

EARL Flow switch with nozzle

EARL type 778 for DN 15 – 32

Application

These units are mostly suitable for applications where vibration is likely to occur and where contaminated media have to be controlled in either horizontal or vertical pipes. The internal nozzle installed enables to control low flow velocities. The flexible sealing bellows protects the unit from metal parts which may be found in the medium when controlling lubricating oil in large gear boxes. The units can be supplied with either flanged connection or threaded process.

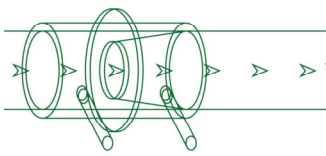


Operation

When the medium enters in the direction of flow indicated by the arrow it produces a pressure head inside the chamber situated in front of the nozzle. This moves the diaphragm system into the direction of flow. A bellows sealed lever transfers the movement to operate the switch contact. The flow switch type 778 is available with either a fixed or an adjustable set point.

Advantages

- Units operate in any position.
- Vibration proof construction.
- Units suitable for contaminated media.
- Suitable for set points from 0.5 l/min.
- Simple installation and connection.
- Units virtually maintenance free.



Special models of type 778

Type 778RBW ind.	Sturdy construction with inductive proximity sensor.
Type 778KHD	Vibrationproof to be used for large compressors, inlet connection G 1, outlet connection flange DN 25 PN 16.
Type 778S	Compatible with oil flow switch 496.20 of former VEB MERTIK for the installation in TAKRAF excavators.

Technical data

Media All liquids, including viscous and contaminated.

Pipe sizes DN 15 to DN 32

Set points

	Minimum	Maximum
DN 15	0,5 l/min	30,0 l/min
DN 20	0,5 l/min	50,0 l/min
DN 25	0,5 l/min	80,0 l/min
DN 32	0,5 l/min	100,0 l/min

Adjusting range of set point in l/min (H₂O)
0.5 - 1; 1 – 2.5; 2 - 5; 4 - 10; 8 - 20; 15 - 40; 30 - 80.
Other ranges on request.

Admissible deviation of actual set point +/- 5 % of required set point.

Repeatability of adjusted set point +/- 2 % of switch value.

Hysteresis between on and off 10 - 20 % of the max. flow rate.

Pressure range PN 10, higher values on request.

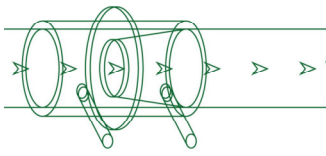
Operating temperature Standard model up to 80 °C medium temperature.
Special model ht up to 150 °C medium temperature,

Ambient air temperature -20 to + 80 °C:

Pressure loss ≤ 0.2 bar, if set point ≥ 25 % of the max. flow rate.

Protection class of switch housing according to DIN 40 050: IP 54

Cable entry to suit customers' requirements.



EARL Type 778 (2021)

Switch contacts

Either one or two S.P.D.T. micro switches (with same set point).

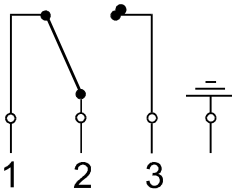
- Capacity up to 100 °C: max. 250 V, 50/60 Hz and max. 10 A.
- Capacity over 100 °C: max. 250 V, 50/60 Hz and max. 1 A.

One inductive proximity sensor 20...250 V AC/DC; max.: 250 mA, AC/100 mA DC.

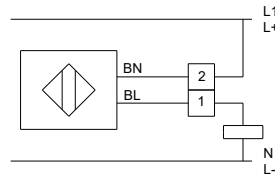
Note

If the units are for use with media containing impurities, they can be equipped with two drain-screws on the flow housing, one in front of the diaphragm and the other behind it.

Wiring diagram



Micro switch



inductive proximity sensor

Further special models on request.

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Techn. Stand 03-2021

03/2021 Subject to technical changes