

FLUID FLOW SWITCH

Model QD-1

QD-4E, QD-5, QD-5SS

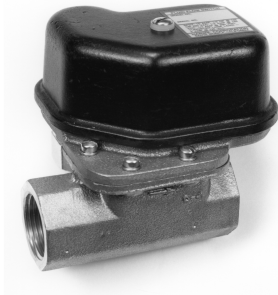
Model QD-1

0.12 to 8.0 GPM
For 1/2" Pipes



Model QD-4E

4 to 70 GPM
For 1" Pipes

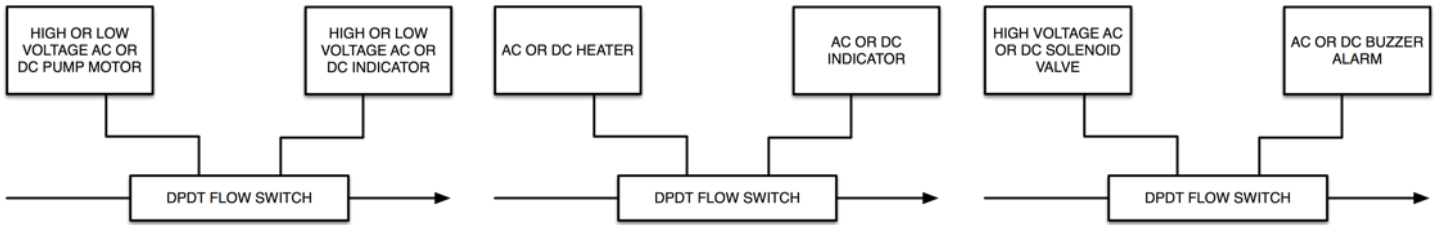


Models QD-5, QD-5SS

5-102,000 GPM & Up
For Pipes 1" - 48" & Up



**Supplied with Optional Feature -
Two SPDT Switches to Provide DPDT Action.**



Two Physically Ganged BUT Electronically Independent Switches Provide:

- Combination of two isolated AC or DC Circuits.
- Combination of two isolated High or Low Voltage Circuits.
- Combination of two isolated Power or Gold Cross Bar computer/PLC Dry Circuit.

Performance, Physical and Electrical Specifications are the same as Standard Single Switch Units (Q-1, Q-4E, Q-5) with the following modifications:

- Nominal Differential Flow between the two Microswitch Actuation Points is -
Model QD-1 \approx 5% Model QD-4E \approx 5% Model QD-5 \approx 5%
- Electrical Connection is made directly to switch terminals with standard spade Quick-Connects supplied with each unit.

Reference Part Number:

- See page 8 for Q-1
- See Page 10 for Q-4E
- See Page 12 for Q-5
- See Page 14 for Q-5SS

- Add D to part # to designate DPDT Action Desired.

SAMPLE PART #:

QD-1 / 3 / A

QD-5 / 5 / 3 / F



Limited Warranty Page 7

Miscellaneous Background Information

FLOW SWITCH MODEL Q-1:

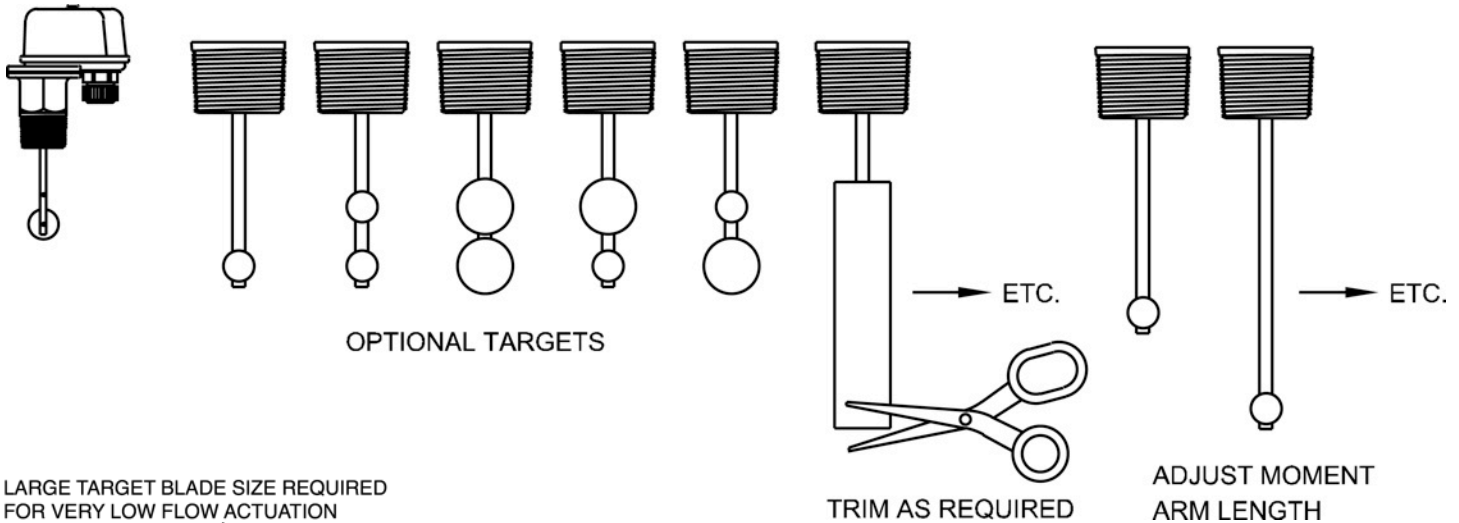
The dimensions of the 6 orifices listed in Model Q-1 are

Orifice No.	Orifice J.D. (inches)
1	0.073 (Drill No. 49)
2	0.094 (Drill No. 42)
3	0.150 (Drill No. 25)
4	0.196 (Drill No. 9)
5	0.277 (Letter J)
6	0.375 (3/8)

NOTE: Each orifice size provides a 2:1 flow range as listed under Model Q-1 Specifications. Model Q-1 can be provided with a blank orifice which the end user can drill as required to provide any desired 2:1 flow adjusting range. For example orifice No. 4 with a 0.196" I.D. hole has a normal 2:1 adjustable range 1.0 to 2.0 GPM. A blank orifice can be drilled approximately half way between orifice No. 4 and No. 5 that is drill "B" (0.238") to provide a flow range of 1.5 to 3.0 GPM. The end user can thus drill blank orifices as required to produce any 2:1 incremental sub division of the total operating range 0.12 to 8.0 GPM.

Models Q-5 / QD-5 / QD-5SS

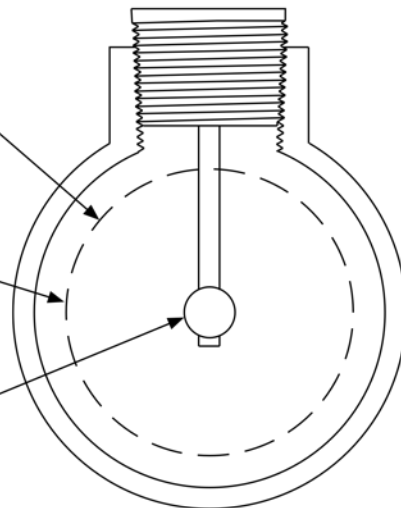
These are supplied with target blades 0.9" wide for all lengths of blade. This allows blade and support shaft to be inserted into standard one inch NPT female fittings without removing fitting from main flow line.



LARGE TARGET BLADE SIZE REQUIRED FOR VERY LOW FLOW ACTUATION

LARGER TARGET BLADE COULDE BE DAMAGED WHEN SUBJECTED TO NORMAL FLOW.

IDEAL TARGET BLADE SIZE FOR NORMAL FLOW.



Flow Sensitivity vs Target Size vs Structural Load Limits

Target type flow switches present a classic turn down rate limit situation, that is, flow systems frequently require detection of flow at low to very low flow rate, E.G. 0.5 to 2.0 GPM in pipe size 1.0 inches to 6 inches and larger. This translated into very low ft/sec flow past the target blade which, in turn, may produce drag forces too small to operate the flow switch. This catch 22 situation is normally accommodated by limiting the high flow end, (i.e. turn down ratio, higher flow rate) may be available at greater complexity and increased cost.



- Installation drawing and a numbered parts list is supplied with each unit.
- Current Price Information is Listed on Separate Sheet.
- Special One Day Delivery Available.