

The **DLBF** Switches are mounted on a side of vessels by means of flange. The liquid level is checked by a float integral with a small metallic tube; this tube has a flattened part like in *Bourdon tube*, so that it can be bent only in the vertical sense. A thin rigid plate is placed within the tube and transmits the movement up to the output device placed within the housing.

When liquid level rises up to the preset point, the float makes the output device trip (*trip on rise*); then, when level comes down again and exceeds the preset point, the float makes the output device come back to the initial position (*reset on fall*). Between the set and reset points there is always a gap, named *differential*; it is only $20 \pm 5\text{mm}$ in the standard case, but can be up to 300mm in special versions like in Fig. 10 prepared upon request. The inverse function is available too : *Trip on fall* and *Reset on rise*.

The output is placed in the housing and can be electric (type DLBF7) or pneumatic (type DLBF5); the trip is snap action in the case of electric microswitch, whilst takes a few instants in the case of pneumatic switch. These Switches assure very high reliability : the hydrostatic lift on the float is transmitted to the output device in a quite direct way, i.e. without any sliding mechanical parts, and so without any risk of friction or jamming.

These Level Switches meet the ATEX standard (page 37).

In addition to the basic version (Fig. 2) with flange FL in $\text{Ø} 3\text{-}4''$, also other special versions are available, as for example :

- closed in cylindrical chamber with threaded sleeves connections (ANSI 150, 300 psi, $\text{Ø}1'' \div 1\frac{1}{2}''$ NPT-F) : Fig. 4;
- closed in cylindrical chamber with flange connections, in **I, L** shape (ANSI 150, 300 psi, $\text{Ø}1'' \div 2''$) : Fig. 5-6;
- closed in cylindrical chamber in **T** shape, with 3 flanged branches (ANSI 150, 300 psi, $\text{Ø}3'' \div 4''$) : Fig. 7;
- other versions, to be defined together with user : Fig. 8, Fig. 9, Fig. 10, Fig. 11.

Fig. 1 – Operating diagram

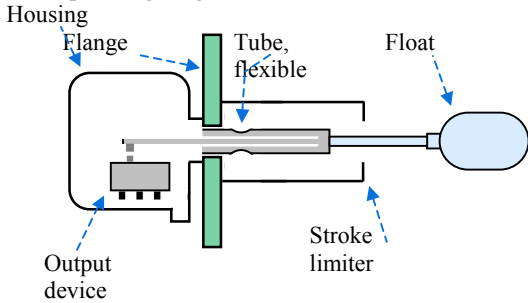


Fig. 2 - DLBF standard

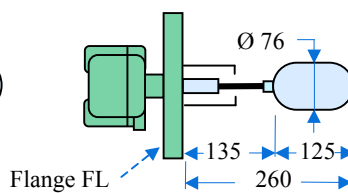


Fig. 3 – Housing

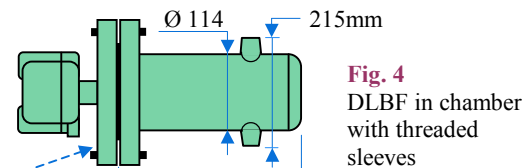
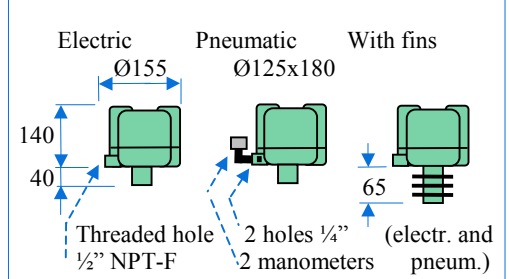


Fig. 4
DLBF in chamber with threaded sleeves

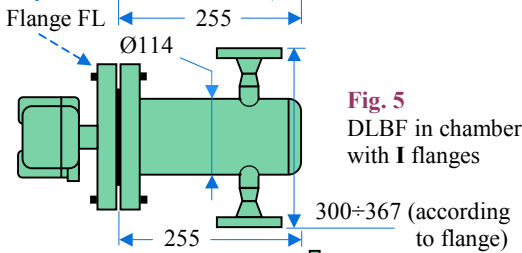


Fig. 5
DLBF in chamber with I flanges

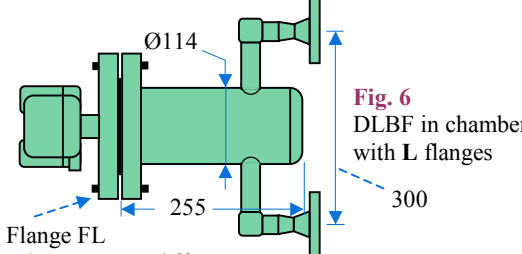


Fig. 6
DLBF in chamber with L flanges

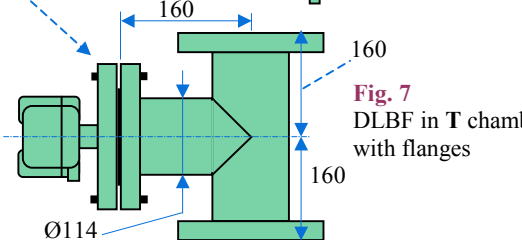


Fig. 7
DLBF in T chamber with flanges

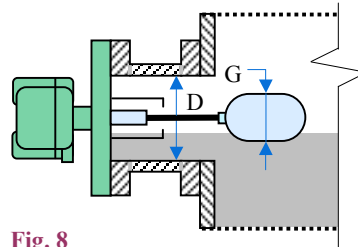


Fig. 8
DLBF on vessel :
 $D = G + \text{at least } \frac{1}{2}''$

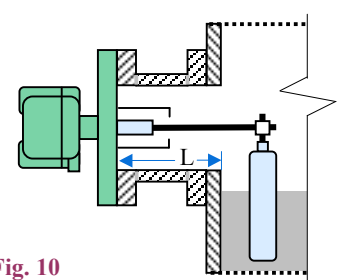


Fig. 10
DLBF with very long float (for wide differentials) : it is possible to insert it already assembled only if $L < 3''$.

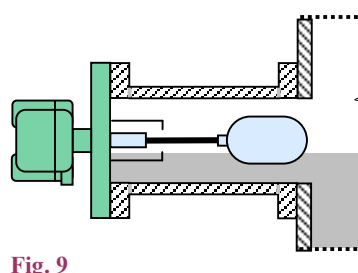


Fig. 9
DLBF on vessel with stirrer : float should be placed in protected area.

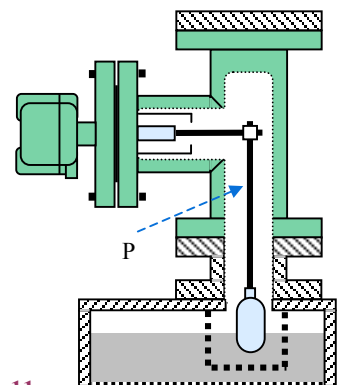


Fig. 11
DLBF having rod $P > 24''$ and operating in turbulent liquids : float should be protected in a damping tube.

CONNECTIONS to vessel of DLBF :

Mounting :	By means of:	Rating :	Diameter :
C2 Fig.2	F Flange ANSI, face RF	15 ANSI 150 psi	Flange FL: Flanges or Sleeves to be connected to vessel
C4 Fig.4	J " " " RJ (Ring Joint)	30 ANSI 300	
C5 Fig.5	N Sleeves, female threaded NPT-F		G 3"
C6 Fig.6	P " male threaded NPT-M		H 4" (1)
C7 Fig.7	S " socket welding		Z As in C2 – Fig.2
CA Other : would you send a drawing, please			C 1"
			D 1½"
			E 2"

M □ □ □ □ Center-to-center distance between connections (mm) : those in the sketch are standard. In the case of DLBF-C2 (in Fig.2), would you please write " = = = "

BODY and CONNECTIONS in :

- AC** Carbon steel (1)
- A4** Stainless steel AISI 304
- A6** " " AISI 316

Flanges are available in UNI/DIN too : page 33.
Upon request, body can be in Hastelloy, Teflon, PVC, etc.

HOUSING (Fig.3 and page 34-35) :

Electric or pneumatic output :

- M••** 1 Microswitch SPDT, dust-proof 10A–125/250Vac (UL 200°C), silver contact (1) (2)
- E••** " " " " " 4A res–2A ind–28Vdc, sealed in inert gas (3)
- N••** " " " " " 1A–125Vac (UL 200°C), gold contact (4)
- PA•** 1 Pneumatic valve ON-OFF : opens air when level rises, with 2 manometers (1)
- PC•** " " " " " closes " " " " " with 2 manometers

Hole for electric connection :

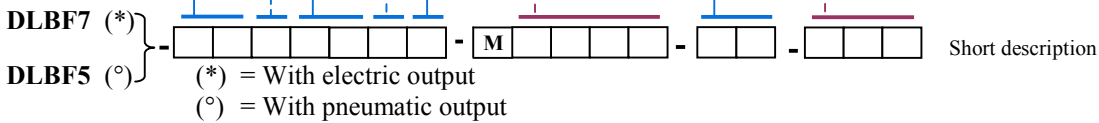
- A•** Threaded ½" NPT-F for cable-gland (not supplied)
- B•** " ¾" NPT-F " " (not supplied) (1)

Housing-holder :

- S** For standard temperatures, –20/+180°C
- H** For high temperatures, +181/+300°C, with fins
- L** For low temperatures, –21/-60°C, without fins

- 3 ways : On/Off/Vent
- Usage pressures : 1÷3 bar / 15÷45psi
- PA↔PC : page 34.

Upon request, special versions can be produced too.



In addition to the above Short description, *Domizi Snc* need also the following information, absolutely necessary.

Fluid :	upper :	.....	Specific gravity of fluid :	upper :	.....	kg/m ³
	lower :	.....	" " " " "	lower :	.....	kg/m ³
Temperature :	Minimum	..... °C	Operating	..... °C	Maximum	..... °C
Pressure :	Minimum	..... bar (*)	Operating	..... bar (*)	Maximum	..... bar (*)
Instrument function :	.....				Other :	.....

(*) Simplify : 15bar ~ 15atm ~ 15kg/cm² ~ 15KPa ~ 1,5Mpa

(1) – It is the standard option.
 (2) – Dust-prrof phenolic case, silver contact, also 5A resistive – 250Vac, temperatures of –55/+125°C. Applications : ved. pag. 35
 (3) – Hermetically sealed metallic case with inert gas, silver alloy contact, also 4A res-115V-60Hz, temperatures of –65/+125°C. Applications : as per page 35.
 (4) – Dust-proof phenolic case, gold contact for very low electric loads (ex. insulating barriers with few mA and V), temp. –55/+125°C. Appl. : as per page 35.