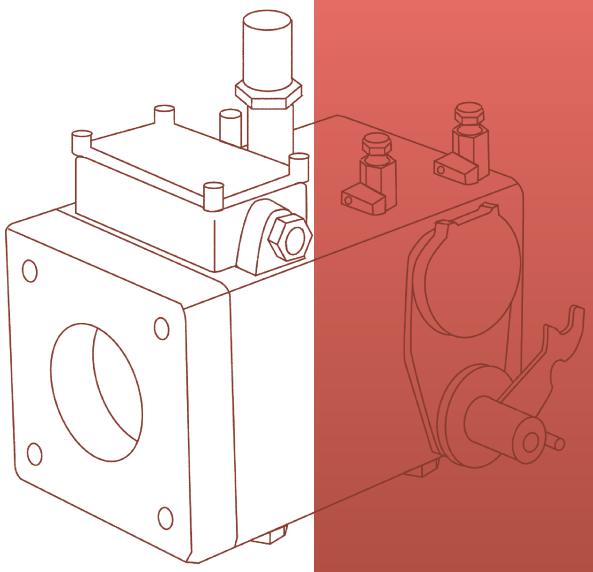
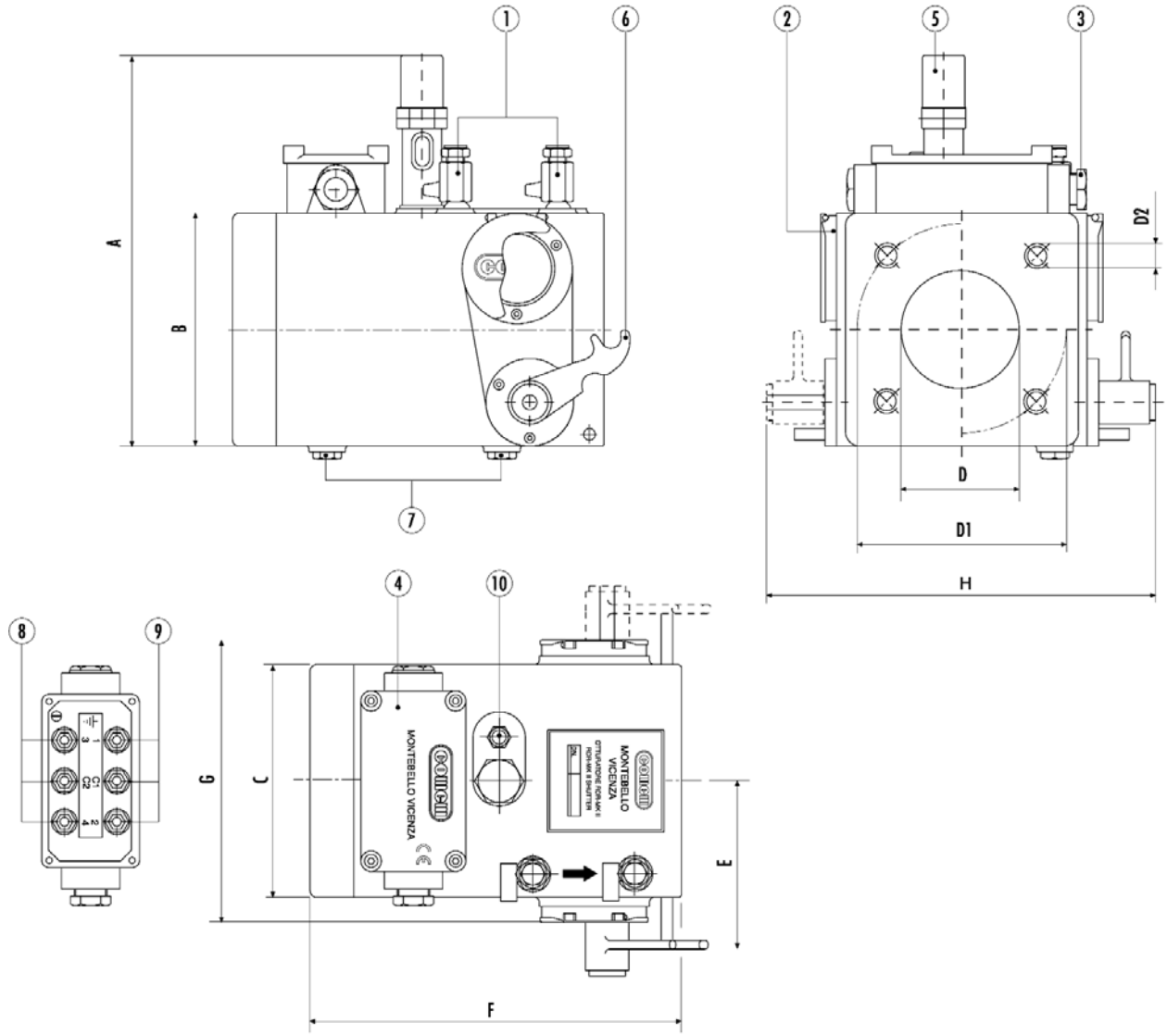


RDR-MK II
SHUTTER VALVE

comem®

RDR-MK II SHUTTER VALVE



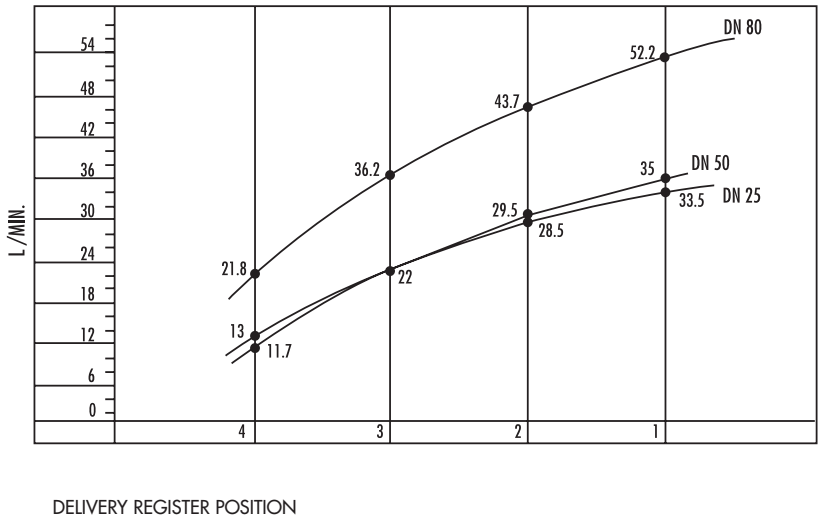
1- breather cock
2- inspection window
3- cable plug PG16
4- terminal box
5- flow governor
6- reset lever
7- discharge cock
8- alarm terminals 3-C2-4
9- trip terminals 1-C1-2
10- mechanical test equipment

Fig. 1

Type	Ref. COMEM	A	B	C	D	D1	D2	E	F	G	H	*Weight* kg
25	1RDR100250	265	160	160	25	85	M12	116	255	195	270	10
50	1RDR100500	265	160	160	50	125	M16	116	255	195	270	10
80	1RDR100800	265	160	160	80	160	M16	116	255	195	270	10

RDR-MK II SHUTTER VALVE

In the event of rapid loss of oil from a large power transformer for whatever reason it is necessary to have an automatic operating valve that prevents the conservator from draining.
COMEM SpA developed and perfectioned the RDR-MK II Shutter Valve for this purpose.
Now after many hundreds of installations, this valve is considered an essential safety device by many major transmission and distribution authorities such as Electricité de France (EDF).
The shutter valve is fitted close to the Buchholz Relay in the feed pipe between the transformer tank and its conservator.
It is caused to operate by the dynamic thrust exerted by the liquid flowing through it when that flow rate exceeds a predetermined limit. Below that limit the valve remains open to allow the normal flow caused by thermal expansion and contraction.
COMEM RDR MK II Shutter Valve has the added facility of the trigger or limit point being adjustable by the user according to the transformer hydraulics or local peculiarities.
The diagram of fig. 2 shown the oil flow deliveries at which the shutter valve is activated in relation to the valve opening degree and to the oil viscosity. The valve opening is adjustable through an external device (Fig 1, item 5), which is arranged for the sealing.



OIL FLOW DIAGRAM
AT 20 °C TEMPERATURE
VISCOSITY 18,5 CST
860 mm OIL HEAD

Fig. 2

Assembling details used to get values from graph no. 2

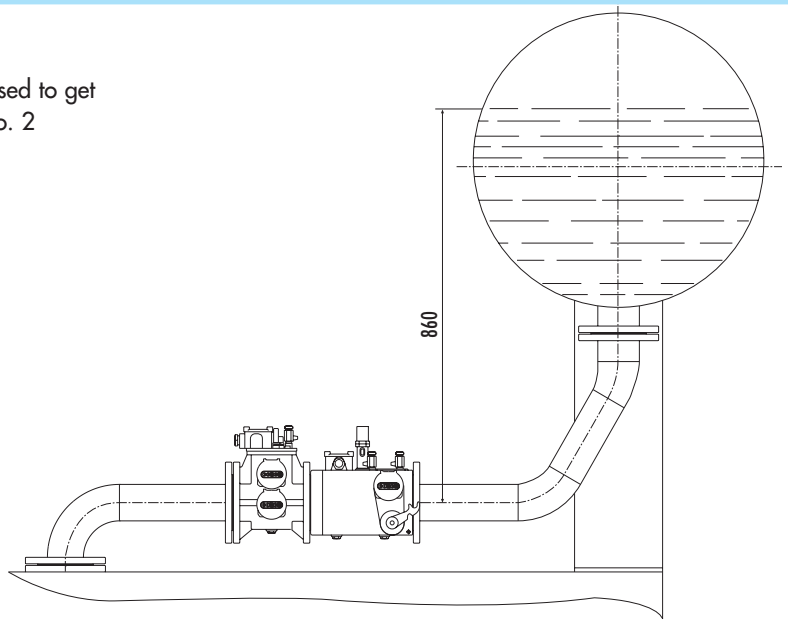


Fig. 3

RDR-MK II Shutter Valve has separate alarm or trip capability triggered by magnetic contacts within this device. Customer can select his preference by his choice of wiring of the terminal box (fig.1, item 4) and reference to fig.4.

Switch Characteristics are as follows:

- Power supply: 24 ÷ 220 V dc or ac

- Rated current: 0.5 A for 10.000 manoeuvers

- Breaking capacity: 2 A

- External circuit: direct current
  t = L/R 40 ms ± 15%
  alternate current (50 Hz)
  cos φ = 0.4 ± 25%

The body of the RDR-MK II is an aluminium casting and all external fittings are made of corrosion resistant materials. Gaskets are suitable for mineral oil or silicone oil. The float is made of NITROPHIL which effects a perfect oil seal even under vacuum or high pressure.
This valve is available in three sizes to accommodate different pipe couplings DN 25, DN 50, DN 80.

1-C1 NORMALLY CLOSED SWITCH
2-C2 NORMALLY OPEN SWITCH
3-C3 NORMALLY CLOSED SWITCH
4-C4 NORMALLY OPEN SWITCH

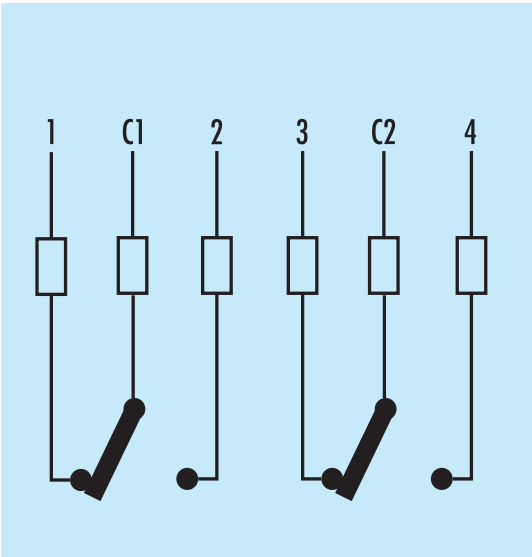


Fig. 4