



# CREST GATE WITH INFLATABLE RUBBER DAM



## **Brief Introduction**

Crest Gate with inflatable consists of a series of modular panel with inflatable rubber dam act as gate or dam for storage, divert, transfer the water way at controllable desired water level. Modular design providing ease in works of installation, operation, maintenance and servicing. With variable inverter speed system air pressure of rubber dam is maintained ensure the stability of angle of gate. Water being overflow through the crest gate with bottom water through as second discharge. Crest Gate could be adjusted by varies the air pressure of rubber dam and thus controlling the water level. It could be also individually deflated or inflated for the purpose of discharge the accumulated rubbish, debris, sand, silt, logs and sediment. While to adjust portion of water discharges is easily achieved due to module design. Flow measurement in moderate accuracy can be performance with difference in head water and elevation of the crest gate. In built mechanical safety devices as option feature to ensure deflation of crest gate during the power failure but in flood condition crest.



## **Application:**

- Flood control and irrigation project.
- Act as water gate.
- Agriculture water distribution.
- Act stopper or barrier for controlling the inflow of seawater.
- Fresh water and sea water frisheriers.
- Beautification and purification of river water or retaining pond.
- Maintaining and controlling the water intake level for raw water pumping station.
- Transfer and divert the sewage wastewater.



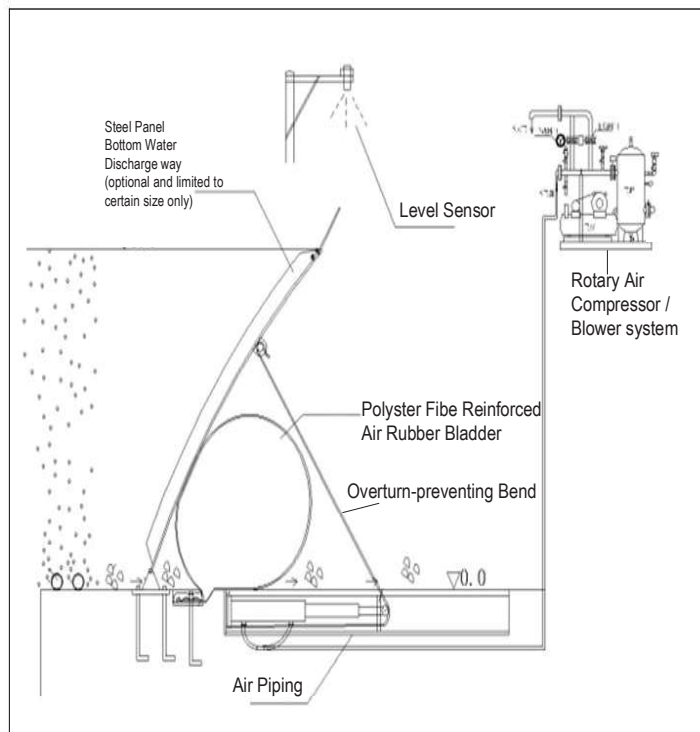
Night View of Crest Gate with Rubber Dam



Crest Gate with Double Rubber Dam

## Feature

- Easy without any incurr extra cost to conform to waterway profile. No limit on spans thus no requirement of intermediate piers.
- Stainless steel rugged panel as modular design which could easily to mobile and install individually without requirement heavy lifting machines and extra number of skillful manpower.
- By using Air Blower or Air Compressor to inflate the rubber dam. No other chemical or hydraulic fluids.
- Modular stainless steel panel is supported by isolated and individual rubber dam. Enhancing the flexibility of operating and controlling the water level.
- Any failure of panel or rubber dam is contained and will not affect whole system continue to operate.
- Panel material is stainless steel with stiffening ribs in pallalel to the flow of water direction, providing greater strength and chemical resistance to rock, logs, debris and contaminates.
- Due to modular design the task of maintenance work reduced. Any replacement and repairing work could be done smoothly without whole system being shut-down.
- Material of rubber dam, with EDPM and chlopropene as option design to handle different properties of water. With intermediate reinforcement polyester or nylon increase the tensile strength of rubber dam.
- In built bottom water discharge through, preventing deterioration of water quality by creating streamline water current underneath.
- Bottom water discharge through also enable the sludge, silt and sand will not be accumulated and pilling up at the other side of crest gate. (optional and limited to certain size only)
- With variable speed inverter system, air pressure of individual rubber dam will be maintenance at desirable setting pressure, hence individual modular panel will not be standing at different position. Rubbish, debris and logs will not be blocked in between the gap.



Component of Crest Gate with Rubber Dam

## Technical Data

- Size Available : Max. 8.0m (H), Max. 250m (L)
- Design Standard : JB/TB8941.1.1999, JB/TB941.2-1999  
GB/T18742 JB/T53167-19999  
JIS K 6251. 4-5, 6257.4, 6259.4, 6258.4
- Thickness of Rubber Bladder : Max . 38 mm
- Material of Rubber Bladder : EDPM with Polyesteer Fiber  
Chloroprene with Polyesteer Fibre
- No. of Ply : Max : 8
- Method of Bladder Manufacturing : By Press Vulcanizing
- Bladder Ozone Resistance : Not less than 100 pphm@ 40 deg C
- Time to Inflate/Deflate : Adjustable 15 - 35 min
- Ambient Temperature Range : Max. 70 degree Celsius
- Mode of Control : Automatic by level sensor / pressure transducer
- Maintaining Air Pressure in Bladder : By relief valve or Inverter VSD
- Number of Bladder per panel : Standard - Single  
Optional : Double (certain size)
- Material of Panel : Carbon Steel with Polyurea or HDG or Epoxy  
Optional : SS 304 ( certain size)
- Air Supply System : By blower / compressor with optional dryer
- Air Piping : SS 304, Poly Propylene Random (PPR)
- Maximum Air Working Pressure : Not exceed 175 kPa
- Gate Clamping : Galvanised Grey Cast Iron GCD 500
- Monitoring Unit : By touch screen with PLC interface commincation  
Easily linkage with SCADA system

## Sequence of Installation



Installation of Anchor Bolt & Clamping Plate



Installation of Inflatable Rubber Dam



Installation of Crest Gate Panels



Ready Operation

## Factory Property Test for Crest Gate with Inflatable Rubber Dam

test item	unit	standard	test method
tensile strength	Mpa	over 120	
elongation	%	over 450	
aging test[(100+/- 1) ° C, 96h]			
- tensile strength	Mpa	more than 80% of value for before aging	
- elongation	%	more than 80% of value for before aging	
immersion test(B.P., 96h, distilled water)			
- tensile strength	Mpa	more than 80% of value for before aging	
- elongation	%	more than 80% of value for before aging	
- change rate in volume	%	less than 20%	
ozone crack test[(100 +/- 10) ppm, (40+/- 2)° C, 50% elongation, 96h]	-	no crack	
abrasion loss	mg	within 20%	ASTM D 4060:2007

## Factory Testing Equipment and Machine



Ozone & Aging Tester



Electronic Tensile Tester



Vulcameter



Hot & Cold Temperature Tester



Elongation Tester



Yield Tester



Infrared Spectrometric Analyser



Mooney Scorch

## Deflation / Inflation



Deflation of Crest Gate with Rubber Dam



Inflation of Crest Gate with Rubber Dam

## Job Reference



Beijing Fangshan Juma River - 1.8m(H) x 80m(L) - OCT,2012



Yongzhou, Hunan - 3.7m(H) x 51m(L) - SEP,2012



Fangshan Juma River Beijing - 1.8m(H) x 118m(L) - DEC,2012



Tongshan, Hubei - 2.1m(H) x 6m (L) - Aug,2013



Fangshan Dashi River Beijing - 1.5m(H) x 54m(L) - MAR,2014



Shewopo, Qixia - 2m(H) x 70m(L) - AUG,2014

## Job Reference



Hunan Yuxi River, Hunan - 1.8m(H) x 70m(L)



Beihu Area Chenjiang River, Hunan - 1.5m(H) x 30m(L)



Beijing Hucheng River - 1.8m(H) x 122m(L)



Hefei Nangcang River - 2m(H) x 50m(L)



Hunan Beihu Area Chenjiang River - 1.5m(H) x 30m(L)



Beijing Fangshan Juma River Spillway Gate (2) 3.0m(H) x 2.3m(L)

