90° to open the valve;
- The visible part of plate (10) indicates the actual valve position;

### JU valves:

The marking on plastic part (6) shows the valve's current condition and the arrows on sealing cap (3) point to the direction drive (5) has to be turned in order to open or close the valve;



- To close or open the valve first remove the seal or padlock device (1), if there, then unscrew and remove the screws and washers (2) holding the sealing cap (3) in place;
- Remove the plastic sealing cap (3) and its gasket (4); the drive shaft (5) is now accessible for operating the same: its cut-end (5.1) shows the current position of the butterfly;
- With spanner 14 (14 mm) turn the drive shaft (5) 90° clockwise to close or counter-clockwise to open
- Check condition/integrity of gasket (4) and replace it, if necessary, then reassemble the sealing cap (3);
- Fasten cap (3) with its screws and washers (2);

**NOTE:** Without the sealing cap (3) fitted and fastened on the valve oil leakages off the spindle may be experienced.

During operation the cap shall be always mounted and fastened to prevent oil from leaking.

- Padlock or seal the valve, if necessary.

Special operation for metal to metal valve DN, SW and JU

In case the valve cannot be easily operated acting on the drive (pos.4) it is because the blade stuck (a possibility after long storage periods) therefore, it will be necessary to slightly force the opening of the blade with the help of a stud and a plastic/metal hammer –please view picture in the following page.

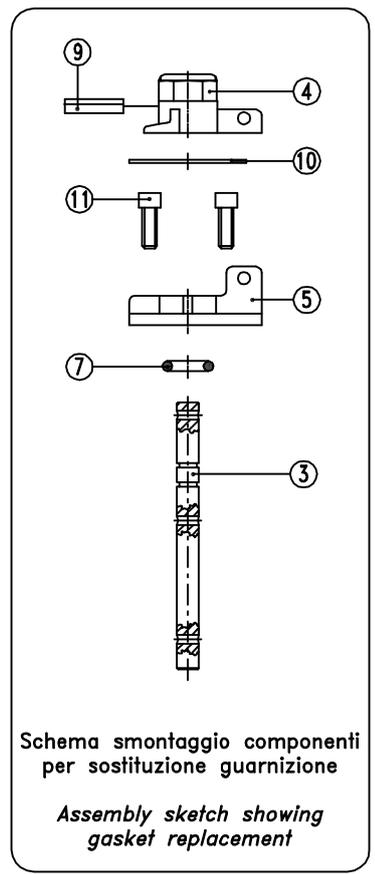
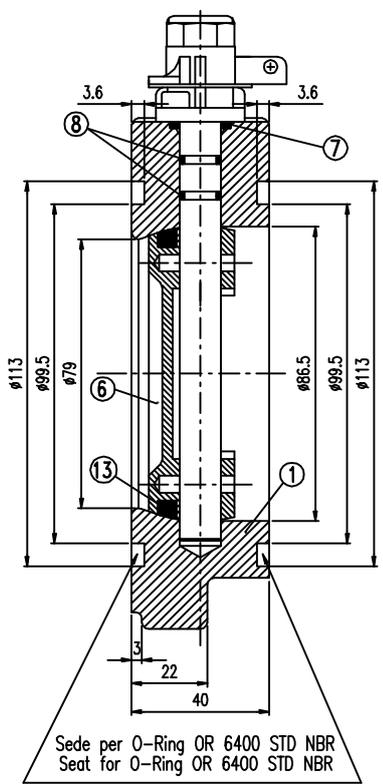
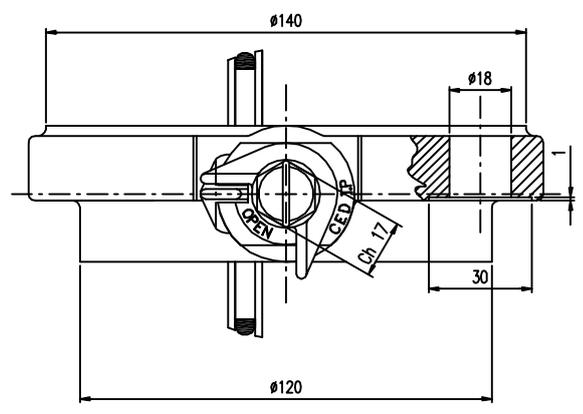
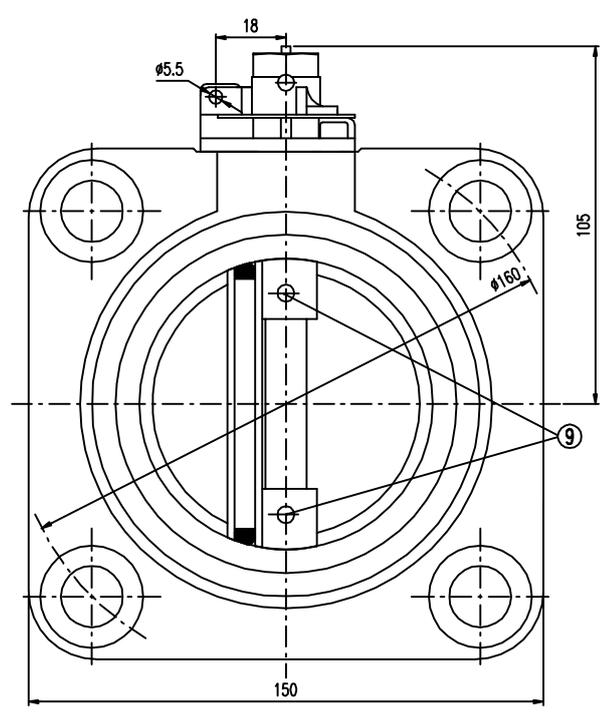


## **MAINTENANCE**

The throttle valves do not need periodic maintenance; however it is advisable to check regularly the external tightening of valve.

## **DISPOSAL**

Disposal of all parts shall be made according to local environmental and waste management rules.



Pos	Description	Material
1	Body	Steel
2	Spindle protection	Nylon
3	Spindle	Inox
4	Drive	Brass
5	Gland	Brass
6	Throttle	Brass
7	O-ring	HNBR
8	O-ring	HNBR
9	Pin	Stainless Steel
10	Label open/closed	Aluminium
11	Screw	Stainless Steel
13	O-ring OR 175	VITON

CODE : AVTW080B9L



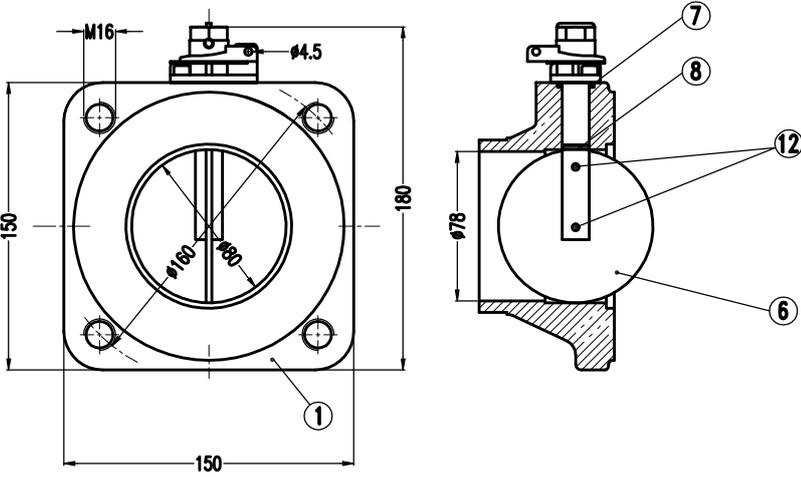
Titolo **RADIATOR VALVE  
TYPE TW80-B  
WITH O-RING BLADE  
(zero leakage)**

Data 12/03/13  
Scala ==  
Dis.  
Visto

Dis. Nr  
**3840**

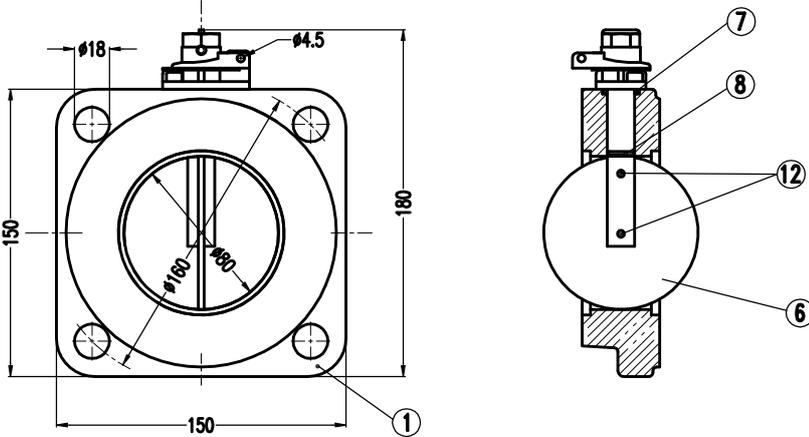


**Tronchetto a saldare / Welding neck**



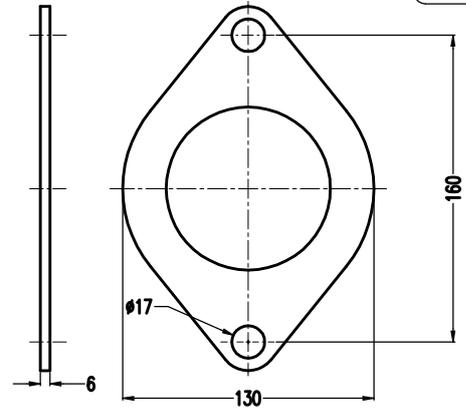
**Fig.1 - Type SW80-A0L CODE: VASW080A0L**

**Montaggio tra due flange / Mounting between flanges**

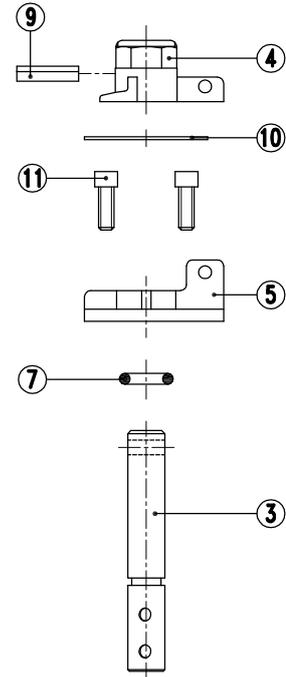


**Fig.2 - Type SW80-B0L CODE: VASW080B0L**

5.83



**Flange gasket for A0-B0**  
 In NBR: Code: GGNW085SP6  
 In CORK: Code: GSNW085SP6

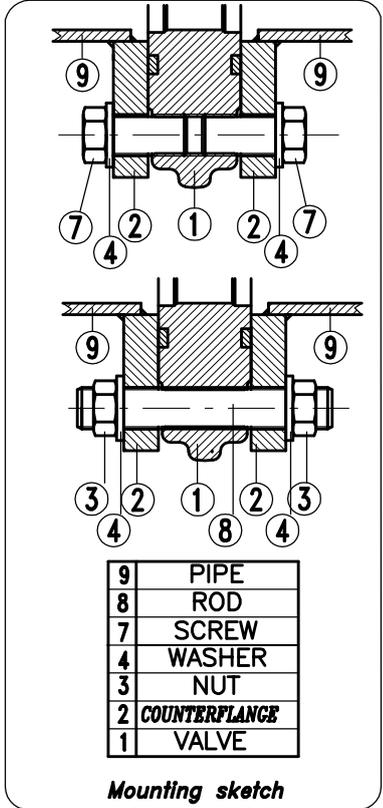
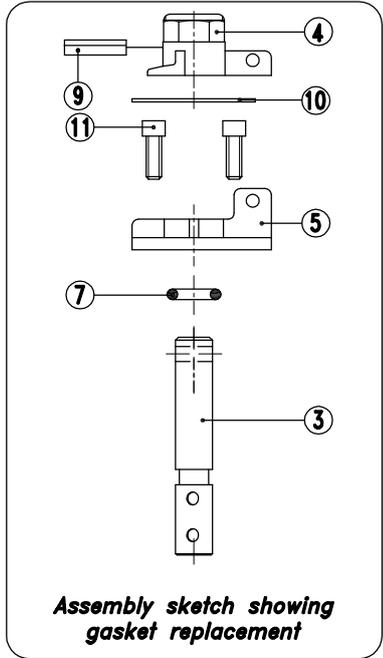
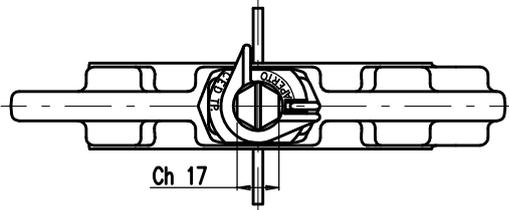
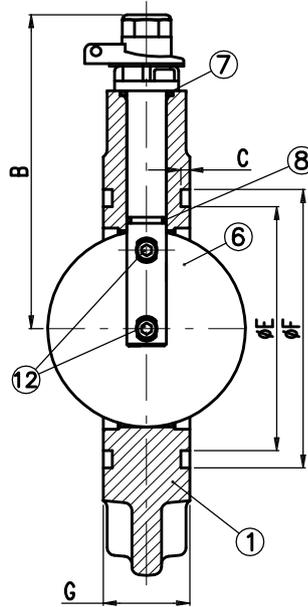
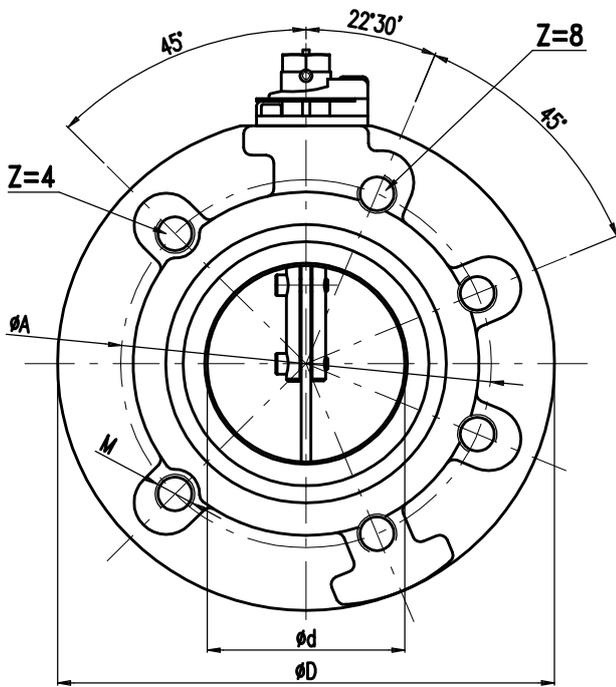


**Assembly sketch showing gasket replacement**

Pos	Description	Material
1	Body	Steel
3	Spindle	Steel
4	Drive	Brass
5	Gland	Brass
6	Throttle	Steel
7	O-ring	HNBR
8	O-ring	HNBR
9	Pin	Stainless Steel
10	Label open/closed	Aluminium
11	Screw	Stainless Steel
12	Rivet	Stainless Steel

Il presente disegno sostituisce il disegno NR P2224 - PAG.5.76.G

The present draw take place drawing NR P2224 - PAG.5.76.G



The present draw take place drawing PAG.5.76.D

Pos	Description	Material
1	Body	Steel
3	Spindle	Steel
4	Drive	Brass
5	Gland	Brass
6	Throttle	Steel
7	O-ring	HNBR
8	O-ring	HNBR
9	Pin	Stainless Steel
10	Label open/closed	Aluminium
11	Screw	Stainless Steel
12	Rivet	Stainless Steel

Tipo Type	Ød	ØD	ØA	B	G	M	Z	C	ØE	ØF	Flange O-Ring	Screw DN 933 pos.7	Tirante/Rod pos.8	Code
DN25 PN6	28	115	75	85	25	M10	4	3.6	37	51	6150	M10X20	M10x90	AVPN06A025
DN25 PN10	28	115	85	85	25	M12	4	3.6	37	51	6150	M12X25	M12x90	AVPN10A025
DN50 PN6	52	165	110	110	35	M12	4	3.6	68.5	82.5	6275	M12X30	M12x100	AVPN06A050
DN50 PN10	52	165	125	110	35	M16	4	3.6	68.5	82.5	6275	M16X35	M16x110	AVPN10A050
DN80 PN6	80	200	150	130	35	M16	4	3.6	99.5	113.5	6400	M16X35	M16x110	AVPN06A080
DN80D PN10	80	200	160	130	35	M16	8	3.6	99.5	113.5	6400	M16X30	M16x120	AVPN10A081
DN80U PN10	80	200	160	130	35	M16	4	3.6	99.5	113.5	6400	M16X30	M16x120	AVPN10A080



Titolo  
**Throttle valve**  
type DN25/DN50/DN80

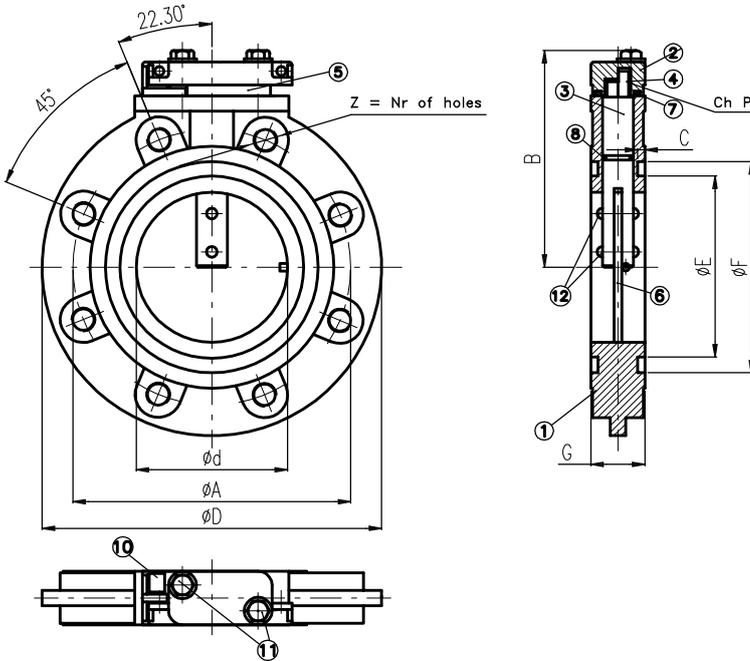
Data 12/03/13  
Scala ==  
Dis.  
Visto

Dis. Nr  
**3843**

FILE = 3844 .DWG

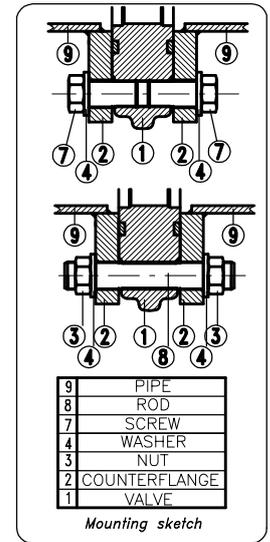
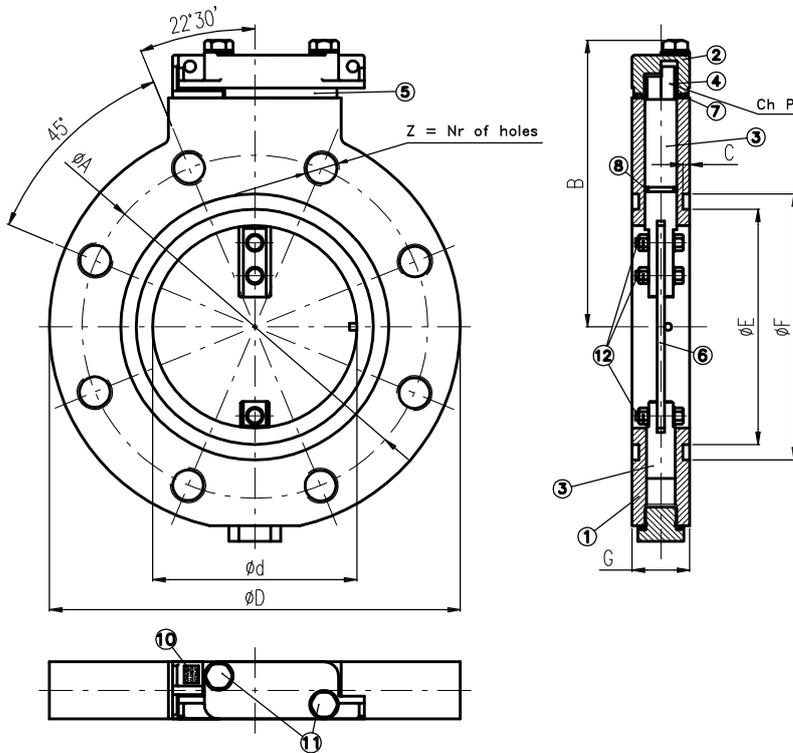
REV. 00 DTD 12/03/13

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Pos	Description	Material
1	Body	Steel epoxy paint finishing
2	Spindle protection	Nylon
3	Spindle	Brass
4	Drive	Brass
5	Gland	Brass
6	Throttle	Steel
7	O-ring	NBR
8	O-ring	HNBR
10	Label open/closed	Aluminium
11	Screw	Stainless Steel
12	Rivet	Stainless Steel

THROTTLE VALVE JUZ 125 + 350



Tipo Type	ød	øD	øA	B	G	M	Z	P	C	øE	øF	(NBR) O-Ring	Screw DIN 933 pos.7	Tirante/Rod pos.8	Code
JU Z 100 (EPX)	98	220	180	150	35	M16	8	14	4.7	128	147	8525	M16X30	M16X120	AVRA100JU0
JU Z 125 (EPX)	124	250	210	175	40	M16	8	19	4.7	154	173	8625	M16X40	M16X120	AVRA125JU0
JU Z 150 (EPX)	149	285	240	195	40	M20	8	19	4.7	186	205	8750	M20X40	M20X130	AVRA150JU0
JU Z 175 (EPX)	174	315	270	208	40	M20	8	19	4.7	211	230	8850	M20X40	M20X130	AVRA175JU0
JU Z 200 (EPX)	198	340	295	219	40	M20	8	19	4.7	237	256	8950	M20X40	M20X130	AVRA200JU0
JU Z 250 (EPX)	249	395	350	244	40	M20	12	19	4.7	287	306	81150	M20X40	M20X130	AVRA250JU0
JU Z 300 (EPX)	299	445	400	270	60	M20	12	24	4.7	338	357	81350	M20X50	M20X150	AVRA300JU0
JU Z 350 (EPX)	348	505	460	310	60	M20	16	24	4.7	376 404	395 423	81500 81600	M20X50	M20X150	AVRA350JU0

The present draw take place drawing PAC.5.76.F

**CEDASPE**

Titolo

Throttle valve  
type JU

Data 12/03/13

Scala ==

Dis.

Visto

Dis. Nr

3844

LATO TRASFORMATORE  
*TRANSFORMER SIDE*

LATO RADIATORE  
*RADIATOR SIDE*

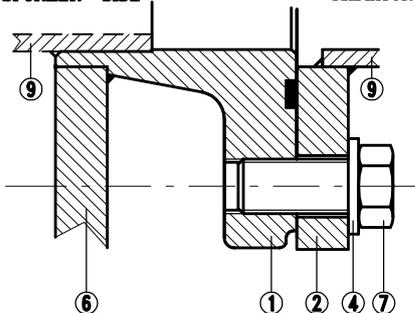


FIG.A

LATO TRASFORMATORE  
*TRANSFORMER SIDE*

LATO RADIATORE  
*RADIATOR SIDE*

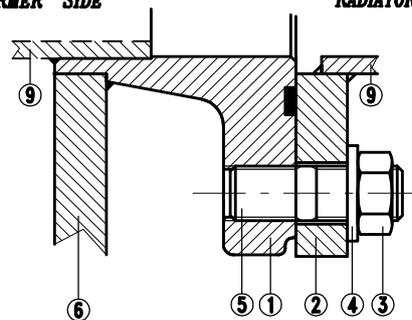


FIG.B

Montaggio tra due flange / *Mounting between flanges*

LATO TRASFORMATORE  
*TRANSFORMER SIDE*

LATO RADIATORE  
*RADIATOR SIDE*

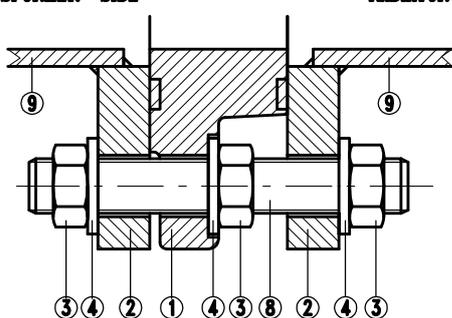


FIG.C

LATO TRASFORMATORE  
*TRANSFORMER SIDE*

LATO RADIATORE  
*RADIATOR SIDE*

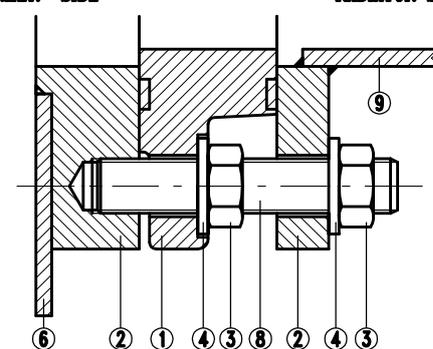


FIG.D

9	TUBO	TUBO	TUBO	TUBO
8	//	//	TIRANTE M16 X 110	TIRANTE M16 X 90
7	VITE T.E. M16X35	//	//	//
6	CASSA TRASFORMATORE	CASSA TRASFORMATORE	//	CASSA TRASFORMATORE
5	//	PRIGIONIERO M16X30	//	//
4	ROSETTA PIANA M16	ROSETTA PIANA M16	ROSETTA PIANA M16	ROSETTA PIANA M16
3	//	DADO M16	DADO M16	DADO M16
2	CONTROFLANGIA	CONTROFLANGIA	CONTROFLANGIA	CONTROFLANGIA
1	VALVOLA	VALVOLA	VALVOLA	VALVOLA
Pos.	FIG.A	FIG.B	FIG.C	FIG.D

9	PIPE	PIPE	PIPE	PIPE
8	//	//	ROD M16 X 110	ROD M16 X 90
7	SCREW M16X35	//	//	//
6	TRANSFORMER TANK	TRANSFORMER TANK	//	TRANSFORMER TANK
5	//	STUD M16X30	//	//
4	WASHER M16	WASHER M16	WASHER M16	WASHER M16
3	//	NUT M16	NUT M16	NUT M16
2	COUNTERFLANGE	COUNTERFLANGE	COUNTERFLANGE	COUNTERFLANGE
1	VALVE	VALVE	VALVE	VALVE
Pos.	FIG.A	FIG.B	FIG.C	FIG.D

The present draw take place drawing PAG.5.76.N

Titolo

Radiator valve  
- Mounting sketch -

Data 12/03/13

Scala ==

Dis.

Visto

Dis. Nr

3845

CEDASPE

FILE = 3845 .DWG LMT [(0,0) (196,286)] A4 (210x297)

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