

## F20 SERIES HEAVY DUTY FLOW SWITCHES

FOR ALL PIPE SIZES 20mm (3/4") AND LARGER



*The F20 flow switch is a tough but highly sensitive paddle flow switch suitable for a wide range of flow control applications in both hot and cold liquids. The electrical housing of the switch is a separate assembly and locks onto the wet end of the switch. It can be easily and safely removed for servicing, without disturbing electrical wiring. This unique feature and the inclusion of a built in manual override makes the F20 a very versatile flow switch.*

The electrical module of the F20 flow switch is completely separate from the process connection and wet end of the switch. The wet end assembly and the electrical module lock together with a single externally accessible screw. This feature allows the flow switch to be disassembled and unscrewed from pipework without the need to disturb electrical wiring. All F20 flow switches are supplied with an extra long glass fibre reinforced polypropylene paddle. The paddle can be cut and shaped as required to suit pipework 20mm (3/4") or larger.

A unique feature of the F20 flow switch is its built in manual override. This allows the flow switch to be switched on at any time at the press of a button regardless of lack of flow. Using the manual over ride allows pumps to be manually started at any time by simply pressing the button. It also makes the testing and commissioning of systems very simple.

Our well proven magnetic repulsion system is built into each F20 flow switch and couples the paddle's movement to the high compliance switch through a double wall of solid material. The result is a high-pressure flow switch with no seals, diaphragms or bellows or other points of potential failure.

The F20 is available in stainless steel, dezincification resistant brass or Polypropylene construction. There are models to suit most applications including use in seawater, bore water, acids, alkalis and in many chemical solutions and fuels. There is also a dedicated dieseline version of the F20 available.

### FEATURES

- 0 TO 500VAC 15Amp S.P.D.T SWITCH
- STAINLESS, BRASS & POLYPROPYLENE MODELS
- 3/4" BSP & 3/4" NPT MODELS AVAILABLE
- MANUAL OVERRIDE BUILT IN
- MODULAR CONSTRUCTION
- 200 BAR PRESSURE RATING
- SEAL-LESS MAGNETIC DRIVE
- DIESELINE MODEL AVAILABLE
- WEATHERPROOF IP67
- EASILY SERVICEABLE



AUSTRALIAN MADE

### ORDERING

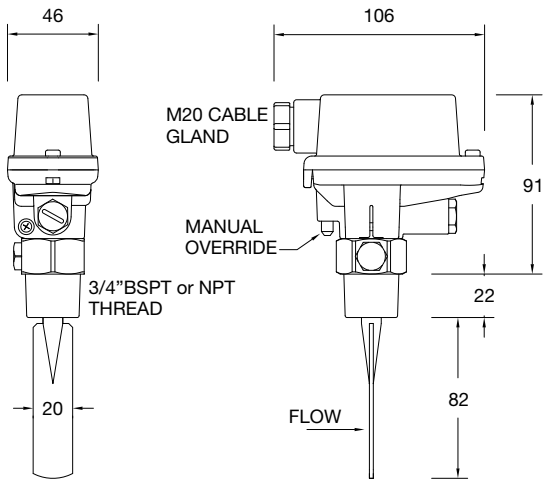
F20 — B — BSP

S = POLYPROPYLENE  
SS = 316 STAINLESS STEEL  
B = DR BRASS  
D = DIESELINE SWITCH

PROCESS CONNECTION  
BSP = 3/4" BSPT  
NPT = 3/4" NPT

# TECHNICAL DATA

## DIMENSIONS



## ELECTRICAL DATA

The F20 flow switch is suitable for all general control circuit applications from low voltage signalling up to 500VAC. It is ideal for the control of pump starters, relay logic circuits and for the direct control of contactors and electronic timers.

Rated Voltage	NON INDUCTIVE LOADS				INDUCTIVE LOADS			
	Resistive Load		Lamp Load		Inductive Load		Motor Load	
	NC	NO	NC	NO	NC	NO	NC	NO
125 VAC	15A	3A	1.5A	15A	5A	2.5A		
250 VAC	15A	2.5A	1.25A	15A	3A	1.5A		
500 VAC	10A	1.5A	0.75A	6A	1.5A	0.75A		
8 VDC	15A	3A	1.5A	15A	5A	2.5A		
14 VDC	15A	3A	1.5A	10A	5A	2.5A		
30 VDC	6A	3A	1.5A	5A	5A	2.5A		
125 VDC	0.5A	0.5A	0.5A	0.05A	0.05A	0.05A		
250 VDC	0.25A	0.25A	0.25A	0.03A	0.03A	0.03A		

## OPERATING LIMITATIONS

Switch Model	F20-S (All Poly Switch)	F20-SS (Stainless)	F20-B (Brass)	F20-D (Dieseline)
Maximum operating pressure (static or dynamic) at ambient temperature	18 Bars (260 psi)	200 Bars (2880 psi)	100 Bars (1440 psi)	100 Bars (1440 psi)
Minimum burst pressure at ambient temperature	45 Bars (650 psi)	500 Bars (7200 psi)	250 Bars (3600psi)	250 Bars (3600psi)
Maximum operating temperature (Liquid)	60°C See Note Below	80°C	80°C	50°C
Minimum operating temperature (Liquid)	-20°C	-20°C	-20°C	0°C
Ingress protection rating (Weatherproof rating)	IP67	IP67	IP67	IP67

**Please note:** Maximum operating pressure of the Polypropylene F20-S must be linearly de-rated as operating temperature is increased so that at 60°C the maximum permissible operating pressure for the switch does not exceed one Bar Absolute.

## HAZARDOUS APPLICATIONS

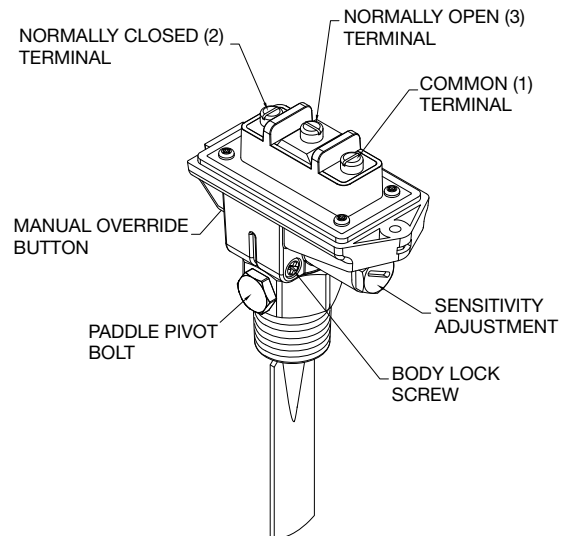
The F20 flow switch can be used in hazardous areas. The flow switch is classed as a simple device and does not contain components capable of storing or producing an electric charge. As a simple device the F20 can be used in hazardous applications provided it is isolated by an intrinsically safe barrier, a zener barrier.

## SPARE PARTS

The F20 series modular flow switches are very simple to service and all component parts of the flow switch are available as spare parts.

## APPROVED STANDARDS

The high compliance single pole double throw switch used in the F20 flow switch is approved to the following international standards: UL (File No. E32667), CSA (File No. LR21642) SEV (File No. S20/163), CE.



## FLOW SENSITIVITY

The flow rates required to actuate the F20 will depend on many variables such as turbulence, liquid viscosity and the exact area of the paddle face exposed to the flow. For an accurate estimate of the switch performance and to determine the effect of paddle trimming, an online flow calculator is available at [www.kelco.com.au](http://www.kelco.com.au)

MADE IN AUSTRALIA BY

**KELCO Engineering Pty Ltd**

ABN 20 002 834 844

Head Office and Factory: 9/9 Powells Road BROOKVALE 2100 AUSTRALIA

Postal Address: PO Box 496 BROOKVALE NSW 2100

Phone: +61 2 99056425 Fax: +61 2 99056420

Email: [sales@kelco.com.au](mailto:sales@kelco.com.au) Web [www.kelco.com.au](http://www.kelco.com.au)

**PLEASE NOTE:** Kelco Engineering Pty Ltd reserves the right to change the specification of this product without notice. Kelco Engineering Pty Ltd accepts no liability for personal injury or economic loss as a consequence of the use of this product. All rights reserved copyright Kelco Engineering Pty Ltd © 2010