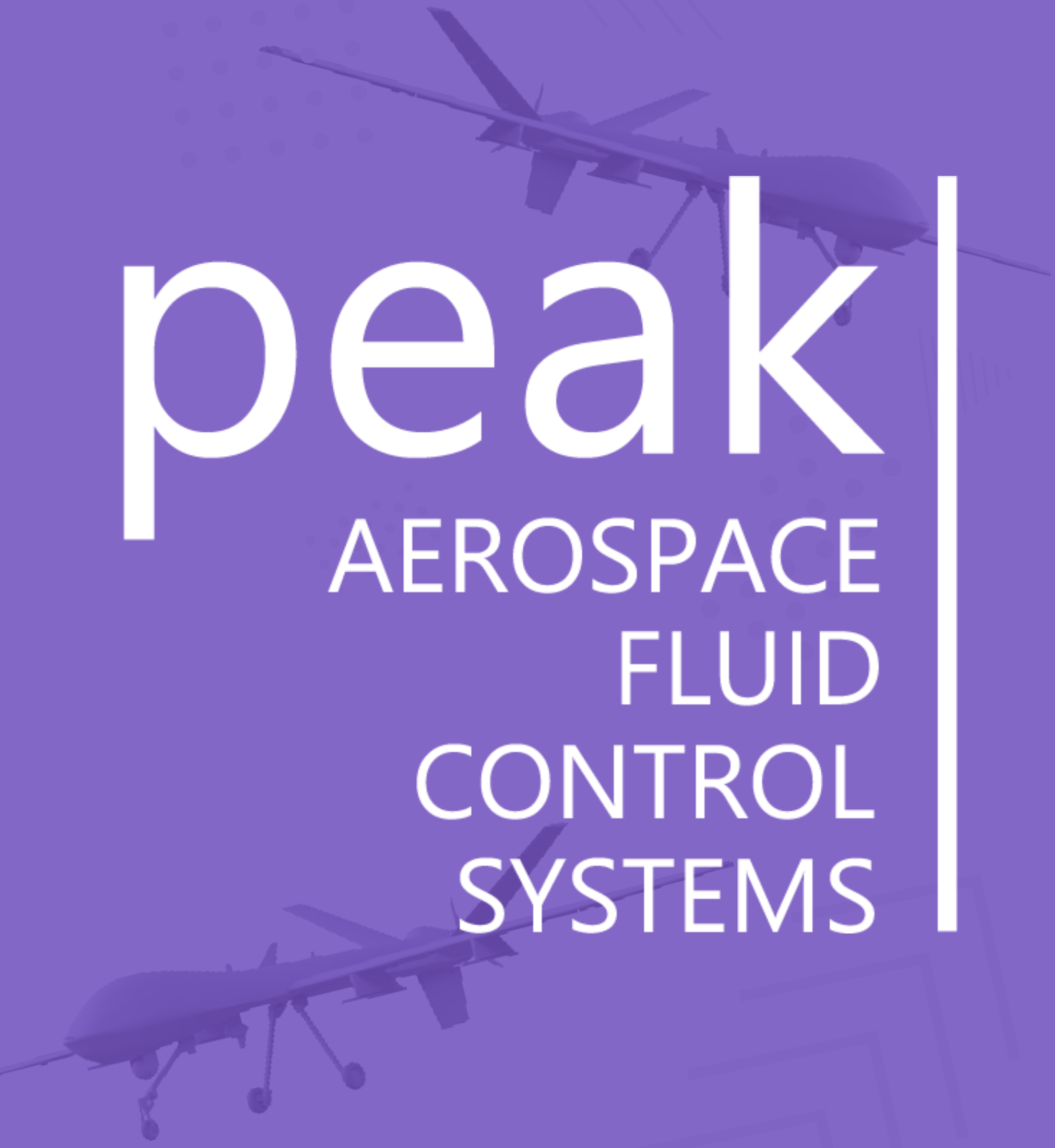


peak

AEROSPACE FLUID CONTROL SYSTEMS

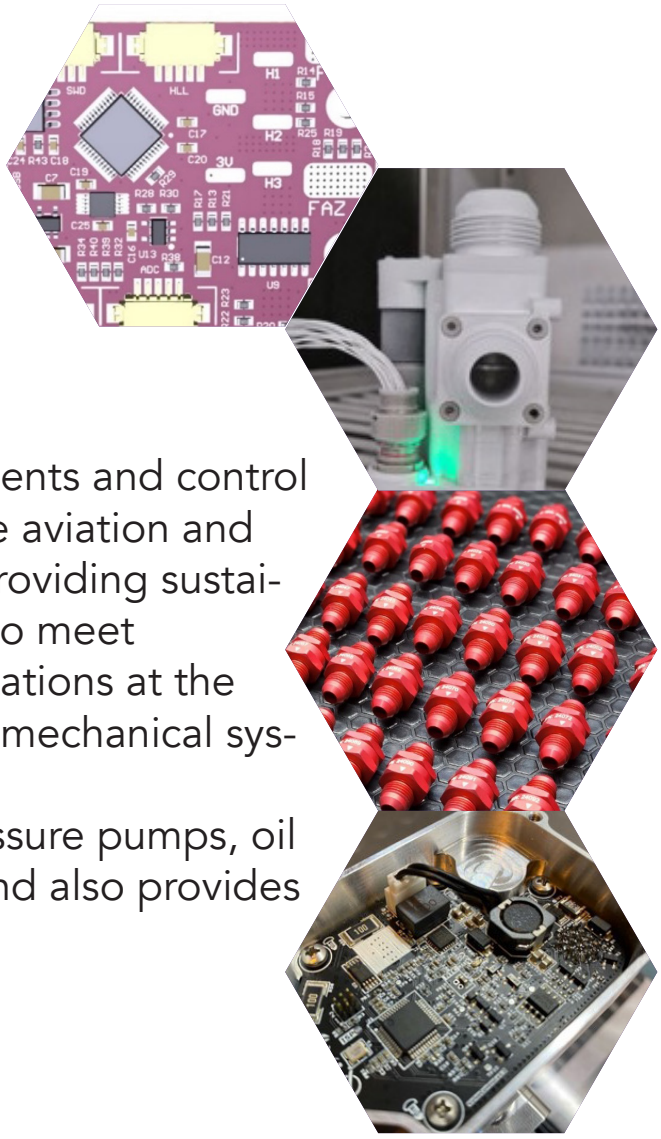
COMPLETE FUEL SYSTEM AND COMPONENTS

CUSTOM ENGINEERING SOLUTIONS AND COMPLETE SYSTEM DESIGN AND QUALIFICATION

info@peakaero.de - www.peakaero.de

CONTENT

INTRODUCTION

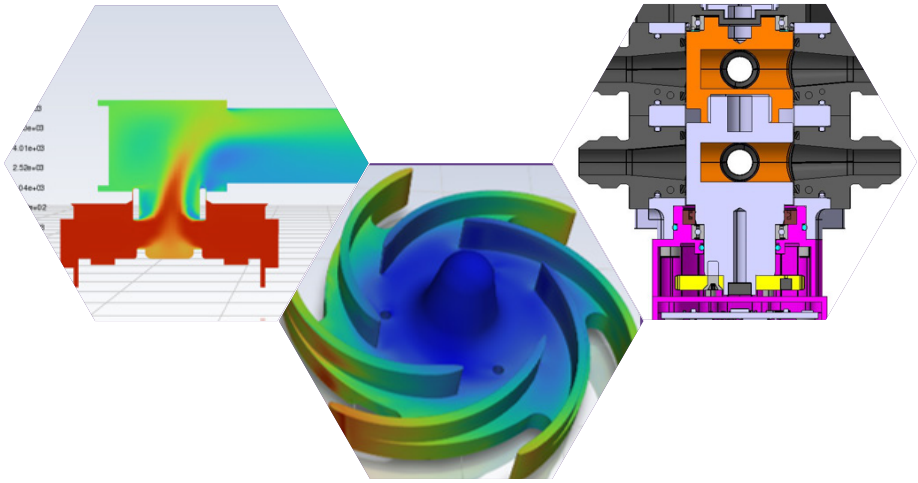


OUR PHILOSOPHY

Peak Aero develops fluid system components and control equipment for system requirements in the aviation and space applications. With the mission of providing sustainable and competitive solutions, aiming to meet customer satisfaction and solution expectations at the highest level, Peak Aero develops electromechanical system components such as motorized
and proportional control valves, high pressure pumps, oil and fuel filters and pressure regulators, and also provides

OUR MISSION

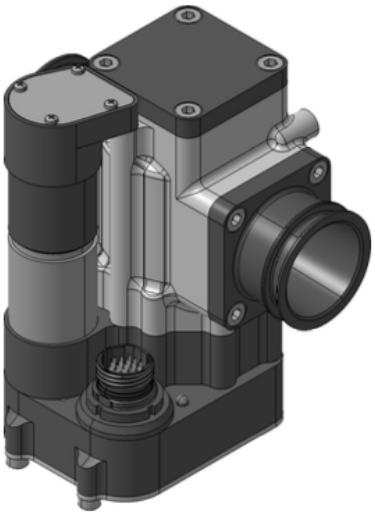
Peak's mission is to design systems and componentsin accordance with standards in the field of fluid transportation and control and to continuously develop these processes with our corporate innovation culture by become an internationally recognized brand withour high value-added design and production activities.

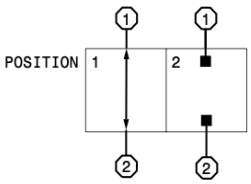


peak
AEROSPACE
FLUID
CONTROL
SYSTEMS

SHUT OFF VALVE

E-Specification	
Parameter	Value
Supply Voltage	28 V Nominal (Vnom) 36 V Max 12 V Min
Fluid Types	Jet A-1, J-P8
Working Pressure	200 kPa Max 500 kPa Burst 1000 kPa
Operating Temperature	-55°C to +60°C
Standby Current	10 mA Heater ON: Max 200 mA
Current Consumption	Max: 2,5 A
Communication	CAN 2.0A RS485 Full Duplex Independent I/O pins Quick Referance Led
Pressure Drop	TBC 10 mbar @1000 l/h
Internal Leakage	0
External Leakage	0
Time Between Overhaul TBC	1000 Cycles 1000 Flight Hours 1 Year
Service Life TBC	4000 Cycles 4000 Flight Hours 4 Years



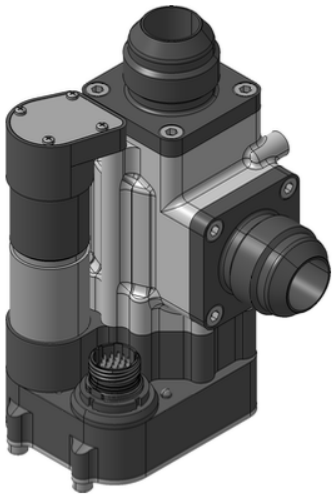


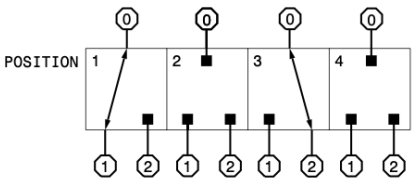
Description:

Fuel Shut off Valve has two positions that can be selected by digital or discrete commands. The valve shuts off the fuel flow from A/C to the engine when commanded.
Proportional flow control version is available upon request for throttling applications.
Bi-stable design allows valve not to consume energy unless rotor is moving. The valve is equipped with maintenance and diagnostic electronics.

FUEL CONTROL VALVE

E-Specification	
Parameter	Value
Supply Voltage	28 V Nominal (Vnom) 36 V Max 12 V Min
Fluid Types	Jet A-1, J-P8
Working Pressure	200 kPa Max 500 kPa Burst 1000 kPa
Operating Temperature	-55°C to +60°C
Standby Current	10 mA Heater ON: Max 200 mA
Current Consumption	Max: 2,5 A
Communication	CAN 2.0A RS485 Full Duplex Independent I/O pins Quick Referance Led
Pressure Drop	TBC 10 mbar @1000 l/h
Internal Leakage	0
External Leakage	0
Time Between Overhaul TBC	1000 Cycles 1000 Flight Hours 1 Year
Service Life TBC	4000 Cycles 4000 Flight Hours 4 Years



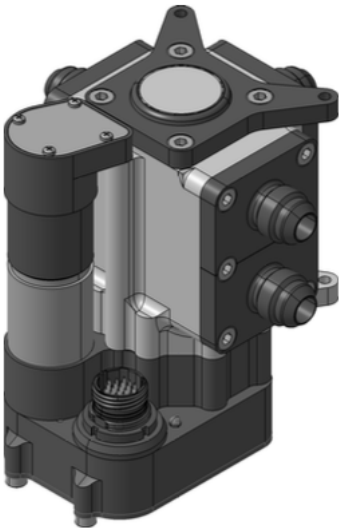


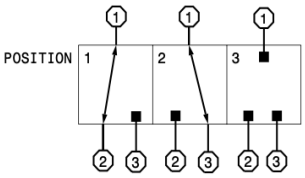
Description:

Fuel selector is a motorised valve that allows user to select flow path or to shut off the flow.
Stable design makes it reliable and long life.
Enhanced electronics can be adapted for all platform needs, communication and interface requirements.
Especialy suitable for transfer applications between fuel tanks.

DUPLEX SELECTOR VALVE

E-Specification	
Parameter	Value
Supply Voltage	28 V Nominal (Vnom) 36 V Max 12 V Min
Fluid Types	Jet A-1, J-P8
Working Pressure	200 kPa Max 500 kPa Burst 1000 kPa
Operating Temperature	-55°C to +60°C
Standby Current	10 mA Heater ON: Max 200 mA
Current Consumption	Max: 2,5 A
Communication	CAN 2.0A RS485 Full Duplex Independent I/O pins Quick Referance Led
Pressure Drop	TBC 10 mbar @1000 l/h
Internal Leakage	0
External Leakage	0
Time Between Overhaul TBC	1000 Cycles 1000 Flight Hours 1 Year
Service Life TBC	4000 Cycles 4000 Flight Hours 4 Years





Description:

Tandem design allows to change the return flow direction simultaneously by changing main flow direction.
Different fitting size and orientation is possible upon request.
Especialy suitable for twin engine aircrafts for crossfeed operation.

VENT VALVE

E-Specification	
Parameter	Value
Fluid Types	Jet A-1, JP-8
Working Pressure	100 kPa Max TBD kPa Burst TBD kPa
Operating Temperature	TBD °C to TBD °C
Relief Valve, Cracking Pressure	30 5 kPa (TBC)
Time Between Overhaul TBC	TBD
Service Life TBC	TBD

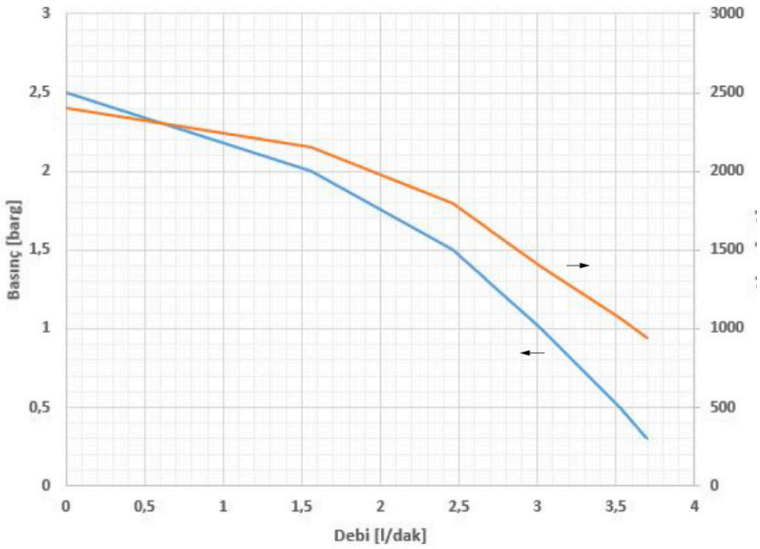
Function				
Definition	VV1-00	VV1-10	VV1-20	Description
Air Intake	+	+	+	Allows air to fill into the tank. (Fuel consumption, De-Fueling.)
Air Exhaust	+	+	+	Allows air to escape from the tank. (Re-Fueling.)
Roll-Over Protection	+	N/A	+	Restrics the fuel exit. (Inverted Flight, Negative G's.)
Fuel Exit Restriction	+	+	+	Restrics the fuel exit. (Tank is full or sloshing.)
Pressure Relief	+	N/A	+	Reliefs internal fluid to drop tank pressure. (Overfill, Expansion.)
Flame Arestor	+	+	+	Reduces flame temperature to prohibit flame propegation into the tank. (Fire in vent line.)

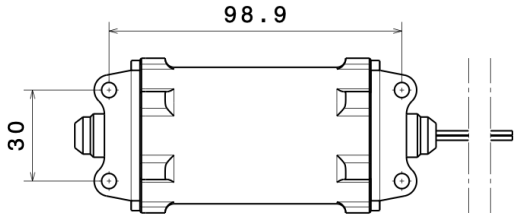
Description:

Vent valve allows air flow in both direction in case of fueling, transfer, fuel consumption or defueling.
Roll-over protection allows to keep fuel in tank during inverted flight or negative g.
Adjustable pressure relief protects the bladder tank in case of overpressure.

GEAR PUMP

E-Specification	
Parameter	Value
Supply Voltage	28DC V
Operating Temperature	-40°C to +50°C
Design Point	210 lph
	0,5 barg
Open To Air Flowrate	240 lph
Max Current	3 Ampere
Self Priming Head	60 cm
Fuel Types	JP-8, JET A1, EN 590



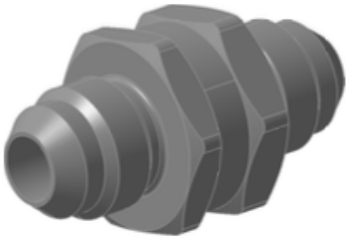


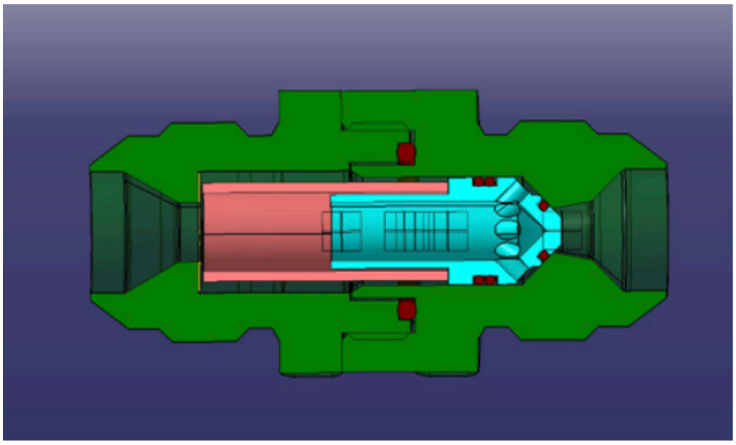
Description:

Gear pump has customisable hydraulic design which fits specific working points in terms of flowrate and pressure.
The pump can be used on fuel transfer and engine feed applications and cooling circulation.
Brushless motor increases efficiency and wet design allows to operate at high power continuosly.

CHECK & RELIEF VALVE

E-Specification	
Parameter	Value
Working Temperature	-45°C to +70°C
Cracking Pressure	140 to 550 mbard
Proof Pressure	5 bar
Burst Pressure	10 bar





Chatter Damper Design

Description:

Check valve is qualified per MIL-PRF-25675C.
Special poppet seal makes “zero” reverse leakage possible and damper design extends the operation envelope of the valve.
The product can be used on hydraulic and fuel system and scaled up to 1” cross section.
Mating interfaces can be re-designed upon request.

DIGITAL PRESSURE SWITCH

E-Specification	
Parameter	Value
Supply Voltage	28VDC
Output Voltage	10 VDC
Max. Pressure	10 bar
Accuracy*	±50 mbarg

* Between -20 to +60 C

Truth Table	
Pressure	Output
<2800 mbarg	0
>3300 mbarg	0
Else	1

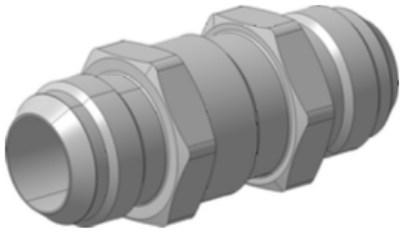
Antistatic PTFE Linings:

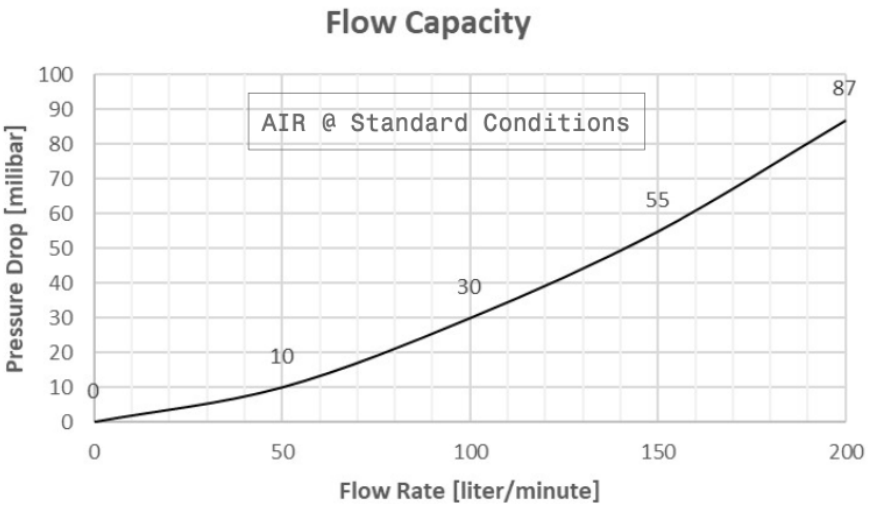
When electrically resistive fluids like solvents and fuels, or multiphase mixtures are passed through natural PTFE hose at high flow rates, a static charge build up occurs on the inner wall of the PTFE liner.

This can discharge to the nearest conductor that creates a pin-hole in the PTFE liner resulting in a leak-path. Antistatic PTFE includes a small quantity of a special high purity carbon black, which ensures safe static charge dissipation in accordance with International Standards.

FLAME ARRESTER

E-Specification	
Parameter	Value
Working Temperature	- 54°C to 70°C
Proof Pressure	5 bar
Burst Pressure	10 bar

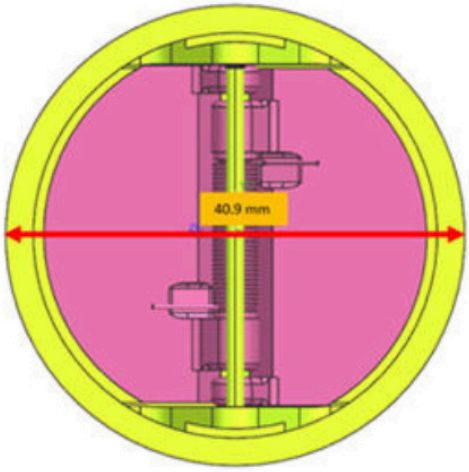


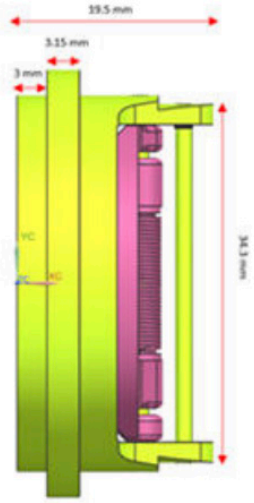


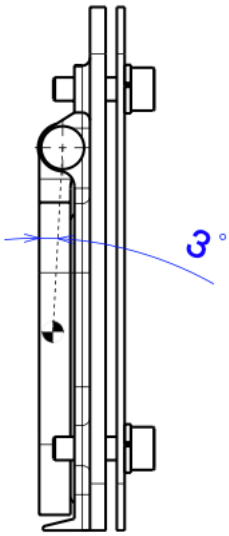
Description:

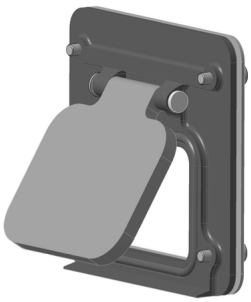
Flame arrestor prevents flame propogation on potantial air-fuel mixture zones like fuel tanks if inerting system is not active/applicable.
Qualified energy absorbent plates reduces flame temperature and prevents the formation of combustion behind the propogation zone.
Flame arresters can be re-designed per specific requirements and interfaces.
Especially used in fuel and oil venting systems.

NON RETURN & FLAP VALVE







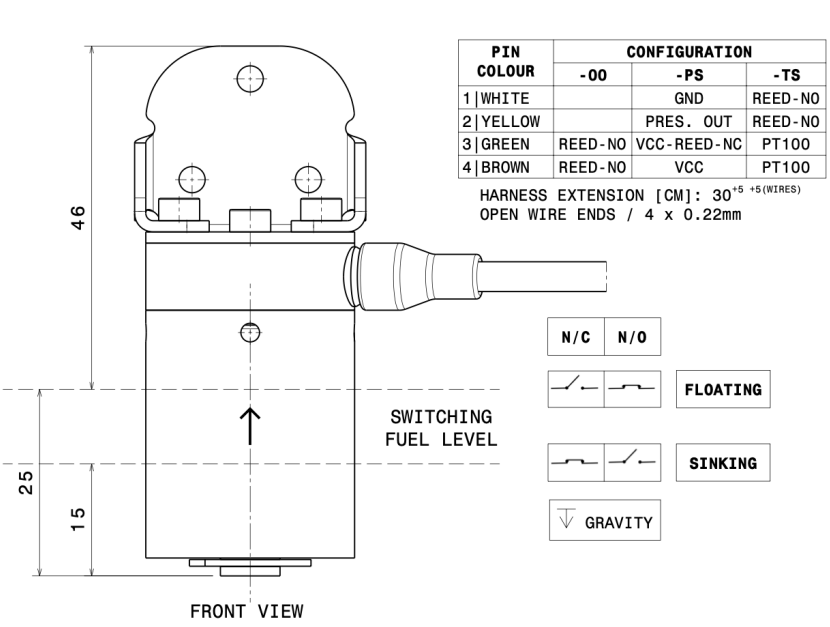


Description:

Flapper check valves and catch valves are specially designed for installation requirements. Usually installed in catch tank valls to keep them always full by shosling and prevent pump to suck air in transition.
Also installed on wing ribs to collect usable fuel on center tank and help to manage center of gravity of fuel transfers.
Circular sections can be used for secondary air systems. With seat seal and seal-less designs are available per installation requirements.

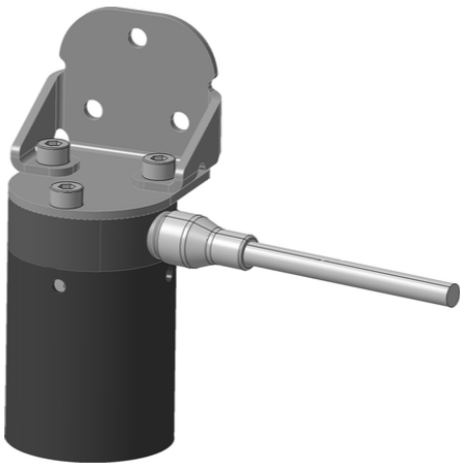
LEVEL SWITCH

E-Specification	
Parameter	Value
Working Temperature	- 54°C to 70°C
Proof Pressure	5 bar
Burst Pressure	10 bar



PIN COLOUR	CONFIGURATION		
	-00	-PS	-TS
1 | WHITE		GND	REED-NO
2 | YELLOW		PRES. OUT	REED-NO
3 | GREEN	REED-NO	VCC-REED-NC	PT100
4 | BROWN	REED-NO	VCC	PT100

HARNESS EXTENSION [CM]: 30^{+5} +5(WIRES)
OPEN WIRE ENDS / 4 x 0.22mm

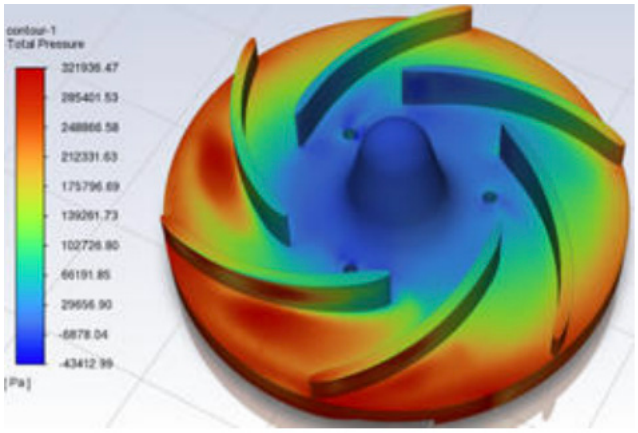


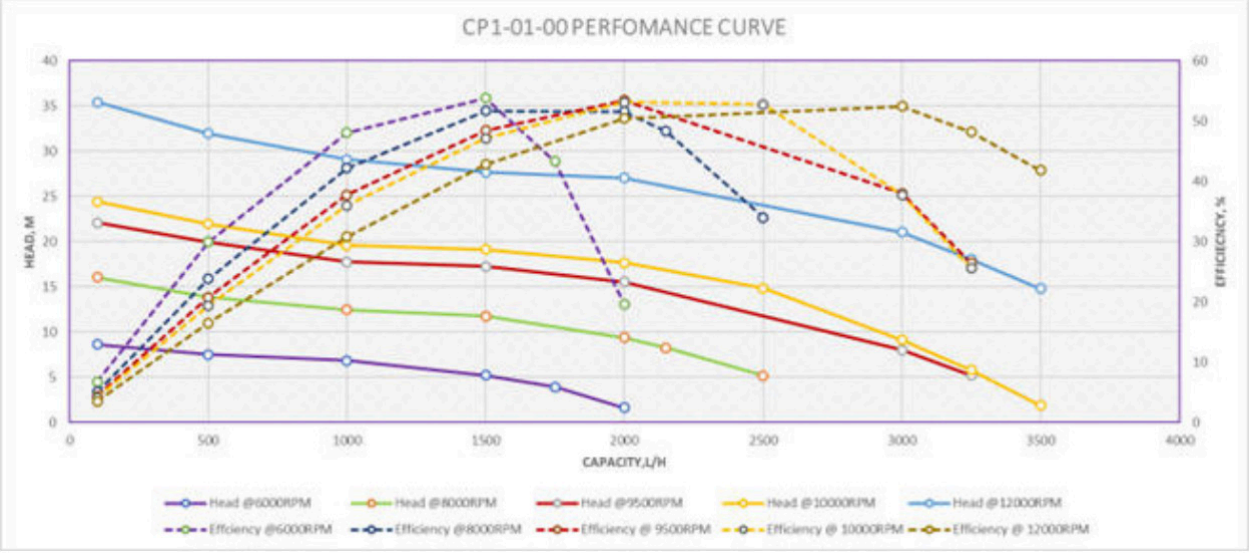
Description:

The switch indicates the high or low fuel level in tank. Optional pressure and temperature sensors protects the system from overpressure and overtemperature risks.
Float can be also used for oil or usable water.
Mounting interface and options can be re-designed per system requirements.

CENTRIFUGAL PUMP

E-Specification	
Parameter	Value
Working Temperature	- 54°C to 70°C
Cracking Pressure	350 ±100 barg
Proof Pressure	5 bar
Burst Pressure	10 bar





Description:

The switch indicates the high or low fuel level in tank. Optional pressure and temperature sensors protects the system from overpressure and overtemperature risks.
Float can be also used for oil or usable water.
Mounting interface and options can be re-designed per system requirements.

NOTES

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