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R.E.A. MI 729991 - IMPORT - EXPORT MI 142410 - REG. IMPR. 132146/3344/46 TRIB. MI

MOUNTING INSTRUCTIONS FOR DAROC VALVE MODEL DS & EDS-R

GENERAL INFORMATION:

Transformer conservators are usually arranged in such a way, that, even at minimum level, the oil is always above the highest point of the transformer lid. Therefore, when a leak occurs in the tank, due for example to a broken bushing, the oil in the conservator pours out, thus considerably increasing the danger of fire and pollution.

The automatic conservator oil check valves DAROC series DS and EDS-R have been designed to prevent the oil contained in the conservator from flowing out when a leak occurs and, for series EDS-R, to signal this by an electric contact.

Main features of the DAROC check valve series DS and EDS-R are:

- It is fitted on the pipe from tank to conservator, in series with the gas actuated buchholz relay; so it can be used on conservators with free oil surface as well as on conservators with rubber bag;
- The operation is completely automatic; when, due to a leakage in the tank, the oil flow rate from conservator to tank exceeds a set value, the DAROC valve closes the pipe thus preventing the loss of the conservator oil;
- Should the DAROC valve trip unduly, because of a malfunction or of particular working conditions, a pre-set by-pas valve operates automatically and prevents the internal depression in the tank from becoming excessive;
- The DAROC check valve has to be rest manually after tripping; if requested an additional by-pass pipe allows to reset the valve from ground level.

The shutting-off of the pipe between tank and conservator is always an abnormal operating condition; it is therefore preferable to choose the DAROC series EDS-R check valve in order to have a warning by electric contact that the valve has tripped.

STORAGE AND SHELF LIFE:

Max storage period before putting the valve into service is 5 years (temperature -20 +40 °C – air humidity 75 %) as long as the valve is kept in a clean place. Before use visual check that no damages happened to any parts.

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INSTALLATION:

- Unpack
- Visual check of parts
- The DAROC check valve must be fit onto the pipe between tank and conservator as shown by drawing 6.500.001. Flange 1.0.1 has a gasket groove and threaded holes in order to be able to fit it directly to the buchholz relay. The gasket is supplied with the valve.
- If DAROC series EDS-R is chosen, the electrical connection to the terminals 5.2.1 has to be made according to the wiring diagram attached inside the cover 6.0.2 of terminal box 6.0.1.

SETTING:

The DAROC check valve is supplied already set to the maximum stroke of main valve 3.3. In fact, when there is a leak in the tank, the flow rate is usually considerably higher than the flow rate admitted by the valve at full stroke with oil of normal viscosity, as shown by the diagram of Table 1.

It is therefore suggested to keep the original setting with the main valve 3.3 at the maximum stroke.

Should a different setting of the main valve be considered necessary, please contact us.

PUTTING INTO SERVICE:

After installation and setting it is possible to put the device DAROC in service by filling it up with oil.

If the filling up is done by pumping oil into the tank, the oil will enter the DAROC valve from chamber 1.0.3 (C1) and the float 3.1 will open main valve 3.3 as soon as chamber C1 is filled up.

If the filling up is done from the conservator, the oil will enter the DAROC valve from chamber 1.0.4 (C2) and it is necessary to force the main valve open in order to fill also chamber C1; to do so:

- Remove cover 2.1;
- Screw on the screw 2.3 completely into mount 2.2; the screw 2.3 will push float 3.1 up and open main valve 3.3.

After filling the DAROC valve, release the air through drain cock 6.1 located on cover 6.0 and check that the valve operates correctly as follows:

- Unscrew screw 2.3 completely right to the stop to free float 3.1;
- Push nut 2.6 against screw 2.3 to give float 3.1 the set stroke;
- Through inspection windows 1.2 check that the float 3.1 keeps main valve 3.3 open;
- Pull nut 2.6 downwards and thus float 3.1; check through windows 1.2 that the main valve 3.3 closes too; the electric contacts of DAROC valve series EDS-R have to operate too;
- Repeat steps described above several times in order to fill completely with oil the damping system;
- Replace cover 2.1; the cover will push nut 2.6 against screw 2.3 so freeing again float 3.1;
- Check through windows 1.2 that the main valve 3.3 has been pushed open by float 3.1.

The DAROC valve is now ready for service.

MAINTENANCE:

No particular maintenance is required for these DAROCs. It is suggested only, on a regular basis, to schedule inspections to verify conditions of valve, wirings and check operation of switch –for testing the switch see “Putting into service” paragraph.

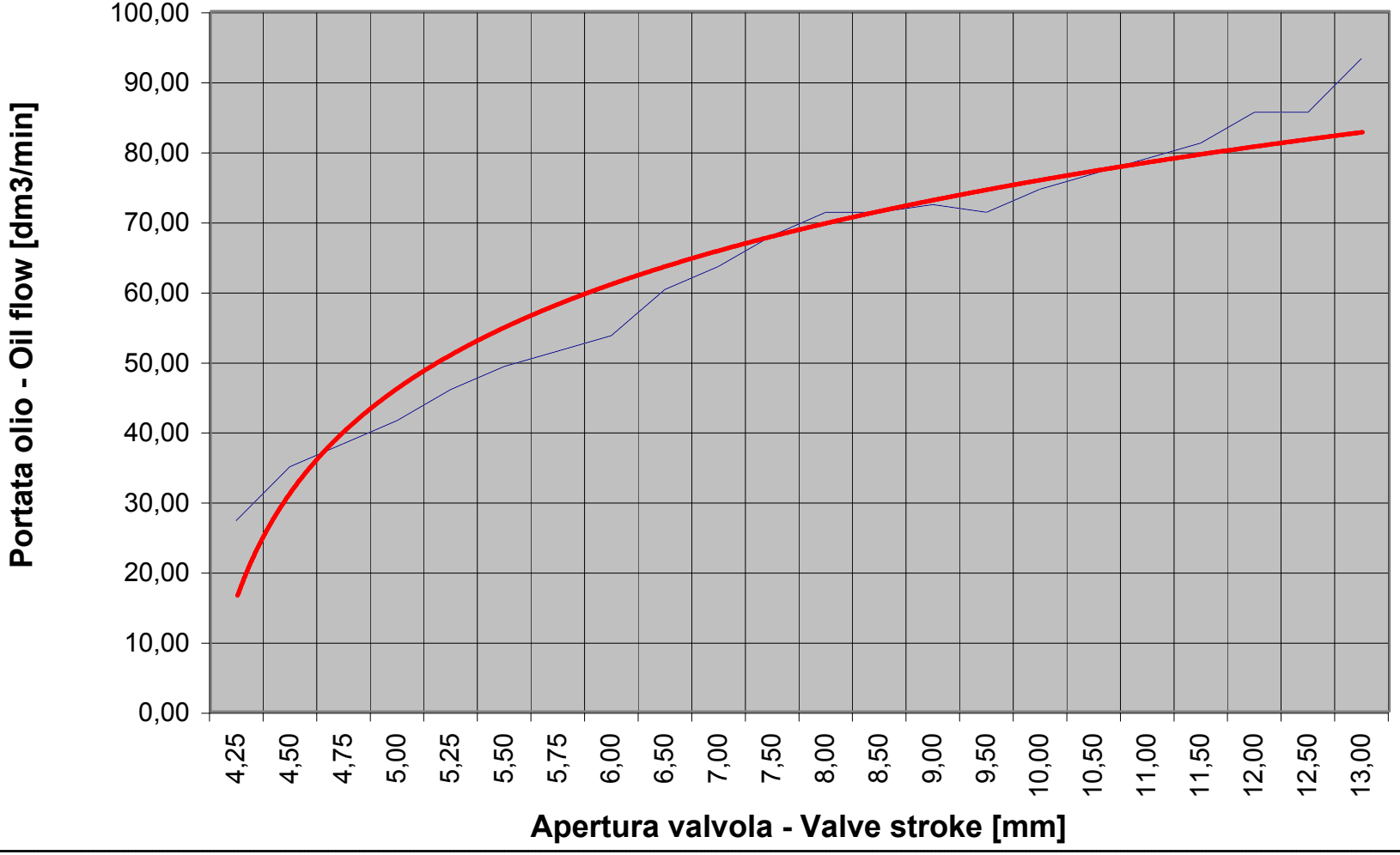
DISPOSAL:

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

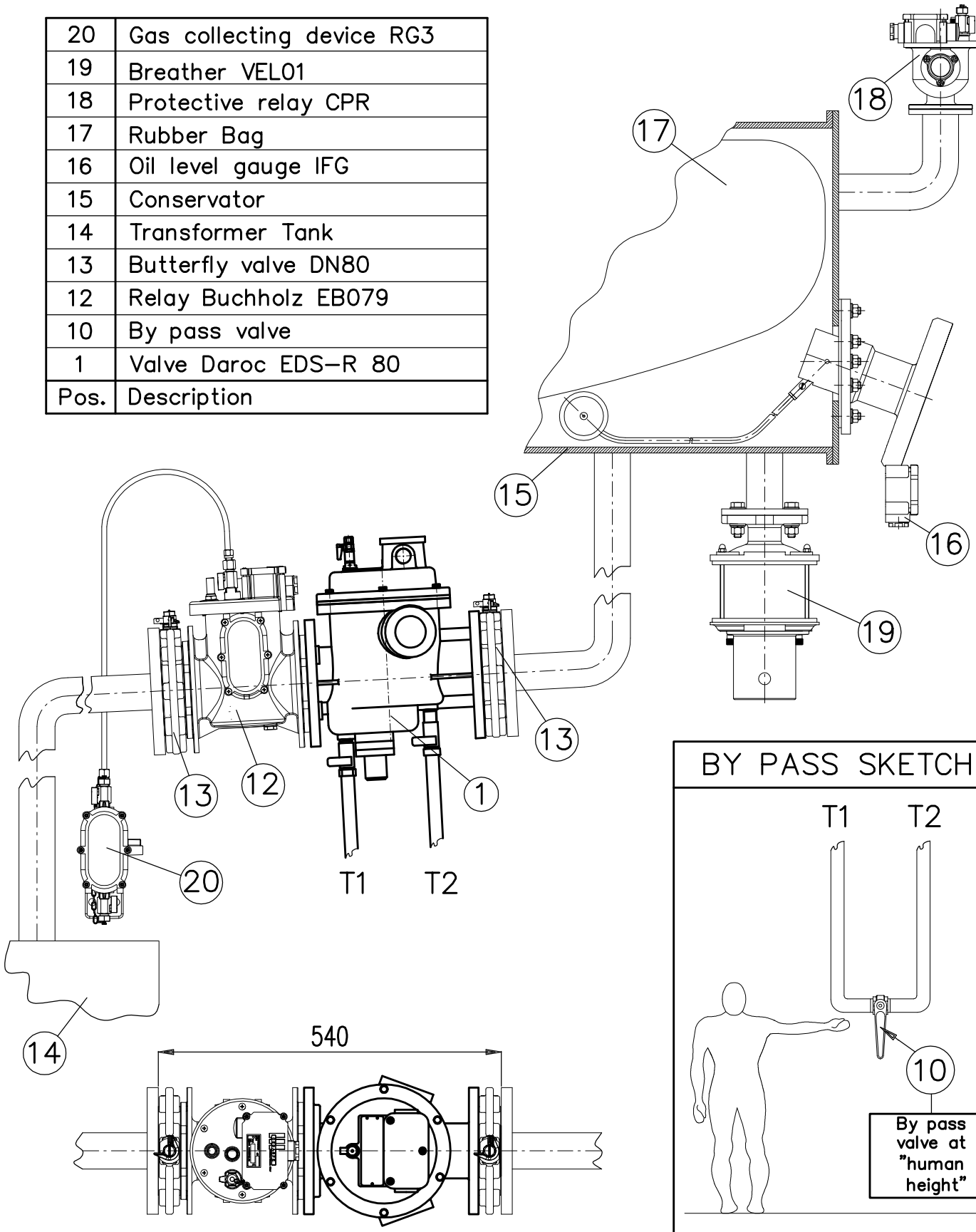
Table 1A

DAROC DS - EDSR - Curva di taratura - Setting diagram

Viscosità olio - Oil viscosity 30 cSt



Pos.	Description
20	Gas collecting device RG3
19	Breather VEL01
18	Protective relay CPR
17	Rubber Bag
16	Oil level gauge IFG
15	Conservator
14	Transformer Tank
13	Butterfly valve DN80
12	Relay Buchholz EB079
10	By pass valve
1	Valve Daroc EDS–R 80



BY PASS SKETCH

Ind.	Data	Modifica
1	20/04/12	Rifatto disegno

Finitura

Trattamento

Materiale Unific. / Design.

Peso Grezzo kg / Finito kg

TOLLERANZA GENERALE UNI–ISO 2768

Qualità = f ☐ m ☒ c ☐

Assieme =

Codice grezzo =

Codice =

CEDASPE

Titolo

Mounting Sketch DAROC

Data 22/07/11

Scala ====

Dis.

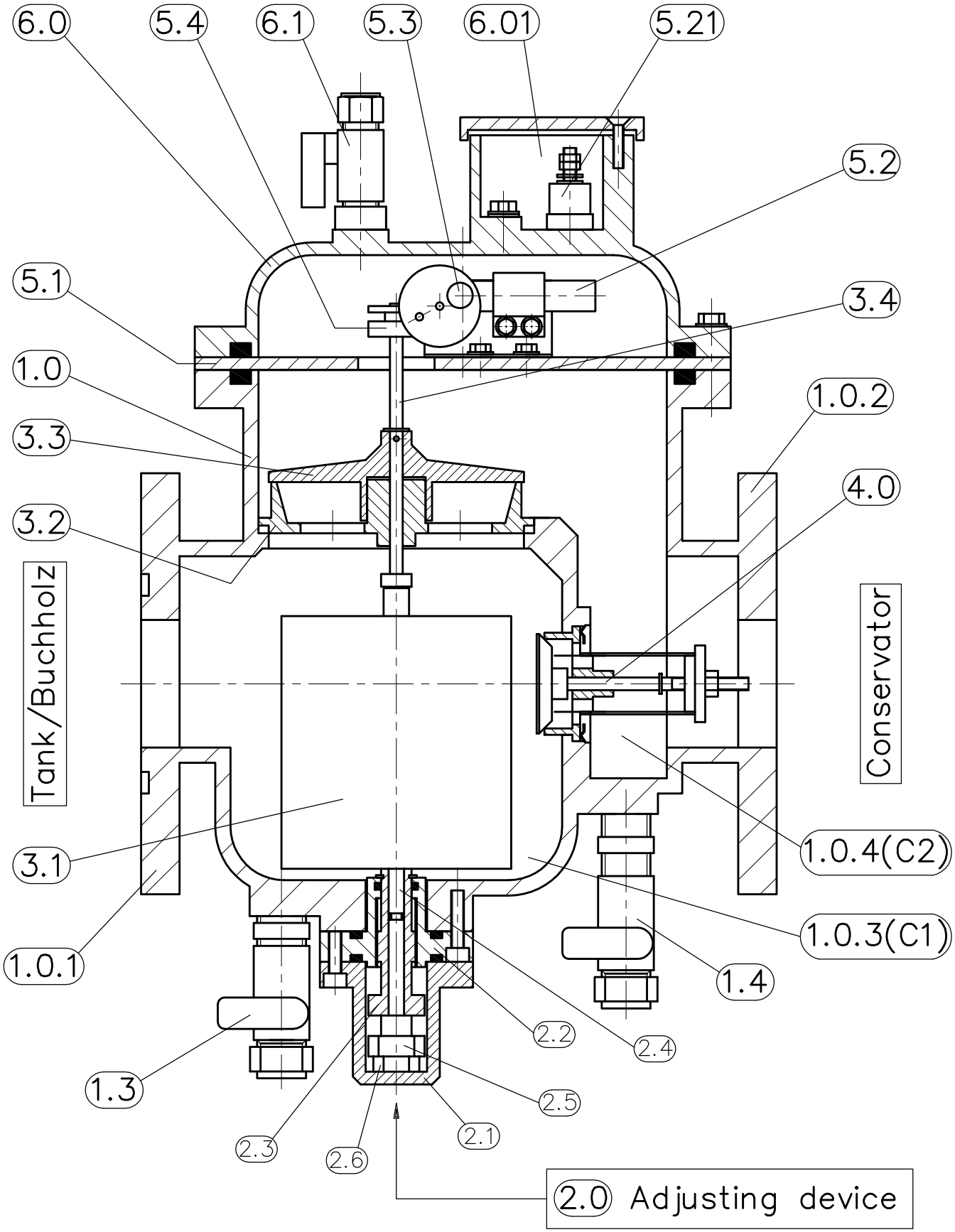
Visto

Dis. Nr 6.500.001

1

REV 01 DTD 07/05/12

FILE = 6.500.10 .DWG LMT [(0,0) (196,286)] A4 (210x297)



CEDASPE

Titolo

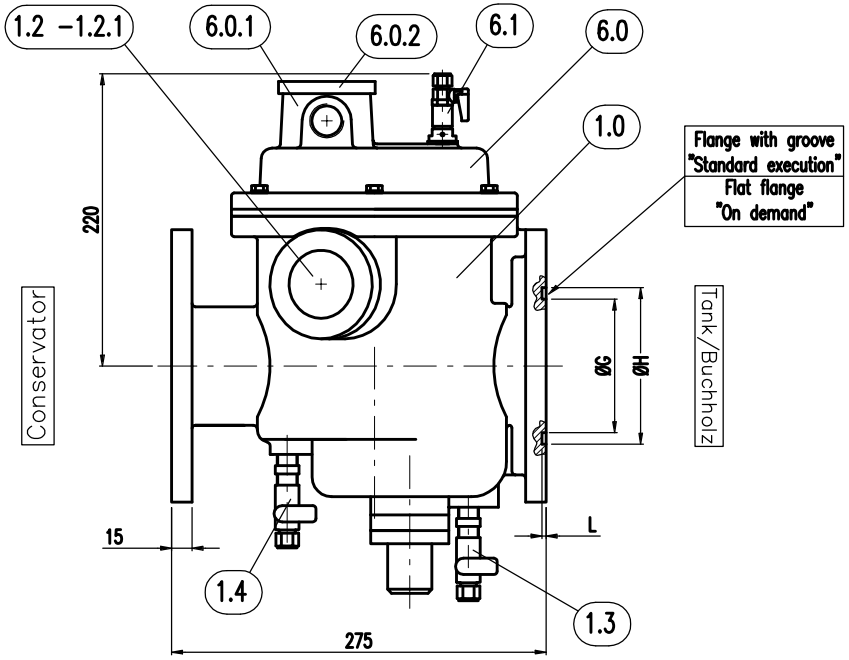
Cross section DAROC EDS series

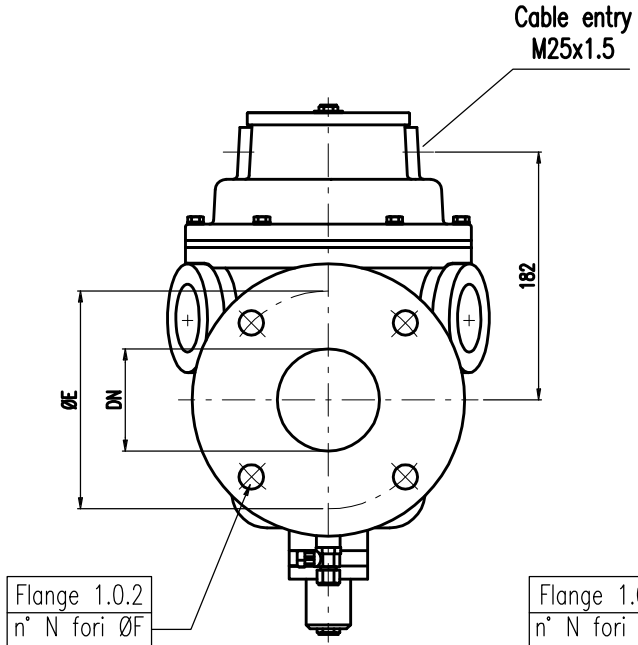
Data	22/07/11
Scala	====
Dis.	
Visto	

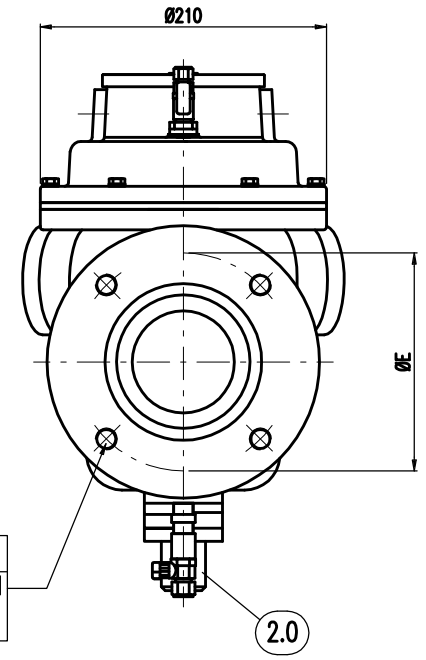
Dis. Nr

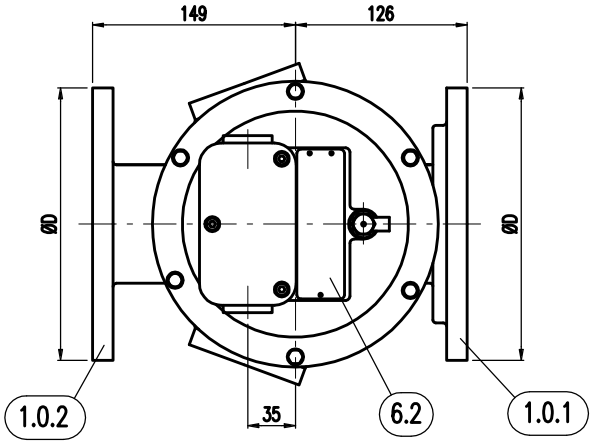
6.500.10

1









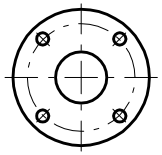


Fig. 1
4 Holes flange
"Standard execution"

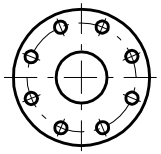


Fig. 2
8 Holes flange
"On demand"

(*)
Con rubinetti by–pass (1.3 & 1.4)
With by–pass cocks (1.3 & 1.4)
Avec by–pass de réammorçage (1.3 & 1.4)

Tipo–Type	DN	ØD	ØE	ØF	ØG	ØH	L	ØM	N	Fig.
EDS–R 50	50	165	125	18	69	86	3	M16	4	1
EDS–R 80	80	200	160	18	98	115	3	M16	4	1
EDS–R 80–8	80	200	160	18	98	115	3	M16	8	2
EDS–R 100	100	220	180	18	114	135	4	M16	8	2

		Finitura		TOLLERANZA GENERALE UNI–ISO 2768	
		Trattamento		Qualità = f ☐ m ☒ c ☐	
		Materiale Unific.			
		Design.		Assieme =	
		Peso Grezzo	kg	Codice grezzo =	
Ind.	Data	Modifica	Finito	kg	Codice =

CEDASPE

Titolo
Check valve DAROC
EDS–R

Data 20/04/12
Scala 1:2
Dis.
Visto

Dis. Nr
6.650.20